Newland

SCANNING MADE SIMPLE



FM100

fixed mount barcode scanner

integration guide

Revisions

Version	Description	Date
V1.0	Initial release.	2011-11-03
V1.1	Deleted the Auto Mode section.	2014-10-16
V1.2	Updated the supported keyboard layouts; added the instructions of setting the Reading a Barcode Time Length and Interval Length for the Interval Mode.	2015-11-24
V1.2.1	Added the USB COM Port Emulation feature.	2017-02-22

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About this guide

Introduction

This guide provides general instructions of integrating and setting up the FM100 series fixed mount barcode scanner (hereinafter referred to as "FM100" or "the scanner").

Graphic Notations



Tool – Handy item for a task.



Attention – Important subject to be aware of or to avoid.



Tips – Helpful information about a topic or a feature.



Example – Illustration of how to use a feature.

Newland Auto-ID Support Center

If you have a problem with your equipment, contact the Newland Support Center in your region. Before calling, have the model number, serial number, and several of your barcodes at hand.

Call the support Center from a phone near the scanning equipment so that the service person can try to talk you through your problem. If the equipment is found to be working properly and the problem is barcode readability, the Support Center will request samples of your bar codes for analysis at our plant.

If your problem cannot be solved over the phone, you may need to return your equipment for servicing. I f that is necessary, you will be given specific directions.

Note: Newland Auto-ID Tech. is not responsible for any damages incurred during shipment.

Getting to Start

Introduction

FM100-M (hereafter referred to as FM100) is a 1D barcode reader. Newland Auto-ID patented UIMG™ technology ensure FM100 fast image capture and accurate decoding. It provides the customer the best value.

This chapter presents an overall picture of how to use FM100 step by step. Please have an FM100 handy.

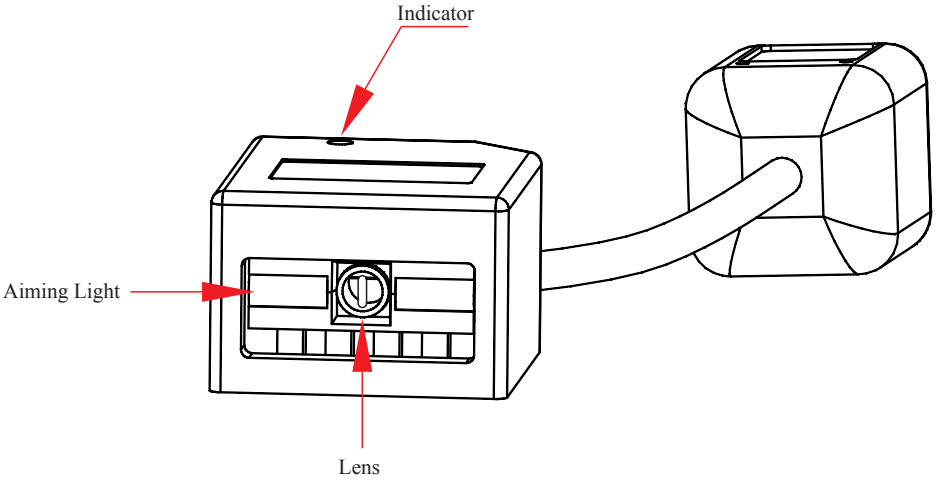
This chapter is recommended to general users, maintenance personnel, and software programmers.

Unpacking

Unpack FM100 and accessories. Check with the packing list. Make sure that there is no damage or missing part(s). If any damage or missing parts, please keep the original package and contact your supplier for services.

Outline of FM100

The figure below shows major components of FM100.

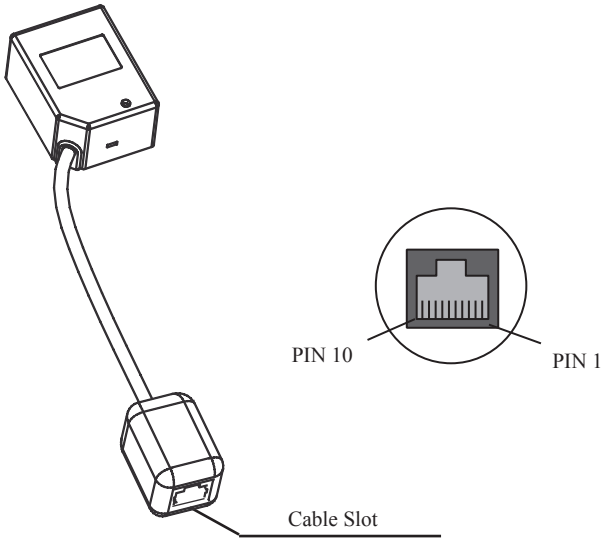


FM100 Outline

Note:

- The scan window must be kept clean. Improper maintenance will breach the limited warranty.
- Avoid rough objects not to damage or scratch the window.
- Use brush to remove the stain.
- Use soft cloth (cloth for glasses) to clean.
- Prohibit spraying towards the window.
- Only use clean water as a cleanser.

Data Interface



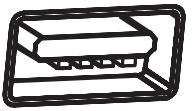
Pin	Function	Type	Name
1	NC		Null
2	NC		Null
3	VCC	P	Power DC5V
4	TXD	O	Serial Port Output，RS232
5	RXD	I	Serial Port Input，RS232
6	NC		Null
7	NC		Null
8	GND	P	Ground
9	D-	IO	USB Data Signal
10	D+	IO	

Communication Ports

FM100 must connect to a Host to operate. A Host can be PC, POS, or any intelligent terminal with at least one of the following communication ports: USB, RS232, or PS/2.

1、USB

USB port on Host：



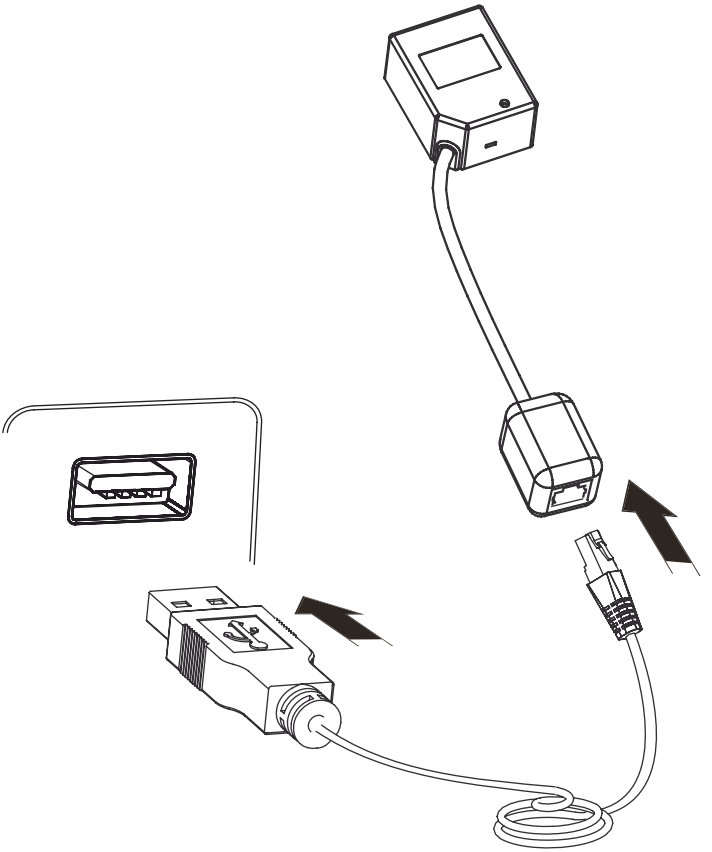
2、RS232

RS232 port on Host：



Please check the ports first to order the fitting cable.

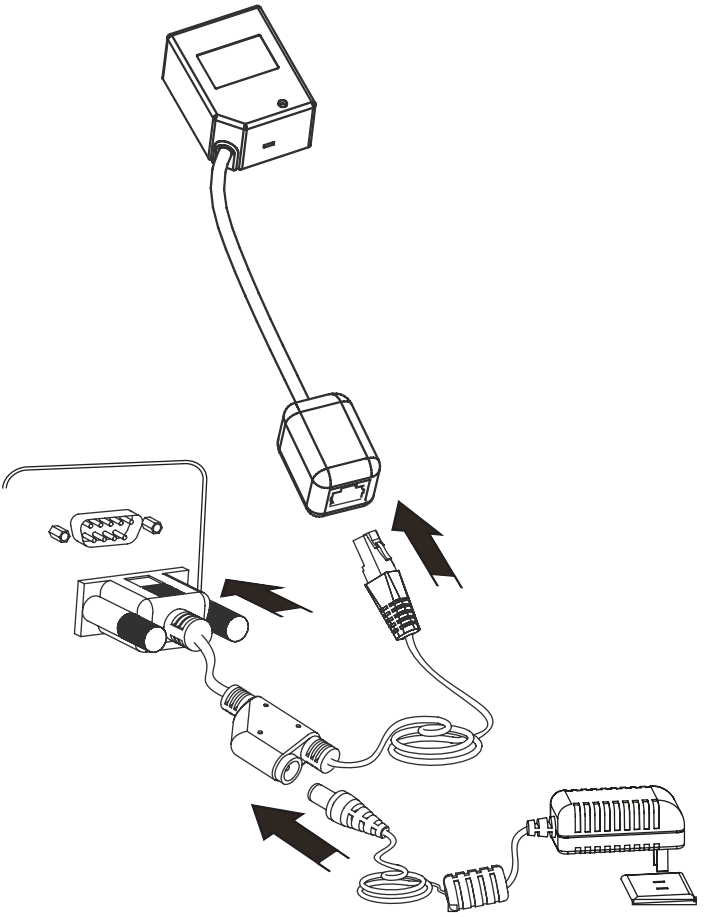
Connecting with USB Cable



1、Insert USB Cable (RJ45 male head) into FM100 cable slot;

2、Insert USB Cable (USB male head) into Host’s (female) USB connector;

Connecting with RS232 Cable

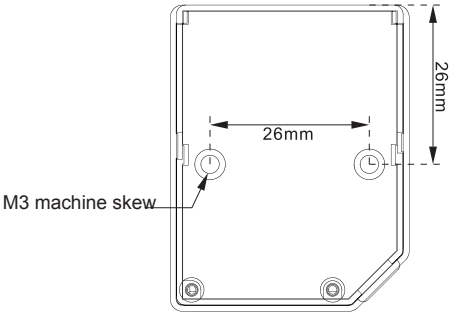


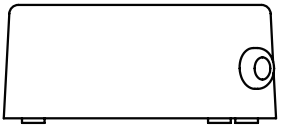
1、Insert RS232 cable (RJ45 male head) into FM100 cable slot;

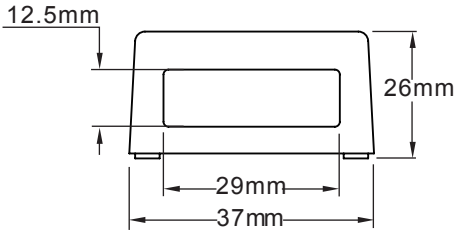
2、Insert RS232 cable (RS232 male head) into Host’s (female) RS232 connector;

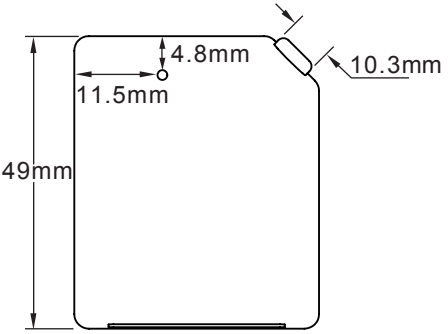
3、Connect RS232 cable and the mains with power adapter;

Dimensions of FM100 Unit









General Programming

Introduction

There are 2 ways to program (configure) the scanner, Code Programming and Command Programming.

Code Programming

The scanner reads a set of specially encoded barcodes to program options and features. In the following sections, we will explain the options and features available and provide the barcodes to program them.

This method of programming the scanner is most straight forward. However, it requires manually readings of each barcode. As all manual operations, errors are more likely to occur.

Command Programming

The Host can send the Pro CMD strings to program the scanner. In the following sections, the Pro CMD strings will be included with the barcodes for Code Programming.

This method of programming the scanner could be automated. A software program can be developed to download all the configuration data to the scanner. The program can also verify the download.

Note: Except some temporary programming, the programming results are restored in non-volatile memory. They will not be lost when the scanner is powered off.

Programming Notation

Tools

Code Programming ON

Code Programming OFF



This is the notation to disable the Code Programming.

There are 3 parts of a notation:

1、The barcode for Code Programming

2、The name of the options or features, such as Disable Code Programming.

3、The corresponding Pro CMD string of the Code Programming.

Code Programming

Tools

Code Programming ON

Code Programming OFF

Read the “Code Programming ON” barcode to activate “Code Programming” function. More than one Code Programming barcodes can be read to configure the scanner.
If an option or feature needs additional parameters, such as digits, they can be found at the end of this chapter.
The value of code programming can be sent to the Host. For factory default, “No Send Pro Code Value”, the value of programming codes will not be sent to the Host; by reading “Send Pro Code Value”, the reader will send the value of Programming Code to the Host.

The factory default setting is “Code Programming ON”. Because it has low probability that a data barcode is the same as a programming barcode, it doesn’t need to close the function of Code Programming. Keeping it on won’t affect the daily using.

Some working parameters could be programmed. The data type of parameters is Dec or Hex and the numbers are also input through programming barcodes. The Appendix of the Integration Guide includes all needed data barcodes.

Programming barcodes are used to program the scanner. For factory default, the reader will not send code value to the Host. But if needed, the scanner could be programmed to "Send Pro Code Value". And whether the value is sent or not won't affect the programming function. But "Send Pro Code Value" is a temporary setting. It will restore to "No Send Pro Code Value" when the scanner is restarted or closed.

Code Programming ON
【Pro CMD：99900031】

Code Programming OFF
【Pro CMD：99900032】

No Send Pro Code Value
【Pro CMD：99900033】

Send Pro Code Value
【Pro CMD：99900034】

Commands under RS232 connection mean using 0x20-0x7D（the displayable characters）to express all commands information.

1、Configuration State

The scanner should be in configuration state when programming functions under RS232 connection. In the state, the scanner would only accept and execute the commands from communication and feed back.

Sending certain command to the scanner will make it enter or quit the configuration state. Or if in configuration state the scanner hasn’t received new information for five seconds, the scanner will quit the state automatically.

2、Express Regulation

①、Sending “$$$$” and receiving “@@@@” mean entering configuration state successfully.

②、Sending “%%%%” and receiving “^^^^” mean quitting configuration state successfully.

③、Receiving “^^^^” in configuration state means that the scanner has quitted the state automatically.

④、In configuration state, every command begins with “#” and ends with “;”.E.g. “#99900030;”

⑤、 In configuration state, if the command is executed successfully, the Host will receive a command which begins with “!” and ends with “;”. E.g. “!99900030;”。

⑥、 In configuration state, if the command is invalid or executed unsuccessfully, the Host will receive a command which begins with “?” and ends with “;” E.g. “?99976543;”

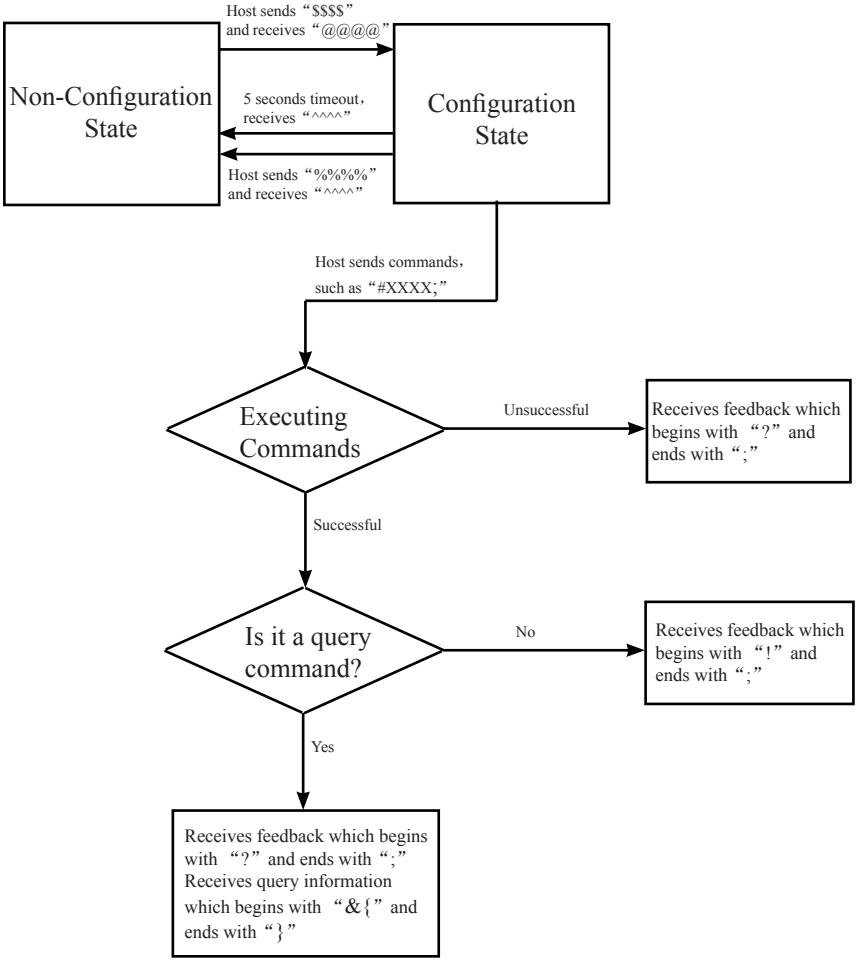
⑦、In configuration state, if commands of query type are executed successfully, the host will receive “! xxxxxxxx；” as well as the feedback which begins with “&{“ and ends with “|”. In the last nine characters in feedback, such as “|BF7974B7”, “|” is the separating character which separates the feedback information and check value. And other eight characters “BF7974B7” are CRC32’s Hex value and arranged from the highest position to the lowest. The feedback information is placed between “{“ and “|”. E.g.: Sending “#99900301;” and receiving “!99900301;&{Firmware v1.7.5;Decoder v1.00.023.C6;|FD25430B}”

If feedback information may have undisplayable characters, it will be expressed in hexadecimal notation. Two characters represent a character value. E.g.

“&{AAAA100423C5008001FF400001FF400001FF400001FF400001FF4000000040800000
40800000400000004080000040800000408006FF40000000408000004080000040800000408006F
F400006FF400006FF400006FF400004FF400004FF400002FF400004FF400004FF400004F
F400001FF4000000000006A75667467646E426863657271776C6F7669736261797A706D5-
2000000000000000000000000000000000000000000000000000000000000000000600000FEB2A2F4CC
CFD390ADC8D38FF5E6D99DAA|E1DFA587}”

⑧、In configuration state, if a command is with parameters, it will be composed following the rules which command system defined. For example, the command string which has 0x0D and 0x0A as ending character and be saved is “#99904112;#99900000;#99900015;#99900000;#99900012;#99900020;”。

3、Flow Chart


Non-Configuration State
Configuration State
Host sends "$$$$" and receives "@@@@"
5 seconds timeout, receives "^^^^"
Host sends "%%%%" and receives "^^^^"
Host sends commands, such as "#XXXX;"
Executing Commands
Unsuccessful
Receives feedback which begins with "?" and ends with ";"
Successful
Is it a query command?
No
Receives feedback which begins with "!" and ends with ";"
Yes
Receives feedback which begins with "?" and ends with ";" Receives query information which begins with "&{" and ends with "}"

Tools

Code Programming ON

Code Programming OFF

Factory Default

Read “Load All Factory Default” to reset all parameters to factory default.

Applicable conditions:

» User options programming wrong configuration leads to reading malfunction

» Forget details of previous programming and start over.

» Restore to default after unusual settings are not needed.

Load All Factory Default
【Pro CMD：99900030】

Code Programming ON

Interval Mode

After programming, the scanner will start interval scan without trigger. The interval between two scans is fixed whether the scan is successful or not. The value of interval could be programmed by user and the default value is 1s.

Code Programming OFF

Interval Mode
【Pro CMD：99900112】

Reading a barcode time length
【Pro CMD：99900150】

Interval Length
【Pro CMD：99900151】

Interval length: 01-15, corresponding to 0.5s, 1s, 1.5s, ..., 7.5s in 0.5s increments.

For instance, interval could be set to 5000ms:

1、Read “Code Programming ON”

2、Read “Interval Length”

3、Read numbers “1” “0”

4、Read “Code Programming OFF”

Code Programming ON

Code Programming OFF

Sensor Mode

After programming, the scanner will start to sense the environment without trigger. After a scan, it will stop and keep sensing to wait another illumination changing. In sensor mode, a trigger also can start a scan. The sensitivity level could be chosen.

Sensor Mode
【Pro CMD：99900113】

In sensor mode, the scanner could set Reading a barcode time length, and set interval length as sensing stabilization time.
Reading a barcode time length: 01-15, corresponding to 1s, 2s, ..., 15s in 1s increments; 00: infinite.
Interval length: 01-15, corresponding to 0.5s, 1s, 1.5s, ..., 7.5s in 0.5s increments.

Reading a barcode time length
【Pro CMD：99900150】

Interval Length
【Pro CMD：99900151】

Sensitivity is used to evaluate the scanner's ability to sense the changing environment. Users can choose a sensitivity level which suits the environment.

High Sensitivity
【Pro CMD：99900152】

Low Sensitivity
【Pro CMD：99900154】

Medium Sensitivity
【Pro CMD：99900153】

User Sensitivity
【Pro CMD：99900161】

Sensitivity Level Programming
There are sixteen levels of 0 to F. The lower the value is, the higher the sensitivity level is.
For instance, we could set sensitivity level to 5 level.

1、Read "Code Programming ON"

2、Read "User Sensitivity"

3、Read number "5"

4、Read "Code Programming OFF"

Code Programming ON

Continuous Mode

Code Programming OFF

After programming, the scanner will be in continuous mode without trigger. After a successful scan，the scanner will be in waiting state until another scan, then wait again.

Continuous Mode
【Pro CMD：99900114】

In continuous mode, the scanner could set Reading a barcode time length and interval length.

Reading a barcode time length
【Pro CMD：99900150】

Interval Length
【Pro CMD：99900151】

Code Programming ON

Delayed Sensor Mode

After programming, the scanner will start to sense the environment without trigger. There will be a delay before a scan. After a scan, it will stop and keep sensing to wait another illumination changing. In delayed sensor mode, a trigger also can start a scan. The sensitivity level could be chosen.

Code Programming OFF

Delayed Sensor Mode
【Pro CMD：99900115】

In delayed sensor mode, the scanner could set Reading a barcode time length and interval length.

Reading a barcode time length
【Pro CMD：99900150】

Interval Length
【Pro CMD：99900151】

TIPS

In delayed sensor mode, reading a barcode time takes 2s as a unit and the range is from 0 to 30ms, 0 is infinite time; Interval takes 200ms as unit and the range is from 0 to 7.5s.

Code Programming ON

Code Programming OFF

Command Triggered Mode

After programming, when FM100 receives trigger sweep command from terminal（e.g. PC）or read "Start Analog Trigger" barcode, the scanner will start to work.

PS: If reading is successful, data will be returned and the scanner wil stop working automatically. Or the scanner will keep reading until receiving stop command or reading "Stop Analog Trigger”.

When FM100 receives stop command from terminal （e.g. PC）or read "Stop Analog Trigger” barcode, the scanner will stop. Meanwhile a 2 byte data(e.g. 0A;0X) must be returned.

Command Triggered Mode
【Pro CMD：99900116】

Start Analog Trigger
【Pro CMD：99900035】

Stop Analog Trigger
【Pro CMD：99900036】

If a reading is failed, the scanner will send a character which means a reading failure. Users could set the character themselves.

Set Reading Failure Character
【Pro CMD：99904200】

Security Level

Tools

Code Programming ON

The higher the value of Security Level is, the lower the probility of mis-decoding and the decoding speed are. Otherwise, the speed is higher.

Code Programming OFF

Security Level 1
【Pro CMD：99900120】

Security Level 3
【Pro CMD：99900122】

Security Level 2
【Pro CMD：99900121】

Security Level 4
【Pro CMD：99900123】

Beeper

Tools

Code Programming ON

Code Programming OFF

No Beeper Output
【Pro CMD：99900130】

High Frequency & Loud Volume
【Pro CMD：99900131】

High Frequency & Medium Volume
【Pro CMD：99900132】

High Frequency & Low Volume
【Pro CMD：99900133】

Medium Frequency & Loud Volume
【Pro CMD：99900134】

Medium Frequency & Medium Volume
【Pro CMD：99900135】

Medium Frequency & Low Volume
【Pro CMD：99900136】

Low Frequency & Loud Volume
【Pro CMD：99900137】

Low Frequency & Medium Volume
【Pro CMD：99900140】

Low Frequency & Low Volume
【Pro CMD：99900141】

150ms Sound Length
【Pro CMD：99900142】

100ms Sound Length
【Pro CMD：99900143】

50ms Sound Length
【Pro CMD：99900144】

Code Programming ON

Start/Stop Temporary Mute

Code Programming OFF

Start Temporary Mute
【Pro CMD：99900040】

Stop Temporary Mute
【Pro CMD：99900041】

Query Command

Introduction

After reading interrelated programming barcodes, the scanner will feed information needed back to the Host to achieve the purpose of query.

Tools

Code Programming ON

Code Programming OFF

Query Product Information
【Pro CMD：99900300】

Query Manufacturing Date
【Pro CMD：99900303】

Query Hardware Version
【Pro CMD：99900301】

Query Product Name
【Pro CMD：99900304】

Query Product ID
【Pro CMD：99900302】

Communication Programming

Introduction

Under RS232 connection the scanner and the Host use the same communication parameters: baud rate, parity check, data bits select and stop bits select.

Code Programming ON

Code Programming OFF

Baud Rate

Under RS232 connection, the scanner and the Host should set communication baud rate to the same to keep normal communication.
Baud rate is the bits transmitted per second (8 bits per bytes). The scanner and the Host must communicate at the same baud rate.
The reader supports baud rate as the following:

9600
【Pro CMD：99902104】

1200
【Pro CMD：99902101】

2400
【Pro CMD：99902102】

4800
【Pro CMD：99902103】

14400
【Pro CMD：99902105】

19200
【Pro CMD：99902106】

38400
【Pro CMD：99902107】

57600
【Pro CMD：99902110】

115200
【Pro CMD：99902111】

Code Programming ON

Code Programming OFF

Check

No Check
【Pro CMD：99902120】

Even Check
【Pro CMD：99902122】

Odd Check
【Pro CMD：99902121】

Code Programming ON

Stop Bit

Code Programming OFF

1 Stop Bit
【Pro CMD：99902131】

2 Stop Bit
【Pro CMD：99902133】

Code Programming ON

Flow Control

Code Programming OFF

No Flow Control
【Pro CMD：99902140】

Code Programming ON



Code Programming OFF



Data Bit



8 Data Bit
【Pro CMD：99902150】



8 Data Bit, No Check, 2 Stop Bit
【Pro CMD：99902163】



8 Data Bit, No Check, 1 Stop Bit
【Pro CMD：99902160】



8 Data Bit, Even Check, 2 Stop Bit
【Pro CMD：99902164】



8 Data Bit, Even Check, 1 Stop Bit
【Pro CMD：99902161】



8 Data Bit, Odd Check, 2 Stop Bit
【Pro CMD：99902165】



8 Data Bit, Odd Check, 1 Stop Bit
【Pro CMD：99902162】

Code Programming ON

Code Programming OFF

7 Data Bit
【Pro CMD：99902151】

7 Data Bit, Even Check, 2 Stop Bit
【Pro CMD：99902170】

7 Data Bit, Even Check, 1 Stop Bit
【Pro CMD：99902166】

7 Data Bit, Odd Check, 2 Stop Bit
【Pro CMD：99902171】

7 Data Bit, Odd Check, 1 Stop Bit
【Pro CMD：99902167】

Code Programming ON

USB HID-KBW

Code Programming OFF

USB HID-KBW
【Pro CMD：99902300】

USB COM Port Emulation

USB COM Port Emulation
【Pro CMD：99902301】

Code Programming ON

Code Programming OFF

Keyboard Layout

No.1 U.S.
【Pro CMD：99902201】

No.2 Germany
【Pro CMD：99902202】

No.3 French
【Pro CMD：99902203】

No.4 Italy
【Pro CMD：99902204】

No.5 Turkey Q
【Pro CMD：99902205】

No.6 Turkey F
【Pro CMD：99902206】

No.7 Spain
【Pro CMD：99902207】

No.8 Belgium
【Pro CMD：99902208】

No.9 Denmark
【Pro CMD：99902209】

No.10 Sweden
【Pro CMD：99902210】

No.11 Portugal
【Pro CMD：99902211】

No.12 Finland
【Pro CMD：99902212】

Code Programming ON

Code Programming OFF

Character Delay

Character Delay is programmable in 5ms increments from 0ms (default) to 75ms.

Character Delay
【Pro CMD：99902220】

Example

Set the character delay to 70ms:
1. Read “Code Programming ON”
2. Read “Character Delay”
3. Read “7” and “0”
4. Read “Save”
5. Read “Code Programming OFF”.

Character Conversion

Constant
【Pro CMD：99902230】

Nums Lock

Nums Unlock
【Pro CMD：99902243】

ATT

The USB HID-KBW Connection will only work in factory default state. If they are changed by accident, please read the barcodes above to restore to factory default.

Data Format

Introduction

1D barcodes could contain digits, letters and symbols, etc. 2D barcodes could contain more data, such as Chinese characters and other multi-byte characters. However, in reality, they do not and should not have enough information we need, such as barcode type, date and time of scan, delimiter, and so on, in order to keep the code short and flexible.

Prefix and Suffix are how to fulfill the needs mentioned above. They can be added, removed, and modified while the original barcode message is still in tact.



Barcode processing sequences: first add Prefix/Suffix, then terminate with Terminal and transmit.

Code Programming ON

Code Programming OFF

CodeID+User Prefix+AIMID
【Pro CMD：99904010】

User Prefix+CodeID+AIMID
【Pro CMD：99904011】

Disable or Enable User Prefix

Code Programming ON

Code Programming OFF

User Prefix is added before barcode message. For example, if the user prefix is “AB” and the barcode message is “123”, the Host receives “AB123”.

Disable User Prefix
【Pro CMD：99904020】

Enable User Prefix
【Pro CMD：99904021】

Program User Prefix

Enable “Program User Prefix”. Then program user prefix byte(s). To end the prefix, read “Save programming” The user prefix byte is programmed in its hex values. See example below.

Program User Prefix
【Pro CMD：99904022】

Example

Program “CODE” as user prefix (The hex of “CODE” are 0x43/0x4F/0x44/0x45):
1. Read “Code Programming ON”
2. Read “Program User Prefix”
3. Read “4,3,4,F,4,4,4,5” in order
4. Read “Save Programming”
5. Read “Code Programming OFF”.
6. Read “Allow User Prefix” to enable above programming. “CODE” will appear to the left of a barcode.

AIM Prefix

Tools

Code Programming ON

Code Programming OFF

AIM (Automatic Identification Manufactures) defines AIM prefix for many standard barcode formats. The scanner will add the identifier before the barcodes. And this identifier is the AIM Prefix. And please see Appendix to find the AIM ID list.

Disable AIM Prefix for All Barcodes
【Pro CMD：99904030】

Enable AIM Prefix for All Barcodes
【Pro CMD：99904031】

Code ID Prefix

Tools

Code Programming ON

Besides AIM prefix, Code ID prefix can be used to denote barcode format and can be customized.

The Code ID prefix MUST be one (1) or two(2) visible English letters, capital or small, only.

Code Programming OFF

No Code ID Prefix
【Pro CMD：99904040】

Allow Code ID Prefix
【Pro CMD：99904041】

Load Code ID Factory Default
【Pro CMD：99904042】

Code Programming ON

Disable or Enable User Suffix

User suffix is appended to the right of barcode message. For example, if user suffix is “AB”, and the barcode message is “123”, The Host receives “123AB”.

Code Programming OFF

Disable User Suffix
【Pro CMD：99904100】

Enable User Suffix
【Pro CMD：99904101】

Program User Suffix

Read “Program User Suffix”. Then program user suffix byte(s). To end the suffix, read “Save programming”. The user suffix byte is programmed in its hex values. See example below.

Program User Suffix
【Pro CMD：99904102】

Example

Program “AGE” as user suffix (The hex of “AGE” are0x41/0x47/0x45):
1. Read “Code Programming ON”
2. Read “Program User Suffix”
3. Read “4,1,4,7,4,5” in order
4. Read “Save Programming”
5. Read “Code Programming OFF”
6. Read “Allow User Suffix” to enable above programming. “AGE” will appear to the right of a barcode.

Code Programming ON

Disable or Enable Terminal

Code Programming OFF

"Terminal" is the termination for a string of barcode messages. It is fixed to the right and the very end of a barcode transmission.
The major difference between "Terminal" and "User Suffix" is that the information and the decoded messages in user suffix could be formatted but couldn't in terminal.

Disable Terminal
【Pro CMD：99904110】

Enable Terminal
【Pro CMD：99904111】

Program Terminal

Read "Program Terminal". Then program terminal byte(s). At last, read "Save programming". The terminal byte is programmed in its hex values. See example below.

Set Terminal as 0x0D and Enable Sending
【Pro CMD：99904113】

Program Terminal
【Pro CMD：99904112】

Set Terminal as 0x0D,0x0A and Enable Sending
【Pro CMD：99904114】

Example

Program a Windows OS general line feed and carrage returen as terminal

1. Read "Code Programming ON"
2. Read "Program Terminal"
3. Read "Set Terminal as 0x0D,0x0A and Enable Sending"
4. Read "Save "
5. Read "Code Programming OFF"
6. Read "Allow Terminal" to enable above programming. A line feed will appear to the right of a barcode.

Symbols

Introduction

Each type of barcode has its unique attribute. With the programming code, the scanner will adjust to the changes of these attributes. Disabling reading of the symbols which do not apply will improve reading performance.

Code Programming ON

Load Factory Default

Code Programming OFF

Load Code 128 Factory Default
【Pro CMD：99910000】

Enable/Disable Code 128

Enable Code 128
【Pro CMD：99910002】

Disable Code 128
【Pro CMD：99910001】

TIPS

When the scanner can not read Code 128, please read “Enable Code 128” and try again.

Code 128 Code ID

Code ID Setting
【Pro CMD：99910005】

Example

Example of setting Code 128 Code ID to “p” (0x70)
1. Read Enable Code Programming barcode.
2. Read Code 128 Code ID Setting barcode.
3. Read Following Barcodes: “7”, and “0”
4. Read Save barcode
5. Read Disable Code Programming barcode.

Code Programming ON

Code Programming OFF

Select Message Length

It is used to program the valid reading length of Code 128. The scanner will send an error beep, if the decoded data length does not match the valid length.

Code 128 Message Length is defined by “Min. Message Length” and “Max. Message Length”.

Min Message Length
【Pro CMD：99910003】

Max Message Length
【Pro CMD：99910004】

TIPS

1D bar code Message Length should not exceed 255 bytes. If Max Message Length is less than Min Message Length, it means the scanner will only support barcodes of the two lengths. If Max Message Length is equal to Min Message Length, the scanner will only support barcodes of the length.

Example

To set Min Message Length of Code 128 to 8 bytes and Max Message Length to 12 bytes, read these programming codes

1、“Code Programming ON”
2、“Select Min Message Length”
3、Digit Code “8”, see Digit Code
4、“Save Programming”, see Digit Code
5、“Select Max Message Length”
6、Digit Code “1”
7、Digit Code “2”
8、“Save Programming”
9、“Code Programming OFF”

Code Programming ON

Load Factory Default

Code Programming OFF

Load UCC/EAN-128 Factory Default
【Pro CMD：99910100】

Enable/Disable UCC/EAN-128

Enable UCC/EAN-128
【Pro CMD：99910102】

Disable UCC/EAN-128
【Pro CMD：99910101】

TIPS

When the scanner can not read UCC/EAN-128, please read “Enable UCC/EAN-128” and try again.

UCC/EAN-128 Code ID

Code ID Setting
【Pro CMD：99910105】

Example

Example of setting UCC/EAN-128 Code ID to “p” (0x70)
1. Read Enable Code Programming barcode.
2. Read UCC/EAN-128 Code ID Setting barcode.
3. Read Following Barcodes: “7”, and “0”
4. Read Save barcode
5. Read Disable Code Programming barcode.

Code Programming ON

Code Programming OFF

Select Message Length

It is used to program the valid reading length of UCC/EAN-128. The scanner will send an error beep, if the decoded data length does not match the valid length.

UCC/EAN-128 Message Length is defined by “Min. Message Length” and “Max. Message Length”.

Min Message Length
【Pro CMD：99910103】

Max Message Length
【Pro CMD：99910104】

TIPS

1D bar code Message Length should not exceed 255 bytes. If Max Message Length is less than Min Message Length, it means the scanner will only support barcodes of the two lengths. If Max Message Length is equal to Min Message Length, the scanner will only support barcodes of the length.

Example

To set Min Message Length of UCC/EAN-128 to 8 bytes and Max Message Length to 12 bytes, read these programming codes

1、“Code Programming ON”
2、“Select Min Message Length”
3、Digit Code “8”, see Digit Code
4、“Save Programming”, see Digit Code
5、“Select Max Message Length”
6、Digit Code “1”
7、Digit Code “2”
8、“Save Programming”
9、“Code Programming OFF”

Code Programming ON

Load Factory Default

Code Programming OFF

Load AIM 128 Factory Default
【Pro CMD：99910200】

Enable/Disable AIM 128

Enable AIM 128
【Pro CMD：99910202】

Disable AIM 128
【Pro CMD：99910201】

TIPS

When the scanner can not read AIM 128, please read “Enable AIM 128” and try again.

AIM 128 Code ID

Code ID Setting
【Pro CMD：99910205】

Example

Example of setting AIM 128 Code ID to “p” (0x70)
1. Read Enable Code Programming barcode.
2. Read AIM 128 Code ID Setting barcode.
3. Read Following Barcodes: “7”, and “0”
4. Read Save barcode
5. Read Disable Code Programming barcode.

Code Programming ON

Select Message Length

It is used to program the valid reading length of AIM 128. The scanner will send an error beep, if the decoded data length does not match the valid length.

Code Programming OFF

AIM 128 Message Length is defined by “Min. Message Length” and “Max. Message Length”.

Min Message Length
【Pro CMD：99910203】

Max Message Length
【Pro CMD：99910204】

TIPS

1D bar code Message Length should not exceed 255 bytes. If Max Message Length is less than Min Message Length, it means the scanner will only support barcodes of the two lengths. If Max Message Length is equal to Min Message Length, the scanner will only support barcodes of the length.

Example

To set Min Message Length of AIM 128 to 8 bytes and Max Message Length to 12 bytes, read these programming codes

1、“Code Programming ON”
2、“Select Min Message Length”
3、Digit Code “8”, see Digit Code
4、“Save Programming”, see Digit Code
5、“Select Max Message Length”
6、Digit Code “1”
7、Digit Code “2”
8、“Save Programming”
9、“Code Programming OFF”

EAN-8

Tools

Code Programming ON

Load Factory Default

Code Programming OFF

Load EAN-8 Factory Default
【Pro CMD：99910400】

Enable/Disable EAN-8

Enable EAN-8
【Pro CMD：9991402】

Disable EAN-8
【Pro CMD：99910401】

TIPS

When the scanner can not read EAN-8, please read “Enable EAN-8” and try again.

EAN-8 Code ID

Code ID Setting
【Pro CMD：99910416】

Example

Example of setting EAN-8 Code ID to “p” (0x70)
1. Read Enable Code Programming barcode.
2. Read EAN-8 Code ID Setting barcode.
3. Read Following Barcodes: “7”, and “0”
4. Read Save barcode
5. Read Disable Code Programming barcode.

Code Programming ON

Code Programming OFF

2 Digits Addenda Code

2 Digits Addenda Code is the one to the right of an ordinary code.

Disable 2 Digits Addenda Code
【Pro CMD：99910405】

Only Read With 2 digits Addenda Code
【Pro CMD：99910407】

Enable 2 Digits Addenda Code
【Pro CMD：99910406】

5 Digits Addenda Code

5 Digits Addenda Code is the one to the right of an ordinary code.

Disable 5 Digits Addenda Code
【Pro CMD：99910410】

Only Read With 5 digits Addenda Code
【Pro CMD：99910412】

Enable 5 Digits Addenda Code
【Pro CMD：99910411】

TIPS

“ Enable 2 Digits Addenda Code “ — read an ordinary code and 2 digits Addenda Code.
“Disable 2 Digits Addenda Code “ — read an ordinary code only, and ignore 2 digits Addenda Code.
“ Only Read With 2 digits Addenda Code “ — read 2 digits Addenda Code and only read code with 2 digits Addenda Code.

Code Programming ON

Code Programming OFF

EAN-8 expand to EAN-13

“ Do Not Expand to EAN-13 “ — keep original type and digits, do not expand.

“Expand to EAN-13 by Adding Leading 0s “ — expand to EAN-13 but keep code type.

“ Expand Message and Convert to EAN-13 “ — expand code digits and convert code type.

Do Not Expand to EAN-13
【Pro CMD：99910413】

Expand Message and Convert to EAN-13
【Pro CMD：99910415】

Expand to EAN-13 by Adding Leading 0s
【Pro CMD：99910414】

Check Digit

EAN-8 is fixed 8 digits barcode and the last digit is check digit. Check digit is a value caculated from all digits. It is used for checking if the all 8 digits are right.

Transmit Check
【Pro CMD：99910404】

Do Not Transmit Check
【Pro CMD：99910403】

Code Programming ON

Load Factory Default

Code Programming OFF

Load EAN-13 Factory Default
【Pro CMD：99910500】

Disable/Enable EAN-13

Enable EAN-13
【Pro CMD：99910502】

Disable EAN-13
【Pro CMD：99910501】

TIPS

When the scanner can not read EAN-13, please read “Enable EAN-13” and try again.

Code Programming ON

Code Programming OFF

Check Digit

EAN-13 is fixed 13 digits barcode and the last digit is check digit. Check digit is a value caculated from all digits. It is used for checking if the all 13 digits are right.

Transmit Check
【Pro CMD：99910504】

Do Not Transmit Check
【Pro CMD：99910503】

EAN-13 Code ID

Code ID Setting
【Pro CMD：99910513】

Example

Example of setting EAN-13 Code ID to “p” (0x70)
1. Read Enable Code Programming barcode.
2. Read EAN-13 Code ID Setting barcode.
3. Read Following Barcodes: “7”, and “0”
4. Read Save barcode
5. Read Disable Code Programming barcode.

Code Programming ON

Code Programming OFF

2 Digits Addenda Code

2 Digits Addenda Code is the one to the right of an ordinary code.

Disable 2 Digits Addenda Code
【Pro CMD：99910505】

Only Read With 2 digits Addenda Code
【Pro CMD：99910507】

Enable 2 Digits Addenda Code
【Pro CMD：99910506】

5 Digits Addenda Code

5 Digits Addenda Code is the one to the right of an ordinary code.

Disable 5 Digits Addenda Code
【Pro CMD：99910510】

Only Read With 5 digits Addenda Code
【Pro CMD：99910512】

Enable 5 Digits Addenda Code
【Pro CMD：99910511】

TIPS

“ Enable 2 Digits Addenda Code “ — read an ordinary code and 2 digits Addenda Code.
“Disable 2 Digits Addenda Code “ — read an ordinary code only, and ignore 2 digits Addenda Code.
“ Only Read With 2 digits Addenda Code “ — read 2 digits Addenda Code and only read code with 2 digits Addenda Code.

Code Programming ON

Load Factory Default

Code Programming OFF

Load ISSN Factory Default
【Pro CMD：99910600】

Enable/Disable ISSN

Enable ISSN
【Pro CMD：99910602】

Disable ISSN
【Pro CMD：99910601】

When the scanner can not read ISSN, please read “Enable ISSN” and try again.

ISSN Code ID

Code ID Setting
【Pro CMD：99910603】

Example

Example of setting ISSN Code ID to “p” (0x70)
1. Read Enable Code Programming barcode.
2. Read ISSN Code ID Setting barcode.
3. Read Following Barcodes: “7”, and “0”
4. Read Save barcode
5. Read Disable Code Programming barcode.

Code Programming ON

Load Factory Default

Code Programming OFF

Load ISBN Factory Default
【Pro CMD：99910700】

Enable/Disable ISBN

Enable ISBN
【Pro CMD：99910702】

Disable ISBN
【Pro CMD：99910701】

TIPS

When the scanner can not read ISBN, please read “Enable ISBN” and try again.

Code Programming ON



Code Programming OFF



ISBN Digits



Use 13 Digits
【Pro CMD：99910704】



Use 10 Digits
【Pro CMD：99910703】

ISBN Code ID



Code ID Setting
【Pro CMD：99910705】

Example

Example of setting ISBN Code ID to “p” (0x70)
1. Read Enable Code Programming barcode.
2. Read ISBN Code ID Setting barcode.
3. Read Following Barcodes: “7”, and “0”
4. Read Save barcode
5. Read Disable Code Programming barcode.

Code Programming ON

Load Factory Default

Code Programming OFF

Load UPC-E Factory Default
【Pro CMD：99911000】

Disable/Enable UPC-E

Enable UPC-E
【Pro CMD：99911002】

Disable UPC-E
【Pro CMD：99911001】

TIPS

When the scanner can not read UPC-E, please read “Enable UPC-E” and try again.

Code Programming ON

Check Digit

UPC-E is fixed 8 digits barcode and the last digit is check digit. Check digit is a value caculated from all digits. It is used for checking if the all 8 digits are right.

Code Programming OFF

Transmit Check
【Pro CMD：99911004】

Do Not Transmit Check
【Pro CMD：99911003】

UPC-E Code ID

Code ID Setting
【Pro CMD：99911020】

Example

Example of setting UPC-E Code ID to “p” (0x70)
1. Read Enable Code Programming barcode.
2. Read UPC-E Code ID Setting barcode.
3. Read Following Barcodes: “7”, and “0”
4. Read Save barcode
5. Read Disable Code Programming barcode.

Code Programming ON



Code Programming OFF



2 Digits Addenda Code

2 Digits Addenda Code is the one to the right of an ordinary code.



Disable 2 Digits Addenda
【Pro CMD：99911005】



Only Read With 2 digits Addenda Code
【Pro CMD：99911007】



Enable 2 Digits Addenda Code
【Pro CMD：99911006】

5 Digits Addenda Code

5 Digits Addenda Code is the one to the right of an ordinary code.



Disable 5 Digits Addenda Code
【Pro CMD：99911010】



Only Read With 5 digits Addenda Code
【Pro CMD：99911012】



Enable 5 Digits Addenda Code
【Pro CMD：99911011】

TIPS

“ Enable 2 Digits Addenda Code “ — read an ordinary code and 2 digits Addenda Code.
“Disable 2 Digits Addenda Code “ — read an ordinary code only, and ignore 2 digits Addenda Code.
“ Only Read With 2 digits Addenda Code “ — read 2 digits Addenda Code and only read code with 2 digits Addenda Code.

Code Programming ON



Code Programming OFF



Transmit Default “0”

The first byte of UPC-E is default to “0”.



Do Not Transmit “0”
【Pro CMD：99911013】



Transmit “0”
【Pro CMD：99911014】

UPC-E Expand to UPC-A

“ Do Not Expand “ — keep original type and digits, do not expand.

“Expand to UPC-A “ — expand to UPC-A but keep code type.

“ Expand Message and Convert to UPC-A “ — expand code digits and convert code type.



Do Not Expand
【Pro CMD：99911015】



Expand Message and Convert to UPC-A
【Pro CMD：99911017】



Expand to UPC-A
【Pro CMD：99911016】

UPC-A

Tools

Code Programming ON

Load Factory Default

Code Programming OFF

Load UPC-A Factory Default
【Pro CMD：99911100】

Disable/Enable UPC-A

Enable UPC-A
【Pro CMD：99911102】

Disable UPC-A
【Pro CMD：99911101】

TIPS

When the scanner can not read UPC-A, please read “Enable UPC-A” and try again.

UPC-A Code ID

Code ID Setting
【Pro CMD：99911115】

Example

Example of setting UPC-A Code ID to “p” (0x70)
1. Read Enable Code Programming barcode.
2. Read UPC-A Code ID Setting barcode.
3. Read Following Barcodes: “7”, and “0”
4. Read Save barcode
5. Read Disable Code Programming barcode.

Code Programming ON

Check Digit

UPC-A is fixed 13 digits barcode and the last digit is check digit. Check digit is a value caculated from all digits. It is used for checking if the all 13 digits are right.

Code Programming OFF

Transmit Check
【Pro CMD：99911104】

Do Not Transmit Check
【Pro CMD：99911103】

Transmit Default “0”

The first byte of UPC-A is default to “0”.

Do Not Transmit “0”
【Pro CMD：99911113】

Transmit “0”
【Pro CMD：99911114】

Code Programming ON



Code Programming OFF



2 Digits Addenda Code

2 Digits Addenda Code is the one to the right of an ordinary code.



Disable 2 Digits Addenda Code
【Pro CMD：99911105】



Only Read With 2 digits Addenda Code
【Pro CMD：99911107】



Enable 2 Digits Addenda Code
【Pro CMD：99911106】

5 Digits Addenda Code

5 Digits Addenda Code is the one to the right of an ordinary code.



Disable 5 Digits Addenda Code
【Pro CMD：99911110】



Only Read With 5 digits Addenda Code
【Pro CMD：99911112】



Enable 5 Digits Addenda Code
【Pro CMD：99911111】

TIPS

“ Enable 2 Digits Addenda Code “ — read an ordinary code and 2 digits Addenda Code.
“Disable 2 Digits Addenda Code “ — read an ordinary code only, and ignore 2 digits Addenda Code.
“ Only Read With 2 digits Addenda Code “ — read 2 digits Addenda Code and only read code with 2 digits Addenda Code.

Code Programming ON

Load Factory Default

Code Programming OFF

Load Interleaved 2 of 5 Factory Default
【Pro CMD：99911200】

Disable/Enable Interleaved 2 of 5

Enable Interleaved 2 of 5
【Pro CMD：99911202】

Disable Interleaved 2 of 5
【Pro CMD：99911201】

TIPS

When the scanner can not read Interleaved 2 of 5, please read “Enable Interleaved 2 of 5” and try again

Interleaved 2 of 5 Code ID

Code ID Setting
【Pro CMD：99911210】

Example

Example of setting Interleaved 2 of 5 Code ID to “p” (0x70)
1. Read Enable Code Programming barcode.
2. Read Interleaved 2 of 5 Code ID Setting barcode.
3. Read Following Barcodes: “7”, and “0”
4. Read Save barcode
5. Read Disable Code Programming barcode.

Code Programming ON

Code Programming OFF

Check Digit

Interleaved 2 of 5 may include Check Digit (not compulsory) following its barcode messages. If included, it could be the last digit. It verifies the barcode message.

» “NO Check, Transmit All” means to read without check and transmit all bytes including barcode message and Check digit.

» “Check, Do Not Transmit Check Digit” means to read and check. If verification is successful, transmit barcode message; if not, scanner sends an error beep.

» “Check, Transmit All” means to read and check. If verification is successful, transmit all messages; if not, scanner sends an error beep.

“NO Check, Transmit All”
【Pro CMD：99911203】

Check, Do Not Transmit Check Digit
【Pro CMD：99911204】

Check, Transmit All
【Pro CMD：99911205】

When “Check, Do Not Transmit Check digit” is enabled and barcode message length minus one is less than Min Message Length, it will lead to error beep.
E.g.：Reading a 4-byte (include check Digit) Interleaved 2 of 5 with the Min Message Length being 4 bytes and “Check, Do Not Transmit Check digit” enabled leads to error beep.

Code Programming ON

Code Programming OFF

Select Message Length

It is used to program the valid reading length of Interleaved 2 of 5. The scanner will send an error beep, if the decoded data length does not match the valid length.

Interleaved 2 of 5 Message Length is defined by “Min. Message Length” and “Max. Message Length”

Min Message Length
【Pro CMD：99911206】

Max Message Length
【Pro CMD：99911207】

TIPS

1D bar code Message Length should not exceed 255 bytes. If Max Message Length is less than Min Message Length, it means the scanner will only support barcodes of the two lengths. If Max Message Length is equal to Min Message Length, the scanner will only support barcodes of the length.

Example

To set Min Message Length of Interleaved 2 of 5 as 8 bytes, and Max Message length as 12 bytes, read these programming codes:

1. “Code Programming ON”
2. “Select Min Message Length”
3. Digit Code “8”, see Digit Code Appendix (Pxxx)
4. “Save Programming”, see Digit Code Appendix (Pxxx)
5. “Select Max Message Length”
6. Digit Code “1”
7. Digit Code “2”
8. “Save Programming”
9. “Code Programming OFF”

Code Programming ON

Code Programming OFF

ITF-6 is a fixed length 6 bytes Interleaved 2 of 5 barcode with check digit.
When enabled, ITF-6 precedes 6-byte Interleaved 2 of 5 barcode.

Load ITF-6 Factory Default
【Pro CMD：99911300】

Enable ITF-6, Do Not Transmit Check Digit
【Pro CMD：99911301】

Disable ITF-6 User Selection
【Pro CMD：99911302】

Enable ITF-6, Transmit Check Digit
【Pro CMD：99911303】

For instance, when ITF-6 is enabled and Interleaved 2 of 5 is disabled, the ITF-6 and 6 bytes Interleaved 2 of 5 with check digit can be read, but other Interleaved 2 of 5 can not.

ITF-6 Code ID

Code ID Setting
【Pro CMD：99911304】

Example

Example of setting ITF-6 Code ID to “p” (0x70)
1. Read Enable Code Programming barcode.
2. Read ITF-6 Code ID Setting barcode.
3. Read Following Barcodes: “7”, and “0”
4. Read Save barcode
5. Read Disable Code Programming barcode.

ITF-14

Tools

Code Programming ON

ITF-14 is a fixed length of 14 bytes Interleaved 2 of 5 barcode with Check digit. By factory default, it is disabled.

When enabled, ITF-14 precedes 14-byte Interleaved 2 of 5 barcode.

Code Programming OFF

Load ITF-14 Factory Default
【Pro CMD：99911400】

Enable ITF-14, Do Not Transmit Check Digit
【Pro CMD：99911402】

Disable ITF-14
【Pro CMD：99911401】

Enable ITF-14, Transmit Check Digit
【Pro CMD：99911403】

For instance, when ITF-14 is enabled and Interleaved 2 of 5 is disabled, the ITF-14 and 14 bytes Interleaved 2 of 5 with check digit can be read, but other Interleaved 2 of 5 can not. If the programming of ITF-14 violates the one of Deutsche 14, ITF-14 precedes Deutsche 14.

ITF-14 Code ID

Code ID Setting
【Pro CMD：99911404】

Example

Example of setting ITF-14 Code ID to “p” (0x70)

1. Read Enable Code Programming barcode.
2. Read ITF-14 Code ID Setting barcode.
3. Read Following Barcodes: “7”, and “0”
4. Read Save barcode
5. Read Disable Code Programming barcode.

Code Programming ON

Load Factory Default

Code Programming OFF

Load **Deutshe14 Factory Default**
【Pro CMD：99911500】

Disable/Enable Deutshe14

Enable Deutshe14，Do Not Transmit Check Digit
【Pro CMD：99911502】

Disable Deutshe14
【Pro CMD：99911501】

Enable Deutshe14， Transmit Check Digit
【Pro CMD：99911503】

TIPS

When the scanner can not read Deutshe14, please read “Enable Deutshe14” and try again
If Deutsche 14 and ITF-14 are enabled at the same time, the scanner may mis-decode or has chaos in programming. So it is better to disable ITF-14 if not used.

Deutshe14 Code ID

Code ID Setting
【Pro CMD：99911504】

Example

Example of setting Deutshe14 Code ID to “p” (0x70)
1. Read Enable Code Programming barcode.
2. Read Deutshe14 Code ID Setting barcode.
3. Read Following Barcodes: “7”, and “0”
4. Read Save barcode
5. Read Disable Code Programming barcode.

Code Programming ON

Load Factory Default

Code Programming OFF

Load **Deutshe12 Factory Default**
【Pro CMD：99911600】

Disable/Enable Deutshe12

Enable Deutshe12，Do Not Transmit Check Digit
【Pro CMD：99911602】

Disable Deutshe12
【Pro CMD：99911601】

Enable Deutshe12， Transmit Check Digit
【Pro CMD：99911603】

TIPS

When the scanner can not read Deutshe12, please read “Enable Deutshe12” and try again. If Deutsche 12 and ITF-12 are enabled at the same time, the scanner may mis-decode or has chaos in programming. So it is better to disable ITF-14 if not used.

Deutshe12 Code ID

Code ID Setting
【Pro CMD：99911604】

Example

Example of setting Deutshe12 Code ID to “p” (0x70)
1. Read Enable Code Programming barcode.
2. Read Deutshe12 Code ID Setting barcode.
3. Read Following Barcodes: “7”, and “0”
4. Read Save barcode
5. Read Disable Code Programming barcode.

Code Programming ON

Load Factory Default

Code Programming OFF

Load COOP25 Factory Default
【Pro CMD：99911700】

Enable/ Disable COOP25

Enable COOP25
【Pro CMD：99911702】

Disable COOP25
【Pro CMD：99911701】

TIPS

When the scanner can not read COOP25, please read “Enable COOP25” and try again.

COOP25（Japanese Matrix 2 of 5） Code ID

Code ID Setting
【Pro CMD：99911710】

Example

Example of setting COOP25（Japanese Matrix 2 of 5） Code ID to “p” (0x70)
1. Read Enable Code Programming barcode.
2. Read COOP25（Japanese Matrix 2 of 5） Code ID Setting barcode.
3. Read Following Barcodes: “7”, and “0”
4. Read Save barcode
5. Read Disable Code Programming barcode.

Code Programming ON

Code Programming OFF

Check Digit

COOP25 may include Check Digit (not compulsory) following its barcode messages. If included, it may be the last digit. It verifies the barcode message.

» “NO Check, Transmit All” means to read without check and transmit all bytes including barcode message and Check Digit.

» “Check, Do Not Transmit Check Digit” means to read and check. If verification is successful, transmits barcode message; if not, scanner sends an error beep.

» “Check, Transmit All” means to read and check. If verification is successful, transmits all messages; if not, scanner sends an error beep.

NO Check, Transmit All
【Pro CMD：99911703】

Check, Transmit All
【Pro CMD：99911704】

Check, Do Not Transmit Check Digit
【Pro CMD：99911705】

When “Check, Do Not Transmit Check Digit” is enabled and barcode message length minus one is less than Min Message Length, it will lead to error beep.
E.g.：Reading a 4-byte (include Check Digit) COOP25 with the Min Message Length being 4 bytes and “Check, Do Not Transmit Check Digit” enabled leads to error beep.

COOP25（Japanese Matrix 2 of 5）

Tools

Code Programming ON

Code Programming OFF

Select Message Length

It is used to program the valid reading length of COOP25. The scanner will send an error beep, if the decoded data length does not match the valid length. COOP25 Message Length is defined by “Min. Message Length” and “Max. Message Length”.

Min Message Length
【Pro CMD：99911706】

Max Message Length
【Pro CMD：99911707】

TIPS

1D bar code Message Length should not exceed 255 bytes. If Max Message Length is less than Min Message Length, it means the scanner will only support barcodes of the two lengths. If Max Message Length is equal to Min Message Length, the scanner will only support barcodes of the length.

Example

To set Min Message Length of COOP25 to 8 bytes and the Max Message Length to 12 bytes. Read these programming code:

1. “Code Programming ON”
2. “Select Min Message Length”
3. Digit Code “8”, see Digit Code (Appendix Pxxx)
4. “Save Programming”, see Digit Code (Appendix Pxxx)
5. “Select Max Message Length”
6. Digit Code “1”
7. Digit Code “2”
8. “Save Programming”
9. “Code Programming OFF”

Matrix 2 of 5(European Matrix 2 of 5)

Tools

Code Programming ON

Load Factory Default

Code Programming OFF

Load Matrix 2 of 5 Factory Default
【Pro CMD：99912000】

Enable/ Disable Matrix 2 of 5

Enable Matrix 2 of 5
【Pro CMD：99912002】

Disable Matrix 2 of 5
【Pro CMD：99912001】

TIPS

When the scanner can not read Matrix 2 of 5, please read “Enable Matrix 2 of 5” and try again.

Matrix 2 of 5 Code ID

Code ID Setting
【Pro CMD：99912010】

Example

Example of setting Matrix 2 of 5 Code ID to “p” (0x70)
1. Read Enable Code Programming barcode.
2. Read Matrix 2 of 5 Code ID Setting barcode.
3. Read Following Barcodes: “7”, and “0”
4. Read Save barcode
5. Read Disable Code Programming barcode.

Code Programming ON

Code Programming OFF

Check Digit

Matrix 2 of 5 may include Check Digit (not compulsory) following its barcode messages. If included, it may be the last digit. It verifies the barcode message.

» “NO Check, Transmit All” means to read without check and transmit all bytes including barcode message and Check Digit.

» “Check, Do Not Transmit Check Digit” means to read and check. If verification is successful, transmits barcode message; if not, scanner sends an error beep.

» “Check, Transmit All” means to read and check. If verification is successful, transmits all messages; if not, scanner sends an error beep.

NO Check, Transmit All
【Pro CMD：99912003】

Check, Transmit All
【Pro CMD：99912004】

Check, Do Not Transmit Check Digit
【Pro CMD：99912005】

When “Check, Do Not Transmit Check Digit” is enabled and barcode message length minus one is less than Min Message Length, it will lead to error beep.
E.g.：Reading a 4-byte (include Check Digit) Matrix 2 of 5 with the Min Message Length being 4 bytes and “Check, Do Not Transmit Check Digit” enabled leads to error beep.

Code Programming ON

Code Programming OFF

Select Message Length

It is used to program the valid reading length of Matrix 2 of 5. The scanner will send an error beep, if the decoded data length does not match the valid length.

Matrix 2 of 5 Message Length is defined by “Min. Message Length” and “Max. Message Length ”.

Min Message Length
【Pro CMD：99912006】

Max Message Length
【Pro CMD：99912007】

TIPS

1D bar code Message Length should not exceed 255 bytes. If Max Message Length is less than Min Message Length, it means the scanner will only support barcodes of the two lengths. If Max Message Length is equal to Min Message Length, the scanner will only support barcodes of the length.

Example

To set Min Message Length of Matrix 2 of 5 to 8 bytes and the Max Message Length to 12 bytes. Read these programming code:

1. “Code Programming ON”
2. “Select Min Message Length”
3. Digit Code “8”, see Digit Code (Appendix Pxxx)
4. “Save Programming”, see Digit Code (Appendix Pxxx)
5. “Select Max Message Length”
6. Digit Code “1”
7. Digit Code “2”
8. “Save Programming”
9. “Code Programming OFF”

Code Programming ON

Load Factory Default

Code Programming OFF

Load Industrial 25 Factory Default
【Pro CMD：99912100】

Enable/ Disable Industrial 25

Enable Industrial 25
【Pro CMD：99912102】

Disable Industrial 25
【Pro CMD：99912101】

TIPS

When the scanner can not read Industrial 25, please read “Enable Industrial 25” and try again.

Industrial 25 Code ID

Code ID Setting
【Pro CMD：99912110】

Example

Example of setting Industrial 25 Code ID to “p” (0x70)
1. Read Enable Code Programming barcode.
2. Read Industrial 25 Code ID Setting barcode.
3. Read Following Barcodes: “7”, and “0”
4. Read Save barcode
5. Read Disable Code Programming barcode.

Code Programming ON

Code Programming OFF

Check Digit

Industrial 25 may include Check Digit (not compulsory) following its barcode messages. If included, it may be the last digit. It verifies the barcode message.

» “NO Check, Transmit All” means to read without check and transmit all bytes including barcode message and Check Digit.

» “Check, Do Not Transmit Check Digit” means to read and check. If verification is successful, transmits barcode message; if not, scanner sends an error beep.

» “Check, Transmit All” means to read and check. If verification is successful, transmits all messages; if not, scanner sends an error beep.

NO Check, Transmit All
【Pro CMD：99912103】

Check, Transmit All
【Pro CMD：99912104】

Check, Do Not Transmit Check Digit
【Pro CMD：99912105】

When “Check, Do Not Transmit Check Digit” is enabled and barcode message length minus one is less than Min Message Length, it will lead to error beep.
E.g.：Reading a 4-byte (include Check Digit) Industrial 25 with the Min Message Length being 4 bytes and “Check, Do Not Transmit Check Digit” enabled leads to error beep.

Code Programming ON

Code Programming OFF

Select Message Length

It is used to program the valid reading length of Industrial 25. The scanner will send an error beep, if the decoded data length does not match the valid length.

Industrial 25 Message Length is defined by “Min. Message Length” and “Max. Message Length”.

Min Message Length
【Pro CMD：99912106】

Max Message Length
【Pro CMD：99912107】

TIPS

1D bar code Message Length should not exceed 255 bytes. If Max Message Length is less than Min Message Length, it means the scanner will only support barcodes of the two lengths. If Max Message Length is equal to Min Message Length, the scanner will only support barcodes of the length.

Example

To set Min Message Length of Industrial 25 to 8 bytes and the Max Message Length to 12 bytes. Read these programming code:

1. “Code Programming ON”
2. “Select Min Message Length”
3. Digit Code “8”, see Digit Code (Appendix Pxxx)
4. “Save Programming”, see Digit Code (Appendix Pxxx)
5. “Select Max Message Length”
6. Digit Code “1”
7. Digit Code “2”
8. “Save Programming”
9. “Code Programming OFF”

Code Programming ON

Load Factory Default

Code Programming OFF

Load Standard 25 Factory Default
【Pro CMD：99912200】

Enable/ Disable Standard 25

Enable Standard 25
【Pro CMD：99912202】

Disable Standard 25
【Pro CMD：99912201】

TIPS

When the scanner can not read Standard 25, please read “Enable Standard 25” and try again.

Standard 25 Code ID

Code ID Setting
【Pro CMD：99912210】

Example

Example of setting Standard 25 Code ID to “p” (0x70)
1. Read Enable Code Programming barcode.
2. Read Standard 25 Code ID Setting barcode.
3. Read Following Barcodes: “7”, and “0”
4. Read Save barcode
5. Read Disable Code Programming barcode.

Code Programming ON

Code Programming OFF

Check Digit

Standard 25 may include Check Digit (not compulsory) following its barcode messages. If included, it may be the last digit. It verifies the barcode message.

» “NO Check, Transmit All” means to read without check and transmit all bytes including barcode message and Check Digit.

» “Check, Do Not Transmit Check Digit” means to read and check. If verification is successful, transmits barcode message; if not, scanner sends an error beep.

» “Check, Transmit All” means to read and check. If verification is successful, transmits all messages; if not, scanner sends an error beep.

NO Check, Transmit All
【Pro CMD：99912203】

Check, Transmit All
【Pro CMD：99912204】

Check, Do Not Transmit Check Digit
【Pro CMD：99912205】

When “Check, Do Not Transmit Check Digit” is enabled and barcode message length minus one is less than Min Message Length, it will lead to error beep.
E.g.：Reading a 4-byte (include Check Digit) Standard 25 with the Min Message Length being 4 bytes and “Check, Do Not Transmit Check Digit” enabled leads to error beep.

Code Programming ON

Code Programming OFF

Select Message Length

It is used to program the valid reading length of Standard 25. The scanner will send an error beep, if the decoded data length does not match the valid length.

Standard 25 Message Length is defined by “Min. Message Length” and “Max. Message Length”.

Min Message Length
【Pro CMD：99912206】

Max Message Length
【Pro CMD：99912207】

TIPS

1D bar code Message Length should not exceed 255 bytes. If Max Message Length is less than Min Message Length, it means the scanner will only support barcodes of the two lengths. If Max Message Length is equal to Min Message Length, the scanner will only support barcodes of the length.

Example

To set Min Message Length of Standard 25 to 8 bytes and the Max Message Length to 12 bytes. Read these programming code:

1. “Code Programming ON”
2. “Select Min Message Length”
3. Digit Code “8”, see Digit Code (Appendix Pxxx)
4. “Save Programming”, see Digit Code (Appendix Pxxx)
5. “Select Max Message Length”
6. Digit Code “1”
7. Digit Code “2”
8. “Save Programming”
9. “Code Programming OFF”

Code Programming ON

Load Factory Default

Code Programming OFF

Load Code 39 Factory Default
【Pro CMD：99912400】

Enable/Disable Code 39

Enable Code 39
【Pro CMD：99912402】

Disable Code 39
【Pro CMD：99912401】

TIPS When the scanner can not read Code 39, please read “Enable Code 39” and try again

Code 39 Code ID

Code ID Setting
【Pro CMD：99912414】

Example

Example of setting Code 39 Code ID to “p” (0x70)
1. Read Enable Code Programming barcode.
2. Read Code 39 Code ID Setting barcode.
3. Read Following Barcodes: “7”, and “0”
4. Read Save barcode
5. Read Disable Code Programming barcode.

Code Programming ON

Code Programming OFF

Check Digit

Code 39 may include Check Digit (not compulsory) following its barcode message. It verifies the barcode message.

» "NO Check, Transmit All" means to read without check and transmit all bytes including barcode message and Check Digit.

» "Check, Do Not Transmit Check Digit" means to read and check. If verification is successful, transmits barcode message; if not, scanner sends an error beep.

» "Check, Transmit All" means to read and check. If verification is successful, transmits all messages; if not, scanner sends an error beep.

NO Check, Transmit All
【Pro CMD：99912403】

Check, Transmit All
【Pro CMD：99912405】

Check, Do not transmit Check Digit
【Pro CMD：99912404】

When “Check, Do not Transmit Check digit” is enabled and barcode message length minus one is less than Min Message Length, it will lead to error beep.
E.g.：Reading a 4-byte (include check byte) Code 39 with the Min Message Length being 4 bytes and “Check, Do not transmit Check Digit” enabled leads to error beep.

Code Programming ON

Code Programming OFF

Transmit Start & Stop Character

Code 39 has one "*" before and another after digits as Start & Stop Character. Transmission of “*” can be selected.

Transmit Both “*”
【Pro CMD：99912407】

Transmit Neither “*”
【Pro CMD：99912406】

Decode ASCII

Code 39 can include full ASCII characters. For factory default, the scanner only decodes part of them. Read “Enable Full ASCII decode” to decode full ASCII characters.

Partial ASCII Decode
【Pro CMD：99912410】

Full ASCII Decode
【Pro CMD：99912411】

Code Programming ON

Select Message Length

Code 39 Message Length is defined by “Min. Message Length” and “Max. Message Length “. It is used to program the valid reading length of Code 39. The scanner will send an error beep, if the decoded data length does not match the valid length.

Code Programming OFF

Min Message Length
【Pro CMD：99912412】

Max Message Length
【Pro CMD：99912413】

TIPS

1D bar code Message Length should not exceed 255 bytes. If Max Message Length is less than Min Message Length, it means the scanner will only support barcodes of the two lengths. If Max Message Length is equal to Min Message Length, the scanner will only support barcodes of the length.

Example

To set Min Message Length of Code 39 to 8 bytes, and Max Message Length to 12 bytes, read these programming codes:

1. “Code Programming ON”
2. “Select Min Message Length”
3. Digit Code “8”, see Digit Code (Appendix Pxxx)
4. “Save Programming”, see Digit Code (Appendix Pxxx)
5. “Select Max Message Length”
6. Digit Code “1”
7. Digit Code “2”
8. “Save Programming”
9. “Code Programming OFF”

Code Programming ON

Load Factory Default

Code Programming OFF

Load Codabar Factory Default
【Pro CMD：99912500】

Enable/Disable Codabar

Enable Codabar
【Pro CMD：99912502】

Disable Codabar
【Pro CMD：99912501】

TIPS

When the scanner can not read Codabar, please read “Enable Codabar” and try again.

Codabar Code ID

Code ID Setting
【Pro CMD：99912516】

Example

Example of setting Codabar Code ID to “p” (0x70)
1. Read Enable Code Programming barcode.
2. Read Codabar Code ID Setting barcode.
3. Read Following Barcodes: “7”, and “0”
4. Read Save barcode
5. Read Disable Code Programming barcode.

Code Programming ON

Code Programming OFF

Check Digit

Codabar may include Check Digit (not compulsory) following its barcode message. It verifies the barcode message.

» "NO Check, Transmit All" means to read without check and transmit all bytes including barcode message and Check Digit.

» "Check, Do Not Transmit Check Digit" means to read and check. If verification is successful, transmits barcode message; if not, scanner sends an error beep.

» "Check, Transmit All" means to read and check. If verification is successful, transmits all messages; if not, scanner sends an error beep.

NO Check, Transmit All
【Pro CMD：99912503】

Check, Transmit All
【Pro CMD：99912504】

Check, Do not transmit Check Digit
【Pro CMD：99912505】

When “Check, Do not Transmit Check digit” is enabled and barcode message length minus one is less than Min Message Length, it will lead to error beep.
E.g.：Reading a 4-byte (include check byte) Codabar with the Min Message Length being 4 bytes and “Check, Do not transmit Check Digit” enabled leads to error beep.

Code Programming ON

Code Programming OFF

Transmit Start & Stop Character

Do Not Transmit Both Start & Stop Character
【Pro CMD：99912506】

Transmit Both Start & Stop Character
【Pro CMD：99912507】

Use ABCD/ABCD As Start & Stop Character
【Pro CMD：99912510】

Use ABCD/TN*E As Start & Stop Character
【Pro CMD：99912511】

Use abcd/abcd As Start & Stop Character
【Pro CMD：99912512】

Use abcd/tn*e As Start & Stop Character
【Pro CMD：99912513】

Codabar

Tools

Code Programming ON

Code Programming OFF

Select Message Length

Codabar Message Length is defined by “Min. Message Length” and “Max. Message Length “.It is used to program the valid reading length of Codabar. The scanner will send an error beep, if the decoded data length does not match the valid length.

Min Message Length
【Pro CMD：99912514】

Max Message Length
【Pro CMD：99912515】

TIPS

1D bar code Message Length should not exceed 255 bytes. If Max Message Length is less than Min Message Length, it means the scanner will only support barcodes of the two lengths. If Max Message Length is equal to Min Message Length, the scanner will only support barcodes of the length.

Example

To set Min Message Length of Codabar to 8 bytes, and Max Message Length to 12 bytes, read these programming codes:

1. “Code Programming ON”
2. “Select Min Message Length”
3. Digit Code “8”, see Digit Code (Appendix Pxxx)
4. “Save Programming”, see Digit Code (Appendix Pxxx)
5. “Select Max Message Length”
6. Digit Code “1”
7. Digit Code “2”
8. “Save Programming”
9. “Code Programming OFF”

Code Programming ON

Load Factory Default

Code Programming OFF

Load Code 93 Factory Default
【Pro CMD：99912600】

Enable /Disable Code 93

Enable Code 93
【Pro CMD：99912602】

Disable Code 93
【Pro CMD：99912601】

TIPS When the scanner can not read Code 93, please read “Enable Code 93” and try again.

Code 93 Code ID

Code ID Setting
【Pro CMD：99912610】

Example

Example of setting Code 93 Code ID to “p” (0x70)
1. Read Enable Code Programming barcode.
2. Read Code 93 Code ID Setting barcode.
3. Read Following Barcodes: “7”, and “0”
4. Read Save barcode
5. Read Disable Code Programming barcode.

Code Programming ON

Code Programming OFF

Check Digit

Code 93 may include Check Digits (not compulsory) following its barcode message. If included, they are the last two digits. They verifie the barcode message.

» "NO Check, Transmit All" means to read without check and transmit all bytes including barcode message and Check Digit.

» "Check, Do Not Transmit Check Digit" means to read and check. If verification is successful, transmits barcode message; if not, scanner sends an error beep.

» "Check, Transmit All" means to read and check. If verification is successful, transmits all messages; if not, scanner sends an error beep.

NO Check, Transmit All
【Pro CMD：99912603】

Check, Transmit All
【Pro CMD：99912605】

Check, Do not transmit Check Digit
【Pro CMD：99912604】

When “Check, Do not Transmit Check digit” is enabled and barcode message length minus one is less than Min Message Length, it will lead to error beep.
E.g.：Reading a 4-byte (include check byte) Code 93 with the Min Message Length being 4 bytes and “Check, Do not transmit Check Digit” enabled leads to error beep.

Code Programming ON



Code Programming OFF



Select Message Length

It is used to program the valid reading length of Code 93. The scanner will send an error beep, if the decoded data length does not match the valid length.
Code 93 Message Length is defined by “Min. Message Length” and “Max. Message Length .”



Min Message Length
【Pro CMD：99912606】



Max Message Length
【Pro CMD：99912607】

TIPS

1D bar code Message Length should not exceed 255 bytes. If Max Message Length is less than Min Message Length, it means the scanner will only support barcodes of the two lengths. If Max Message Length is equal to Min Message Length, the scanner will only support barcodes of the length.

Example

To set Min Message Length of Code 93 to 8 bytes and Max Message Length to 12 bytes, read these programming codes:
1. “Code Programming ON”
2. “Select Min Message Length”
3. Digit Code “8”, see Digit Code (Appendix Pxxx)
4. “Save Programming”, see Digit Code (Appendix Pxxx)
5. “Select Max Message Length”
6. Digit Code “1”
7. Digit Code “2”
8. “Save Programming”
9. “Code Programming OFF”

Code Programming ON

Load Factory Default

Code Programming OFF

Load Code 11 Factory Default
【Pro CMD：99912700】

Enable/ Disable Code 11

Enable Code 11
【Pro CMD：99912702】

Disable Code 11
【Pro CMD：99912701】

TIPS

When the scanner can not read Code 11, please read “Enable Code 11” and try again.

Code 11 Code ID

Code ID Setting
【Pro CMD：99912715】

Example

Example of setting Code 11 Code ID to “p” (0x70)
1. Read Enable Code Programming barcode.
2. Read Code 11 Code ID Setting barcode.
3. Read Following Barcodes: “7”, and “0”
4. Read Save barcode
5. Read Disable Code Programming barcode.

Code Programming ON

Code Programming OFF

Check Digit

Code 11 may include Check Digit (not compulsory) following its barcode messages. If included, it may be the last one or two digits. It verifies the barcode message.

» “NO Check, Transmit All” means to read without check and transmit all bytes including barcode message and Check Digit.

No Check
【Pro CMD：99912703】

Single Check Digit，MOD11
【Pro CMD：99912704】

Double Check Digits, MOD11/MOD11
【Pro CMD：99912705】

Double Check Digits, MOD11/MOD9
【Pro CMD：99912706】

Single Check Digit MOD11（Len <= 10）
Double Check Digits MOD11/
MOD11 （Len > 10）
【Pro CMD：99912707】

Single Check Digit MOD11 （Len <= 10）
Double Check Digits MOD11/
MOD9 （Len > 10）
【Pro CMD：99912710】

Do not transmit Check Digit
【Pro CMD：99912711】

Transmit Check Digit
【Pro CMD：99912712】

When “Check, Do Not Transmit Check Digit” is enabled and barcode message length minus one is less than Min Message Length, it will lead to error beep.
E.g.：Reading a 4-byte (include Check Digit) Code 11 with the Min Message Length being 4 bytes and “Check, Do Not Transmit Check Digit” enabled leads to error beep.

Code Programming ON

Code Programming OFF

Select Message Length

It is used to program the valid reading length of Code 11. The scanner will send an error beep, if the decoded data length does not match the valid length.

Code 11 Message Length is defined by “Min. Message Length” and “Max. Message Length”.

Min Message Length
【Pro CMD：99912713】

Max Message Length
【Pro CMD：99912714】

TIPS

1D bar code Message Length should not exceed 255 bytes. If Max Message Length is less than Min Message Length, it means the scanner will only support barcodes of the two lengths. If Max Message Length is equal to Min Message Length, the scanner will only support barcodes of the length.

Example

To set Min Message Length of Code 11 to 8 bytes and the Max Message Length to 12 bytes. Read these programming code:

1. “Code Programming ON”
2. “Select Min Message Length”
3. Digit Code “8”, see Digit Code (Appendix Pxxx)
4. “Save Programming”, see Digit Code (Appendix Pxxx)
5. “Select Max Message Length”
6. Digit Code “1”
7. Digit Code “2”
8. “Save Programming”
9. “Code Programming OFF”

Code Programming ON

Load Factory Default

Code Programming OFF

Load Plessey Factory Default
【Pro CMD：99913000】

Enable/ Disable Plessey

Enable Plessey
【Pro CMD：99913002】

Disable Plessey
【Pro CMD：99913001】

When the scanner can not read Plessey, please read “Enable Plessey” and try again.

Plessey Code ID

Code ID Setting
【Pro CMD：99913010】

Example

Example of setting Plessey Code ID to “p” (0x70)
1. Read Enable Code Programming barcode.
2. Read Plessey Code ID Setting barcode.
3. Read Following Barcodes: “7”, and “0”
4. Read Save barcode
5. Read Disable Code Programming barcode.

Code Programming ON

Code Programming OFF

Check Digit

Plessey may include Check Digits (not compulsory) following its barcode messages. If included, they are the last two digit. They verifie the barcode message.

» “NO Check, Transmit All” means to read without check and transmit all bytes including barcode message and Check Digit.

» “Check, Do Not Transmit Check Digit” means to read and check. If verification is successful, transmits barcode message; if not, scanner sends an error beep.

» “Check, Transmit All” means to read and check. If verification is successful, transmits all messages; if not, scanner sends an error beep.

NO Check, Transmit All
【Pro CMD：99913003】

Check, Transmit All
【Pro CMD：99913004】

Check, Do not transmit Check Digit
【Pro CMD：99913005】

When “Check, Do Not Transmit Check Digit” is enabled and barcode message length minus one is less than Min Message Length, it will lead to error beep.
E.g.：Reading a 4-byte (include Check Digit) Plessey with the Min Message Length being 4 bytes and “Check, Do Not Transmit Check Digit” enabled leads to error beep.

Code Programming ON

Code Programming OFF

Select Message Length

It is used to program the valid reading length of Plessey. The scanner will send an error beep, if the decoded data length does not match the valid length.

Plessey Message Length is defined by “Min. Message Length” and “Max. Message Length”.

Min Message Length
【Pro CMD：99913006】

Max Message Length
【Pro CMD：99913007】

TIPS

1D bar code Message Length should not exceed 255 bytes. If Max Message Length is less than Min Message Length, it means the scanner will only support barcodes of the two lengths. If Max Message Length is equal to Min Message Length, the scanner will only support barcodes of the length.

Example

To set Min Message Length of Plessey to 8 bytes and the Max Message Length to 12 bytes. Read these programming code:

1. “Code Programming ON”
2. “Select Min Message Length”
3. Digit Code “8”, see Digit Code (Appendix Pxxx)
4. “Save Programming”, see Digit Code (Appendix Pxxx)
5. “Select Max Message Length”
6. Digit Code “1”
7. Digit Code “2”
8. “Save Programming”
9. “Code Programming OFF”

Code Programming ON

Load Factory Default

Code Programming OFF

Load MSI-Plessey Factory Default
【Pro CMD：99913100】

Enable/ Disable MSI-Plessey

Enable MSI-Plessey
【Pro CMD：99913102】

Disable MSI-Plessey
【Pro CMD：99913101】

TIPS

When the scanner can not read MSI-Plessey, please read “Enable MSI-Plessey” and try again.

MSI-Plessey Code ID

Code ID Setting
【Pro CMD：99913113】

Example

Example of setting MSI-Plessey Code ID to “p” (0x70)
1. Read Enable Code Programming barcode.
2. Read MSI-Plessey Code ID Setting barcode.
3. Read Following Barcodes: “7”, and “0”
4. Read Save barcode
5. Read Disable Code Programming barcode.

Code Programming ON

Code Programming OFF

Check Digit

MSI-Plessey may include Check Digit (not compulsory) following its barcode messages. If included, it may be the last one or two digits. It verifies the barcode message.

» “NO Check, Transmit All” means to read without check and transmit all bytes including barcode message and Check Digit.

No Check
【Pro CMD：99913103】

Single Check Digit，MOD10
【Pro CMD：99913104】

Double Check Digits, MOD10/MOD10
【Pro CMD：99913105】

Double Check Digits, MOD10/MOD11
【Pro CMD：99913106】

Do not transmit Check Digit
【Pro CMD：99913107】

Transmit Check Digit
【Pro CMD：99913110】

When “Check, Do Not Transmit Check Digit” is enabled and barcode message length minus one is less than Min Message Length, it will lead to error beep.
E.g.：Reading a 4-byte (include Check Digit) MSI-Plessey with the Min Message Length being 4 bytes and “Check, Do Not Transmit Check Digit” enabled leads to error beep.

Code Programming ON

Select Message Length

MSI-Plessey Message Length is defined by “Min. Message Length” and “Max. Message Length ”.It is used to program the valid reading length of MSI-Plessey. The scanner will send an error beep, if the decoded data length does not match the valid length.

Code Programming OFF

Min Message Length
【Pro CMD：99913111】

Max Message Length
【Pro CMD：99913112】

TIPS

1D bar code Message Length should not exceed 255 bytes. If Max Message Length is less than Min Message Length, it means the scanner will only support barcodes of the two lengths. If Max Message Length is equal to Min Message Length, the scanner will only support barcodes of the length.

Example

To set Min Message Length of MSI-Plessey to 8 bytes and the Max Message Length to 12 bytes. Read these programming code:

1. “Code Programming ON”
2. “Select Min Message Length”
3. Digit Code “8”, see Digit Code (Appendix Pxxx)
4. “Save Programming”, see Digit Code (Appendix Pxxx)
5. “Select Max Message Length”
6. Digit Code “1”
7. Digit Code “2”
8. “Save Programming”
9. “Code Programming OFF”

Code Programming ON

Load Factory Default

Code Programming OFF

Load GS1 Databar Factory Default
【Pro CMD：99913200】

Enable/ Disable GS1 Databar

Enable GS1 Databar
【Pro CMD：99913202】

Disable GS1 Databar
【Pro CMD：99913201】

TIPS

When the scanner can not read GS1 Databar, please read “Enable GS1 Databar” and try again.

GS1 Databar Code ID

Code ID Setting
【Pro CMD：99913203】

Example

Example of setting GS1 Databar Code ID to “p” (0x70)
1. Read Enable Code Programming barcode.
2. Read GS1 Databar Code ID Setting barcode.
3. Read Following Barcodes: “7”, and “0”
4. Read Save barcode
5. Read Disable Code Programming barcode.

Appendix

Factory Default List

Parameters	Factory Default	Remark
General Programming		
Code Programming	On	
Send Pro Code Value	Off	
Reading Mode	Sensor Mode	
Reading a Barcode Time Length	3s	Range：0-15s， 0 is infinite time.
Interval Length	1s	Range：0-7.5s
Sensitivity	High Sensitivity	Enabled in Sensor Mode
Security Level	Level 1	
Beeper	Medium Frequency & Loud Volume, 150ms sound length	Beeper for a successful reading
Communication Programming		
Baud Rate	9600	
Serial Port Check	No Check	
Stop Digit	1 Digit	Fixed
Flow Control	No Flow Controlling	Fixed
Data Bit	8 Bit	
USB HID-KBW	On	
Keyboard Layout	U.S.	USB HID-KBW
Character Delay	0ms	USB HID-KBW
Character Conversion	Constant	USB HID-KBW
Nums Lock	Off	USB HID-KBW
Data Format Programming		
Prefix Sequences	CodeID+User Prefix+AIMID	CodeID+Prefix+(AIMID+Data) +Suffix+Terminal
AIMID	Off	]Cm Mark
CodeID	Off	One or two Digit， Capital or Small Letter
User Prefix	Off	No more than 11 digits
User Suffix	Off	No more than 11 digits
Terminal	Off	No more than 7 digits

Parameters	Factory Default	Remark
Symbol		
Code 128		
Enable	On	
Max Message Length	255	
Min Message Length	1	
UCC/EAN-128		
Enable	On	
Max Message Length	255	
Min Message Length	1	
AIM 128		
Enable	Off	
Min Message Length	1	
EAN-8		
Enable	On	
Send Check Digit	On	
Enable 2 Digits Addenda Code	Off	
Enable 5 Digits Addenda Code	Off	
Only Read With 2 digits Addenda Code	Off	
Only Read With 5 digits Addenda Code	Off	
Expand to EAN-13	Off	
Expand and Change Type to EAN-13	Off	
EAN-13		
Enable	On	
Send Check Digit	On	
Enable 2 Digits Addenda Code	Off	
Enable 5 Digits Addenda Code	Off	
Only Read With 2 digits Addenda Code	Off	
Only Read With 5 digits Addenda Code	Off	

ISSN		
Enable	Off	
ISBN		
Enable	Off	
Use 10 Digits	Off	
UPC-E		
Enable	On	
Send Check Digit	On	
Enable 2 Digits Addenda Code	Off	
Enable 5 Digits Addenda Code	Off	
Only Read With 2 digits Addenda Code	Off	
Only Read With 5 digits Addenda Code	Off	
Expand to UPC-A	Off	
Expand and Change Type to UPC-A	Off	
Send Default “0”	Off	
UPC-A		
Enable	On	
Send Check Digit	On	
Enable 2 Digits Addenda Code	Off	
Enable 5 Digits Addenda Code	Off	
Only Read With 2 digits Addenda Code	Off	
Only Read With 5 digits Addenda Code	Off	
Send Default “0”	Off	
Interleaved 2 of 5		
Enable	On	
Check	On	
Send Check Digit	Off	
Max Message Length	255	
Min Message Length	6	No less than 4
ITF-6		
Enable	Off	
Send Check Digit	On	
ITF-14		
Enable	Off	
Send Check Digit	On	

Deutsche 14		
Enable	Off	
Send Check Digit	On	
Deutsche 12		
Enable	Off	
Send Check Digit	On	
COOP 25(Japanese Matrix 2 of 5)		
Enable	Off	
Check	Off	
Send Check Digit	Off	
Max Message Length	255	
Min Message Length	6	No less than 4
Matrix 2 of 5(European Matrix 2 of 5)		
Enable	On	
Check	Off	
Send Check Digit	Off	
Max Message Length	255	
Min Message Length	6	No less than 4
Industrial 25		
Enable	On	
Check	Off	
Send Check Digit	Off	
Max Message Length	255	
Min Message Length	6	No less than 4
Standard 25		
Enable	On	IATA 25
Check	Off	
Send Check Digit	Off	
Max Message Length	255	
Min Message Length	6	No less than 4
Code 39		
Enable	On	
Check	Off	
Send Check Digit	Off	
Send Start & Stop Character	On	

Support Full ASCII	On	
Max Message Length	255	
Min Message Length	4	No less than 4 (including Start & Stop Character)
Codabar		
Enable	On	
Check	Off	
Send Check Digit	Off	
Send Start & Stop Character	On	
ABCD/ABCD as Start & Stop Character	On	Choose 1 In 4
ABCD/TN*E as Start & Stop Character	Off	
abcd/abcd as Start & Stop Character	Off	
abcd/tn*e as Start & Stop Character	Off	
Max Message Length	255	
Min Message Length	4	No less than 4
Code 93		
Enable	On	
Check	On	
Send Check Digit	Off	
Max Message Length	255	
Min Message Length	2	No less than 1
Code 11		
Enable	Off	
Send Check Digit	Off	
Check	On	
1 Digit, MOD11 Check	On	
2 Digits, MOD11/MOD11 Check	Off	
2 Digits, MOD11/MOD9 Check	Off	
Auto 2 Digits, MOD11/MOD11	Off	
Auto 2 Digits, MOD11/MOD9	Off	
Max Message Length	255	
Min Message Length	4	No less than 4
Plessey		
Enable	Off	
Check	On	
Send Check Digit	Off	

Max Message Length	255	
Min Message Length	4	No less than 1
MSI-Plessey		
Enable	Off	
Send Check Digit	Off	
Check	On	
1 Digit, MOD10 Check	Off	
2 Digits, MOD10/MOD10 Check	Off	
2 Digits, MOD10/MOD11 Check	Off	
Max Message Length	255	
Min Message Length	4	No less than 1
GS1 Databar		
Enable	On	
Max Message Length	255	
Min Message Length	1	

Symbol	AIM ID	Possible AIM ID Modifiers(m)
Code 128	]C0	
UCC/EAN-128	]C1	
AIM 128	]C2	
ISBT 128	]C4	
EAN-8	]E4	
EAN-13	]E0	
EAN-13 with Addon	]E3	
ISSN	]X0	
ISBN	]X0	
UPC-E	]E0	
UPC-E with Addon	]E3	
UPC-A	]E0	
UPC-A with Addon	]E3	
Interleaved 2 of 5	]Im	0,1,3
ITF-6	]Im	1,3
ITF-14	]Im	1,3
Deutsche 14	]X0	
Deutsche 12	]X0	
COOP 25（Japanese Matrix 2 of 5）	]X0	
Matrix 2 of 5(European Matrix 2 of 5)	]X0	
Industrial 25	]S0	
Standard 25	]R0	
Code 39	]Am	0,1,3,4,5,7
Codabar	]Fm	0,2,4
Code 93	]G0	
Code 11	]Hm	0,1,3
Plessey	]P0	
MSI-Plessey	]Mm	0,1
GS1 Databar	]e0	

Reference:

» ISO/IEC 15424:2008

» Information technology – Automatic identification and data capture techniques – Data Carrier Identifiers (including Symbology Identifiers)

Code ID List

Symbol	Code ID
Code 128	j
UCC/EAN-128	u
AIM 128	f
ISBT 128	t
EAN-8	g
EAN-13	d
ISSN	n
ISBN	B
UPC-E	h
UPC-A	c
Interleaved 2 of 5	e
ITF-6	r
ITF-14	q
Deutsche 14	w
Deutsche 12	l
COOP 25（Japanese Matrix 2 of 5）	o
Matrix 2 of 5(European Matrix 2 of 5)	v
Industrial 25	i
Standard 25	s
Code 39	b
Codabar	a
Code 93	y
Code 11	z
Plessey	p
MSI-Plessey	m
GS1 Databar	R

Code Programming ON



Code Programming OFF



It is must to read save after reading digit code.



0
【Pro CMD：99900000】



4
【Pro CMD：99900004】



1
【Pro CMD：99900001】



5
【Pro CMD：99900005】



2
【Pro CMD：99900002】



6
【Pro CMD：99900006】



3
【Pro CMD：99900003】



7
【Pro CMD：99900007】

Code Programming ON

Code Programming OFF

8
【Pro CMD：99900010】

9
【Pro CMD：99900011】

A
【Pro CMD：99900012】

B
【Pro CMD：99900013】

C
【Pro CMD：99900014】

D
【Pro CMD：99900015】

E
【Pro CMD：99900016】

F
【Pro CMD：99900017】

Code Programming ON

Code Programming OFF

In order to save the received data “Save” has to be read after data transition completed. If error occurs when reading data,
the wrong data can be deleted and the setting up can be done again..

Eg, after a program code is received then ‘1 2 3” in order is received, if then read “Abort One Data of Current Setting” the “3” will be deleted; if read “Abort One String of Current Setting” the ‘123’ will be deleted; if read “Abort Current Setting” both the program code and ‘123’ will be deleted, the device will be on status of “initiating program code”.

Save
【Pro CMD：99900020】

Abort One Data of Current Setting
【Pro CMD：99900021】

Abort Current Setting
【Pro CMD：99900023】

Abort All String of Current Setting
【Pro CMD：99900022】

ASCII Table

Hex	Dec	Char
00	0	NUL (Null char.)
01	1	SOH (Start of Header)
02	2	STX (Start of Text)
03	3	ETX (End of Text)
04	4	EOT (End of Transmission)
05	5	ENQ (Enquiry)
06	6	ACK (Acknowledgment)
07	7	BEL (Bell)
08	8	BS (Backspace)
09	9	HT (Horizontal Tab)
0a	10	LF (Line Feed)
0b	11	VT (Vertical Tab)
0c	12	FF (Form Feed)
0d	13	CR (Carriage Return)
0e	14	SO (Shift Out)
0f	15	SI (Shift In)
10	16	DLE (Data Link Escape)
11	17	DC1 (XON) (Device Control 1)
12	18	DC2 (Device Control 2)
13	19	DC3 (XOFF) (Device Control 3)
14	20	DC4 (Device Control 4)
15	21	NAK (Negative Acknowledgment)
16	22	SYN (Synchronous Idle)
17	23	ETB (End of Trans. Block)
18	24	CAN (Cancel)
19	25	EM (End of Medium)
1a	26	SUB (Substitute)
1b	27	ESC (Escape)
1c	28	FS (File Separator)
1d	29	GS (Group Separator)
1e	30	RS (Request to Send)
1f	31	US (Unit Separator)
20	32	SP (Space)
21	33	! (Exclamation Mark)
22	34	" (Double Quote)
23	35	# (Number Sign)
24	36	$ (Dollar Sign)
25	37	% (Percent)
26	38	& (Ampersand)
27	39	` (Single Quote)
28	40	((Left / Opening Parenthesis)
29	41	) (Right / Closing Parenthesis)
2a	42	* (Asterisk)
2b	43	+ (Plus)
2c	44	, (Comma)

ASCII Table

Hex	Dec	Char
2d	45	- (Minus / Dash)
2e	46	. (Dot)
2f	47	/ (Forward Slash)
30	48	0
31	49	1
32	50	2
33	51	3
34	52	4
35	53	5
36	54	6
37	55	7
38	56	8
39	57	9
3a	58	: (Colon)
3b	59	; (Semi-colon)
3c	60	< (Less Than)
3d	61	= (Equal Sign)
3e	62	> (Greater Than)
3f	63	? (Question Mark)
40	64	@ (AT Symbol)
41	65	A
42	66	B
43	67	C
44	68	D
45	69	E
46	70	F
47	71	G
48	72	H
49	73	I
4a	74	J
4b	75	K
4c	76	L
4d	77	M
4e	78	N
4f	79	O
50	80	P
51	81	Q
52	82	R
53	83	S
54	84	T
55	85	U
56	86	V
57	87	W
58	88	X

ASCII Table

Hex	Dec	Char
59	89	Y
5a	90	Z
5b	91	[(Left / Opening Bracket)
5c	92	\ (Back Slash)
5d	93	] (Right / Closing Bracket)
5e	94	^ (Caret / Circumflex)
5f	95	_ (Underscore)
60	96	' (Grave Accent)
61	97	a
62	98	b
63	99	c
64	100	d
65	101	e
66	102	f
67	103	g
68	104	h
69	105	i
6a	106	j
6b	107	k
6c	108	l
6d	109	m
6e	110	n
6f	111	o
70	112	p
71	113	q
72	114	r
73	115	s
74	116	t
75	117	u
76	118	v
77	119	w
78	120	x
79	121	y
7a	122	z
7b	123	{ (Left/ Opening Brace)
7c	124	| (Vertical Bar)
7d	125	} (Right/Closing Brace)
7e	126	~ (Tilde)
7f	127	DEL (Delete)

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