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Wireless CCD Scanner

- MS912 -

User's Manual

Version 1.2

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Table of Contents

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Overview

Introducing the MS912

The MS912 scanner combines miniaturized barcode scan engine and wireless technology to provide the best value in a wireless handheld scanner. Featuring lightweight and ease-of-use, the MS912 scanner ensures the productivity and mobility of your business application.

The MS912 is the smallest wireless scanners in the market and is compatible with all major OS on the nowadays popular smartphones and tablet PCs via both HID and SPP profiles.

Enjoy the benefits of accelerated productivity, lower cost of ownership, and freedom of movement. The MS912 is a multipurpose scanner from a partner you can trust.

Thank you for choosing Unitech products.

Application:

- ✓ Warehouse
- ✓ Pharmacy
- ✓ Healthcare Services
- ✓ Retail
- ✓ Point of Sale (POS)
- ✓ Inventory Management
- ✓ Smartphone & Tablet PC

Package Contents

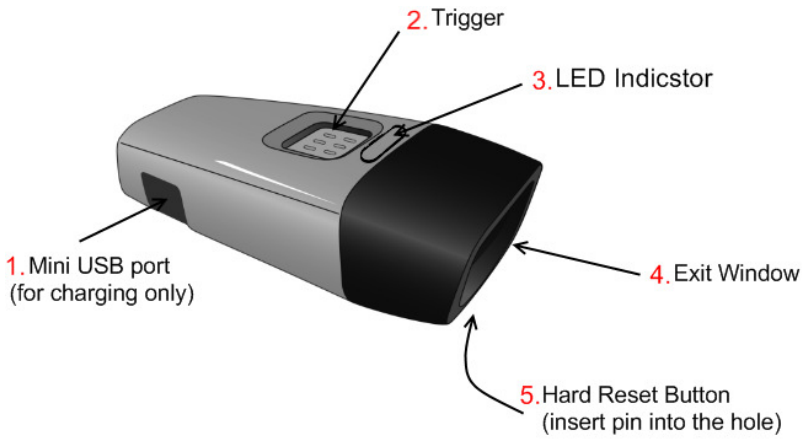
Please make sure the following contents are in the MS912 box. If something is missing or damaged, please contact your Unitech representative.

		
MS912 scanner	**Resource CD**	**Quick Guide**
		
USB Charging Cable	**Hand Strap**	**Quick Connection Card**

NOTE: 1. The scanner's default power off (idle mode) time is 3 minutes.

2. Please charge scanner for at least 2 hours prior to initial use.

Scanner Detail



1	Mini USB port	4	Exit Window
2	Trigger	5	Hard Reset Button
3	LED Indicator		

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Chapter 2

Installation and Connection

Connecting (Pairing) the Scanner to a Host PC

Please make sure your PC or Smartphone has a built-in wireless adaptor; the MS912 supports both HID and SPP wireless profiles. If you are connecting it to an iOS (Apple) smartphone, please follow the instruction of “Connecting via Human Interface Device (HID) Mode”; if you are connecting it to an Android smartphone, please follow the instruction of “Connecting via Serial Port Profile (SPP) Mode” or the instruction of “Human Interface Device (HID) Mode”.

NOTE: Android 2.x devices can work with MS912 in the SPP mode ONLY. The SPP mode or/and the HID mode are not definitely compatible with each version of Android OS, and thus depends on the Android-based hardware specifications defined by the Android device manufacturers.

Connecting via Human Interface Device (HID) Mode (Recommended)

1. Turn on the wireless device on your host (PC, Smartphone, or Tablet).
2. Press the scanner trigger for 1 second to activate the scanner.
3. Scan the [Disconnect] barcode.

Disconnect

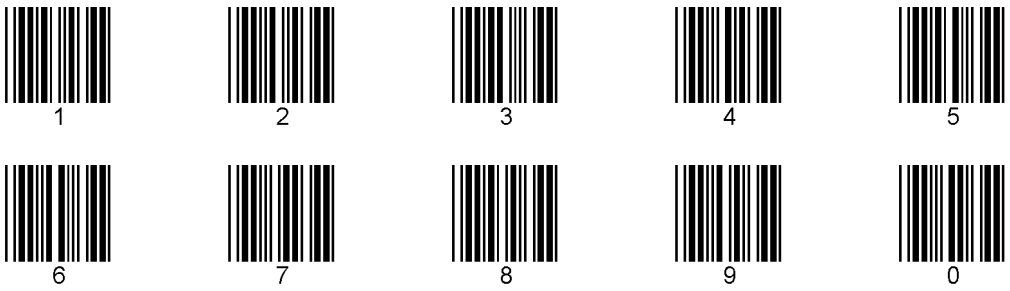
4. Press the trigger for 1 second to activate the scanner.
5. Scan the [HID] barcode below:

SPP

6. The scanner will emit several short beeps and then stop beeping. The green LED light will flash continually during the pairing process.
7. On your host device, in the settings section where you can see Bluetooth settings and manage your connections.
   a. You will see the MS912 listed as [Wireless Scanner] under Bluetooth devices.
   b. You will see a message under that [Pair with this device].
   c. Select this device on your host and begin to pair.
8. Your Host device will ask you to type in a pin code.
   a. Use your host device keypad to enter this pin code.
   b. The pin code can be any set of numbers.
   c. We suggest using 4 numbers.
9. Once you have entered the pin code on the Host device, you need to set up the pin code on the MS912 to match.
   a. With the MS912, scan the Pincode Start barcode below.

Pincode Start

   b. Refer to the barcode table below, and scan the same numbers that you used as the pin code on your Host device. For example, if your pin code is “241657”, scan [2] – [4] – [1] – [6] – [5] – [7] in sequential order:



c. Scan the [Enter] barcode below:

Enter

d. Scan the [Pincode-Stop] barcode:

Pincode-Stop

10. On your Host device you will see the message under [Wireless Scanner] saying [connecting...].
11. Once that message turns to [Paired and Connected], the scanner will beep twice to verify a successful connection, and you are ready to start scanning bar code date into your Host device.
    a. To do a test, open up Word or Note Pad or even a new E-mail [anything that will allow you to type in data].
    b. Scan a number bar code from this manual.
    c. That number should appear on your Host device in the application you opened.
    d. If not, please scan [Disconnect] barcode below and repeat steps 1 to 9 above.

NOTE: To disconnect the scanner from the host or to switch the wireless profile from one to another, please scan the [Disconnect] barcode:

Disconnect

After scanning the [Disconnect] barcode, the MS912 will emit 3 beeps..

Connecting via Human Interface Device (HID) Mode (Non-Pincode)

1. Press the trigger for 1 second to activate the scanner.
2. Scan [DISCONNECT]

   Disconnect

   . E 0 3 1 $

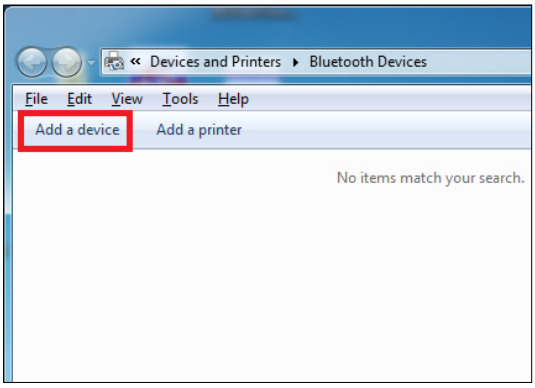
3. Scan [BT mode - HID non-pincode]; the scanner will emit 8 beeps.

   BT mode - HID non-pincode

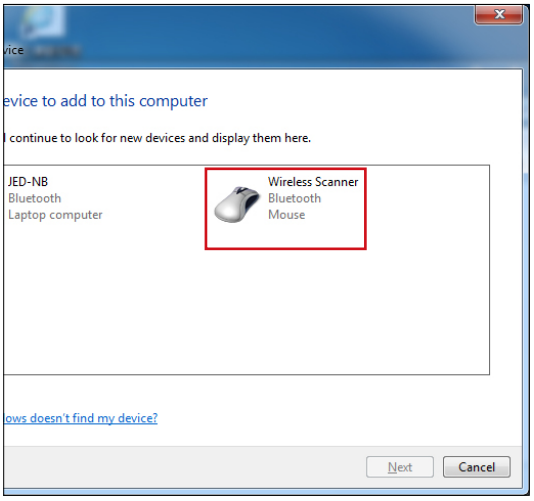
   .E040$

4. Search for the scanner nearby around by using the Bluetooth module of your host PC.

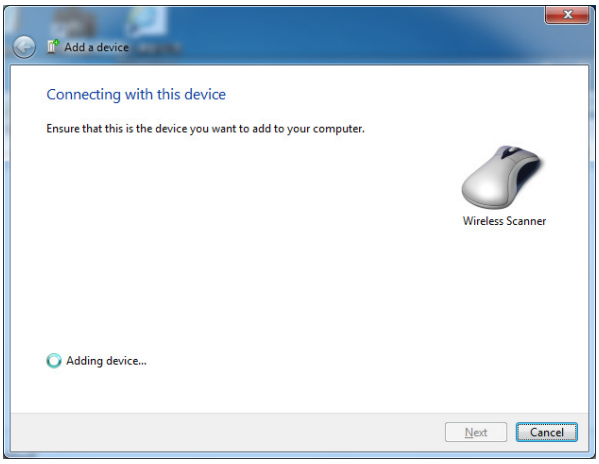
5. Click **Add a device** to search for a wireless scanner nearby around.



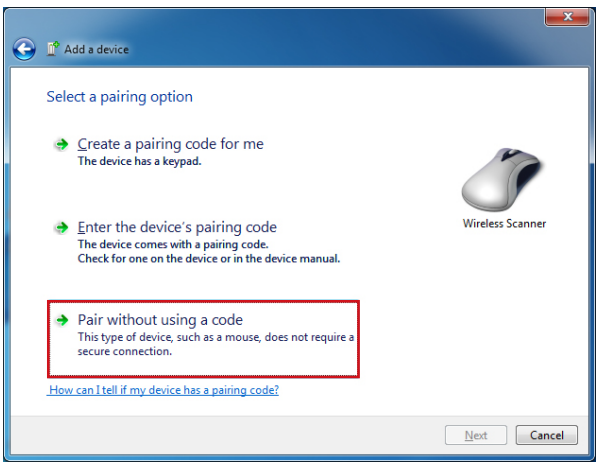
6. Click Wireless Scanner to add to the computer. Then, click **Next**.



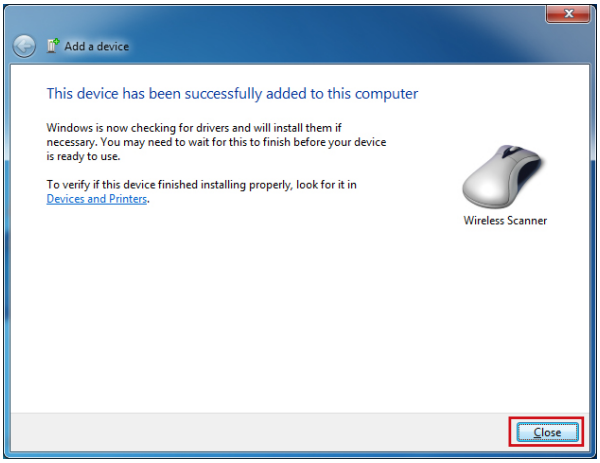
7. In this step, the computer is connecting the wireless scanner. When it connects, click **Next**.



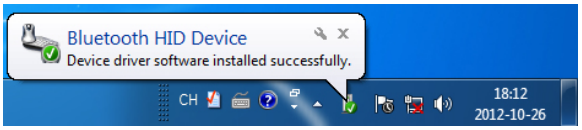
8. Click **Pair without using a code.** Then, click **Next**.



9. Then, click **Close**.



10. You will see a message telling that the device driver software is installed successfully.



11. The scanner will beep twice to verify the connection.

NOTE: In this mode, the scanner is recognized by the host as a mouse (pointing device). If your host fails to find it, please try [Connecting via Human Interface Device (HID) Mode] instead.

Connecting via Serial Port Profile (SPP) Mode

1. Turn on the wireless device on your host (PC, Smartphone, or Tablet).
2. Press the scanner trigger for 1 second to activate the scanner.
3. Scan [Disconnect] barcode.

Disconnect

4. Scan the [SPP] barcode below:

SPP

5. The scanner will emit several beeps.
6. Conduct a search for the MS912 on your host. Select “Wireless Scanner” from discovered device list and the scanner will beep twice.
7. Enter pincode, which is “1234” by default.
8. Open serial communication software with a COM port (see Device Manager) properly set up.
9. The scanner will beep twice and the indicator LED will turn off to verify the successful connection.

Getting Connected - iOS (Apple)

Simply follow instruction in [BT mode - HID]. (page 30), in which step 5 & 6 can be skipped since Apple devices will not require pincode for connection.

Touch Keyboard

ENABLE iOS HOTKEY

. E047$

DISABLE iOS HOTKEY

. E048$

After enabling iOS Hotkey(disabled by default), you may simply double-click the trigger to toggle the iPhone/iPad Touch Keyboard.

Getting Connected - Android (Samsung, hTC, Sony..)

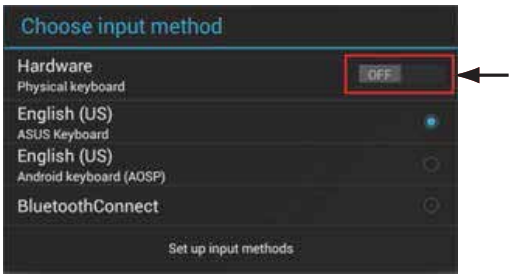
Simply follow instruction in [BT mode - HID]. (page 30), in which step 5 & 6 can be skipped since Android devices will not require pincode for connection.

NOTE: The BT HID profile is supported on Android 4.0 or newer versions.

Touch Keyboard

While connected with the scanner, the Touch Keyboard on the Android smartphone or tablet might disappear. To resolve this issue, please change settings on Android device with below steps:

1. Enter “Settings”
2. Enter “Language & input”
3. In Keyboard & input window, tap “Default” to continue.
4. Turn off “Hardware - Physical keyboard”, and the Touch Keyboard will function properly again.



Set Bluetooth Device ID

To customize your own Bluetooth device (MS912) name for the wireless scanner, please follow below steps:

STEP 1

Scan the **Default Wireless ID** barcode.

.B022$

STEP 2

Scan the **Set Wireless ID** barcode.

.B023$

STEP 3

Scan 7 alphanumeric characters from **Full ASCII Chart** of Appendix A.

STEP 4

Scan the **Set Wireless ID** barcode.

.B023$

STEP 5

Scan a desired BT mode barcode (SPP or HID) to connect.

NOTE: 1. If you have connected the scanner with the host BEFORE customizing your Bluetooth device name, please remove the device and create a new connection to make sure device name is refreshed. For PC, it is recommended to restart the Bluetooth adaptor in order to refresh device name.

2. At Step 3, the scanner will beep three times as an alert that more than 7 characters are entered.

Power Management

Variable Timeout

SET MINUTE (Range: 00 ~ 60)

. B030$

SET SECOND (Range: 00 ~ 60)

. B029$

The timeout is 3 minutes by default, and is programmable to the second and minute, ranging from 10 seconds (00:10) to 60 minutes and 60 seconds (60:60)

For example, to set the timeout as 5 minutes 30 seconds:

1. Scan [Set Minute]
2. Scan [0] & [5] on below numeric barcode table.
3. Scan [Set Minute]
4. Scan [Set Second]
5. Scan [3] & [0] on below numeric barcode table.
6. Scan [Set Second]

No Timeout (Scanner Always On)

DISABLE TIMEOUT

. B021$

NUMERIC BARCODES

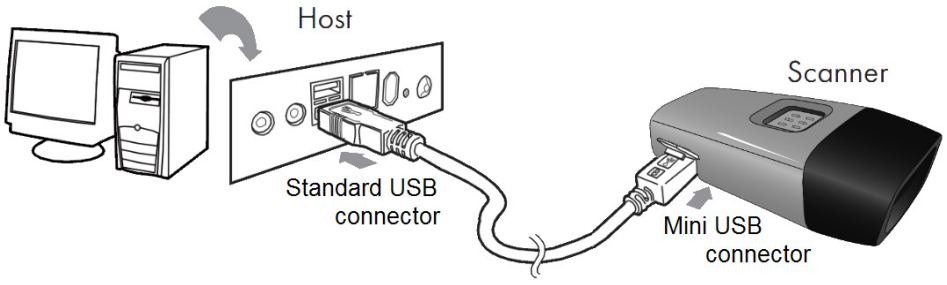
1 
2 
3 
4 
5 

6 
7 
8 
9 
0 

Scanner LED & Beeper Indication

Scanner LED & Beeper Indication					
		Green LED	Red LED	Beeper	Remark
Scanner	Power Off or Standby	-	-	-	See Power Off Timeout
	Charging	-	Solid	-	-
	Disconnected or Discoverable	Flash	-		-
	Initializing	Flash	Flash	1 long beep	-
	Power Up	-	-	1 long beep	-
	Barcode scanning w/o proper connection	Flash	-	1 beep	-
	Successful barcode scan	1 Flash	-	1 beep	-
	Successful Connection	-	-	2 beeps	-
	Unsuccessful Pincode Setup	-	Flash	3 short beeps	Scan [Pincode Stop] and retry
	Low Power	-	Flash	5 beeps	-
	Out of range	1 Flash	-	4 beeps (high-low-high-low)	Move closer to the host.

Charging the Battery



1. Flip open the mini USB port on the scanner.
2. Insert the mini USB connector into the port on the scanner and USB A connector into a USB port on the host PC.
3. Please charge the scanner for at least 2 hours (until the LED indicator turns off).

Chapter 3

Specification

MS912	
Performance/Optical	
Image Sensor	Linear CMOS sensor
Light Source	625nm Visible Red LED
Max. Resolution	5 mil (0.127mm)
Scan Rate	240 scans/second
Printing Contrast Scale	30% Minimum
Depth of Field	
Reading Distance (DOF PCS=90%)	Code 39, 5mil: 15mm (near) / 60mm (far) Code 39, 13mil: 30mm (near) / 140mm (far) Code 39, 20mil: 35mm (near) / 185mm (far)
Functionality	
Symbologies	UPC-A/UPC-E, EAN-8/EAN-13, Industrial 2of 5, Codabar, Matrix 2 of 5, Code 11, Code93, Code 32, Code 128, Standard Code 39,Full ASCII Code 39, Interleaved 2 of 5, ChinaPostal Code, MSI Plessy Code, UK PlessyCode, EAN/UCC 128, Telepen Code, IATACode, GS1 Databar.
Configuration Method	Configuration barcodes
Electrical	
Operation Voltage	3.7VDC ± 5%
Battery Type	Lithium-Ion
Current Consumption	Operation mode:<150mA; Standby mode:<65mA
Battery Duration	5000 reads/charge
Environmental	
ESD Protection	Functional after 4KV Contact and 8KV Air
Operating Temperature	0°C to 50°C
Storage Temperature	-20°C to 60°C
Relative Humidity	20% to 85% non-condensing
Drop Test	1.5M

Communication	
Range	10M (line of sight)
Host Interface supported	Mini USB
Interface/Profile	SPP, HID
Wireless Class	Wireless Class 2
Mechanical	
Housing Material	ABS
Dimensions	L65 x W24 x H18mm / 2.6 x 0.9 x 0.7in
Weight	24.6g / 0.9oz
Regulation Approvals	
FCC Class B, CE	
Accessories	
Mini USB cable, Hand Strap, Tools CD	

Chapter 4

GENERAL SETTINGS

Default, Abort, Check Version, Setup Code Read

DEFAULT

. A001$

* Reset to factory default

CHECK VERSION

. A007$

* Check firmware version

RESET/ ABORT

. P023$

* Abort multi-step configuration

SETUP CODE READ

. B015$

SETUP CODE ON

. B016$

SETUP CODE OFF

* Caution: Scanning SETUP CODE OFF will turn the scanner into unprogrammable state and the scanner will not react to any configuration barcode!

Reading Mode

. F005$

CONTINUOUS MODE

* LED is always on.
* The trigger does not function in Continuous Mode.

. F001$

FLASH MODE

* The LED is on steady if a bar code is close to the scanner, but starts flashing if no bar code is detected after 60 seconds.
* The trigger does not function in Flash Mode.

. F002$

* The LED will light when the trigger is pressed.
* The LED will go off when the trigger is released.

. F006$

* The LED is always on when the trigger is pressed.
* The LED will go off if no bar code has been detected after 60 seconds.

. F003$

* The LED is always on when the trigger is pressed.
* The LED will go off if one bar code is read.

NOTE: 1. To extend the scanner's life, keep the scanner set to Trigger Mode or Continuous Auto Off Mode.
2. The LED indicator will glow for GOOD READ.

Beep tone, Terminator

BEEP TONE

2.7KHz Buzzer

.F012$

BEEP OFF

.F019$

BEEP HIGH

.F021

BEEP HIGH--LOW

.F018$

BEEP MEDIUM

.F020$

BEEP LOW--HIGH

.F022$

BEEP LOW

TERMINATOR

. D010$

NONE

. D011$

LF

. D012$

CR

. D013$

CR+LF

. D014$

TAB

. D015$

SPACE

. D016$

ESC

NOTE: Below is the position of Terminator among output data string:

[Preamble] [Symbology ID] [Barcode Length] [Barcode Data] [Postamble] **[Terminator]**

By default, with Preamble, Postamble, Barcode Length and Symbology ID disabled, the scanner data output will be:

[Barcode Data] **[Terminator]**

1. For the Keyboard Wedge interface the default terminator is CR.
2. For the USB interface the default terminator is CR.
3. For the RS232 interface the default terminator is CR+LF.

Send Data Length, Preamble, Postamble

SEND DATA LENGTH

.D019$

SEND DATA LENGTH ON

.D020$

SEND DATA LENGTH OFF

PREAMBLE & POSTAMBLE (PREFIX AND SUFFIX)

. A011$

CLEAR PRE/ POSTAMBLE

. A012$

PREAMBLE (16)

. A013$

POSTAMBLE (16)

EXAMPLE:

Set PREAMBLE String as “ ## ”

POSTAMBLE String as “ $$ ”

SETTING PROCEDURE:

STEP 1 : Scan : CLEAR PRE/ POSTAMBLE.

STEP 2 : Scan : PREAMBLE.

STEP 3 : Scan : “ # ” twice from FULL ASCII Table.

STEP 4 : Scan : PREAMBLE.

STEP 5 : Scan : POSTAMBLE.

STEP 6 : Scan : “ $ ” twice from FULL ASCII Table.

STEP 7 : Scan : POSTAMBLE.

DATA FORMAT:

[Preamble] [Symbology ID] [Barcode Length] [Barcode Data] **[Postamble]** [Terminator]

NOTE: 1. A PREAMBLE is a string of up to 16 characters added to the beginning of a scanned barcode.

2. A POSTAMBLE is a string of up to 16 characters added to the end of a scanned barcode.

3. Default value for both: None.

Accuracy Adjustment

0 1 2 3 4

5 6 7 8 9

ACCURACY ADJUSTMENT

. A010$

Accuracy Adjustment assures a more reliable decoded output.

Enabling the feature and setting a number from 1 to 9 subjects the decoded output a higher standard of accuracy. The higher the number, the greater the accuracy.

SETTING PROCEDURE:

1. Scan ACCURACY ADJUSTMENT.
2. Scan one digit (1~9) from barcode menu above.
3. Scan ACCURACY ADJUSTMENT

RESET P023$

NOTE: 1. The scanner will beep three times as reminder that a setting is not yet complete.

2. If you make a mistake, forget a step, etc., scan RESET to start again.

Code ID, Inverse Barcode

ENABLE INVERSE BARCODE

.D021$

DISABLE INVERSE BARCODE
(READS POSITIVE BARCODE ONLY)

.D022$

ENABLE INVERSE BARCODE
(READS POSITIVE & NEGATIVE BARCODES)

ENABLE CODE ID

.A008$

FACTORY ID ON

.A014$

AIM ID ON

.A015$

SET ID ON

DISABLE CODE ID

.A009$

NOTE: 1. Only ONE code ID will be sent.

2. The code ID is located at the position before the bar code data and after the preamble.

EXAMPLE: 1. Preamble 145287,

2. Code ID: enable AIM ID,

3. Bar code symbologies : EAN 13+5

145287	]E0	
Preamble 145287	CODE ID AIM ID :]E0	BARCODE / DATA EAN 13 +5

OUTPUT : 145287]E0456398712345312411

Symbologies Code Identifier

SYMBOLOGIES CODE ID IDENTIFIER					
Symbologies	Factory ID	AIM ID (new)	Symbologies	Factory ID	AIM ID (new)
EAN 128	T	]C1	MSI	O	]M0
Code 128	K	]C0	MSI(MOD 10 / CDV & not send CD)		]M1
EAN8(+2/+5 OFF)	S	]E4	Code 32	B	]X0
EAN8(+2 ON)		]E4	Codabar	N	]F0
EAN8(+5 ON)		]E4	Codabar(ABC Codabar)		]F1
UPC-E(+2/+5 OFF)	E	]E0	Codabar(CDV & Send CD)		]F2
UPC-E(+2 ON)		]E3	Codabar(CDV & not send CD)		]F4
UPC-E(+5 ON)		]E3	UK Plessey	P	]P0
UPC-A(+2/+5 OFF)	A	]E0	Matrix 2 of 5	Y	]X0
UPC-A(+2 ON)		]E3	Full ASCII Code 39(disable CDV)	D	]A4
UPC-A(+5 ON)		]E3	Full ASCII Code 39(CDV & send CD)		]A5
EAN-13(+2/+5 OFF)	F	]E0	Full ASCII Code 39(CDV & not send CD)		]A7
EAN-13(+2 ON)		]E3	Standard Code 39(disable CDV)	M	]A0
EAN-13(+5 ON)		]E3	Standard Code 39(CDV & send CD)		]A1
Code 93	L	]G0	Standard Code 39(CDV & not send CD)		]A3
Code 11(disable CDV)	J	]H0	Interleaved 2 of 5(CDV & send CD)	I	]I1
Code 11(send one CD)		]H0	Interleaved 2 of 5(CDV & not send CD)		]I3
Code 11(send two CD)		]H1	Interleaved 2 of 5(disable CDV)		]I0
Code 11(not send CD)		]H3	Databar	G	]e0
Telepen(ASCII)	U	]B0	Databar Stacked		
Telepen(Numeric)		]B1	Databar Stacked Omnidirectional		
IATA 2 of 5	R	]R0	Databar Truncated		
Industrial 2 of 5	V	]S0	Databar Limited	C	
China Post Code	H	]X0	Databar Expanded	Q	
PDF417	Z	]E0	Databar Expanded Stacked		

SET ID - SETTING PROCEDURES

Steps:

1. Scan the SET ID bar code for a particular symbology.
2. Scan one or two alphanumeric characters from the Full ASCII Table.
3. Scan the SET ID bar code again.

Example: Define the MSI Code ID = A, Code 93 = G9

MSI :

Step1: Scan MSI Set ID (page25).
Step2: “A” from page79.
Step3: Scan MSI Set ID (page25).

Code 93:

Step1: Scan Code 93 Set ID (page24).
Step2: “G” from page79, Scan “9” from page83.
Step3: Scan Code 93 Set ID (page24).

NOTE: 1. The length of a Code ID is either one or two characters. If one character is set, the Code ID output will be one character. If two characters are set, the Code ID output will be two characters.
2. Only one type of Code ID will be sent.

Set Code ID

EAN 13 Set ID

. P001$

EAN 8 Set ID

. P002$

UPC E Set ID

. P003$

UPC A Set ID

. P004$

Code 39 Set ID

. P005$

Code 93 Set ID

. P013$

Codabar Set ID

. P007$

IATA Set ID

. P021$

Code 128 Set ID

. P010$

EAN 128 Set ID

. P016$

Telepen Set ID

. P022$

Code 11 Set ID

. P009$

Code 32 Set ID

. P011$

China Post Code [TOSHIBA Code] Set ID

. P012$

Set Code ID

MSI Code Set ID

. P014$

Full ASCII Code39 Set ID

. P008$

UK Plessey Set ID

. P015$

GS1 Databar (RSS) Limited Set ID

. P019$

Matrix 2 of 5 Set ID

. P017$

GS1 Databar (RSS) Expanded Set ID

. P020$

Interleaved 2 of 5Set ID

. P006$

GS1 Databar (RSS) Set ID

. P024$

Industrial 2 of 5 Set ID

. P018$

LABEL Code Set ID [Reserved]

. P020$

RESET P023$

NOTE: 1. The scanner will beep three times as reminder that a setting is not yet complete.

2. If you make a mistake, forget a step, etc., scan RESET to start again.

Inter-block and Inter-character Delay

INTERBLOCK DELAY

0mS

. B001$

10mS

. B002$

50mS

. B003$

100mS

. B004$

200mS

. B005$

500mS

. B006$

INTERCHARACTER DELAY

140uS

. B010$

500uS

. B011$

1mS

. B012$

4mS

. B013$

16mS

. B014$

Keyboard Layout

KEYBOARD LAYOUT

. C010$

ENGLISH (USA)

. C021$

HUNGARIAN (QWERTZ)

. C026$

SWEDISH

. C018$

ENGLISH (UK)

. C024$

HUNGARIAN (101 KEY)

. C031$

PORTUGUESE

. C012$

FRENCH

. C016$

SWISS (GERMAN)

. C030$

BELGIAN (AZERTY)

. C011$

GERMAN

. C023$

SWISS (FRENCH)

. C028$

DUTCH

. C014$

ITALIAN

. C009$

JAPAN (106 key)

. C027$

DANISH

. C013$

SPANISH

. C025$

CANADIAN (FRENCH)

. C032$

SLOVAK

. C017$

CZECH (QWERTY)

. C034$

CANADIAN (TRADITIONAL)

. C033$

BRAZILIAN (PORTUGUESE)

. C022$

CZECH (QWERTZ)

. C029$

NORWEGIAN

. C015$

ALT CODE

Caplock Mode, Numeric Key

CAPITAL LOCK MODE

. A004$

CAPLOCK ON

. A005$

CAPLOCK OFF

. A006$

CAPLOCK FREE

NUMERIC KEY

. D017$

NUMERIC KEY

. D018$

ALPHANUMERIC KEY

NOTE: 1. When barcode scanner is set to Caplock Free mode, no matter keyboard Capslock LED indicator is ON or OFF, output will be always the same as the Original barcode. In other words, what you see is what output is.(CODABAR is the exception)

2. If ABCD/ ABCD, abcd/ abcd, ABCD/T*E, abcd/tn*e are on, they work independently according to their rules.

Chapter 5

WIRELESS SCANNER SETTINGS

Interface

WIRELESS

. C035$

The scanner's interface is Wireless by default.

After scanning above barcode, please select one bluetooth profile on the next page.

USB-HID

. C008$

Please connect the scanner with the host with mini USB cable before scanning above barcode.

USB-VCP

. C006$

Please connect the scanner with the host with mini USB cable and make sure the virtual com driver (available on CD or from local distributor) is properly installed before scanning above barcode.

Function Support Matrix

Interface	Profile	Batch Mode	Memory Mode	Ez Utility
Wireless	BT HID	✓	✓	
	BT SPP	✓	✓	
USB-HID	N/A		✓	✓
USB-VCP	N/A		✓	✓

NOTE: For Ez Utility(PC-based software utility), please refer to enclosed CD or contact your local distributor.

Bluetooth Profile

(Recommanded)
BT mode - HID

. E043$

1. Press the trigger for 1 second to activate the scanner.
2. Scan **[DISCONNECT]**
3. Scan **[BT mode - HID]**; the scanner will emit several beeps.
4. Select “Wireless Scanner” from discovered device list.
   (For PC, please click “Create a pairing code for me”)
5. The Bluetooth application may prompt you to scan a pincode.
6. Follow the steps in **PINCODE SETUP** section the on next page.
7. The scanner will beep twice to verify the connection.

BT mode - SPP

. E042$

1. Press the trigger for 1 second to activate the scanner.
2. Scan **[DISCONNECT]**
3. Scan **[BT mode - SPP]**; the scanner will emit several beeps.
4. Select “Wireless Scanner” from discovered device list.
   (For PC, please click “Enter the device’s pairing code”)
6. Enter “1234” from the host.
7. Open serial communication software with com port
   (see Device Manager) properly set up.
8. The scanner will beep twice to verify the connection.

BT mode - HID
non-pincode

. E040$

1. Press the trigger for 1 second to activate the scanner.
2. Scan **[DISCONNECT]**
3. Scan **[BT mode - HID non-pincode]** **;** the scanner will emit several beeps.
4. Select “Wireless Scanner” from the discovered device list.
5. For PC, please click “Pair without using a code”
6. The scanner will beep twice to verify the connection.

*Note: In this mode, the scanner emulates a mouse (pointing device). If your host fails to find it, please try **[BT mode - HID]** instead.

Disconnect . E031$

Pincode Setup

STEP 1 **Pincode Start** . E032$

STEP 2 Scan numeric barcodes (see **NUMERIC BARCODES** below) based on the pincode generated by the Bluetooth application.

NUMERIC BARCODES

1 

6 

2 

7 

3 

8 

4 

9 

5 

0 

STEP 3 **Enter** $TX

STEP 4 **Pincode Stop** . E033$

Getting Connected - iOS & Android

Getting Connected - iOS (Apple)

Simply follow instruction in [BT mode - HID]. (page 30), in which step 5 & 6 can be skipped since Apple devices will not require pincode for connection.

Touch Keyboard

ENABLE iOS HOTKEY

. E047$

DISABLE iOS HOTKEY

. E048$

After enabling iOS Hotkey(disabled by default), you may simply double-click the trigger to toggle the iPhone/iPad Touch Keyboard.

Getting Connected - Android (Samsung, hTC, Sony..)

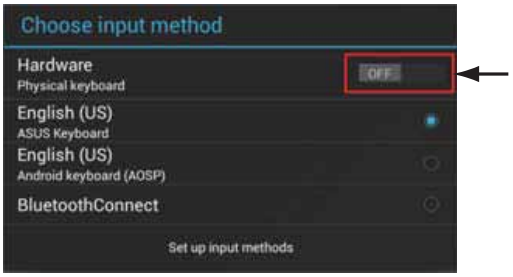
Simply follow instruction in [BT mode - HID]. (page 30), in which step 5 & 6 can be skipped since Android devices will not require pincode for connection.

NOTE: The BT HID profile is supported on Android 4.0 or newer versions.

Touch Keyboard

While connected with the scanner, the Touch Keyboard on the Android smartphone or tablet might disappear. To resolve this issue, please change settings on Android device with below steps:

1. Enter “Settings”
2. Enter “Language & input”
3. In Keyboard & input window, tap “Default” to continue.
4. Turn off “Hardware - Physical keyboard”, and the Touch Keyboard will function properly again.



Power Off Timeout

Variable Timeout

SET MINUTE (Range: 00 ~ 60)

. B030$

SET SECOND (Range: 00 ~ 60)

. B029$

The timeout is 3 minutes by default, and is programmable to the second and minute, ranging from 10 seconds (00:10) to 60 **minutes and 60 seconds (60:60)**

For example, to set the timeout as 5 minutes 30 seconds:

1. Scan [Set Minute]

2. Scan [0] & [5] on below numeric barcode table.

3. Scan [Set Minute]

4. Scan [Set Second]

5. Scan [3] & [0] on below numeric barcode table.

6. Scan [Set Second]

No Timeout (Scanner Always On)

DISABLE TIMEOUT

. B021$

NUMERIC BARCODES

1 
2 
3 
4 
5 

6 
7 
8 
9 
0 

Set Bluetooth Device ID

To customize your own Bluetooth device name for the wireless scanner, please follow below steps:

STEP 1 **Default Wireless ID** . B022$

STEP 2 **Set Wireless ID** . B023$

STEP 3 Scan up to 16 alphanumeric characters from Full ASCII Table (page 77-83) as your desired ID name.

STEP 4 **Set Wireless ID** . B023$

STEP 5 Scan a desired BT mode in BLUETOOTH PROFILE (page 30) to complete the configuration.

NOTE: 1. If you have connected the scanner with the host BEFORE customizing your Bluetooth device name, please remove the device and create a new connection to make sure device name is refreshed. For PC, it is recommended to restart the Bluetooth adaptor in order to refresh device name.

2. At Step 3, the scanner will beep three times as an alert that more than 16 characters are entered.

3. To reset the Bluetooth device name to default (”Wireless Scanner”), please simply do Step1 & Step 5, skipping Step 2 to Step 4.

Set SPP Pincode

By default, the pincode under SPP profile for the scanner is “1234”. You may customize this pincode with below steps:

STEP 1 **Set SPP Pincode** . B024$

STEP 2 Scan numeric barcodes (see **NUMERIC BARCODES** below) Up to 8 numbers can be set as SPP pincode.

NUMERIC BARCODES

1 

6 

2 

7 

3 

8 

4 

9 

5 

0 

STEP 3 **Set SPP Pincode** . B024$

STEP 4 Scan a desired BT mode in **BLUETOOTH PROFILE** (P32) to complete the configuration.

SPP Master Mode

First, please generate one configuration barcode for the target SPP slave device in below methods:

1. The barcode must be Code 39 with no checksum
2. Barcode data format: LTB + Target MAC address

For example, the target SPP slave device's MAC address is 001583522C3B.

Please encode:

LTB001583522C3B in Code39 barcode.

Then, follow below steps to create connection:

STEP 1 **SPP - Master** . E042$

STEP 2 LTB001583522C3B

SPP Remote Control, Shut Down, Disconnection

SPP REMOTE CONTROL

There are two ways to verify connection status by **the host under SPP profile.**

Command Response

Host sends:	CR,LF,{,A,L,},CR,LF	(8 bytes)
Scanner replys:	O,K,CR,LF	(4 bytes)

Beeper Response

Host sends:	CR,LF,{,M,1,},CR,LF	(8 bytes)
Scanner replys:	a short beep	

SHUT DOWN

This configuration barcode will shut down the scanner immediately but still reserve the pairing record.

SHUT DOWN

. E255$

DISCONNECTION

DISCONNECT (CLEAR PAIRING RECORD)

. E031$

DISCONNECT (KEEP PAIRING RECORD)

. E046$

Batch Mode, Binary Check Character

BATCH MODE

ENABLE

. E054$

DISABLE

. E053$

When out of range, the scanner will temporarily keep scanned data in its memory buffer (2K RAM) until the buffer is full. When back in range, the scanner will send all stored data back to the host.

NOTE: Batch Mode will not function when Memory Mode is enabled, or no connection is made beforehand.

BINARY CHECK CHARACTER

ENABLE

. E029$

DISABLE

. E030$

Once enabled, a checksum will be added to the end of each data to conduct Xor calculation. For Bluetooth SPP & USB-VCP, the BCC is 1 byte. For Bluetooth HID, the BCC are 2 bytes.

Example:

The barcode data is “TEST” with terminator <CR><LF>

1. Bluetooth SPP & USB-VCP:
   Data Format = <T> + <E> + <S> + <T> + <CR> + <LF> + <BCC>. BCC = 54h ^ 45h ^ 53h ^ 54h ^ 0Dh ^ 0Ah = 11h
2. Bluetooth HID:
   Data Format = <T> + <E> + <S> + <T> + <Enter> + <BCC> BCC = 54h ^ 45h ^ 53h ^ 54h ^ E7h = F1h

However, since control character cannot be displayed in Bluetooth HID, BCC will be converted into 2 bytes of characters.

As a result, the data will be: TEST + <Enter> + F + 1

Memory Mode - Enable Memory, Delete Record

MEMORY MODE

For memory version only

ENABLE MEMORY

. R001$

DISABLE MEMORY

. R002$

Once enabled, the scanner will stop sending data via Bluetooth and start storing data into the internal flash disk (2MB)

Delete Last Record/ Clear All Record

DELETE LAST RECORD

. R005$

CLEAR ALL RECORD

. R004$

Memory Mode - Data Output

DATA OUTPUT For memory version only

OUTPUT DATA . R003$

Data Output - Interface

WIRELESS . C035$

USB-HID . C008$

USB-VCP . C006$

Data Output - Wireless Method

To output stored data via **WIRELESS**, please do the following:

1. Scan [**WIRELESS**]
2. Follow the steps on page 30 to connect to host via HID or SPP.
3. Scan [**ENABLE MEMORY**] (page 39) and scan your desired barcodes.
4. To output data:
   (1) in BT HID profile, simply scan [**OUTPUT DATA**]
   (2) in BT SPP profile, simply scan [**OUTPUT DATA**] or send below string to the scanner:
   CR,LF,{,O,1,},CR,LF (Totals 8 bytes w/o commas)
   to further clear all stored data, please send below string:
   CR,LF,{,O,2,},CR,LF (Totals 8 bytes w/o commas)

Memory Mode - Data Output

Data Output - Tethered Method

To output stored data via **USB-HID** please do the following:

1. Connect the scanner and the host with mini USB cable.
2. Scan [**USB-HID**]
3. Scan [**ENABLE MEMORY**] (page 39) and scan your desired barcodes.
4. Open Notepad or any app that can accept HID keyboard input.
5. Scan [**OUTPUT DATA**]

To output stored data via **USB-VCP**, please do the following:

1. Install VCP driver (available on CD)
2. Connect the scanner and the host with mini USB cable.
3. Scan [**USB-VCP**]
4. Scan [**ENABLE MEMORY**] (page 39) and scan your desired barcodes.
5. Establish communication by Windows HyperTerminal or other serial communication softwares.
6. To output data:
   (1) simply scan [**OUTPUT DATA**]
   (2) send below string to the scanner:
   {,O,1,} (Totals 4 bytes w/o commas)
7. To further clear all stored data, please send below string:
   {,O,2,} (Totals 4 bytes w/o commas)

To populate the stored data into Excel spreadsheet, please follow “CSV Converter Instruction” under “Utility” folder on the enclosed CD.

Memory Mode - Data Format, Date & Time Setup

DATA FORMAT ■ For memory version only

. R011$

ENABLE MEMORY

The default Data Format is <Item No.>, <Date>, <Time>, <Barcode Data> below are items and their setup codes:

Code	Item	Code	Item
1	Item No.	4	Barcode Data
2	Date	5	Quantity
3	Time		

Example:

To change Data Format to <Barcode Data>, <Quantity>, <Date>, <Time>

1. Scan [Data Format]
2. Scan [4], [5], [2], [3] from page 83
3. Scan [Data Format]

. R010$

FIELD SEPARATOR

Default is comma (,) . You may replace it with any alphanumeric characters from the full ASCII table in User's Manual (on CD).

Example:

To change Field Separator to Semicolon (;)

1. Scan [Field Separator]
2. Scan [;] from the full ASCII table (page 77-83)
3. Scan [Field Separator]

Memory Mode - Data Format, Date & Time Setup

DATE & TIME SETUP

For memory version only

. R006$

SET DATE

Example:

To set Date to 2012-08-01 (Year-Month-Day):

1. Scan [Set Date]
2. Scan [1], [2], [0], [8], [0], [1] from page 83
3. Scan [Set Date]

. R007$

SET TIME

Example:

To set Time to 08:10:30 am (Hr:Min:Sec)

1. Scan [Set Time]
2. Scan [0], [8], [1], [0], [3], [0] from page 83
3. Scan [Set Time]

* To avoid Time and Date being reset to factory default due to running out of battery, please fully charge the scanner for at least 3 hours before use.

Memory Mode - Date Format, Time Format

DATA FORMAT For memory version only

. R008$

DATE FORMAT

The default Date Format is DD/MM/YYYY (Code = 09), below is full list of available formats and their setup codes:

Code	Item	Code	Item
01	DD-MM-YYYY	09	DD/MM/YYYY
02	MM-DD-YYYY	10	MM/DD/YYYY
03	DD-MM-YY	11	DD/MM/YY
04	MM-DD-YY	12	MM/DD/YY
05	YYYY-MM-DD	13	YYYY/MM/DD
06	YY-MM-DD	14	YY/MM/DD
07	DD-MM	15	DD/MM
08	MM-DD	16	MM/DD

Example:

To set Date Format to MM/DD/YY (Code =12)

1. Scan [Date Format]
2. Scan [1], [2] from page 83
3. Scan [Date Format]

Memory Mode - Date Format, Time Format

TIME FORMAT ■ For memory version only

. R009$

TIME FORMAT

The default Time Format is HH:MM:SS (Code = 01), below are available formats and their setup codes:

Code	Item	Code	Item
01	HH:MM:SS	02	HH:MM

Example:

To set Time Format to HH:MM (Code = 02)

1. Scan [Time Format]
2. Scan [0], [2] from page 83
3. Scan [TimeFormat]

Memory Mode - Quantity

QUANTITY For memory version only

. R017$

ENABLE QUANTITY INPUT

Once you enable quantity input, the operation procedure under memory mode will be as follows:

1. Scan [ENABLE MEMORY] (page 39)
2. Set DATA FORMAT (page 42-43) as appropriate. For example, your data format is <Barcode Data>, <Quantity>.
3. Scan a random barcode; it will be stored as <Barcode Data>.
4. Scan [SET QUANTITY]
5. Scan the numeric barcodes in page 83 as desired (ranges from 1 to 99999); it will be stored as <Quantity>.
6. Scan [SAVE DATA]
7. Repeat Step 3 -- 6 to complete your task.
8. Output memory data (refer to Data Output section in page 40-41) and the result will be:

   <Barcode Data 1>, <Quantity 1>

   <Barcode Data 2>, <Quantity 2>

   <Barcode Data 3>, <Quantity 3>

   .....

   .....

SET QUANTITY

. R015$

SAVE DATA

. R016$

. R018$

DISABLE QUANTITY INPUT

Once quantity input is diabled, the operation procedure under memory mode will be as follows:

1. Scan [ENABLE MEMORY] (page 39)
2. Set DATA FORMAT (page 42-43) as appropriate. For example, your data format is <Barcode Data>, <Quantity>.
3. Scan a random barcode; it will be stored as <Barcode Data>
4. Repeat Step 3 to complete your task.
5. Output memory data (refer to Data Output section in page 40-41) and the result will be:

   <Barcode Data 1>, 00001

   <Barcode Data 2>, 00001

   <Barcode Data 3>, 00001

   .....

   .....

*By default, <Quantity> = 00001. To remove <Quantity> from the data format, simply repeat Step 2 but set <Barcode Data> only.

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because we care

Chapter 6

SYMBOLOGIES

Enable/Disable Barcode Symbology

ENABLE

. A002$

ENABLE ALL CODE

. K010$

CODE 32

. K001$

CHINA POSTAL CODE

. L010$

UK PLESSEY CODE

. N001$

INDUSTRIAL 2 OF 5

. M010$

MATRIX 2 OF 5

. J001$

INTERLEAVED 2 OF 5

. J010$

CODE 128

. I 001$

CODABAR

. L014$

TELEPEN

DISABLE

. A003$

DISABLE ALL CODE

. K011$

CODE 32

. K002$

CHINA POSTAL CODE

. L011$

UK PLESSEY CODE

. N002$

INDUSTRIAL 2 OF 5

. M011$

MATRIX 2 OF 5

. J002$

INTERLEAVED 2 OF 5

. J011$

CODE 128

. I 002$

CODABAR

. L015$

TELEPEN

Enable/Disable Barcode Symbology

ENABLE

. H001$

UPC-A

. H007$

UPC-E

. H019$

EAN-8

. H013$

EAN-13

. L001$

MSI

. G008$

CODE 39

. I 010$

CODE 11

. G010$

CODE 93

. M001$

EAN-128

. N017$

IATA

DISABLE

. H002$

UPC-A

. H008$

UPC-E

. H020$

EAN-8

. H014$

EAN-13

. L002$

MSI

. G009$

CODE 39

. I 011$

CODE 11

. G011$

CODE 93

. M002$

EAN-128

. N018$

IATA

Enable/Disable Barcode Symbology

ENABLE

. N032$

GS1 Databar ENABLE

. N038$

GS1 Databar STACKED ENABLE

. N010$

GS1 Databar LIMITED ENABLE

. N026$

GS1 Databar EXPANDED ENABLE

. N028$

GS1 Databar EXPANDED STACKED ENABLE

. G021$

PDF 417 ENABLE

DISABLE

. N033$

GS1 Databar DISABLE

. N039$

GS1 Databar STACKED DISABLE

. N011$

GS1 Databar LIMITED DISABLE

. N027$

GS1 Databar EXPANDED DISABLE

. N029$

GS1 Databar EXPANDED STACKED DISABLE

. G022$

PDF417 DISABLE

China postcode (Toshiba code)

. K001$

ENABLE

. K002$

DISABLE

. K003$

DISABLE CDV

. K004$

CDV & SEND CD

. K005$

CDV & NOT SEND CD

. K006$

MIN LENGTH (11)

. K007$

MAX LENGTH (48)

APPENDIX

FULL ASCII (Code 39) NUMERIC TABLE

0 

1 

2 

3 

4 

5 

6 

7 

8 

9 

SETTING PROCEDURE:

MIN / MAX LENGTH

STEP 1 - Scan: MIN LENGTH/ MAX LENGTH

STEP 2 - Scan: Two digits from Appendix.

STEP 3 - Scan: MIN LENGTH/ MAX LENGTH

Please note that when Min Length and / or Max Length are enabled, the scanner will only read bar codes that fall into those length parameters. Bar codes shorter or longer than specified will not be read. The default lengths for these are indicated in parentheses under the Min and Max bar codes for each symbology.

RESET P023$ 

NOTE: 1. The scanner will beep three times as a reminder that a setting is not yet complete.

2. If you make a mistake, forget a step, etc., Scan RESET to start again.

MSI code, UK Plessey code

MSI

. L001$

ENABLE

. L002$

DISABLE

. L004$

CDV & SEND CD

. L003$

CDV & NOT SEND CD

. L007$

CHECK DIGIT DOUBLE MOD 10

. L008$

CHECK DIGIT DOUBLE 11 PLUS MOD 10

. L009$

CHECK DIGIT SINGLE MOD 10

. L005$

MIN LENGTH (6)

. L006$

MAX LENGTH (48)

UK PLESSEY CODE

. L010$

ENABLE

. L011$

DISABLE

. L012$

CDV & SEND CD

. L013$

CDV & NOT SEND CD

APPENDIX

FULL ASCII (Code 39) NUMERIC TABLE

0 

1 

2 

3 

4 

5 

6 

7 

8 

9 

SETTING PROCEDURE:

MIN / MAX LENGTH

STEP 1 - Scan: MIN LENGTH/ MAX LENGTH

STEP 2 - Scan: Two digits from Appendix.

STEP 3 - Scan: MIN LENGTH/ MAX LENGTH

Please note that when Min Length and / or Max Length areenabled, the scanner will only read bar codes that fall intothose length parameters. Bar codes shorter or longer thanspecified will not be read. The default lengths for these areindicated in parentheses under the Min and Max bar codesfor each symbology.

RESET P023$ 

NOTE: 1. The scanner will beep three times as a reminder that a setting is not yet complete.

2. If you make a mistake, forget a step, etc., Scan RESET to start again.

Code 93, Telepen, IATA

CODE 93

. G010$

ENABLE

. G011$

DISABLE

. G012$

MIN LENGTH (6)

. G013$

MAX LENGTH (48)

TELEPEN

. L014$

ENABLE TELEPEN

. L015$

DISABLE TELEPEN

. L020$

TELEPEN ASCII

. L021$

TELEPEN NUMBER

IATA

. N017$

ENABLE

. N018$

DISABLE

. N019$

DISABLE CDV

. N020$

CDV & SEND CD

. N021$

CDV & NOT SEND CDV

. N022$

MIN LENGTH (6)

. N023$

MAX LENGTH (48)

APPENDIX

FULL ASCII (Code 39) NUMERIC TABLE

0 

1 

2 

3 

4 

5 

6 

7 

8 

9 

SETTING PROCEDURE:

MIN / MAX LENGTH

STEP 1 - Scan: MIN LENGTH/ MAX LENGTH

STEP 2 - Scan: Two digits from Appendix.

STEP 3 - Scan: MIN LENGTH/ MAX LENGTH

Please note that when Min Length and / or Max Length areenabled, the scanner will only read bar codes that fall intothose length parameters. Bar codes shorter or longer thanspecified will not be read. The default lengths for these areindicated in parentheses under the Min and Max bar codesfor each symbology.

RESET P023$ 

NOTE: 1. The scanner will beep three times as a reminder that a setting is not yet complete.

2. If you make a mistake, forget a step, etc., Scan RESET to start again.

Interleaved 2 of 5, Code 11

INTERLEAVED 2 OF 5

. J001$

ENABLE

. J002$

DISABLE

. J003$

DISABLE CDV

. J004$

CDV & SEND CD

. J005$

CDV & NOT SEND CD

. J008$

First digit suppressed

. J009$

Last digit suppressed

. J014$

NO suppressed

. J006$

MIN LENGTH (6)

. J007$

MAX LENGTH (48)

CODE 11

. I 010$

ENABLE

. I 011$

DISABLE

. I 012$

DISABLE CDV

. I 013$

CDV & SEND CD

. I 042$

CDV & SEND CD
(1 DIGIT)

. I 043$

CDV & SEND CD
(2 DIGITS)

. I 014$

CDV & NOT SEND CD

. I 015$

MIN LENGTH (6)

. I 016$

MAX LENGTH (32)

APPENDIX

FULL ASCII (Code 39) NUMERIC TABLE

0 

1 

2 

3 

4 

5 

6 

7 

8 

9 

SETTING PROCEDURE:

MIN / MAX LENGTH

STEP 1 - Scan: MIN LENGTH/ MAX LENGTH

STEP 2 - Scan: Two digits from Appendix.

STEP 3 - Scan: MIN LENGTH/ MAX LENGTH

Please note that when Min Length and / or Max Length areenabled, the scanner will only read bar codes that fall intothose length parameters. Bar codes shorter or longer thanspecified will not be read. The default lengths for these areindicated in parentheses under the Min and Max bar codesfor each symbology.

RESET P023$ 

NOTE: 1. The scanner will beep three times as a reminder that a setting is not yet complete.

2. If you make a mistake, forget a step, etc., Scan RESET to start again.

Industrial 2 of 5, Matrix 2 of 5

INDUSTRIAL 2 OF 5

. N001$

ENABLE

. N002$

DISABLE

. N003$

DISABLE CDV

. N004$

CDV & SEND CD

. N005$

CDV & NOT SEND CD

. N006$

MIN LENGTH (6)

. N007$

MAX LENGTH (48)

MATRIX 2 OF 5

. M010$

ENABLE

. M011$

DISABLE

. M012$

DISABLE CDV

. M013$

CDV & SEND CD

. M014$

CDV & NOT SEND CD

. M015$

MIN LENGTH (6)

. M016$

MAX LENGTH (48)

APPENDIX

FULL ASCII (Code 39) NUMERIC TABLE

0 

1 

2 

3 

4 

5 

6 

7 

8 

9 

SETTING PROCEDURE:

MIN / MAX LENGTH

STEP 1 - Scan: MIN LENGTH/ MAX LENGTH

STEP 2 - Scan: Two digits from Appendix.

STEP 3 - Scan: MIN LENGTH/ MAX LENGTH

Please note that when Min Length and / or Max Length areenabled, the scanner will only read bar codes that fall intothose length parameters. Bar codes shorter or longer thanspecified will not be read. The default lengths for these areindicated in parentheses under the Min and Max bar codesfor each symbology.

RESET P023$ 

NOTE: 1. The scanner will beep three times as a reminder that a setting is not yet complete.

2. If you make a mistake, forget a step, etc., Scan RESET to start again.

Codabar

CODABAR

. I 001$

ENABLE

. I 002$

DISABLE

. I 005$

DISABLE CDV

. I 006$

CDV & SEND CD

. I 007$

CDV & NOT SEND CD

. I 008$

MIN LENGTH (6)

. I 009$

MAX LENGTH (48)

START / STOP

. I 030$

ST/SP: abcd/abcd

. I 029$

ST/SP: ABCD/ABCD

. I 031$

ST/SP: ABCD/TN*E

. I 032$

ST/SP: abcd/tn*e

. I 003$

SEND START / STOP

. I 004$

Not Send START / STOP

Example of ST (Start) / SP (Stop)

123456	Not Transmit ST/SP
A123456B	ST/SP: ABCD/ABCD
a123456b	ST/SP: abcd/abcd
A123456N	ST/SP: ABCD/TN*E
a123456n	ST/SP: abcd/tn*e

CLSI FORMAT

CLSI- Enable library space insertion. If you enable the CLSI format, this option inserts spaces in position 2, 7, 13 of the data string for use in library systems.

. I 027$

CLSI FORMAT ON

. I 028$

CLSI FORMAT OFF

APPENDIX

FULL ASCII (Code 39) NUMERIC TABLE

0 

1 

2 

3 

4 

5 

6 

7 

8 

9 

SETTING PROCEDURE:

MIN / MAX LENGTH

STEP 1 - Scan: MIN LENGTH/ MAX LENGTH

STEP 2 - Scan: Two digits from Appendix.

STEP 3 - Scan: MIN LENGTH/ MAX LENGTH

Please note that when Min Length and / or Max Length areenabled, the scanner will only read bar codes that fall intothose length parameters. Bar codes shorter or longer thanspecified will not be read. The default lengths for these areindicated in parentheses under the Min and Max bar codesfor each symbology.

RESET P023$ 

NOTE: 1. The scanner will beep three times as a reminder that a setting is not yet complete.

2. If you make a mistake, forget a step, etc., Scan RESET to start again.

43 ABC Codabar, CX Codabar

ABC- CODABAR

. I 017$

ON

. I 018$

OFF

. I 035$

SET INSERT DATA*

. I 039$

INSERT DATA- ON

. I 036$

INSERT DATA- OFF

* The data can be any alphanumerics of FULL ASCII Table (P63-71)

REMARK:

ABC-CODABAR (American Blood Commission). The ABC Code is an acronym for American Blood Commission. This bar code is a variant of the CODABAR Code developed for the use in the blood bank. This Code consists of two bar codes which are decoded in one read cycle. The code is concatenated when the stop character of the first bar code and the start character of the second bar code is a “ D ”, these two “ D ” are not transmitted.

CX CODE- CODABAR

. I 022$

ON

. I 023$

OFF

. I 037$

SET INSERT DATA*

. I 040$

INSERT DATA- ON

. I 038$

INSERT DATA- OFF

* The data can be any alphanumerics of FULL ASCII Table (P63-71)

REMARK:

The CX-Code consists of two bar codes which are decoded in one read cycle, the code is concatenated when the stop character of the first bar code is a C, and the start character of the second bar code is a B. The B and C characters are not transmitted.

Codabar Coupling

CODABAR COUPLING

. I 019$

ON

. I 020$

OFF

. I 021$

SET INSERT DATA*

. I 041$

INSERT DATA - ON

. I 026$

INSERT DATA - OFF

ABC-Codabar and CX-Codabar have certain rules regarding the Stop Character of first bar code and the stop character of second bar code while in conjunction, while Codabar- Coupling is enabled, the data from any two Codabar bar codes can be coupled into one set of data without any limitations

between the Stop character of first bar code and the Start character of second bar code. The Start and Stop characters associated with each bar code will be sent.

* The data can be any alphanumerics of FULL ASCII Table (page 75-86)

ADJACENT REQUIRED

. I 033$

ON

. I 034$

OFF

If CODABAR ADJACENT is enabled, the scanner will only read two adjacent Codabar bar codes; a single bar code will not be read.

NOTE: 1. Both ABC-Codabar and CX-Codabar can be enabled together, except when Codabar-Coupling is also enabled.

2. If ABC-Codabar, CX-Codabar, and Codabar-Coupling are all enabled at the same time, the scanner will read only Codabar- Coupling, that is, ABC-Codabar, CX-Codabar will be considered coupling formats.

SETTING PROCEDURE - SET INSERT DATA

STEP 1 - Scan SET INSERT DATA.

STEP 2 - Scan any combination of alphanumeric characters from FULL ASCII Table.

STEP 3 - Scan SET INSERT DATA.

RESET P023$

NOTE: 1. The scanner will beep three times as reminder that a setting is not yet complete.

2. If you make a mistake, forget a step, etc., scan RESET to start again.

Code 39 (Full ASCII/Standard), Code 32

STANDARD CODE 39 & FULL ASCII 39

. G008$

ENABLE

. G009$

DISABLE

. G001$

FULL ASCII CODE 39 ENABLE

. G002$

FULL ASCII CODE 39 DISABLE

. G014$

START / STOP - SEND

. G003$

DISABLE CDV

. G004$

CDV & SEND CD

. G005$

CDV & NOT SEND CD

. G006$

MIN LENGTH (1)

. G007$

MAX LENGTH (48)

. G015$

START / STOP Not SEND

NOTE: The default for Code 39 is Standard Code 39. If Full ASCII Code 39 is enabled, Standard Code 39 will be automatically disabled.

CODE 32

. K010$

ENABLE

. K011$

DISABLE

. K012$

LEADING SEND

. K013$

LEADING NOT SEND

. K014$

TAILING SEND

. K015$

TAILING NOT SEND

APPENDIX

FULL ASCII (Code 39) NUMERIC TABLE

0 

1 

2 

3 

4 

5 

6 

7 

8 

9 

SETTING PROCEDURE:

MIN / MAX LENGTH

STEP 1 - Scan: MIN LENGTH/ MAX LENGTH

STEP 2 - Scan: Two digits from Appendix.

STEP 3 - Scan: MIN LENGTH/ MAX LENGTH

Please note that when Min Length and / or Max Length areenabled, the scanner will only read bar codes that fall intothose length parameters. Bar codes shorter or longer thanspecified will not be read. The default lengths for these areindicated in parentheses under the Min and Max bar codesfor each symbology.

RESET P023$ 

NOTE: 1. The scanner will beep three times as a reminder that a setting is not yet complete.

2. If you make a mistake, forget a step, etc., Scan RESET to start again.

UPC-E

UPC-E

. H007$

ENABLE

. H008$

DISABLE

. H009$

LEAD DIGIT SEND

. H010$

LEAD DIGIT NO SEND

. H011$

CHECK DIGIT SEND

. H012$

CHECK DIGIT NO SEND

ADD ON SUPPLEMENT

. H037$

+5 ON

. H038$

+ 5 OFF

. H039$

+2 ON

. H040$

+ 2 OFF

. H047$

ADD A SPACE ON

. H048$

ADD A SPACE OFF

. H056$

ADDENDA REQUIRED ON

. H055$

ADDENDA REQUIRED OFF

NOTE: If ADDENDA REQUIRED is set to ON, the scanner will only read an UPC-E bar code that has an addenda. At the same time please also scan +5 ON or +2 ON so the scanner will output a 5-digit or 2-digit addendum.

UPC-E(0)&(1), UPC-E EXPAND

UPC-E0

. H064$

E (0) OFF

. H063$

E (0) ON

UPC-E1

. H065$

E (1) ON

. H066$

E (1) OFF

NOTE: Most UPC bar codes lead with 0 number systems, for these bar codes use UPC E(0) selection. For the bar codes that lead with the 1 number, use UPC E(1) selection.

UPC-E EXPAND TO UPC-A

. H053$

ENABLE

. H054$

DISABLE

NOTE: 1. If UPC-E EXPAND TO UPC A FORMAT is enabled, the output of UPC-A will be 12 digits.

2. The default output of UPC-A is 12 digits, if UPC-A EXPAND TO EAN13 is enabled, a zero will be added to in front of the bar code.

UPC-A

UPC- A

. H001$

ENABLE

. H002$

DISABLE

. H003$

LEAD DIGIT SEND

. H004$

LEAD DIGIT NO SEND

. H005$

CHECK DIGIT SEND

. H006$

CHECK DIGIT NO SEND

UPC-A EXPANDTO EAN-13

. H068$

ENABLE

. H067$

DISABLE

ADD ON SUPPLEMENT

. H033$

+5 ON

. H034$

+ 5 OFF

. H035$

+2 ON

. H036$

+ 2 OFF

. H045$

ADD A SPACE ON

. H046$

ADD A SPACE OFF

. H060$

ADDENDA REQUIRED ON

. H059$

ADDENDA REQUIRED OFF

NOTE: If ADDENDA REQUIRED is set to ON, the scanner will only read an UPC-E bar code that has an addenda. At the same time please also scan +5 ON or +2 ON so the scanner will output a 5-digit or 2-digit addendum.

EAN-8

EAN-8

. H019$

ENABLE

. H020$

DISABLE

. H021$

LEAD DIGIT SEND

. H022$

LEAD DIGIT NO SEND

. H023$

CHECK DIGIT SEND

. H024$

CHECK DIGIT NO SEND

ADD ON SUPPLEMENT

. H029$

+ 5 ON

. H030$

+ 5 OFF

. H031$

+ 2 ON

. H032$

+ 2 OFF

. H043$

ADD A SPACE ON

. H044$

ADD A SPACE OFF

. H062$

ADDENDA REQUIRED ON

. H061$

ADDENDA REQUIRED OFF

NOTE: If ADDENDA REQUIRED is set to ON, the scannerwill only read an UPC-E bar code that has an addenda.At the same time please also scan +5 ON or +2 ON sothe scanner will output a 5-digit or 2-digit addendum.

EAN-13, ISSN, ISBN, ISMN

EAN-13

. H013$

ENABLE

. H014$

DISABLE

. H015$

LEAD DIGIT SEND

. H016$

LEAD DIGIT NO SEND

. H017$

CHECK DIGIT SEND

. H018$

CHECK DIGIT NO SEND

ADD ON SUPPLEMENT

. H025$

+ 5 ON

. H026$

+ 5 OFF

. H027$

+ 2 ON

. H028$

+ 2 OFF

. H041$

ADD A SPACE ON

. H042$

ADD A SPACE OFF

. H058$

ADDENDA REQUIRED ON

. H057$

ADDENDA REQUIRED OFF

ISBN

. H050$

ISBN OFF

. H049$

ISBN ON

NOTE: 1. If ADDENDA REQUIRED is set to ON, the scanner will only read an EAN-13 bar code that has an addenda.

2. Either ISSN or ISBN will be considered as an extension of EAN-13. If ISSN or ISBN needs to be read, EAN-13 must be enabled. If ISSN and ISBN need to be read with addenda, EAN-13 must be enabled with ADDENDA REQUIRED set to ON, and +2 ON or +5 ON must be enabled as well.

ISSN

. H052$

ISSN OFF

. H051$

ISSN ON

NOTE: Both ISSN and ISBN are the extension codes of EAN-13. If scanner is required to read either ISSN or ISBN, EAN-13 must be enabled. Otherwise the scanner will not be able to read ISSN or ISBN.

ISMN

. H070$

ISMN OFF

. H069$

ISMN ON

EAN/UCC 128, Code 128

EAN/ UCC-128

. M001$

ENABLE

. M002$

DISABLE

. M003$

CODE ID ENABLE

. M004$

CODE ID DISABLE

. M005$

FUNC 1 CHAR SEND

. M006$

FUNC 1 CHAR NOT SEND

. M007$

DEFINE EAN 128

NOTE: DEFINE EAN 128

IThe first FNC1 character is translated to]c1, and the second FNC1 character is translated to an ASCII <GS> character (scan from page 75-86)

String format:

]C1	DATA CHARACTERS	<GS>	DATA CHARACTERS

Setting Procedure:

1: Scan DEFINE EAN128.

2: Scan ASCII Code (page 75-86)

3: Scan DEFINE EAN128.

CODE 128

. J010$

ENABLE

. J011$

DISABLE

. J012$

MIN LENGTH (5)

. J013$

MAX LENGTH (48)

DataBar(RSS) Stacked, Limited, Expanded

GS1 DataBar (RSS) - OMNI & STACKED

. N032$

GS1 DataBar ENABLE

. N034$

GS1 DataBar DISABLE

. N036$

GS1 DataBar CHECK DIGIT SEND

. N038$

GS1 DataBar CHECK DIGIT NOT SEND

. P024$

GS1 DataBar PREFIX SEND

. N033$

GS1 DataBar PREFIX NOT SEND

. N035$

GS1 DataBar STACKED ENABLE

. N037$

GS1 DataBar STACKED DISABLE

. N039$

GS1 DataBar SET ID

GS1 DataBar (RSS) - LIMITED

. N010$

GS1 DataBar LIMITED ENABLE

. N012$

GS1 DataBar LIMITED DISABLE

. N024$

GS1 DataBar LIMITED CHECK DIGIT SEND

. P019$

GS1 DataBar LIMITED CHECK DIGIT NOT SEND

. N011$

GS1 DataBar LIMITED PREFIX SEND

. N013$

GS1 DataBar LIMITED PREFIX NOT SEND

. N025$

GS1 DataBar LIMITED SET ID

GS1 DataBar (RSS) - EXPANDED

. N026$

GS1 DataBar EXPANDED ENABLE

. N028$

GS1 DataBar EXPANDED DISABLE

. N030$

GS1 DataBar EXPANDED STACKED ENABLE

. P020$

GS1 DataBar EXPANDED STACKED DISABLE

. N027$

GS1 DataBar EXPANDED MIN LENGTH

. N029$

GS1 DataBar EXPANDED MAX LENGTH

. N031$

GS1 DataBar EXPANDED SET ID

Chapter 7

SYMBOLOGIES

Full ASCII table(Code 39)

CONTROL CODES

NUL	%U	BS	$H
SOH	$A	HT	$I
STX	$B	LF	$J
ETX	$C	VT	$K
EOT	$D	FF	$L
ENQ	$E	CR	$M
ACK	$F	SO	$N
BEL	$G	SI	$O

Full ASCII table(Code 39)

CONTROL CODES

DLE	%P	EM	$Y
DC1	$Q	SUB	$Z
DC2	$R	ESC	%A
DC3	$S	FS	%B
DC4	$T	GS	%C
NAK	$U	RS	%D
SYN	$V	US	%E
ETB	$W	SP	
CAN	$X		

Full ASCII table(Code 39)

SYMBOLS

+	+	#	/ C
-	-	^	%N
.	.	~	%S
$	$	&	/ F
%	%	*	/ J
/	/	-	%0
\	%L	=	%H
!	/ A	|	%Q
@	%V		

Full ASCII table(Code 39)

SYMBOLS

{	%P	`	%W
}	%R	"	/ B
[	%K	'	/ G
]	%M	,	/ L
(	/ H	;	%F
)	/ I	:	/ Z
<	%G	?	%J
>	%I	DEL	%T

Full ASCII table(Code 39)

UPPER CASE ALPHABETS

A	A 	H	H 
B	B 	I	I 
C	C 	J	J 
D	D 	K	K 
E	E 	L	L 
F	F 	M	M 
G	G 	N	N 

Full ASCII table(Code 39)

UPPER CASE ALPHABETS

O	O 	U	U 
P	P 	V	V 
Q	Q 	W	W 
R	R 	X	X 
S	S 	Y	Y 
T	T 	Z	Z 

Full ASCII table(Code 39)

LOWER CASE ALPHABETS

a	+A	h	+H
b	+B	i	+I
c	+C	j	+J
d	+D	k	+K
e	+E	l	+L
f	+F	m	+M
g	+G	n	+N

Full ASCII table(Code 39)

LOWER CASE ALPHABETS

o	+O	u	+U
p	+P	v	+V
q	+Q	w	+W
r	+R	x	+X
s	+S	y	+Y
t	+T	z	+Z

Full ASCII table(Code 39)

NUMBERS

0 

1 

2 

3 

4 

5 

6 

7 

8 

9 

Function Key table(Code 39) for PC-AT

FUNCTION KEYS

F1	$TA	F9	$TI
F2	$TB	F10	$TJ
F3	$TC	F11	$TK
F4	$TD	F12	$TL
F5	$TE	Home	$TM
F6	$TF	End	$TN
F7	$TG	Enter (Numeric Key)	$T+D
F8	$TH	App	$T+O

62-64

NAVIGATION KEYS

Cursor Right	$TO	Back Tab	$TV
Cursor Left	$TP	Esc	$TW
Cursor Up	$TQ	Enter	$TX
Cursor Down	$TR	BS	$TY
Page Up	$TS	Ins	$TZ
Page Down	$TT	Del	$T%K
Tab	$TU		

Function Key table(Code 39) for PC-AT

MODIFIER KEYS

$T%L

Alt (Left) make*1

$T%M

Alt (Left) break

$T+E

Alt (Right) make

$T+F

Alt (Right) break

$T%N

Shift (Left) make *2

$T%O

Shift (Left) break

$T+I

Shift (Right) make

$T+J

Shift (Right) break

$T+K

Win (Left) make

$T+L

Win (Left) break

$T+M

Win (Right) make

$T+N

Win (Right) break

$T%W

Ctrl (Left) make *3

$T+A

Ctrl (Left) break

$T+G

Ctrl (Right) make

$T+H

Ctrl (Right) break

For UK Keyboard Special Character

$T+B

¬

$T+C

£

NOTE: *1: When “Alt(Left)Make” is programmed, please scan “Alt(Left)Break” to resume barcode setting..

*2: When “Shift(Left)Make” is programmed, please scan “Shift(Left) Break” to resume barcode setting.

*3: When “Ctrl(Left)Make” is programmed, please scan “Ctrl(Left) Break” to resume barcode setting.

Trouble Shooting

Our Barcode Scanners are simple to install and use.
Most operational issues can be attributed to:

INCORRECT INTERFACE CONNECTION INCORRECT CONFIGURATION SETUP POOR BARCODE QUALITY

GENERAL PROCEDURES

1. First, make sure the scanner is firmly connected to the host computer, when attached correctly, the scanner will emit one long beep. When the trigger is pressed, LED will flash.
2. Once the power is on, try scanning some sample bar codes from this user's guide. The scanner should beep and the LED should flash to indicate a good read in the default configuration. If reading the bar code does not result in a good read, there may have been a problem with the scanning technique or the interface configuration setting. Reset the scanner to default.
3. If the scanner indicates a good read, but there is no output of data to the monitor, please check the cabling connection.

KEYBOARD INTERFACES PROBLEMS

In general, the Keyboard Wedge interface is trouble free, but there is still something to check in the event of a problem:

Do you have the correct cable?

Most computers use an XT/AT-compatible keyboard. Be sure you have the proper cable for your computer.

Does the keyboard work?

Since the keyed-in data from keyboard must pass through the decoder, the cabling connections are correct if the keyboard is functioning.

Can your computer accept the data fast enough?

Your computer's BIOS has a feature related to keyboard typing speed. Try to set the Intercharacter Delay feature to stimulate the keystroke entry speed.

Does keyboard port supply enough power?

Most notebook computers do not supply enough power to the scanner. The symptom of insufficient power is a lower “good read” rate (since there is not enough power to properly support the scanning operation).

RS232 INTERFACE PROBLEMS

Once you read bar code, there is no output on the monitor, the symptoms may be caused by:

1. Have you set the protocol of RS232 like Baud rate, data bits, parity and handshaking etc. of a scanner to match to the PC terminal setting?

   Solution: reset the above mentioned RS232 protocol of scanner to match to PC protocol.

2. Please check if the cable pinout assignment of bar code match to the pinout assignment of PC terminal?

No power supply to the scanner:

1. Do you connect the right power adaptor to the scanner?
2. Does scanner connect the cable with right pinout which match to PC terminal?

INTERFACE PROBLEMS

Are you using the Wand Emulation mode with Code 39 output?

If so, is your decoder set to accept Code 39 data?

Check the scanner’s conıguration setting to make sure it can accept the bar code symbology you are trying to read.

Although the cable seems to connect properly, does the scanner not send data to the host computer?

There are no industrial standards for scanner interface cables, so even if they look alike and have similar connector, they might not be alike.

For example, cables for Keyboard Wedge and Wand Emulation are similar, but they are not interchangeable due to different pin assignments.

Be sure the cable you are using attaches correctly to the matching connector.

CONFIGURATION SETUP

Are you set up for the right Interface?

Are you set up for the right interface? Did you select the Keyboard Wedge cable but set the scanner for RS-232 or Wand Emulation? Or did you change the Keyboard cable to RS-232 but forget to set the scanner interface to RS-232 as well? Set the scanner to its default settings, then select the correct interface based upon the cable and input you are using.

Symptom ---- The LED lighting is stuck, and no function at all, even triggered the scanner.

Solution ---- Set the scanner to default condition, and choose the right interfaces.

Is the proper symbology enabled?

Each bar code symbology can be individually enabled or disabled. It is suggested that you enable only those that you will be scanning, thereby eliminating the possibility of mis reads from the scanning of other symbologies.

Does the selected bar code symbology conı guration match the bar code(s) being read?

Scanned data from each bar code symbology can be restricted to eliminate the scanning of unused symbologies.

The restrictions are individually set for each symbology

POOR BAR CODE QUALITY

The third problem area has nothing to do with the scanner, but rather the printed quality of the bar code and/or the scanning technique employed.

TOLERANCE OF BAR CODE

A bar code may have a tolerance. Normally, the tolerances are caused by bar code font software or a printer. Software with a proven reputation should be chosen to generate bar codes. If the printed bar codes are distorted, the scanner might not recognize them.

It is very difficult to get a good read from a poor quality bar code unless it is scanned many times. As the quality of the symbology drops, the chances for undetected error increase. A bar code Check Digit Veriıcation (CDV) should be used to check the quality of the suspect bar codes.

LABELS (PAPER & COLOR & PRINTER)

The light source of a bar code scanner is generally red, so there are some restrictions for the printing of labels. Care should be taken when choosing materials, especially color inks and papers.

Sometimes the combination of the label color and the color of the ink can, in effect, blind the scanner. Media with a shiny surface will also cause reading difficulties for scanners.

Moreover, poor printing quality can also result in reading difficulties for the scanner. Bad printing may be caused by the type of printer used; dot matrix and inkjet printers will not procedure high quality bar codes. Also check to make sure the ink, ribbon, or toner in good supply.

Appendix I

Default table

GROUP	PARAMETER	DEFAULT
1	Computer Type	PC-AT
	Interface	(depends on customer order)
	Setup Code	On
2	Reading Mode	Trigger
2.2	Bi-color Light Source	Green > Red
2.3	Magnetic Switch	On
	Green LED/ Supplement Light (CCD Scanner)	On
2.4	Deactivation Time (CCD & Laser Scanner)	3 Sec
	Same Code Interval (Laser Scanner)	30 Sec
	Idle Mode	Off
	Pre-Idle Time	1 Min
2.6	Connection Options	BT HID
2.8	Wireless ID	Wireless Scanner
2.9	Power Off Timeout	3 Min
2.10	SSP (Secure Simple Pairing)	Disable
	iOS Hotkey	Disable
2.11	Link Quality	Disable
	Batch Mode	Disable
2.13	SPP Pincode	1234
2.15	Memory Mode	Disable
	Data Output Method	Wireless
2.16	Data Format	<Item No.><Date><Time><Barcode Data>
	Field Separator	,
2.17	Date Format	DD/MM/YYYY
	Time Format	HH:MM:SS

GROUP	PARAMETER	DEFAULT
3	Beep Tone Mode 2.1k	Beep Medium
	Beep Tone Mode 2.7k	Beep Medium
	Terminator	CR(KB, USB); CR+LF (RS232)
4	Send Data Length	Off
	Preamble & Postamble	None
5	Accuracy Adjustment	0
6	Label Type Positive/ Negative	Disable
6~9	Enable & Disable Code ID	Off
10	Interblock Delay	0ms
	Intercharacter Delay	140us
11	Keyboard Layout	English(USA)
	Caplock	Off
	Numeric Key	Alphanumeric Key
12	Baud Rate	9600
	Data Bits & Parity	8 Bits None
13	Stop Bits	1 stop bit
	Handshaking	None
	ACK/NAK	Off
	Flow Control Timeout	1 Sec
	BCC	Off
14	Level duration of Mini Width	200us
	Polarity of Idle Condition	High
	Output of Wand Emulation	Bar High/ Space Low
	Wave Form	Full ASCII 39
	Idle Mode	Off
	Pre-Idle Time	1 Min
15	Enable and Disable Symbologies	
	Code 32	Disable
	China Postal Code	Enable
	UK Plessey Code	Disable
	Industrial 2 of 5	Disable
	Matrix 2 of 5	Disable
	Interleaved 2 of 5	Enable
	Code 128	Enable
	Codabar	Enable
	Telepen	Disable

GROUP		PARAMETER	DEFAULT
16		UPC-A	Enable
		UPC-E	Enable
		EAN-8	Enable
		EAN-13	Enable
		MSI	Disable
		Code 39	Enable
		Code 11	Disable
		Code 93	Disable
		EAN-128	Enable
		IATA	Disable
17	1	GS1 Databar	Disable
		GS1 Databar Stacked	Enable
		GS1 Databar Limited	Disable
		GS1 Databar Expanded	Disable
		GS1 Databar Expanded Stacked	Enable
		PDF417	Disable
	2	China Post Code	
		Enable/Disable	Enable
		Check Digits	Disable CDV
		Min Length	11 digits
		Max Length	48 digits
18	1	MSI	
		Enable/Disable	Disable
		Check Digits	CDV & send CD
		Check Digits Mode	18 Single MOD 10
	2	**UK Plessy**	
		Enable/Disable	Disable
		Check Digits	CDV & not send CD

GROUP		PARAMETER	DEFAULT
19	1	**Code 93**	
		Enable/Disable	Disable
		Min Length	6 digits
		Max Length	48 digits
	2	**Telepen**	
		Enable/Disable	Disable
		Telepen ASCII/ Number	Number
	3	**IATA**	
		Enable/Disable	Disable
		Check Digits	Disable CDV
		Min Length	6 digits
		Max Length	48 digits
20	1	**Interleaved 2 of 5**	
		Enable/Disable	Enable
		Check Digits	Disable CDV
		First/ last digit suppressed	No suppressed
		Min Length	6 digits
		Max Length	48 digits
	2	**Code II**	
		Enable/Disable	Disable
		Check Digits	Disable CDV
		Min Length	6 digits
		Max Length	32 digits
21	1	**Industrial 2 of 5**	
		Enable/Disable	Disable
		Check Digits	Disable CDV
		Min Length	6 digits
		Max Length	48digits
	2	**Matrix 2 of 5**	
		Enable/Disable	Disable
		Check Digits	Disable CDV
		Min Length	6 digits
		Max Length	48digits

GROUP		PARAMETER	DEFAULT
22		**Codabar**	
		Enable/Disable	Disable
		Check Digits	Disable CDV
		Min Length	6 digits
		Max Length	48digits
		ST/SP; Abcd/abcd, abcd/tn*c, ABCD/ABCD,ABCD/TN*C	ABCD/ABCD
		Start(ST)/Stop(SP)	Send
		CLSI Format	On
23	1	**ABC-Codabar**	
		ON/OFF	Off
		Insert Data	Off
	2	**CX-Codabar**	
		ON/OFF	Off
		Insert Data	Off
24		**Codabar-Coupling**	
		ON/OFF	Off
		Insert Data	Off
		Adjacent Required	Off
25	1	**Code 39**	
		Full ASCII 39 Enable/Disable	Enable
		Check Digits	Disable CDV
		Start/Stop	Not Send
		Min Length	1 digit
		Max Length	48 digits
	2	**Code 32**	
		Enable/Disable	Disable
		Leading	send
		Tailing	send

GROUP	PARAMETER	DEFAULT
26	**UPC-E**	
	Enable/Disable	Enable
	Check Digits	Send
	Lead Digits	Send
	Add a space	Off
	Addenda required	Off
	+5 On/Off	Off
	+2 On/Off	Off
27	**UPC-E systems number**	
	UPC E(0) On/Off	On
	UPC E(1) On/Off	Off
	UPC-E expand to UPC-A	Disable
	UPC-A expand to EAN-13	Disable
28	**UPC-A**	
	Enable/Disable	Enable
	Check Digits	Send
	Lead Digits	Send
	Add a space	Off
	Addenda required	Off
	+5 On/Off	Off
	+2 On/Off	Off
29	**EAN-8**	
	Enable/Disable	Enable
	Check Digits	Send
	Lead Digits	Send
	Add a space	Off
	Addenda required	Off
	+5 On/Off	Off
	+2 On/Off	Off

GROUP		PARAMETER	DEFAULT
30		**EAN-13**	
		Enable/Disable	Enable
		Check Digits	Send
		Lead Digits	Send
		Add a space	Off
		Addenda required	Off
		+5 On/Off	Off
		+2 On/Off	Off
		ISSN On/Off	Off
		ISBN	Off
31	1	**EAN/UCC128**	
		Enable/Disable	Enable
		Code ID	Disable
		Func 1 Char Send	Not Send
	2	**Code128**	
		Enable/Disable	Enable
		Check Digits	Disable CDV
		Min Length	5 digits
		Max Length	48 digits
	3	**PDF417**	
		Enable/Disable	Disable
32		GS1 Databar	Disable
		GS1 Databar Check Digit	Not Send
		GS1 Databar Prefix	Not Send
		GS1 Databar Stacked	Enable
		GS1 Databar Limited	Disable
		GS1 Databar Limited Check Digit	Not Send
		GS1 Databar Limited Prefix	Not Send
		GS1 Databar Expanded	Disable
		GS1 Databar Expanded Stacked	Enable

Appendix II

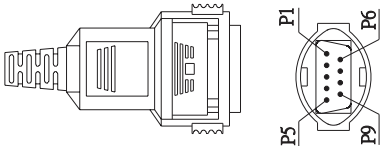
Cable Pin Assignment

INTERFACES:

1. TTL, Wand Emulation

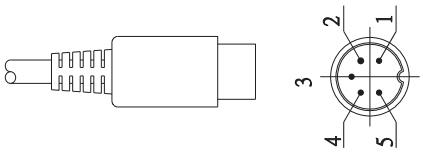
1.1) AMP (D-Sub 9Pin):

Pin	Signal
2	Data
7	GND
9	+5VCC



1.2) Din 5 male (240 degree):

Pin	Signal
1	+5VCC
2	Data
3	GND
4	N/A
5	N/A

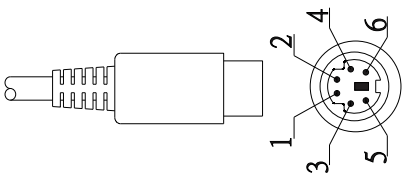


2. Keyboard Interface:

Din6 Female:

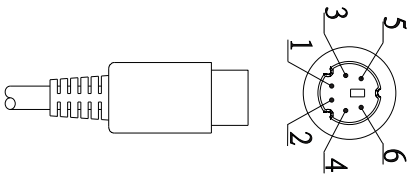
2.1) PS/2 Mini Din6 Female:

Pin	Signal
1	PC Data
2	NC
3	GND
4	+5VCC
5	PC-Clk
6	NC



2.2) PS/2 Mini Din6 Male:

Pin	Signal
1	KB- Data
2	NC
3	GND
4	+5VCC
5	KB-Clk
6	NC

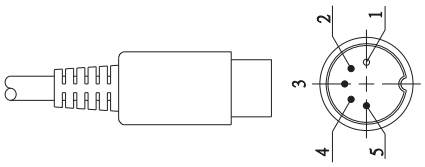


2. Keyboard Interface:

Din6 Female:

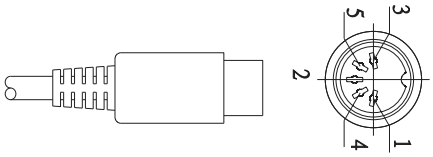
2.3) PC-AT: Din 5 Male:

Pin	Signal
1	KB-Clk
2	KB-Data
3	NC
4	GND
5	+5VCC



2.4) PC-AT: Din 5 Female:

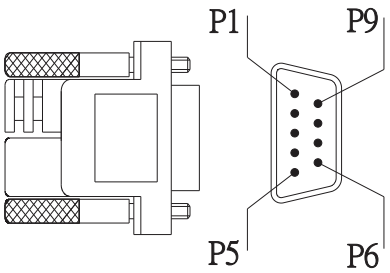
Pin	Signal
1	PC-Clk
2	PC-Data
3	NC
4	GND
5	+5VCC



3. RS232 Interfaces:

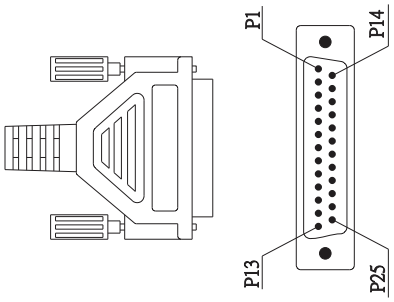
3.1) DB9F

Pin	Signal
2	TXD(Out)
3	RXD(In)
5	GND
7	CTS(In)
8	RTS(Out)
9	+5VCC



3.2) DB25F

Pin	Signal
2	RXD(In)
3	TXD(Out)
4	CTS(In)
5	RTS(Out)
7	GND
16	+5VCC
28	+5VCC



Appendix II

Barcode test chart

DENSITY	NARROW mm[mil]	WIDE mm[mil]	CHAR.GAP mm[mil]	N/W RATIO
MEDIUM DENSITY	0.25(10)	0.625(25)	0.25(10)	1/2.5

MEDIUM DENSITY

NW-7 [CODABAR]

CODE-39

Interleaved 2of5

UPC

EAN

DENSITY	NARROW mm[mil]	WIDE mm[mil]	CHAR.GAP mm[mil]	N/W RATIO
MEDIUM DENSITY	0.25(10)	0.625(25)	0.25(10)	1/2.5

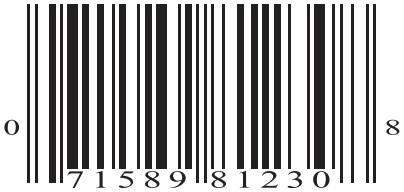
LOW DENSITY

C9876543210D

CODE-39 TEST

0012345690

4 716415 942052



0 71589 81230 8

Appendix IV

Worldwide Support

Unitech's professional support team is available to quickly answer questions or technical-related issues. Should an equipment problem occur, please contact the nearest Unitech regional service representative. For complete contact information please visit the Web sites listed below:

Region	Web Site
Global Operation Center	http://www.ute.com
Unitech Taiwan	http://tw.ute.com
Unitech Asia Pacific & Middle East	http://apac.ute.com http://india.ute.com
Greater China Division	http://cn.ute.com
Unitech Japan	http://jp.ute.com
Unitech North America	http://us.ute.com ; http://can.ute.com
Unitech Latin America	http://latin.ute.com
Unitech Europe	http://eu.ute.com