

# PRODUCT REFERENCE MANUAL

## Z-3070 Series CCD Barcode Scanner



# Introduction

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Z-3070 Series is ZEBEX's newest developed handheld type barcode scanner with optional choices of different scan engine, interface, and as well as the communications.

## Important notices

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Thank you for purchasing the Z-3070 Series Handheld Barcode Scanner. To ensure years of reliable service, please read this Product Reference Manual carefully and use the scanner safely. Store this Product Reference Manual in a safe location where you can find it for future use.

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# Precautions

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## General handling precautions

While using the scanner, please take notes to the following handling precautions.

- Do not put the scanner to burn in fire.
- Do not put the scanner directly under the sun or by any heat source.
- Do not use or store the scanner in a very humid place.
- Do not let the scanner drop or collide violently with other objects.
- Do not take apart the scanner without authorization.

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# ABOUT THIS GUIDE



## Introduction

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The Z-3070 Series Handheld Barcode Scanner Product Reference Manual provides general instructions for the setup, programming, operation, troubleshooting, and maintenance of the Z-3070 Series Handheld Barcode Scanner.

## Service information

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If you have any problem with the product, you may contact the ZEBEX representative in your region, or contact ZEBEX offices for customer care. Please provide the model number and serial number before contact ZEBEX for service.

If the problem cannot be solved through e-mails or phone calls, ZEBEX might request you to send the equipment back for checking. If this is necessary, you will be given specific directions.

ZEBEX will not be responsible for any damage occurred during shipment if the approved package is not used. To prevent any possibility that might void the warranty, please make sure the proper shipment container is used. If necessary, request an original shipping container from ZEBEX to send to you.



## Service Center

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For ZEBEX services, warranty repairs, and technical assistance, please contact your sales representative or the following ZEBEX offices.

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WEBSITE / [www.zebex.de](http://www.zebex.de)

## Acquiring Information

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You may find the newest software, products information, and technical supports by connecting to ZEBEX web site at <http://www.zebex.com.tw>.

If the information needed is not found to solve your problem either from the Product Reference Manual or ZEBEX web site, please contact ZEBEX customer services for support.

# GETTING STARTED

## WITH Z-3070



## Introduction

The Z-3070 Series is the newest developed handheld type barcode scanner with optional choices of different scan engine, interface, and as well as the communications.

You can puzzle up your selections with the Z-3070 series to meet your applications for all kinds of purposes. Selections should be made when order according to follows:

Z-3070/DC: scans with Dual CCD Engine;  
Z-3070/EC: scans with Single CCD Engine;  
Z-3070/LR: scans with Long Range Laser Engine;  
Z-3070/WA: scans with Wide Angle Laser Engine

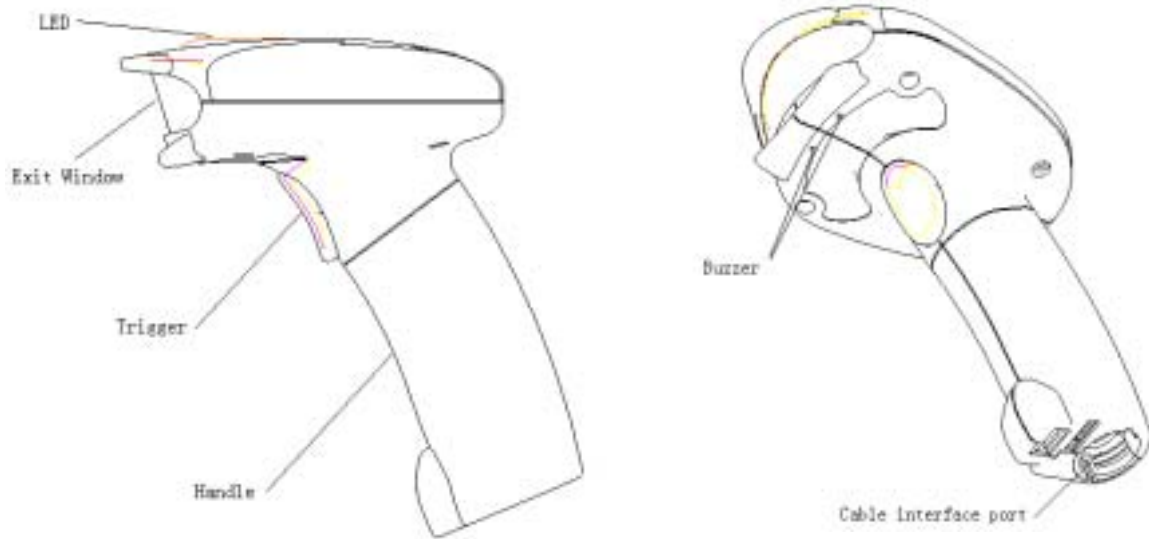
## Unpacking

Open the package, there should be a scanner and cable. Carefully take them out of the box. Please make sure both items are the correct ones as you ordered, and make sure that there is no damage on the cover of the scanner, and/or the cable.

Contact your supplier or dealer if delivery made is not correct, and/or if defects found with the scanner or cable.

We highly recommend you to please keep the packing box in case for any returns or repairs to ZEBEX in the future. ZEBEX will not hold for any responsibilities for damages occurred during delivery if a non-approved package material is used.

## Understanding the scanner parts and functions

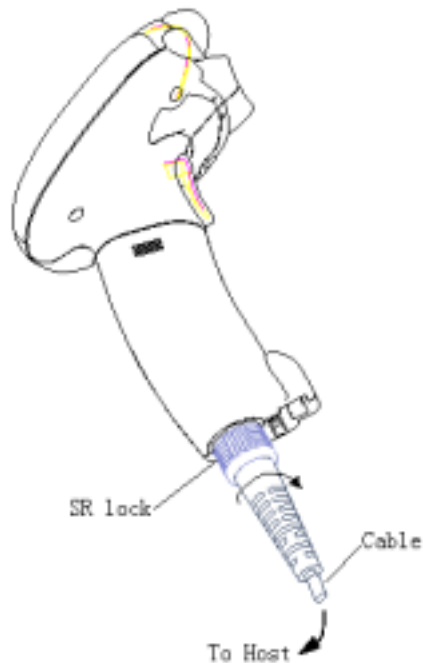


### Z-3070 Series Scanner Parts

Parts	Functions
Handle	Ergonomically designed for easy holding the Scanner.
Trigger	For triggering the scanner
Exit Window	For light exit and engine protection.
LED Indicator	When power is on, the LED is RED.
	A barcode is successfully decoded when the LED indicates GREEN.
Buzzer	The buzzer sounds when a barcode is successfully decoded.
Cable interface port	For cable connecting.

## Installing the Cable

Plug the interface cable modular connector into the cable interface port on the bottom of Z-3070 Series handle, and twist the SR lock to the right to lock as shown:



Different cables are required for different host. To change the scanner cable:

1. Turn the SR lock counter-clockwise to unlock.
2. Pull the cable out of the cable interface port on the bottom of the scanner handle.
3. Plug a new cable into the cable interface port, and twist the SR lock to the right.

## Power Connection

---

If your host does not provide power to the scanner, you will need an external power connection to the scanner:

1. Connect the interface cable to the bottom of the scanner, as described in *Installing the Cable*.
2. Connect the other end of the interface cable to the host (refer to your host manual to locate for correct port).
3. Connect the right-angle connector of power supply into the power jack on the interface cable. Plug the other end of the power supply into an AC outlet.

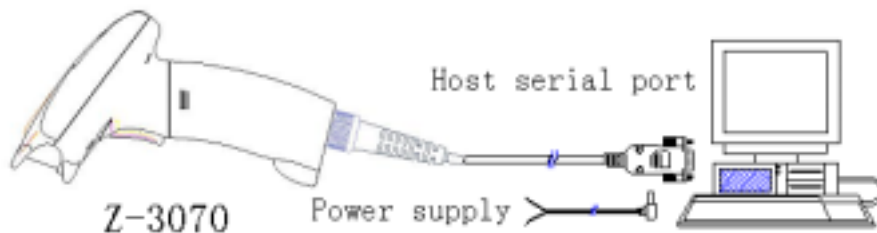
## Connecting the scanner to a host

The Z-3070 Series scanner supports RS-232C, keyboard Emulation, Wand Emulation, and USB interface to a host system. This section describes how to set up each of these connections.

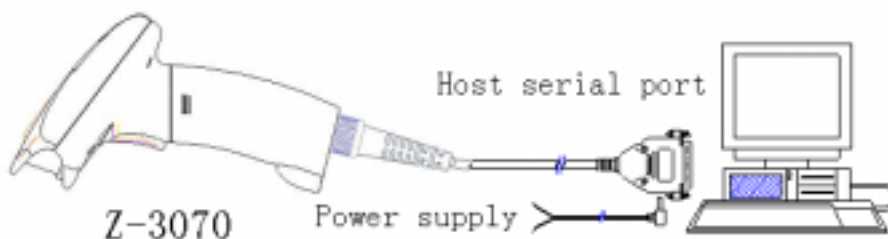
### RS-232C Connection

This connection is made either through RS-232C interface cable with D type 9 Pin connector or through a RS-232C interface cable with D type 25 Pin connector to the serial port on the host.

1. Connect the RS-232C interface cable to the bottom of the scanner, as described in *Installing the interface Cable*.
2. Connect the other end of the interface cable to the serial port on the host.
3. Connect the power supply.



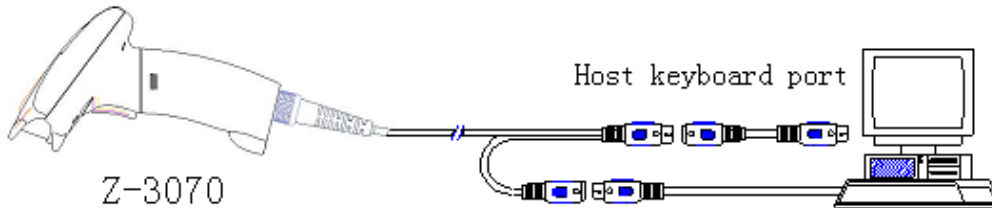
### RS-232C Connection with D type 9 Pin connector



### RS-232C Connection with D type 25 Pin connector

## Keyboard Emulation Connection

When configured for Keyboard Emulation input, the host accepts input from the scanner as keystrokes. The Z-3070 Series Scanner can perform Keyboard Emulation input using a keyboard interface cable and a male to female connecting cable.



### Keyboard Emulation Connection

1. Connect the Keyboard Emulation interface cable to the bottom of the scanner, as described in *Installing the interface Cable*.
2. Connect the male end of the keyboard cable into the female end of the interface cable.
3. Connect the female end of male-to-female connecting cable into the male end of the interface cable.
4. Connect the male end of male-to-female connecting cable into the keyboard port on the host

## Wand Emulation Connection

To perform Wand Emulation, the scanner can be connected to a portable data terminal, or a controller that collects the data as wand data, and interprets it for the host.

1. Connect the Wand Emulation interface cable to the bottom of the scanner, as described in *Installing the Interface Cable*.
2. Connect the other end of the interface cable into the COM port on the PDT or controller.
3. Plug one end of the power supply cable into the power receptacle on the interface cable. Plug the other end of the power supply cable into a wall outlet.



## USB Connection

This connection is made through USB interface cable to the USB port on the host.

1. Connect the USB interface cable to the bottom of the scanner, as described in *Installing the interface Cable*.
2. Connect the other end of the interface cable into the USB port on the host.

# Getting Ready to Scan With Z-3070

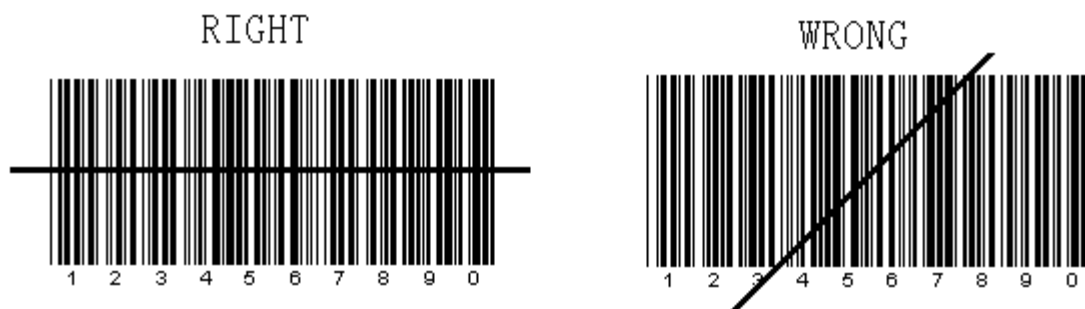


## Introduction

This chapter covers some tips about scanning.

## Scanning with the Z-3070

1. Ensure all connections are secure and power is on, the LED is indicating in RED as standby position, and the symbol you want to scan is within the scanning range.
2. Aim the scanner at the barcode. If your scanner works in trigger mode, aim and press the trigger.
3. Ensure the scan line crosses every bar and space of the symbol.



4. Upon successful decode, the scanner beeps and the LED indicates GREEN.

## Aiming

Do not hold the scanner directly over the barcode. Scanning light reflecting directly back into the scanner from the barcode is known as specular reflection which can make decoding difficult. The area where specular reflection occurs is known as a “dead zone”.

You can tilt the scanner up to 65° forward or backward and achieve a successful decode. Simply practice quickly to find what tolerances to work within.

## Scanning mode

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Z-3070/DC and Z-3070/EC supports 4 scanning option, but Z-3070/LR and Z-3070/WA supports 2 scanning option.

Refer to *Programming and Setting* for the specific barcode programming information. When power is on for the first time, Z-3070 Series Scanner is working in default scanning mode. You may change it to the appropriate mode.

# PROGRAMMING AND SETTINGS



## Introduction

Scanning a series of programming barcode labels can configure the Z-3070 series scanners. This allows decoding options and interface protocols to be tailored to a specific application. The configuration is stored in non-volatile memory and will not be lost by removing power from the scanner.

The scanner must be properly powered before programming. For RS-232C type scanners, an external power adapter must be used to supply DC power to the scanner. If a keyboard emulation type scanner is used with a IBM PC/XT/AT, PS/2 or any fully compatible computers, power will be drawn from the keyboard port. No external power adapter is required. If keyboard emulation type scanner is used with any other non IBM PC compatible computers, an external power adapter may be needed.

## Programming Options

Programmable options are divided into four groups.

The first group includes the options that show the general behavior of the laser scanner. The second group of options governs the operation of RS-232C type serial ports. The third group selects the keyboard type that the keyboard emulation type will be emulated. The last group sets the decoding parameters for each barcode symbology.

## Default Parameters

This table gives the default settings of all the programmable parameters. The default settings will be restored whenever the "Reset" programming label is scanned and the laser scanner is in programming mode.

## DEFAULT VALUES OF OPERATING PARAMETERS

Function	Default Values
Scanning Mode Selection	Trigger mode
Header and Trailer	None
Inter-Message Delay	Normal
Inter-Character Delay	Normal
Message/Block Mode Selection	Message
Send Command in Block Mode Communication	Disable
Good Read Beeper Tone Selection	2.3KHz/50 msec
Code Identifier Transmitting	Disable

## PREDEFINED BARCODE IDENTIFIERS\*

Code 39 Barcode Identifier Code	M
ITF 2 of 5 Barcode Identifier Code	I
Chinese Post Code Identifier Code	H
UPC-E Barcode Identifier Code	E
UPC-A Barcode Identifier Code	A
EAN-13 Barcode Identifier Code	F
EAN-8 Barcode Identifier Code	FF
Coda bar Barcode Identifier Code	N
Code 128 Barcode Identifier Code	K
Code 93 Barcode Identifier Code	L
MSI Barcode Identifier Code	P
MATRIX 25 Barcode Identifier Code	G

\*For activation of barcode identifiers see page 54

## DEFAULT VALUES OF KEYBOARD EMULATION PARAMETERS SETTING

Function	Default Values
Keyboard type selection	IBM PC/AT USA
Message terminator	Enter/ carriage Return

**DEFAULT VALUES OF RS-232C SERIAL COMMUNICATION PARAMETERS**

Function	Default Values
Handshaking protocol	None
ACK/NAK response time setting	300 msec
Baud rate	9600
Data bit	8
Stop bit	1
Parity	Mark (None)
Message terminator selection	CR/LF

**DEFAULT VALUES OF WAND EMULATION PARAMETERS**

Function	Default Values
Wand emulation speed	Normal
Wand emulation output	Black = High

Note: For wand emulation, the configuration is only effective for the items with asterisk ( \* ).

**DEFAULT VALUES OF USB EMULATION PARAMETERS**

Function	Default Values
Keyboard Type	US Keyboard
Message Terminator	Enter

Note: For USB emulation, the configuration is only effective for the items with asterisk ( \* ).

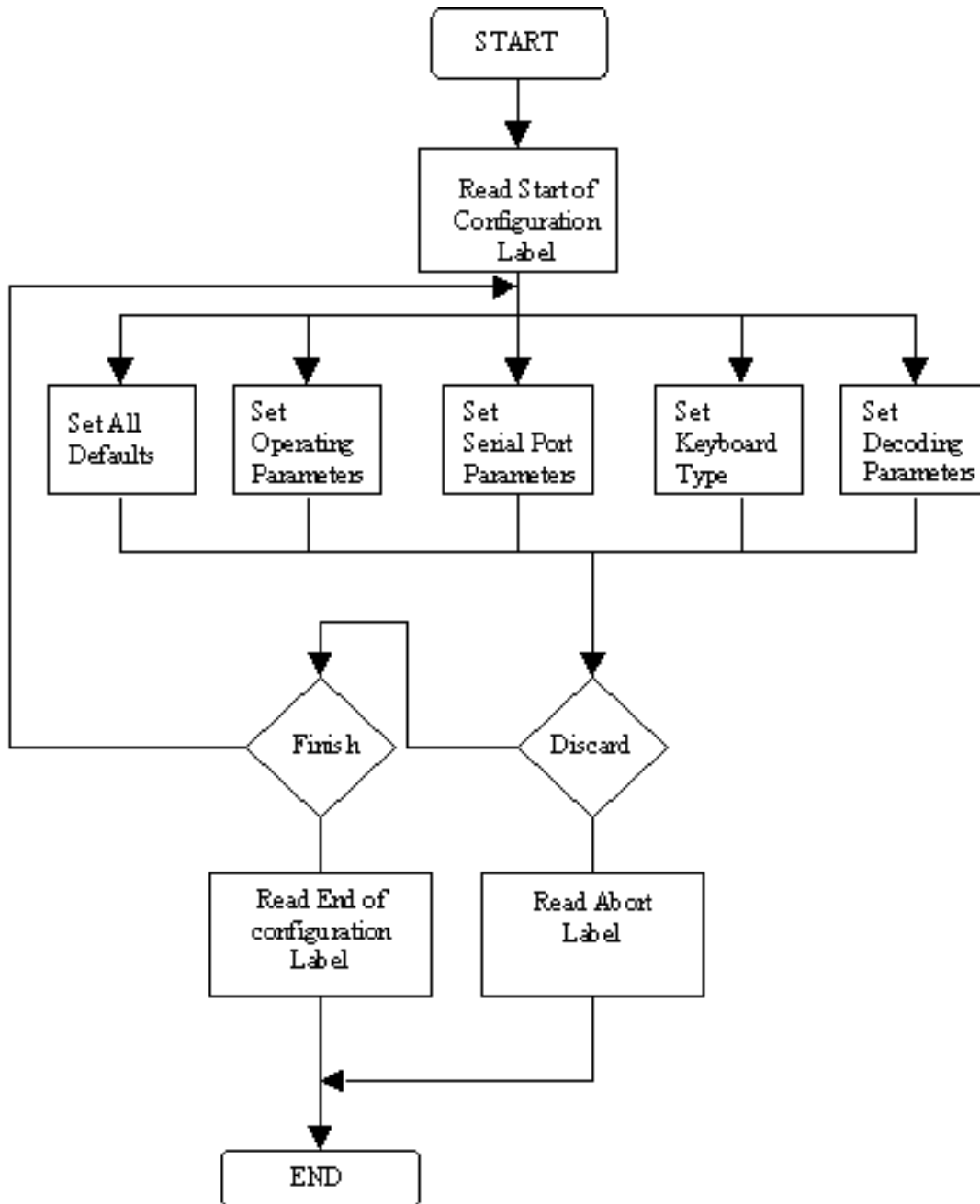


**DEFAULT VALUES OF DECODING PARAMETERS**

Function	Code	Default Value
Reading codes Selection	Code 39	Enable
	ITF 2 of 5	Enable
	Chinese Post Code	Disable
	UPC/EAN/JAN	Enable
	Coda bar	Enable
	MSI	Disable
	Code 128	Enable
	Code 93	Enable
	ITAT	Disable
	EAN-128	Disable
	MATRIX 25	Disable
	Italian Pharmacy	Disable
	ISSN/ ISBN	Disable
Code 39	Codes	Standard
	Start/stop characters	Not transmitting
	Check digit	Disabled
	Concatenation	Off
Interleaved 2 of 5	Length	6-32 digits
	Check digit	Disable
Chinese Post Code	Length	10~16 digits
	Check digit	Transmit
UPC/EAN/JAN	Format	All
	Addendum	Disable
	UPC-E=UPC-A	Disabled
	UPC-A leading digit	Transmit
	UPC-A check digit	Transmit
	UPC-E leading digit	Transmit
	UPC-E check digit	Transmit
Coda bar	Type	Standard
	Start/stop characters	A, B, C, D
	Length	6~32 digits
Code 128	FNC 2 append	Disable
	Check digit	Disable
MSI	Length	Variable
	Check digit	Transmit
Italian Pharmacy	Transmit "A" Character	Not transmitting
MATRIX 25	Length	Fix 10 digits
	Check digit	Disable

Note: The configuration of the items with asterisk ( ) is effective when being appointed in advance.

## PROGRAM PROCEDURE



## SYSTEM SETTING

---



Start of Configuration

---

- The reading of the “RESET” label turns all the parameters back to default values.



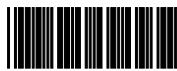
RESET

- When you intend to turn your scanner back to default parameters, please scan the “Start of Configuration” label first, then scan “RESET” label and finally scan the “End of Configuration” label.



ABORT

- The reading of the "ABORT" label discards all the parameters read prior to the "End of configuration".



RS-232C



PC/AT

- The scanner remains in the last interface mode when the scanner is reset. The label below should be scanned if the scanner is configured the first time.



USB



WAND EMULATION



SHOW VERSION

- The reading of the “SHOW VERSION” label will be show firmware version.



End of Configuration

## GENERAL CONFIGURATION

---



Start of Configuration



End of Configuration

---

### SCANNING MODE SELECTION (for laser scanner)

For series laser scanners, there are 2 scanning modes to suit your application requirements.



Trigger Mode

The scanner becomes inactive as soon as the data is transmitted. It must be triggered to become active again.



Pulse Mode

The scanner will light up when press the pulse mode trigger switch once. And, the scanner will turn off for next pressing.

### SCANNING MODE SELECTION (For CCD scanner)

The scanner becomes inactive as soon as the data is transmitted. It must be triggered to become active again.



Trigger mode

In auto scan mode, the scanner is still active after the data is transmitted, but the successive transmission of the same bar code is not allowed when the trigger switch is pressed again.



Auto scan mode

This scanner will light up when press the scanner trigger switch once. And, the scanner will turn off for next pressing.



Alternate mode

This mode is similar to Auto scan mode, but double reading for the same barcode is prohibited if the scanner switch is pressed.



Repeat mode



Start of Configuration

---

## DATA REDUNDANT CHECK

The option allows you to set decoder data redundant check.



Enable



Disable

## INTER-MESSAGE DELAY

These series of scanners allow you to add a delay between two consecutive messages. This delay will be added before each data transmission.



None



100 msec



500 msec



1 Second



End of Configuration



Start of Configuration

---

## INTER-CHARACTER DELAY

This option governs delay time between consecutive characters. Scanning the following labels can alter the delay time.



None



10 msec



20 msec



50 msec

## MESSAGE / BLOCK MODE SELECTION

This option allows you to treat scanned data as either an independent message or a block message. In the message mode, the data scanned will be transmitted immediately. In block mode, the data scanned will be appended to the message buffer if the scanner is programmed in block mode. A block of message will only be transmitted after a "Send" command is entered. This mode is only available when the scanner is working with code 39 labels. You are free to choose any character as the "Send" command.



Message



Block



End of Configuration



Start of Configuration

---

## SEND COMMAND IN BLOCK MODE COMMUNICATION

You can use this option to set your own "Send" command used in block mode communication.



Enable



Disable



Store



Set

## GOOD READ BEEPER TONE SELECTION

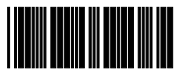
You can use this option to set frequency and / or duration of the buzzer after successful reading.



Medium



Low



High



Disable



End of Configuration



Start of Configuration

---

## SOUND DURATION



long(120 ms)



Medium(50 ms)



Short(20 ms)



Very short(5 ms)

\*For Alpha-70 ,Z-3070 and SC-2070 Series only Medium and disable setting available, it's hardware beeper control.

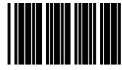


End of Configuration



## INTERFACE CONFIGURATION

---



Start of Configuration

---

### RS-232C SERIAL COMMUNICATION PARAMETERS SETTING

The RS-232C scanner supports four handshaking protocols. With these options of communication protocol, you can tailor the scanner to meet the requirement of most systems.

#### HANDSHAKING PROTOCOL



None



RTS/CTS



ACK/NAK



Xon/Xoff

#### ACK/NAK RESPONSE TIME SETTING



300 msec



2 sec

---



End of Configuration



Start of Configuration

---

ACK/NAK RESPONSE TIME SETTING (Continued)



500 msec



3 sec



1 sec



5 sec

BAUD RATE



19200



9600



4800



2400



1200



600



End of Configuration



Start of Configuration

---

DATA BIT



7



8

STOP BIT



1



2

PARITY



Even



Odd



Mark



Space



None

---



End of Configuration



Start of Configuration

---

MESSAGE TERMINATOR (FOR RS-232C TYPE ONLY)



None



CR/LF



CR



LF



H Tab



STX/ETX



EOT



End of Configuration

## KEYBOARD EMULATION PARAMETERS SETTING



Start of Configuration

---

### KEYBOARD TYPE SELECTION

The keyboard emulation scanners can emulate a number of personal computers keyboard and a number of terminal keyboard. Keyboard emulation is activated whenever you have selected the type of keyboard for which the scanner is going to emulate. Choose the appropriate type of keyboard emulation by scanning the labels under the following labels.



IBM AT



PS/2 30-80



IBM 5550



IBM 5295 Terminal



IBM XT



IBM 5530-SC



IBM 5530-ZC



End of Configuration



Start of Configuration

---

KEYBOARD TYPE SELECTION (Continued)



NEC 9801



IBM 3196 Terminal



APPLE MAC II( )



IBM 3477/3472 Terminal



PS2/30/56



IBM 3477 Terminal  
(Without break code)



NEC 5200( )

Note: The configuration of the items with asterisk ( ) is optional.



End of Configuration



Start of Configuration

---

KEYBOARD LANGUAGE SELECTION



USA



UK



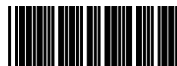
Germany



French



Spanish



Italian



Swiss



Swedish



End of Configuration



Start of Configuration

---

MESSAGE TERMINATOR (FOR KEYBOARD WEDGE USE)



None



Return /Enter



Hor. TAB



Execute

KEYBOARD TYPE SELECTION



Scan Code Mode



Alt mode



End of Configuration





Start of Configuration

---

BREAK CODE ON/ OFF SETTING  
(FOR IBM Terminals 31xx, 34xx, 37xx USE)

To select the interface for these IBM terminals, read the correct key transmission code.



ON



OFF

FUNCTION KEY ACTIVE ON/ OFF (FOR IBM AT USE)

Function keys can be concatenated with input data as header and/or trailer. See table on page 75.



ON



OFF

CAPITAL LOCK ON/ OFF

Select the suitable code to match your keyboard caps lock status.



ON



OFF



End of Configuration



Start of Configuration

---

Function key emulation (only for PC/AT)

Numlock on/off



OFF



ON

00H~1FH ASCII Code defined



Alt-mode code



Ctrl+code



End of Configuration

## WAND EMULATION PARAMETERS SETTING



Start of Configuration

---

### EMULATION SPEED SELECTION



Low



Medium



Normal



High



Higher

### EMULATION DATA OUTPUT SELECTION

The decoded data output logic level can be set to befit the external decoder.



Black = High



Black = Low



End of Configuration



Start of Configuration

---

WAND EMULATION NARROW / WIDE RATIO



1:2



1:3



End of Configuration

## USB INTERFACE PARAMETERS SETTING



Start of Configuration

---

The USB mode is effectively a keyboard emulator that works with hosts that USB-compatible operating system and USB ports. USB compatible operating systems are Windows 98, Windows NT 5.0 and Mac OS 8 and later, no additional software is needed since the USB driver support is built into this operating system.

### KEYBOARD TYPE



US Keyboard



International Keyboard

### MESSAGE TERMINATOR



None



Enter



H Tab



End of Configuration

# THE SYMBOLOGIES

---



Start of Configuration

---

## READING CODE SELECTION



Code 39 Enable



Code 39 Disable



Coda bar Enable



Coda bar Disable



UPC/ EAN/ JAN Enable



UPC/ EAN/ JAN Disable



ITF 2 of 5 Enable



ITF 2 of 5 Disable



End of Configuration



Start of Configuration

---

## READING CODE SELECTION (Cont'd)



Chinese Post Code Enable



Chinese Post Code Disable



Code 128 Enable



Code 128 Disable



MSI Enable



MSI Disable



Code 93 Enable



Code 93 Disable



IATA Enable



End of Configuration



Start of Configuration

---

## READING CODE SELECTION (Cont'd)



IATA Disable



EAN- 128 Enable



EAN-128 Disable



MATRIX 25 Enable



MATRIX Disable



Italian Pharmacy Enable



Italian Pharmacy Disable



End of Configuration





Start of Configuration

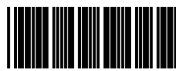
---

## CODE 39 PARAMETERS SETTING

### CHARACTER SET



Standard Code 39



Full ASCII Code 39

### START/STOP CHARACTER TRANSMISSION



Yes

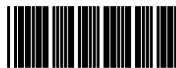


No

### CHECK DIGIT



Calculate and Transmit



Calculate but not Transmit



NO



End of Configuration



Start of Configuration

---

## CODE 39 PARAMETERS SETTING (continued)

### CONCATENATION



Enable

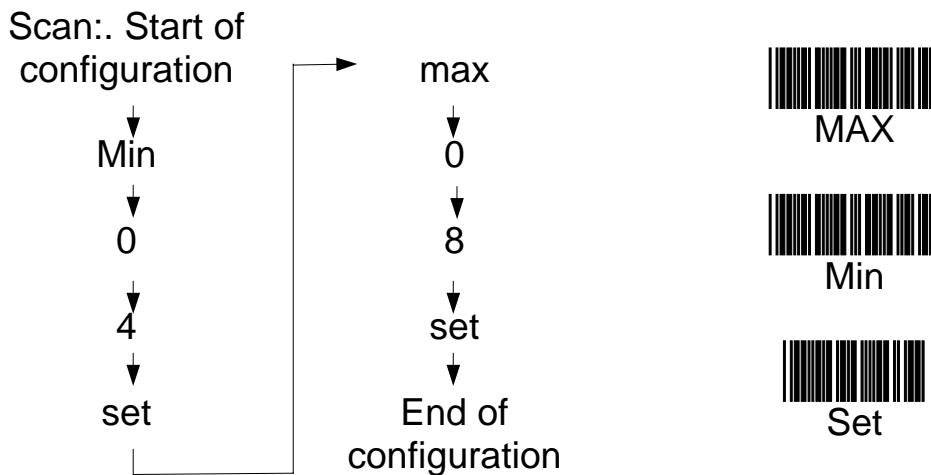


Disable

## INTERLEAVED 2 OF 5 PARAMETERS SETTING

Examples: Felting length 4 to 8 digits

LENTGTH



End of Configuration

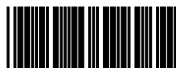
  
Start of Configuration

---

CHECK DIGIT

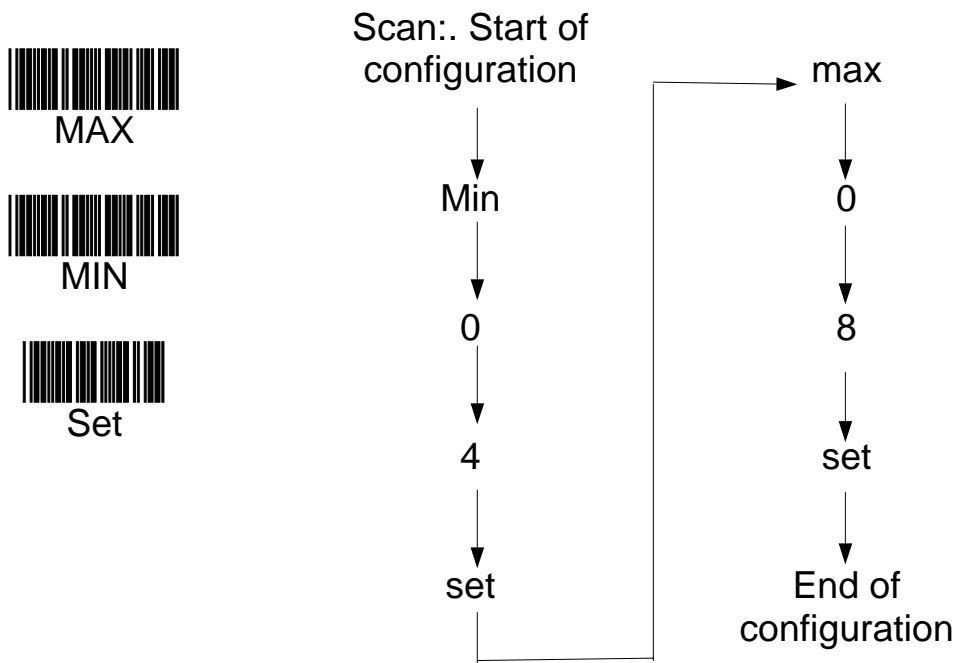


  
Calculate and Transmit

  
Calculate but not Transmit

CHINESE POST CODE PARAMETERS SETTING

LENGTH



---

  
End of Configuration



Start of Configuration

---

CHECK DIGIT



NO



Calculate and Transmit



Calculate but not Transmit

UPC/EAN/JAN PARAMETERS SETTING

FORMAT



All



EAN-8 or EAN-13



UPC-A and EAN-13



UPC-A and UPC-E



End of Configuration



Start of Configuration

---

FORMAT (Continued)



UPC-A



UPC-E



EAN-13



EAN-8

ADDENDUM



NO



5 Characters



2 Characters



2 or 5 Characters



End of Configuration



Start of Configuration

---

FORCE UPC-E TO UPC-A FORMAT



Yes



No

FORCE UPC-A TO EAN-13 FORMAT



Yes



No

TRANSMIT UPC-A LEADING CHARACTER



Yes



No



End of Configuration



Start of Configuration

---

TRANSMIT UPC-A CHECK DIGIT



Yes



No

TRANSMIT UPC-E LEADING CHARACTER



Yes



No

TRANSMIT UPC-E CHECK DIGIT



Yes



No



End of Configuration



Start of Configuration

---

### TRANSMIT EAN-13 CHECK DIGIT



Yes



No

### TRANSMIT EAN-8 CHECK DIGIT



Yes



No

## CODABAR/ MONARCH PARAMETERS SETTING

### START/ STOP CHARACTER TRANSMISSION



No



A, B, C, D



DC1~DC4



a/ t, b/ n, c/ \*, d/ e



End of Configuration





Start of Configuration

---

CONCATENATION



Enable



Disable

CODE 128 PARAMETERS SETTING

FNC 2 CONCATENATION



Enable



Disable

CHECK DIGIT



No



Calculate and Transmit



Calculate but not Transmit

---



End of Configuration



Start of Configuration

---

## UCC/EAN128 PARAMETERS SETTING

The character FNC1 can be transmitted or not using these codes.



FNC1 Character Transmitted



FNC1 not Transmitted

## MATRIX 25 PARAMETERS SETTING

Examples: Felting length 4 to 8 characters



MAX



MIN



Set

Scan. Start of  
configuration

↓  
Min

↓  
0

↓  
4

↓  
set

→ max

↓  
0

↓  
8

↓  
set

↓  
End of  
configuration



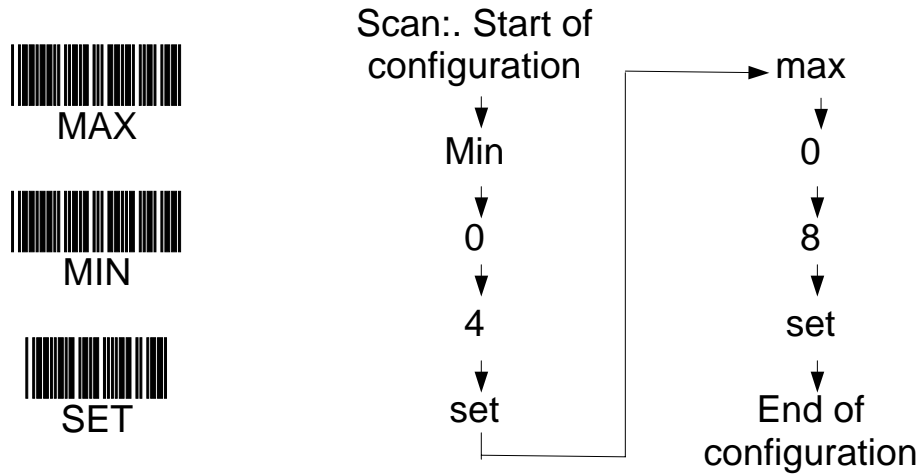
End of Configuration



Start of Configuration

## MSI/PLESSY PARAMETERS SETTING

Examples: Felting length 4 to 8 characters



Double Check digit



Calculate but not Transmitted



No



Calculate but only first one Transmitted



Calculated and both Transmitted



End of Configuration



Start of Configuration

---

Double Check digit (Cont'd)

Single Check digit



Calculated but not Transmitted



Calculated and transmitted

PLESSY CODE SETTING



Calculated and transmitted



Calculate but not transmitted

CHECK DIGHT



No



Calculate and Transmit



Calculate but not Transmit

---



End of Configuration



Start of Configuration

---

## ITALIAN PHARMACY PARAMETERS SETTING

### TRANSMIT "A" CHARACTER



Yes



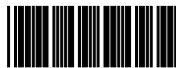
No

## BARCODE LENGTH SETTING

### CODE 39 LENGTH SETTING

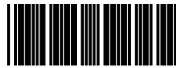


MAX

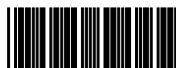


MIN

### CODE 93 LENGTH SETTING



MAX



MIN



End of Configuration



Start of Configuration

---

### CODE 128 LENGTH SETTING



MAX



MIN

### CODABAR LENGTH SETTING



MAX



MIN



SET

### ISBN/ ISSN CONVERSION

The function converts the UPC/EAN codes appearing on books and magazine not ISBN/ISSN format.



ACTIVE ISBN/ ISSN



INACTIVE ISBN/ ISSN



End of Configuration

## DATA EDITING

---

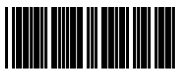


Start of Configuration

---

### HEADER AND TRAILER

This option allows you to append a header and/or a trailer to every message transmitted via the serial ports or the keyboard port. There is no restriction in selecting header or trailer characters as far as the sum of the lengths of header and trailer is not greater than 10 digits.



Header

1. Select either header or trailer you are going to program by scanning the corresponding label



Trailer

2. Scan the character(s) you want from the enclosed ASCII table to set as header or trailer (be sure to enable full ASCII code 39 option before you start).



Set

3. Read the "Set" label to set your choice into memory.

### BARCODE IDENTIFIER CODE SELECTION

The series of scanners can transmit max.2-digit barcode identifier code for different types of barcodes. Use the labels to choose transmit or not transmit predefined barcode identifier code (ID's are listed on page 14):



Enable



Disable



End of Configuration



Start of Configuration

---

## BARCODE IDENTIFIER CODE SETTING

Each of the series type scanners can set max.2 digits as barcode identifier code according to different barcode. The procedure is as follows:

1. Scan "Start of configuration" label
2. Scan "Barcode identifier setting code" label.
3. Scan the new code mark from ASCII table (max. two digits). For example, if one "AB" want for code mark then scan "A" and "B".
4. Scan "Set" label.
5. Scan " End of configuration" label.



UPC-E



UPC-A



EAN-13



EAN-8



Chinese post code



ITF 2 OF 5



End of Configuration





Start of Configuration

---

## BARCODE IDENTIFIER CODE SETTING (Cont'd)



Coda bar



Code 39



Code 128



Code 93



MSI



MATRIX 25



Set



End of Configuration



Start of Configuration

---

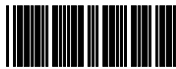
## Truncate Header/Trailer Character

(Version az1.24, dz1.05, ac1.01, dz1.05,pl1.39 or higher is required)

You can truncate a number header or trailer for a symbology. When you do, the specific character you select is deleted from the symbology you want.



Truncate header  
character



Truncate trailer  
character



set

1. scan "start of configuration"
2. select "truncate header" or "truncate trailer"
3. scan two barcode value from the full ASCII code table(0~9) For example, if 2 number header you want clear then scan "0" and "2"
4. Scan" set" barcode
5. end of configuration



End of Configuration

# Technical Specifications



## Product Configuration

Model Number	Single CCD	Dual CCD	WA Laser engine	LR Laser engine	RF communication	RFID tag reader	Scan Angle	Scan Rate	PCS* Value	Reading Distance	Power Supply
Z-3070-DC							30°	300	30%	11"	160mA@5.0V
Z-3070-EC							30°	150	30%	6"	160mA@5.0V
Z-3070-DC/RF							30°	300	30%	11"	180mA@5.0V
Z-3070-EC/RF							30°	150	30%	6"	180mA@5.0V
Z-3070-DC/TG							30°	300	30%	11"	200mA@5.0V
Z-3070-EC/TG							30°	150	30%	6"	200mA@5.0V
Z-3071-WA							53°	36	35%	10"	160mA@5.0V
Z-3071-LR							23°	36	35%	20"	200mA@5.0V
Z-3071-WA/RF							53°	36	35%	10"	160mA@5.0V
Z-3071-LR/RF							23°	36	35%	20"	200mA@5.0V
Z-3071-WA/TG							53°	36	35%	10"	200mA@5.0V
Z-3071-LR/TG							23°	36	35%	20"	200mA@5.0V

\* Note: Based on UPC/EAN 100%, PCS=90

## Preliminary Specifications

Temperature	a) Operating: 0 ~ 50 b) Storage: -10 ~ 60	
Humidity	a) Operating: 10% ~ 90% (No dewing allowed) b) Storage: 5% ~ 95% (No dewing allowed)	
Shock	1.0 meter drop to concrete	
Maximum Ambient	4500 Lux Max (Fluorescence)	
Light Rejection	86000 Lux Max (Sunlight)	
Laser Safety	CDRH class II / IEC 825-1 class I (WA series) CDRH class IIIa (LR series)	
Interface	Keyboard emulation, C-MOS serial, RS-232C serial and USB interface	
Keyboard Emulations	IBM PC/XT/AT, IBM PS/2 Model 30-80, IBM 5550, 5530-SC, 5530-ZC, IBM 3196, 3472/3477, 5295 Terminal, NEC 9801, Apple MAC II, and more...	
Decoding Capabilities	UPC A/E, EAN-8/JAN-8, EAN-13/JAN-13, Full ASCII Code 39, Code 39, Code 93, interleaved 2 of 5, Coda bar, Code 1288, Chinese postcode Optional: IATA, EAN-128, Code 11, STD 2 of 5, MSI Plessy, Matrix 2 of 5.	
RFID Transponder Read/Write Electronic (For Tag Series)	Technology	13.56 MHZ
	Transponders	Reads Gem Wave Transponders from Gem Plus, Ario 10 and Ario 40. Optional: I code and Tag it.
	Read / Write Speed	24 Kbit / Sec. (Write and back of 2 Kbit > 1.5 sec)
	Read / Write Distance	Up to 100mm

## Preliminary Specifications (Cont'd)

Radio Specification (For RF Series)	Frequency Baud	433 and 915 MHZ
	Modulation Method	FSK (Frequency Shift Keying)
	Data Rate	Up to 19.2K baud
	Power Output	Maximum 10mW
	Radio Range	30 meters
	Channel selection	Software ID selection
	Electrical	Complies with EN300 200 and FCC FCR47 and 15
Programmable Characters	<p><b>Built-in Decoder:</b>  Type of interface  Code type selection, check digit selection  Decoding option  Transmitted character delay  Header selection, trailer selection  Good read beep tone and volume  Barcode identifier</p> <p><b>Keyboard Emulation Configuration:</b>  Inter-message delay, keyboard type and keyboard language.</p> <p><b>Serial Interface Type:</b>  ACK/NAK, Xon/Xoff, RTS/CTS,</p>	
Weight	180g (excluding cable and connector)	
Case Material	ABS plastic	
Cable	Coiled cable, 3m when straightened	
Connector Type	RJ-45 Phone Jack Connector	

# Special Terms



## Terms and Definitions

<b>TERMS</b>	<b>DEFINITIONS</b>
ASCII	American standard Code For Information Interchange. A 7 bit-plus-parity code representing 128 letters, numerals, punctuation marks, and control characters. It is a standard data transmission code in the U.S.
Bar	The dark element in a printed barcode symbol.
Baud Rate	A measure of the data flow or number of signaling events occurring per second. When one bit is the standard "event", this is a measure of bits per second (bps). For example, a baud rate of 9600 means transmission of 9600 bits of data per second.
Bit	Binary digit. One bit is the basic unit of binary information. Generally, eight consecutive bits compose one byte of data. The pattern of 0 and 1 values within the determines its meaning.
Byte	On an addressable boundary, eight adjacent binary digits (0 and 1) combined in a pattern to represent a specific character or numeric value. Bits are numbered from the right, 0 through 7, with bit 0 the low order bit. One byte in memory is used to store one ASCII character.
CDRH	Center for Devices and Radiological Health. Federal agency responses for regulating laser product safety. This agency specifies various laser operation classes based on power output during operation.
Character	A pattern of bars and spaces which either directly represents data or indicates a control function, such as a number, letter, punctuation mark, or communications control contained in a message.



Character Set	Those characters available for encoding in a particular barcode symbology.
Check Digit	A digit used to verify a correct symbol decodes. The scanner inserts the decoded data into an arithmetic formula and checks that the resulting number matches the encoded check digit. Check digits are required for UPC but are optional for other symbologies. Using check digits decreases the chance of substitution errors when a symbol is decoded.
Codabar	A discrete self-checking code with a character set consisting of digits 0 to 9 and six additional character (-\$/,+).
Code 128	A high-density symbology that allows the controller to encode all 128 ASCII characters without adding extra symbol elements.
Code 3 of 9 (Code 39)	A versatile and widely used alphanumeric barcode symbology with a set of 43 character types, including all uppercase letters, numerals from 0 to 9, and 7 special character (-./+\$ and space). The code name is derived from the fact that 3 of 9 elements representing a character are wide, while the remaining 6 are narrow.
Code 93	An industrial symbology compatible with Code 39 but offering a full character ASCII set and a higher coding density than Code 39.
Code Length	Number of data characters in a bar code between the start and stop character, not including those characters.
Continuous Code	A barcode or symbols in which all spaces within the symbol are parts of characters. There are no intercharacter gaps in a continuous code. The absence of gaps allows for greater Information density.

Dead Zone	An area within a scanner's field of view, in which speculum reflection may prevent a successful decode.
Decode	To recognize a bar code symbology (e.g. UPC/EAN ) and then analyze the content of the specific bar code scanned.
EAN	European Article Number. This European / international version of the UPC provides its own coding format and symbology standards. Element dimensions are specified metrically. EAN is used primarily in retail.
Element	Generic term for a bar or space.
Encoded Area	Total linear dimension occupied by all characters of a code patten, including start/stop characters and data.
Host computer	A computer that serves other terminals in a network, providing such services as computation, database access, supervisory programs and network control.
Intercharacter Gap	The space between adjacent bar code characters in a discrete code.
Interleaved Barcode	A bar code in which characters are paired together, using bars to represent the first character and the intervening spaces to represent the second.
Interleaved 2 of 5	A binary bar code symbology representing character pairs in groups of five bars and five interleaved spaces. Interleaving provides for greater information density. The location of the wide elements (bar/spaces) within each group determines which characters are encoded. This continuous code type uses no intercharacter spaces. Only numeric (0 to 9) and START/STOP characters may be encoded.
LED indicator	A semiconductor diode (LED – Light Emitting Diode) uses as an indicator, often in digital displays. The semiconductor uses applied voltage to produce light of

a certain frequency determined by the semiconductor's particular chemical composition.

MIL	1 mil = 1 thousandth of an inch.
Parameter	A variable that can have different values assigned to it.
Percent Decode	The average probability that a single scan of a barcode would result in successful decode. In a well-designed barcode scanning system, that probability should approach near 100%.
Print Contrast Signal ( PCS )	Measurement of the contrast (brightness difference) between the bars and spaces of a symbol. A minimum PCS value is needed for a barcode symbol to be scannable. $PCS=(RL-RD)/RL$ , where RL is the reflectance factor of the background and RD the reflectance factor of the dark bars.
Programming Mode	The state in which a scanner is configured for parameter values.
Quiet Zone	A clear space, containing no dark marks, which precedes the start character of barcode symbol and follows the stop character.
Reflectance	Amount of light returned from an illuminated surface.
Scan Area	Area intended to contain a symbol.
Scanner	An electronic device used to scan barcode symbols and produce a digitized pattern that corresponds to the bars and spaces of the symbol. Its three main components are: <ol style="list-style-type: none"><li>1. Light source (laser or photoelectric cell) - illuminates a barcode.</li><li>2. Photodetector – registers the difference in reflected light (more light reflected from space).</li><li>3. Signal conditioning circuit – transforms optical detector output into a digitized bar pattern.</li></ol>

Scanning mode	The scanner is energized, programmed, and ready to read a bar code.
Space	The lighter element of a bar code formed by the background between bars.
Speculum Reflection	The mirror-like direct reflection of light from a surface, which can cause difficulty decoding a barcode.
Start/Stop Character	A pattern of bars and spaces that provides the scanner with start and stop reading instructions and scanning direction. The start and stop characters are normally to the left and right margins of a horizontal code.
Symbol	A scannable unit that encodes data within the conventions of a certain symbology, usually including start/stop characters, quiet zones, data characters, and check characters.
Symbol Aspect Ratio	The ratio of symbol height to symbol width.
Symbol Height	The distance between the outside edges of the quiet zones of the first row and the last row.
Symbol Length	Length of symbol measured from the beginning of the quiet zone (margin) adjacent to the start character to the end of the quiet zones (margin) adjacent to a stop character.
Symbology	The structural rules and conventions for representing data within a particular bar code type (e.g. UPC/EAN, Code 39).
Tolerance	Allowable deviation from the nominal bar or space width.
UPC	Universal Product Code. A relatively complex numeric symbology. Each character consists of two bars and two spaces, each of which is any of four widths. The standard symbology for retail food packages in the United States.

# Support and Maintenance



## Troubleshooting

Problem	Possible Causes	Possible Solutions
Nothing happens when you follow the operating instructions.	No power to the scanner.	Check the system power. Ensure the power supply is connected if your configuration requires a power supply.
	Interface/power cables are loose.	Check for loose cable connections.
Light comes on. But symbol does not decode.	Scanner is not programmed for the correct barcode type.	Be sure the scanner is programmed to read the type of barcode you are scanning.
	Barcode symbol is unreadable.	Check the symbol to make sure it is not defaced. Try scanning test symbols of the same barcode type.
	Distance between scanner and barcode is incorrect.	Move the scanner closer to or further from the barcode.
Symbol is decoded, but not transmitted to the host.	Scanner is not programmed for the correct host type.	Scan the appropriate host type barcode.

<p>Scanned data is incorrectly displayed on the host.</p>	<p>Scanner is not programmed to work with the host. Check Z-3070 Series host type parameters or editing options.</p>	<p>Be sure proper host type is selected.</p> <p>For RS-232C, ensure the scanner's communication parameters match the host's settings.</p> <p>For keyboard emulation configuration. Ensure the system is programmed for the correct keyboard type. And the CAPS LOCK key is off.</p> <p>Be sure editing options (e.g. UPC-E to UPC-A Conversion) are properly programmed.</p>
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**Note:** If after performing the checks, but the symbol still can't be scanned, please contact your distributor or Zebex Industries Inc. for further technical support.

## Customer support

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Support is provided when you contact ZEBEX Industries Inc Technical Support.

Monday – Friday : 8:30 AM to 6:00 PM, Taiwan Time

Phone : (886) 2 2218 2018

Fax : (886) 2 2218 8670

E-mail : mail@zebex.com.tw

ZEBEX provides on-line support for software upgrades, utility programs, and other information via the internet by :

WWW : <http://www.zebex.com.tw>

Outside Taiwan, contact your authorized ZEBEX distributor.

## Maintenance

---

Cleaning the exit window is the only maintenance required. A dirty window may affect scanning accuracy.

Do not allow any abrasive material to touch the window

Remove any dirt particles with a damp cloth

Do not spray water or other cleaning liquids directly into the window

Wipe the window using a tissue moistened with ammonia / water



## Warranty period & policy

---

1. The warranty period begins on the date of the original Invoice.
2. The warranty period is not a result of an accident, physical damage and force of nature such as fire, floods, wars...etc.
3. ZEBEX INDUSTRIES INC. reserved the rights to or not to repair for the Out of *Warranty* products or the *Insubstantial Warranty* \*.

The warranty service terms will be based on this warranty period as described below:

### **UNDER WARRANTY**

Regular Warranty -**No** labors & parts will be charged. (Warranty Begins at date of the original invoice Buyers are requested to return the defective products to ZEBEX on their expense.)

## RMA Policy

---

1. The Return Merchandise Authorization (RMA) is for any ZEBEX INDUSTRIES INC. product that is returned for repair or for replacement within the warranty period. ZEBEX INDUSTRIES INC. must give an RMA number to the customer before the customer is authorized to return any defective product to ZEBEX INDUSTRIES INC.
2. It is necessary to have a RMA number for any items returning to ZEBEX INDUSTRIES INC.. In order to obtain a RMA number from the Customer Service Department, it must have following information ready:

Customer name  
Contact person  
Apply date,  
Telephone number  
Fax number  
Email address  
Sales Rep.  
Shipping address  
Product model  
Serial number  
Quantity  
Defect description for each item (very important!!!)

Without above information, ZEBEX INDUSTRIES INC. has right not to issue a RMA number to the customer. In order to get a RMA number, you can:

- i. Call + 886 - 2 - 2218 - 2018 during business hour.
- ii. Fax the RMA Request Form to + 886 - 2 - 2218 - 8670
- iii. E-mail to Sales Rep. of Zebex.

Local:

Jeffrey Wu - E-mail: [sales-d1@zebex.com.tw](mailto:sales-d1@zebex.com.tw)

Angela Chu – E-mail: [sales-d7@zebex.com.tw](mailto:sales-d7@zebex.com.tw)

Overseas:

Jenny Hsu (Ext: 2107) - E-mail: [sales-d2@zebex.com.tw](mailto:sales-d2@zebex.com.tw)

Florence Wu (Ext: 2113) - E-mail: [sales-d3@zebex.com.tw](mailto:sales-d3@zebex.com.tw)

Felix Liang (Ext: 2114) - E-mail: [sales-d4@zebex.com.tw](mailto:sales-d4@zebex.com.tw)  
Eugene Chen (Ext: 2115) - E-mail: [sales-d5@zebex.com.tw](mailto:sales-d5@zebex.com.tw)  
Johnny Chang (Ext: 2108) - E-mail: [sales-d6@zebex.com.tw](mailto:sales-d6@zebex.com.tw)

3. Each item returning for RMA must be attached a photocopy of RMA Request Form.
4. The warranty period is not a result of man-made remissness, improper operation, physical damage and force of nature such as fire, floods, wars...etc.
5. After the customer has confirmed the RMA number sent by ZEBEX INDUSTRIES INC. The RMA will be sent back within 2 weeks upon receiving goods.
6. It is required the RMA number to be written on each shipping box. Returns must be shipped freight prepaid. The return RMA shipment must be enclosed with Invoice and Packing List. Returns not meeting all these conditions will be refused and returned at customer's expense. And all collect shipments will be refused.
7. The RMA lot will then have a visual inspection upon receipt by ZEBEX INDUSTRIES INC.. If the item or quantity is different from those listed on the RMA Request Form, ZEBEX INDUSTRIES INC. shall immediately notify customer of such discrepancy. If customer made no comment on said ZEBEX INDUSTRIES INC. receiving report; such quantity and model shown on receiving report becomes final.
8. Any sale that agrees with **NO RMA** or with **RMA Free Buffer Parts** will not suitable with this *RMA Policy*.

## Product Accessories

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Depending on your host system's configuration, the following items may be included with your scanner. These items are also available through your local Zebex representative or business partner.

### Standard Accessories

Standard accessories include a cable and a reference manual for Z-3070 Series.

### Optional Accessories

Optional accessories include a hands-free stand for scanning in hands-free mode, which are supplied at extra cost.

## Cables

---

- Power supply
- RS-232C Cable (with D type 9 Pin connector)
- RS-232-C Cable (with D type 25 Pin connector)
- Keyboard Emulation Cable
- Wand Emulation Cable
- USB Cable

## User Documentation

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The following user documentation is provided with your scanner:  
Reference Manual for Z-3070 Series

## Relative Publications

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For the latest versions of the Z-3070 Series Reference Guide and Product Reference Guide, go to : <http://www.zebex.com.tw> for update.

# APPENDIX



## APPENDIX A

### CODE 39 FULL ASCII CODE TABLE

ASCII	CODE 39	VALEU HEXA.	ASCII	CODE 39	VALEUR HEXA.
NUL	%U	00	%	/E	25
SOH	\$A	01	&	/F	26
STX	\$B	02	'	/G	27
ETX	\$C	03	(	/H	28
EOT	\$D	04	)	/I	29
ENQ	\$E	05	*	/J	2A
ACK	\$F	06	+	/K	2B
BEL	\$G	07	,	/L	2C
BS	\$H	08	-	-	2D
HT	\$I	09	.	.	2E
LF	\$J	0A	/	/	2F
VT	\$K	0B	0	0	30
FF	\$L	0C	1	1	31
CR	\$M	0D	2	2	32
SO	\$N	0E	3	3	33
SI	\$O	0F	4	4	34
DLE	\$P	10	5	5	35
DC1	\$Q	11	6	6	36
DC2	\$R	12	7	7	37
DC3	\$S	13	8	8	38
DC4	\$T	14	9	9	39
NAK	\$U	15	:	/Z	3A
SYN	\$V	16	;	%F	3B
ETB	\$W	17	<	%G	3C
CAN	\$X	18	=	%H	3D
EM	\$Y	19	>	%I	3E
SUB	\$Z	1A	?	%J	3F
ESC	%A	1B	@	%V	40
FS	%B	1C	A	A	41
GS	%C	1D	B	B	42
RS	%D	1E	C	C	43
US	%E	1F	D	D	44
SP	SP	20	E	E	45

## APPENDIX A

### CODE 39 FULL ASCII CODE TABLE

ASCII	CODE 39	VALEUR HEXA.	ASCII	CODE 39	VALEUR HEXA.
!	/A	21	F	F	46
"	/B	22	G	G	47
#	/C	23	H	H	48
\$	/D	24	I	I	49
J	J	4A	e	+E	65
K	K	4B	f	+F	66
L	L	4C	g	+G	67
M	M	4D	h	+H	68
N	N	4E	i	+I	69
O	O	4F	j	+J	6A
P	P	50	k	+K	6B
Q	Q	51	l	+L	6C
R	R	52	m	+M	6D
S	S	53	n	+N	6E
T	T	54	o	+O	6F
U	U	55	p	+P	70
V	V	56	q	+Q	71
W	W	57	r	+R	72
X	X	58	s	+S	73
Y	Y	59	t	+T	74
Z	Z	5A	u	+U	75
[	%K	5B	v	+V	76
\	%L	5C	w	+W	77
]	%M	5D	x	+X	78
^	%N	5E	y	+Y	79
_	%O	5F	z	+Z	7A
`	%W	60	{	%P	7B
a	+A	61		%Q	7C
b	+B	62	}	%R	7D
c	+C	63	~	%S	7E
d	+D	64	DEL	%T	7F

## APPENDIX A

### FUNCTION KEY EMULATION

FUNCTION KEY	ASCII	CODE 39	FUNCTION KEY	ASCII	CODE 39
Ins	\$A	01	F1	\$Q	11
Del	\$B	02	F2	\$R	12
Home	\$C	03	F3	\$S	13
End	\$D	04	F4	\$T	14
Up	\$E	05	F5	\$U	15
Down	\$F	06	F6	\$V	16
Left	\$G	07	F7	\$W	17
Backspace	\$H	08	F8	\$X	18
TAB	\$I	09	F9	\$Y	19
Enter(num)	\$J	0A	F10	\$Z	1A
Right	\$K	0B	F11	%A	1B
PgUp	\$L	0C	F12	%B	1C
Enter	\$M	0D	ESC	%C	1D
PgDn	\$N	0E	Ctl(L)	%D	1E
shift	\$O	0F	Alt(L)	%E	1F
5 (num)	\$P	10			



## APPENDIX B

### CODE 39 FULL ASCII BARCODE TABLE



Start of Configuration

---



NUL



ENQ  
(Up)



SOH  
(Ins)



ACK  
(Down)



STX  
(Del)



BEL  
(Left)



ETX  
(Home)



BS  
(Backspace)



EOT  
(End)



HT  
(TAB)



End of Configuration

## APPENDIX B

### CODE 39 FULL ASCII BARCODE TABLE



Start of Configuration

---



LF  
(Enter)(num)



DLE  
5 (num)



VT  
(Right)



DC1  
(F1)



FF  
(PgUp)



DC2  
(F2)



CR  
(Enter)



DC3  
(F3)



SO  
(PgDn)



DC4  
(F4)

---



End of Configuration

## APPENDIX B

### CODE 39 FULL ASCII BARCODE TABLE



Start of Configuration

---



SI  
shift(L)



NAK  
(F5)



SYN  
(F6)



GS  
(ESC)



ETB  
(F7)



RS  
Ctl (L)



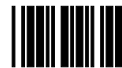
CAN  
(F8)



US  
Alt (L)



EM  
(F9)



SP



SUB  
(F10)



!

---



End of Configuration

# APPENDIX B

## CODE 39 FULL ASCII BARCODE TABLE



Start of Configuration



ESC  
(F11)



"



FS  
(F12)



#



\$



+



%



,



&



-



'



.



(



















/



End of Configuration

# APPENDIX B

## CODE 39 FULL ASCII BARCODE TABLE

	
Start of Configuration	
<hr/>	
	)
	*
	2
	3
	4
	5
	6
	
	0
	
	1
	
	:
	
	;
	
	<
	
	=
	
	>
<hr/>	
	
	End of Configuration

# APPENDIX B

## CODE 39 FULL ASCII BARCODE TABLE



Start of Configuration

---



7



8



9



B



C



D



E



?



@



A



I



J



K



















L



End of Configuration



# APPENDIX B

## CODE 39 FULL ASCII BARCODE TABLE

 Start of Configuration	
 F	 M
 G	 N
 H	 O
 P	 W
 Q	 X
 R	 Y
 S	 Z
	 End of Configuration

# APPENDIX B


## CODE 39 FULL ASCII BARCODE TABLE

Start of Configuration	
	
T	[
	
U	\
	
V	]
	
^	e
	
_	f
	
`	g
	
a	h
End of Configuration	



# APPENDIX B

## CODE 39 FULL ASCII BARCODE TABLE

	
Start of Configuration	
<hr/>	
	
b	i
	
c	j
	
d	k
	
l	s
	
m	t
	
n	u
	
o	v
<hr/>	
	
End of Configuration	

# APPENDIX B

## CODE 39 FULL ASCII BARCODE TABLE



Start of Configuration



p



w



q



x



r



y



z



}



{



~



|



DEL



End of Configuration

# APPENDIX C

## BARCODE SAMPLES

Code 39



Code 128



Interleaved 2 of 5



Coda bar(NW-7)



UPC A



EAN-13



## APPENDIX D

### QUICK SETTINGS

#### 1. Quick Settings for Keyboard Wedge Mode



#### 2. Quick Settings for RS 232 Mode



#### 3. Quick Settings for German Language Keyboard

