



## Serial Communication Specification for ZB-62M

The ZB-62M high performance barcode scanner can be programmed via scanning the set-up barcodes from the manual or via the Serial port. This document describes the communication protocol to allow the user to control the ZB-62M via an asynchronous Serial port commands

Host system sends commands one at a time to scanner. The programming sequence format is presented as follows:

This application is for Serial interface ONLY. (RS232 OR USB-Serial)

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## 1. Command Format:

<SOH><CR><LF>Command string<CR><LF>[Command strings <CR><LF>]  
...[...]....] <EOT>

### 1.1. Format description:

Each command includes three parts:

1. Start of configuration
2. Data string
3. End of configuration

The host system sends command one at a time to the scanner. During the configuration process, there is no acknowledgement or other response from scanner

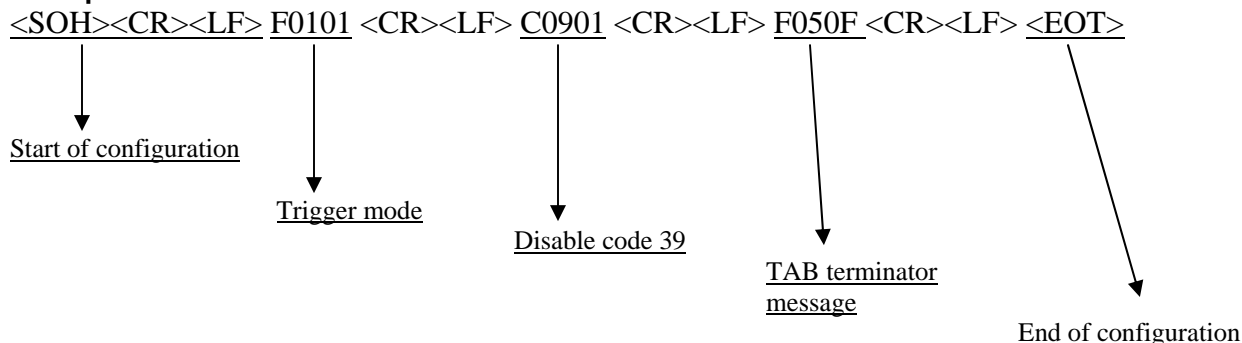
<SOH><CR><LF> : (3 bytes code)1H, DH, AH ←Start of Configuration

Command string <CR><LF>: The string character in the following tables and <CR><LF> is trailer

<EOT> : (1 bytes character) ←End of configuration



**Example:**



<SOH>:	ASC II 01H
<CR>	:ASC II 0DH
<LF>	:ASC II 0AH
<EOT>	ASC II 04H

Note: Except of RESET and SHOW VERSION, all of program commands are in the above format.

## 2. Commands

### 2.1. RESET DEFAULT Value

<SOH><CR><LF> R <EOT>

### 2.2. SHOW VERSION

<SOH><CR><LF> W <EOT>

Note: Because device buffer can contain a maximum of 64 bytes, so if you use multiple command string, exceeding this limit, then you need to separate by 2 times or more times and set.

NOTE : All of mark "\*" mean default value.

## Command string list:

### 2.3. Scanning mode selection

Command	String Description
F0101	Trigger mode
F0102	<b>Auto Scan mode *</b>
F0103	Testing mode
F0104	Alternate mode
F0105	Repeat mode



Example :

a. Setting Trigger mode

<SOH><CR><LF>	F0101 <CR><LF>	<EOT>
Start of configuration	Setting Trigger mode	End of configuration

## 2.4. Terminator selection

Command	String Description
F020B	None
F020C	<b>CR/LF *</b>
F020D	CR
F020E	LF
F020F	TAB
F0210	STX/ETX
F0211	EOT

Example :

a. Setting TAB Terminator

<SOH><CR><LF>	F020F <CR><LF>	<EOT>
Start of configuration	Setting TAB Terminator	End of configuration

## 2.5. Code39 parameters setting

Command	String Description
S0901	<b>Read Code39 Enable *</b>
C0901	Disable Code39
S0902	Send start lstop character
C0902	<b>No send *</b>
S0904	Check digit verification Enable
C0904	<b>Check digit verification Disable *</b>
S0908	Send check digit
C0908	No send check digit *
S0910	<b>Disable Full ASCII Code 39 *</b>
C0910	Enable Full ASCII Code 39
S0980	Concatenation Enable
C0980	<b>Concatenation Disable *</b>
F0A01~F0A20	Max. Code length (01H~20H)
F0B01~F0B20	Min Code length (01H~20H)

Examples:



a. Setting Code39 Send start/stop character

<SOH><CR><LF>	S0902 <CR><LF>	<EOT>
Start of configuration	Code39 Send start/stop character	End of configuration

b. Setting Code39 Max length is 20 digit

<SOH><CR><LF>	F0A14 <CR><LF>	<EOT>
Start of configuration	Code39 Max length is 20 digit	End of configuration

c. Setting Code39 Min length is 16 digit

<SOH><CR><LF>	F0B10 <CR><LF>	<EOT>
Start of configuration	Code39 Min length is 16 digit	End of configuration

## 2.6. CODABAR PARAMETER SETTING

Command	String Description
S0C01	<b>Read CODABAR Enable *</b>
C0C01	Disable
S0C02	<b>Send Start/Stop character *</b>
C0C02	No Send
S0C04	Send Check digit
C0C04	<b>No Send *</b>
S0C08	Check digit Verification Enable
C0C08	Disable *
C1D0F, S1D08	ST/SP=abcd/tn*c
C1D0F, S1D07	ST/SP=DC1,DC2,DC3,DC4/DC1,DC2,DC3,DC4
C1D0F, S1D06	<b>ST/SP=ABCD/ABCD *</b>
F0D01~F0D20	Max. Code Length
F0E01~F0D20	Min. Code Length

Examples:

a. Setting Coda bar Send check digit

<SOH><CR><LF>	S0C04<CR><LF>	<EOT>
Start of configuration	Codabar send check digit	End of configuration

b. Setting Codabar ST/SP = abcd /tm\*c (2 procedure)



<SOH><CR><LF>	C1D0F <CR><LF> S1D08 <CR><LF>	<EOT>
Start of configuration	ST/SP = abcd /tm*c	End of configuration

c. Setting Codabar Max length is 22 digits

<SOH><CR><LF>	F0D16<CR><LF>	<EOT>
Start of configuration	Codabar max length = 22 digits	End of configuration

### 2.7. UPC/EAN parameters setting

Command	String Description
S0F01	<b>Read EAN-13 Enable *</b>
C0F01	Disable EAN-13
S0F02	<b>Read EAN-8 Enable *</b>
C0F02	Disable EAN-8
S0F04	Read EAN Add 2
C0F04	Disable EAN Add 2 *
S0F08	Read EAN Add 5
C0F08	<b>Disable EAN Add 5 *</b>
S0F20	<b>Send EAN-13 Check digit *</b>
C0F20	No Send EAN-13 check digit
S0F80	<b>Send EAN-8 Check digit *</b>
C0F80	No Send EAN-8 check digit
S1001	<b>Read UPC-A Enable *</b>
C1001	Disable UPC-A
S1002	<b>Read UPC-E Enable *</b>
C1002	Disable UPC-E
S1004	Read UPC Add 2
C1004	<b>Disable UPC Add 2 *</b>
S1008	Read UPC Add 5
C1008	Disable UPC Add 5 *
S1010	Send UPC-A Leading 0 *
C1010	No Send UPC-A leading 0
S1020	<b>UPC-A check digit *</b>
C1020	No Send UPC-A check digit
S1040	Send UPC-E Leading 0
C1040	<b>No Send UPC-E leading 0 *</b>
S1080	<b>Send UPC-E Check digit *</b>
C1080	No Send UPC-E check digit
S1101	UPC-E to UPC-A Enable
C1101	<b>Disable UPC-E to UPC-A *</b>
S1120	ISBN/ISSN Conversion
C1120	<b>No Conversion *</b>
S1140	IATA Code Enable



C1140	Disable *
S1180	Send UPC-A Leading Digit
C1180	<b>No Send *</b>

Example:

a. Setting No Send EAN-13 check digit:

<SOH><CR><LF>	C0F20 <CR><LF>	<EOT>
Start of configuration	Do not sent EAN-13 Check digit	End of configuration

## 2.8. Code128 parameters setting

Command	String Description
S1401	<b>Read CODE 128 Enable *</b>
C1401	Disable
S1410	FNC 2 Enable
C1410	Disable *
S1460	Send Check digit *
C1460	No Send
S1480	<b>Check digit Enable *</b>
C1480	No Send
F1501~F1520	Max. Code Length
F1601~F1620	Min. Code Length

## 2.9. Code93 parameters setting

Command	String Description
S1A01	<b>Read Code 93 Enable *</b>
C1A01	Disable
S1A02	Send Start/Stop Character
C1A02	<b>No Send *</b>
S1A04	Check digit/Verification Enable
C1A04	<b>Disable *</b>
S1A08	Send Check digit
C1A08	<b>No Send *</b>
S1A10	<b>Disable Full Code 93 *</b>
C1A10	Enable Full Code 93
F1B01~F1B20	Max. Code Length (01H~20H)
F1C01~F1C01	Min. Code Length (01H~20H)

## 2.10. Interleaved 2 of 5 parameters setting

Command	String Description
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S1201	<b>Read I 2 OF 5 Enable *</b>
C1201	Disable
S1240	Send Check digit
C1240	<b>No Send *</b>
S1280	Check digit Verification Enable
C1280	<b>Disable *</b>
1F01~1F20	Max. Code length(01H~20H)
2001~2020	Min. Code length (01H~20H)

### 3. RS-232C Communication parameters setting

#### 3.1. Handshaking protocol

Command	String Description
C04F0,S0410	<b>None Handshaking *</b>
C04F0,S0420	ACK/NAK Handshaking
C04F0,S0430	Xon/Xoff Handshaking
C04F0,S0440	RTS/CTS Handshaking

Example: Setting RTS/CTS Handshaking

<SOH><CR><LF>	C04F0 <CR><LF>	S0440<CR><LF>	< EOT>
Start of configuration	RTS/CTS on		End of configuration

a.

#### 3.2. Parity

Command	String Description
C040F,S0401	Even parity
C040F,S0402	Odd parity
C040F,S0403	<b>Mark parity *</b>
C040F,S0404	Space parity

#### 3.3. Baud Rate

Command	String Description
C05F0,S0510	19200
C05F0,S0520	<b>9600 *</b>
C05F0,S0530	4800
C05F0,S0540	2400
C05F0,S0550	1200
C05F0,S0560	600





### 3.4. Data Bits

Command	String Description
S0501	7 data Bits
C0501	8 data Bits *

### 3.5. Data Bits

Command	String Description
S0502	1 stop bit *
C0502	2 stop bit

### 3.6. ACK/NAK Response time

Command	String Description
C1E0F S1E01	300ms *
C1E0F S1E02	2 second
C1E0F S1E03	500ms
C1E0F S1E04	3 second
C1E0F S1E05	1 second
C1E0F S1E06	5 second

Example:

<SOH><CR><LF>	C05F0	<CR><LF>	S0530	<CR><LF>	S0501	<CR><LF>	<EOT>
Start of configuration	4800 band rate				7 data bit		End of configuration

### 3.7. Header/Trailer setting

Command	String Description
D23XY80	Header setting(max 10 digits)
D230180	Without Header character *
D2EXY80	Trailer setting(max 10 digits)
D2E0180	Without Trailer character *

Notes:



- 1) X=Y+1 (01~0B) length parameter
- 2) Y=0~10bytes (ASCII character 01H~7FH)

Example:

<SOH><CR><LF>	D23	06	41 42 43 44 45	80	<CR><LF><EOT>
Start of configuration	Set header	Length	A B C D E 5 bytes	End set header	End of configuration

### 3.8. Inter-Character Delay

Command	String Description
C080F S0801	<b>None *</b>
C080F S0802	10ms
C080F S0803	20ms
C080F S0804	50ms

### 3.9. Inter-Message Delay

Command	String Description
C08F0 S0810	<b>None*</b>
C08F0 S0820	100ms
C08F0 S0830	500ms
C08F0 S0840	1 second

### 3.10. BAR CODE IDENTIFIER CODE SETTING

Command	String Description
S0608	Code ID Enable
C0682	<b>Code ID Disable *</b>
D3AXY80	Code 39 ID ASCII Character (01H~7FH)
D3DXY80	I 25 ID ASCII Character (01H~7FH)
D40XY80	UPC Code ID ASCII Character (01H~7FH)
D43XY80	UPE-E Code ID ASCII Character (01H~7FH)
D46XY80	UPC-A Code ID ASCII Character (01H~7FH)
D49XY80	EAN-13 Code ID ASCII Character



	(01H~7FH)
D4CXY80	EAN-8 Code ID ASCII Character (01H~7FH)
D4FXY80	Codabar ID ASCII Character (01H~7FH)
D52XY80	Code 128 ID ASCII Character (01H~7FH)
D53XY80	Code 93 ID ASCII Character (01H~7FH)

Note:

- 1) X=Y+1 (01~04)
- 2) Y=0~3 bytes (ASCII character 01H~7FH)

Example: Setting code 39 Code ID to AB

- 1) Enable default ID code:  
Then
- 2) Setting Code 39 ID A,B character

<SOH><CR><LF>	S0680				<CR><LF><EOT>
Start of configuration	Enable code ID				End of configuration
<SOH><CR><LF>	D3A	03	41 42	80	<CR><LF><EOT>
Start of configuration	Set C39 ID	Length 2+1 bytes	A B →2 bytes	End set C30 ID	End of configuration

When you intend to set choose code ID please set the code ID Enable first, and then setting choose Barcode ID character.

### 3.11. GOOD READ BEPPER FOR SELECTION

Command	String Description
C1EF0 , S1E10	2KHz for a duration of 120msec
C1EF0 , S1E20	1K Hz for a duration of 120msec
C1EF0 , S1E30	2K Hz for a duration of 200msec
C1EF0 , S1E40	1K Hz for a duration of 200msec
C1EF0 , S1E50	disable