

Serial configuration

ZEBEX scanner can be configured not only through barcode programming manual, but also possible through commands sent via serial interface. The commands being used are according to asynchronous ASCII protocol. Host system sends commands one at a time to scanner. The programming sequence format is presented as follows:

i This application is for RS-232 interface ONLY. i -

1 Command Format:

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

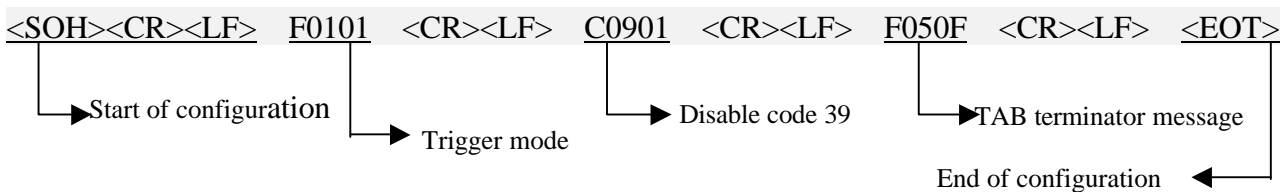
2 Format description:

- 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

- 2.1 **<SOH><CR><LF> : (3 bytes code) f 1H, f DH, f AH** <.....start of configuration
- 2.2 **Command string <CR><LF>** : The string character in the following tables and <CR><LF> is trailer Command string
- 2.3 **<EOT> : (1 bytes character)** <.....End of configuration

Example:



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

i i Except of RESET and SHOW VERSION, all of program command are in the above format i i -

1. RESET DEFAULT Value

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

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 sperate by 2 times or more times and set.

3 Command string list :

1. Scanning mode selection

Command string	Description
F0101	Trigger mode
F0102	Auto Scan mode *
F0103	Testing mode
F0104	Alternate mode
F0105	Repeat mode

Example :

a. Setting Trigger mode

<SOH><CR><LF> F0101 <CR><LF><EOT>

2. Terminator selection

Command string	Description
F020B	None
F020C	CR/LF *
F020D	CR
F020E	LF
F020F	TAB
F0210	STX/ETX
F0211	EOT

Example :

a. Setting TAB Terminator

<SOH><CR><LF> F020F <CR><LF><EOT>

NOTE : All of mark “*” mean default value.

3. Code39 parameters setting

Command string	Description
S0901	Read Code39 Enable *
C0901	Disable Code39
S0902	Send start 1stop character
C0902	No send *
S0904	Check digit verification Enable
C0904	Check digit verification Disable *
S0908	Send check digit
C0908	No send check digit *
S0910	Disable Full ASCII Code 39 *
C0910	Enable Full ASCII Code 39
S0980	Concatenation Enable
C0980	Concatenation Disable *
F0A01~F0A20	Max. Code length (01H~20H)
F0B01~F0B20	Min Code length (01H~20H)

Example :

a. Setting Code39 Send start/stop character

```
<SOH><CR><LF> S0902 <CR><LF><EOT>
```

b. Setting Code39 Max length is 20 digit

```
<SOH><CR><LF> F0A14 <CR><LF><EOT>
```

c. Setting Code39 Min length is 16 digit

```
<SOH><CR><LF> F0B10 <CR><LF><EOT>
```

4. CODABAR PARAMETRSSETTING

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

Example :

a. Setting Coda bar Send check digit

```
<SOH><CR><LF> S0C04 <CR><LF> <EOT>
```

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

```
<SOH><CR><LF> C1D0F <CR><LF> S1D08 <CR><LF> <<EOT>
```

c. Setting Codabar Max length is 22 digits

```
<SOH><CR><LF> F0D16 <CR><LF> <EOT>
```

5. UPC/EAN parameters setting

Command string	Description
S0F01	Read EAN-13 Enable *
C0F01	Disable EAN-13
S0F02	Read EAN-8 Enable *
C0F02	Disable EAN-8
S0F04	Read EAN Add 2
C0F04	Disable EAN Add 2 *
S0F08	Read EAN Add 5
C0F08	Disable EAN Add 5 *
S0F20	Send EAN-13 Check digit *
C0F20	No Send EAN-13 check digit
S0F80	Send EAN-8 Check digit *
C0F80	No Send EAN-8 check digit
S1001	Read UPC-A Enable *
C1001	Disable UPC-A
S1002	Read UPC-E Enable *
C1002	Disable UPC-E
S1004	Read UPC Add 2
C1004	Disable UPC Add 2 *
S1008	Read UPC Add 5
C1008	Disable UPC Add 5 *
S1010	Send UPC-A Leading 0 *
C1010	No Send UPC-A leading 0
S1020	UPC-A check digit *
C1020	No Send UPC-A check digit
S1040	Send UPC-E Leading 0
C1040	No Send UPC-E leading 0 *
S1080	Send UPC-E Check digit *
C1080	No Send UPC-E check digit
S1101	UPC-E to UPC-A Enable
C1101	Disable UPC-E to UPC-A *
S1120	ISBN/ISSN Conversion
C1120	No Conversion *
S1140	IATA Code Enable
C1140	Disable *
S1180	Send UPC-A Leading Digit
C1180	No Send *

Example :

a. Setting No Send EAN-13 check digit:

```
<SOH><CR><LF> C0F20 <CR><LF><EOT>
```

6. Code128 parameters setting

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

7. Code93 parameters setting

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

8. Interleaved 2 of 5 parameters setting

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

9. RS-232C Communication parameters setting

9-1 Handshaking protocol

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

Example:

a. Setting RTS/CTS Handshaking

① <SOH><CR><LF> C04F0 <CR><LF> S0440 <CR><LF><EOT>

9-2 Parity

Command String	Description
C040F,S0401	Even parity
C040F,S0402	Odd parity
C040F,S0403	Mark parity *
C040F,S0404	Space parity

9-3 Baud Rate

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

9-4 Data Bits

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

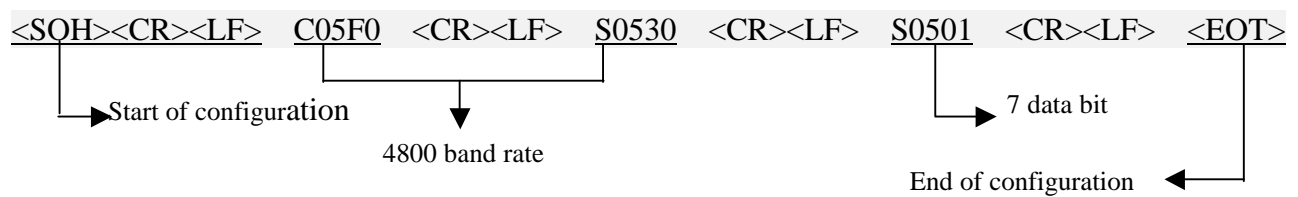
9-5 Data Bits

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

9-6 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:



10.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 *

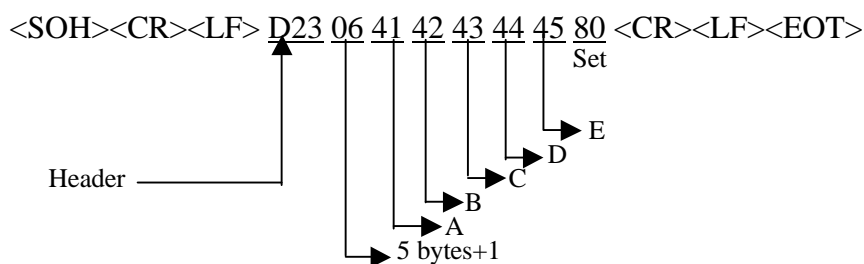
Note:

X=Y+1 (01~0B)

Y=0~10bytes(ASCII character 01H~7FH)

Example:

Setting A,B,C,D,E character as Header



11.Inter-Character Delay

Command String	Description
C080F S0801	None *
C080F S0802	10ms
C080F S0803	20ms
C080F S0804	50ms

12. Inter-Message Delay

Command String	Description
C08F0 S0810	None*
C08F0 S0820	100ms
C08F0 S0830	500ms
C08F0 S0840	1 second

13. BAR CODE IDENTIFIER CODE SETTING

Command String	Description
S0608	Code ID Enable
C0682	Code ID Disable *
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:

X=Y+1 (01~04)

Y=0~3 bytes (ASCII character 01H~7FH)

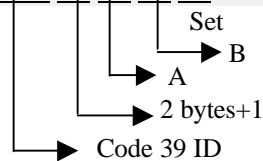
Example :

a. Enable default ID code:

<SOH><CR><LF> S0680 <CR><LF><EOT>

b. Setting Code 39 ID A,B character

<SOH><CR><LF> D3A 03 41 42 80 <CR><LF><EOT>



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

14. GOOD READ BEPPER FOR SELECTION

Command String	Description
C1EF0 , S1E10	2K/120msec *
C1EF0 , S1E20	1K/120msec
C1EF0 , S1E30	2K/200msec
C1EF0 , S1E40	1K/200msec
C1EF0 , S1E50	disable