



ZBA Inc.

ZLIM-211 Software protocol Specification V1.00

ZLIM-211 Software protocol

Specification v1.00

Date: Oct 17th, 2007
Strictely Confidential Document

ZBA, Inc.
94 Old Camplain Road Hillsborough, NJ 08844
Ph: 908-359-2070 Fax: 908-595-0909
Web: <http://www.zbausa.com/>



I. Summary

| | | |
|------|--|----|
| I. | Summary | 2 |
| II. | Introduction..... | 3 |
| | Hardware configuration | 3 |
| III. | Protocol of communication (UART) | 4 |
| | Normal mode | 4 |
| | Instant Command | 4 |
| | General Command | 5 |
| | Direct Write Command | 6 |
| | Direct Read Command..... | 6 |
| | Boot load mode | 6 |
| IV. | List of Instant Command | 7 |
| V. | List of General Command | 8 |
| VI. | Flash Memory of Configuration | 11 |

ZBA, Inc.

94 Old Camplain Road Hillsborough, NJ 08844

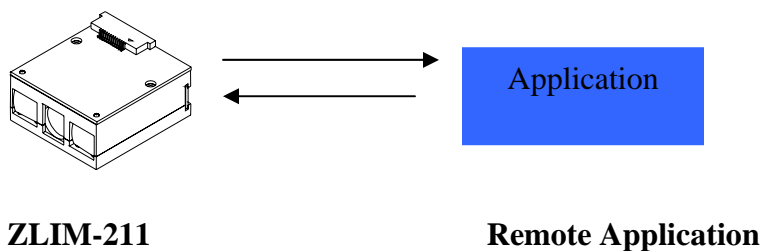
Ph: 908-359-2070 Fax: 908-595-0909

Web: <http://www.zbausa.com/>



II. Introduction

This document aims to describe the protocol of communication between ZLIM-211 and remote application:



Hardware configuration

This communication between the ZLIM-211 's MPU and the Remote Application is based its hardware link:

UART Setting

- . RS232 TTL (Rx & Tx)
- . Baud Rate: 9600 (changeable)
- . Data Bits: 8 (changeable)
- . Parity: None (changeable)
- . Hardware flow control : disable (changeable)
- . Stop bits : 1 (changeable)



III. Protocol of communication (UART)

Between the ZLIM-211 MPU and the remote application

1. Normal mode:

Format of packet

To send a data (command or configuration data...) to the ZLIM-211 , the remote application has to encapsulate it:

There are three types to Format of packet

Type I: General Commands

| Command ID (0xAA) | Command String |
|----------------------|----------------|
| 1 byte | 4 bytes |

Examples:

Sending <0xAA> <RC01> to ZLIM-211 will enable Code 39.

Sending <0xAA> <RD01> to ZLIM-211 will disable Code 39.

✚ When receive a General Command, ZLIM-211 will execute it and send an ACK(0x06) to remote application.

Type II: Software Trigger Command

Trigger command format

Level Trigger Scan Command 1 : <ESC> A0 <CR>

(Scan off when trigger off command by received)

Level Trigger Scan Command 2 : <ESC> A2 <CR>

(Scan off when data scanned)

Edge Trigger Scan Command 1 : <ESC> A0. mm <CR>

(Scan off when “mm” timeout)

mm=1 ~ 60 (Sec)



Edge Trigger Scan Command 2 : <ESC> A2. mm <CR>

(Scan off when data scanned or “mm” timeout)
mm=1 ~ 60 (Sec)

Trigger off Command : <ESC> A1 <CR>

NOTE :

1. The edge trigger command that do not control by the trigger off command.
2. Scanner will start the next scan if it receives an edge trigger command and the device remain “mm” time.

Examples:

Sending <ESC> “A0” <CR> (0x1b 0x41 0x30 0x0d) to ZLIM-211 will active the ZLIM-211 to scan .

Sending <ESC> “A1” <CR> (0x1b 0x41 0x31 0x0d) to ZLIM-211 will terminate the scan.

Type III: Direct Write Command

| Command ID (0xAA) | Write Command “YW” | Address | Size of data | Data |
|-------------------|--------------------|---------|--------------|--------|
| 1 byte | 2 bytes | 1 byte | 1 byte | varies |

| Parameter | Data size | Parameter description |
|------------------------------|-----------|--|
| Command ID (0xAA) | 1 byte | Inform ZLIM-211 this is a start of command |
| Write Command 0x59,0x57 (YW) | 2 bytes | Inform ZLIM-211 remote application will write some data directly to flash memory of configuration. |
| Address | 1 byte | The specify address of flash memory to write. |
| Size of Data | 1 byte | Size of Data |
| Data | varies | The data you want to write to the flash memory |

Example:

Flash memory Address 0 stands for EAN configuration.



| | |
|-------------|--|
| (Address 0) | Bit 0 = 1 ---> Read EAN-13 Enable = 0 ---> Disable Bit 1 = 1 ---> Read EAN-8 Enable = 0 ---> Disable Bit 2 = 1 ---> Read EAN Add 2 = 0 ---> Disable Bit 3 = 1 ---> Read EAN Add 5 = 0 ---> Disable Bit 5 = 1 ---> Send EAN-13 Check digit = 0 ---> No Send Bit 7 = 1 ---> Send EAN-8 Check digit = 0 ---> No Send |
|-------------|--|

If you want to enable EAN-13 (with Add 2, Add5 and sending Check digit) and disable EAN-8) you can:

Sending command string: <0xaa> <0x59> <0x57> <0x0>< 0x01>< 0x2d>

- When receive a Direct Write Command, ZLIM-211 will execute it and send an ACK(06H) to remote application.

Type IV: Direct Read Command

| | | | |
|----------------------|----------------------|---------|--------------|
| Command ID (0xAA) | Read Command "YR" | Address | Size of data |
| 1 byte | 2 bytes | 1 byte | 1 byte |

| Parameter | Data size | Parameter description |
|------------------------------------|-----------|--|
| Command ID (0xAA) | 1 byte | inform ZLIM-211 this is a start of command |
| Write Command 0x59,0x52 (YR) | 2 bytes | inform ZLIM-211 remote application want to get some data directly from flash memory of configuration.. |
| Address | 1 byte | The specify address of flash memory to read. |
| Size of Data | 1 byte | Size of Data |



If you want to know the configuration of EAN you can:
Send 0xaa delay "YR" 0x0 0x1 to ZLIM-211 .

- When receive a Direct Read Command, ZLIM-211 will send the specify data and an ACK(0x06) to remote application.

IV. List of General Command

System commands

| | |
|------|-----------------------------------|
| ---- | Reset (return to factory default) |
| %%/ | Display firmware version |

Beeper Tone setting

| | |
|------|------------------------------------|
| GR01 | Medium beeper tone .2.5KHZ |
| GR02 | Low beeper tone.1.0KHZ |
| GR03 | High beeper tone (Default) ,2.7KHZ |
| GR05 | Disable beeper |

Sound duration setting

| | |
|------|---|
| GR10 | Long sound duration (100msec) |
| GR11 | Medium sound duration(50msec) (Default) |
| GR12 | Short sound duration(20msec) |
| GR13 | Very short sound duration(5 msec) |
| GR14 | Long sound duration (200msec) |
| GR15 | Very long sound duration (500 msec) |

Led/Beep

| | |
|------|---|
| LB00 | Led/Beep after transmission.Use this bar code to indicate a "Good read" after a bar code has been successfully decoded. |
| LB01 | Led/Beep before transmission, Use this bar code to indicate a good read" after successfully.(Default) |
| LB03 | Power-up tone enable |
| LB04 | Power -up tone disable (Default) |

Scan function Setting



ZLIM-211 Software protocol Specification V1.00

| | |
|------|---|
| SM01 | Trigger mode, The scanner becomes inactive as soon as the data is transmitted. It must be triggered to become active again.(Default) |
| SM02 | Autoscan 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.. |
| SM04 | Alternate mode. This scanner will light up when press the scanner trigger switch once. And, the scanner will turn off for next pressing |

Sleep mode function

| | |
|------|-------------------------------------|
| LS00 | Laser Sleep mode off |
| LS01 | Laser Sleep time 5 second (Default) |
| LS02 | Laser Sleep time 10 second |
| LS03 | Laser Sleep time 15 second |
| LS04 | Laser Sleep time 20 second |
| LS05 | Laser Sleep time 30 second |
| LS06 | Laser Sleep time 60 second |

Power down mode function

| | |
|------|-------------------------------------|
| MT00 | Power save mode off (Default) |
| MT01 | Power save after 5 min |
| MT02 | Power save after 10 min |
| MT03 | Power save after 20 min |
| MT04 | Power save after 30 min |
| MT05 | Power save after 60 min |
| MT12 | Power save after every trigger scan |

RS-232C Interface setting

| | |
|------|---------------------------------|
| BR00 | Baud Rate 38400 |
| BR01 | Baud Rate 19200 |
| BR02 | Baud Rate 9600 (Default) |
| BR03 | Baud Rate 4800 |
| BR04 | Baud Rate 2400 |
| BR05 | Baud Rate 1200 |
| BR08 | Baud Rate 57600 |
| BR09 | Baud Rate 115200 |
| HP01 | None handshaking (Default) |
| HP02 | ACK/NAK |
| HP03 | Xon/Xoff |
| HP04 | RTS/CTS |
| PB01 | Even parity |
| PB02 | Odd parity |
| PB03 | Mark parity |
| PB04 | Space parity |
| PB05 | None parity (Default) |
| LB07 | Enable BEEPER ON<BEL> CHARACTER |



ZLIM-211 Software protocol Specification V1.00

| | |
|------|---|
| LB08 | Ignore BEEP ON <BEL> CHARACTER (Default) |
| RT01 | ACK/NAK response time 300ms (Default) |
| RT02 | ACK/NAK response time 2s |
| RT03 | ACK/NAK response time 500ms |
| RT04 | ACK/NAK response time 3s |
| RT05 | ACK/NAK response time 1s |
| RT06 | ACK/NAK response time 5s |
| RT07 | ACK/NAK response time infinity |
| SB01 | 1 stop bit (Default) |
| SB02 | 2 stop bit |
| DB07 | 7 data bit |
| DB08 | 8 data bit (Default) |
| DT11 | RS-232 message terminator—none |
| DT12 | RS-232 message terminator—CR/LF (Default) |
| DT13 | RS-232 message terminator—CR |
| DT14 | RS-232 message terminator—LF |
| DT15 | RS-232 message terminator—H tab |
| DT16 | RS-232 message terminator—STX/ETX |
| DT17 | RS-232 message terminator—EOT |

The Symbolologies

UPC/EAN/JAN

| | |
|------|--|
| RC11 | EAN convert to ISSN/ISBN enable |
| RD11 | EAN convert to ISSN/ISBN disable (Default) |
| RC03 | UPC/EAN/JAN enable (Default) |
| RD03 | UPC/EAN/JAN disable |
| RC03 | UPC/EAN/JAN enable (Default) |
| UE01 | UPC/EAN/JAN ALL ENABLE (Default) |
| UE02 | EAN-8 OR EAN-13 ENABLE |
| UE03 | UPC-A AND EAN-13 ENABLE |
| UE04 | UPC-A AND UPC-E ENABLE |
| UE05 | UPC-A ENABEL |
| UE06 | UPC-E ENABLE |
| UE07 | EAN-13 ENABLE |
| UE08 | EAN-8 ENABEL |
| UE09 | UPC/EAN ADDon off (Default) |
| UE10 | Addon 5 only |
| UE11 | Addon 2 only |
| UE12 | Addon 2 or 5 |
| UE13 | Force UPC-E to UPC-A format enable |
| UE14 | Force UPC-E to UPC-A format disable (Default) |
| UE15 | Force UPC-A to EAN-13 format enable |
| UE16 | Force UPC-A to EAN-13 format disable (Default) |



ZLIM-211 Software protocol Specification V1.00

| | |
|------|---|
| UE17 | Transmit UPC-A check digit enable (Default) |
| UE18 | Transmit UPC-A check digit disable |
| UE19 | Transmit UPC-E leading character enable (Default) |
| UE20 | Transmit UPC-E leading character disable |
| UE21 | Transmit UPC-E check digit enable (Default) |
| UE22 | Transmit UPC-E check digit disable |
| UE23 | Transmit EAN-8 check digit enable (Default) |
| UE24 | Transmit EAN-8 check digit disable |
| UE25 | Transmit EAN-13 check digit enable (Default) |
| UE26 | Transmit EAN-13 check digit disable |
| UE27 | Transmit UPC-A leading character enable (Default) |
| UE28 | Transmit UPC-A leading character disable |
| UE30 | Addon format with separator |
| UE31 | Addon format without separator (Default) |
| UE32 | EAN/UPC +addon (none mandatory) (Default) |
| UE45 | force EAN-8 to EAN-13 format disable (Default) |
| UE60 | EAN-13 first "0" can transmitted |
| UE61 | EAN-13 first:"0" can't transmitted (Default) |

Code39

| | |
|------|--|
| RC01 | Code 39 enable (Default) |
| RD01 | Code 39 disable |
| RC13 | Code 32 enable |
| RD13 | Code 32 disable |
| DC00 | Code 39 data redundant check=off (Default) |
| DC01 | Code 39 data redundant check=1 |
| DC02 | Code 39 data redundant check=2 |
| 3901 | Standard code 39 (Default) |
| 3902 | FULL ASCII code 39 |
| 3903 | Code 39 start/stop character transmission |
| 3904 | Code 39 start/stop character without transmission (Default) |
| 3905 | Code 39 check digit calculate and transmit |
| 3906 | Code 39 check digit calculate but without transmit |
| 3907 | No check character (Default) |
| 3916 | Code 39 no calculate and no send check character. |
| 3912 | Code 32 (Italian pharmacy)transmit "A" character |
| 3913 | Code 32 (Italian pharmacy)without transmit "A" character (Default) |

ITF 2 of 5

| | |
|------|--|
| RC04 | ITF 2 of 5 enable (Default) |
| RD04 | ITF 2 of 5 disable |
| RC09 | IATA code enable |
| RD09 | IATA code disable (Default) |
| DC80 | ITF 25 data redundant check=off |
| DC81 | ITF25 data redundant check=1 (Default) |
| DC82 | ITF25 data redundant check=2 |



ZLIM-211 Software protocol Specification V1.00

| | |
|------|---|
| IT03 | ITF 2 of 5 no check character (Default) |
| IT04 | ITF 2 of 5 check digit calculate and transmit |
| IT05 | ITF 2 of 5 check digit calculate but without transmit |

CODABAR

| | |
|------|---|
| RC02 | Codabar enable (Default) |
| RD02 | CODABAR disable |
| CB05 | Codabar start/stop character transmission-----none |
| CB06 | Codabar start/stop character transmission-----A,B,C,D (Default) |
| CB07 | Codabar start/stop character transmission-----DC1~DC4 |
| CB08 | Codabar start/stop character transmission-----a/t,b/n,c/*,d/e |
| CB09 | Codabar maximum length setting |
| CB10 | Codabar minimum length setting |
| CB11 | Codabar concatenation disable (Default) |
| CB12 | Codabar concatenation enable |
| CB13 | No check character (Default) |
| CB14 | Validate modulo 16,but don't transmit |
| CB15 | Validate modulo 16,but transmit |
| DC50 | Codabar data redundant check=off |
| DC51 | Codabar data redundant check=1 (Default) |
| DC52 | Codabar data redundant check=2 |

Code 128

| | |
|------|---|
| RC06 | Code 128 enable (Default) |
| RD06 | Code 128 disable |
| RC10 | EAN-128 enable |
| RD10 | EAN-128 disable (Default) |
| DC40 | Code 128 data redundant check=off (Default) |
| DC41 | Code 128 data redundant check=1 |
| DC42 | Code 128 data redundant check=2 |

Code 93

| | |
|------|--|
| RC08 | Code 93 enable (Default) |
| RD08 | Code 93 disable |
| DC30 | Code 93 data redundant check=off (Default) |
| DC31 | Code 93 data redundant check=1 |
| DC32 | Code 93 data redundant check=2 |
| 9303 | Code 93 check digit calculate but without transmit (Default) |
| 9304 | Code 93 check digit not calculate and without transmit |
| 9305 | Code 93 check digit calculate and transmit |

Chinese post code

| | |
|------|---|
| RC05 | Chinese post code enable |
| RD05 | Chinese post code disable (Default) |
| DC60 | Chinese post codedata redundant check=off |



ZLIM-211 Software protocol Specification V1.00

| | |
|------|--|
| DC61 | Chinese post code data redundant check=1 (Default) |
| DC62 | Chinese post codedata redundant check=2 |

MSI/PLESSY

| | |
|------|---|
| RC14 | MSI enable |
| RD14 | MSI disable (Default) |
| DC70 | MSI data redundant check= off |
| DC71 | MSI data redundant check=1 (Default) |
| DC7 | MSI data redundant check=2 |
| MS03 | MSI/Plessy double check digit calculate but not transmit (Default) |
| MS04 | MSI/Plessy double check digit without calculate and transmit |
| MS05 | MSI/Plessy double check digit calculate but only first digit transmit |
| MS06 | MSI/Plessy double check digit calculate and both transmit |
| MS07 | MSI/Plessy single check digit calculate but without transmit |
| MS08 | MSI/Plessy single check digit calculate and transmit |

CODE 11

| | |
|------|---|
| RC07 | CODE 11 enable |
| RD07 | CODE 11 disable (Default) |
| 1103 | CODE 11 one check digit verification (Default) |
| 1104 | Code 11 two check digit verification |
| 1105 | Two Check for code 11 check digit if code length is greater than 10 character |
| 1106 | Disable verification |
| 1107 | Code 11 check digit transmitted |
| 1108 | Code 11 check digit not transmitted |

Industrial 2 of 5

| | |
|------|---|
| RC21 | Industrial 2 of 5 code enable |
| RD21 | Industrial 2 of 5 code disable (Default) |
| D253 | Industrial 2 of 5 code no check character (Default) |
| D254 | Industrial 2 of 5 code check digit calculate and transmit |
| D255 | Industrial 2 of 5 code check digit calculate but without transmit |

Standard 2 of 5

| | |
|------|--|
| RC22 | STD 2 of 5 code enable |
| RD22 | STD 2 of 5 code disable (Default) |
| D053 | STD 2 of 5 code no check character (Default) |
| D054 | STD 2 of 5 code check digit calculate and transmit |
| D055 | STD 2 of 5 code check digit calculate but without transmit |



ZBA Inc.

ZLIM-211 Software protocol Specification V1.00

Data Editing

| | |
|------|--|
| IC00 | Inter character delay 5ms |
| IC01 | Inter character delay 0ms (Default) |
| IC02 | Inter character delay 10ms |
| IC03 | Inter character delay 20ms |
| IC04 | Inter character delay 50ms |
| IC05 | Inter character delay 2ms |
| IC06 | Inter character delay 100 msec |
| IC07 | Inter character delay 90 msec |
| IM01 | Inter message delay 0 ms (Default) |
| IM02 | Inter message delay 100 ms |
| IM03 | Inter message delay 500 ms |
| IM04 | Inter message delay 1000 ms |
| IS00 | Disable identifier code (Default) |
| IS01 | Enable identifier code table as ZEBEX standard |



V. Flash Memory of Configuration

The total of flash memory of configuration is 250 in ZLIM-211 , since not all of them is meaningful for users, we will only explain what the users may be interested.

| Address (name) | Length | Description | Default |
|----------------|--------|--|---------|
| 00H (EAN_FLAG) | 1 | Bit 0 = 1 ---> Read EAN-13 Enable = 0 ---> Disable Bit 1 = 1 ---> Read EAN-8 Enable = 0 ---> Disable Bit 2 = 1 ---> Read EAN Add 2 = 0 ---> Disable Bit 3 = 1 ---> Read EAN Add 5 = 0 ---> Disable Bit 5 = 1 ---> Send EAN-13 Check digit = 0 ---> No Send Bit 7 = 1 ---> Send EAN-8 Check digit = 0 ---> No Send | AFH |
| 01H(UPC_FLAG) | 1 | Bit 0 = 1 ---> Read UPC-A Enable = 0 ---> Disable Bit 1 = 1 ---> Read UPC-E Enable = 0 ---> Disable Bit 2 = 1 ---> Read UPC Add 2 = 0 ---> Disable Bit 3 = 1 ---> Read UPC Add 5 = 0 ---> Disable Bit 4 = 1 ---> Send UPC-A Leading 0 = 0 ---> No Send Bit 5 = 1 ---> Send UPC-A Check digit = 0 ---> No Send Bit 6 = 1 ---> Send UPC-E Leading 0 = 0 ---> No Send Bit 7 = 1 ---> Send UPC-E Check digit | FFH |



ZLIM-211 Software protocol Specification V1.00

| | | | |
|----------------|---|--|-----|
| | | = 0 ---> No Send | |
| 02H | 1 | Bit 0 = 1 ---> UPC-E to UPC-A Enable = 0 ---> Disable Bit 1 = 1 ---> UPCA to EAN13 Format = 0 ---> No Bit 2 = 1 ---> ISBN/ISSN Conversion = 0 ---> No | 00H |
| 03H (C39_FLAG) | 1 | Bit 0 = 1 ---> Read Code 39 Enable = 0 ---> Disable Bit 1 = 1 ---> Send Start/Stop character = 0 ---> No Send Bit 2 = 1 ---> Check digit Verification Enable = 0 ---> Disable Bit 3 = 1 ---> Send Check digit = 0 ---> No Send Bit 4 = 1 ---> Disable Full Code 39 = 0 ---> Enable Full Code 39 Bit 5 = 1 ---> ITPR Conversion (Code 32) = 0 ---> No Bit 6 = 1 ---> ITPR Transmit "A" Character = 0 ---> No Bit 7 = 1 ---> Concatenation Enable = 0 ---> Disable | 01H |
| 04H (C39_MIN) | 1 | Code 39 → Min. Code Length | 03H |
| 05H (C39_MAX) | 1 | Code 39 → Max. Code Length | 20H |
| 06H (CDB_FLAG) | 1 | Bit 0 = 1 ---> Read Codabar Enable = 0 ---> Disable Bit 1 = 1 ---> Send Start/Stop character = 0 ---> No Send Bit 2 = 1 ---> Check digit Verification Enable = 0 ---> Disable Bit 3 = 1 ---> Send Check digit = 0 ---> No Send | 63H |
| 07H (CDB_MIN) | 1 | Codabar → Min. Code Length | 03H |
| 08H (CDB_MAX) | 1 | Codabar 39 → Max. Code Length | 20H |
| 09H (I25_FLAG) | 1 | Bit 0 = 1 ---> Read I 2 OF 5 Enable = 0 ---> Disable | 01H |

ZBA, Inc.

94 Old Camplain Road Hillsborough, NJ 08844

Ph: 908-359-2070 Fax: 908-595-0909

Web: <http://www.zbausa.com/>



ZLIM-211 Software protocol Specification V1.00

| | | | |
|-----------------------|---|--|-----|
| | | Bit 6 = 1 ---> Send Check digit = 0 ---> No Send Bit 7 = 1 ---> Check digit Verification Enable = 0 ---> Disable | |
| 0AH (I25_MIN) | 1 | Interleave 2 of 5 → Min. Code Length | 06H |
| 0BH (I25_MAX) | 1 | Interleave 2 of 5 → Max. Code Length | 20H |
| 0CH (C128_FLAG) | 1 | Bit 0 = 1 ---> Read CODE 128 Enable = 0 ---> Disable Bit 4 = 1 ---> FNC 2 Enable = 0 ---> disable Bit 6 = 1 ---> Send Check digit = 0 ---> No Send Bit 7 = 1 ---> Check digit Enable = 0 ---> Disable | 81H |
| 0DH (C128_MIN) | 1 | CODE 128 → Min. Code Length | 03H |
| 0EH (C128_MAX) | 1 | CODE 128 → Max. Code Length | 3EH |
| 0FH (C93_FLAG) | 1 | Bit 0 = 1 ---> Read CODE 93 Enable = 0 ---> Disable Bit 2 = 1 ---> Check digit Enable = 0 ---> Disable | 05H |
| 10H (C93_MIN) | 1 | CODE 93 → Min. Code Length | 03H |
| 11H (C93_MAX) | 1 | CODE 93 → Max. Code Length | 32H |
| 12H(CP25_FLAG) | 1 | Bit 0 = 1 ---> Read Chinese Post Code Enable = 0 ---> Disable | 0H |
| 13H (CP25_MIN) | 1 | CP25→ Min. Code Length | 10H |
| 14H (CP25_MAX) | 1 | CP25 → Max. Code Length | 16H |
| 15H(MSI_FLAG) | 1 | Bit 0 = 1 ---> Read MSI Enable = 0 ---> Disable Bit 7 = 1 ---> Check digit Enable = 0 ---> Disable | 82H |
| 16H (MSI_MIN) | 1 | MSI → Min. Code Length | 06H |
| 17H (MSI_MAX) | 1 | MSI → Max. Code Length | 32H |
| 18H-1EH | 7 | Reserved | XX |
| 1FH(Code Identifiers) | 1 | Identifier Enable(0-1) 0: Disable Identifier function 1: Enable identifier function | 00H |
| 20H(C39 ID length) | 1 | Length of Code39 ID (must be <3) | 01H |
| 21H-22H(C39 ID) | 2 | Code 39 ID String | “M” |
| 23H(I25 ID length) | 1 | Length of I25 ID (must be <3) | 01H |



ZBA Inc.

ZLIM-211 Software protocol Specification V1.00

| | | | |
|-----------------------|-----|--------------------------------------|------|
| 24H-25H(I25 ID) | 2 | ITF 25 ID String | “I” |
| 26H(CP25 ID length) | 1 | Length of CP25 ID (must be <3) | 01H |
| 27H-28H(CP25 ID) | 2 | Chinese Post Code ID String | “H” |
| 29H(UPC-E ID length) | 1 | Length of UPC-E ID (must be <3) | 01H |
| 2AH-2BH(UPC-E ID) | 2 | UPC-E ID String | “E” |
| 2CH(UPC-A ID length) | 1 | Length of UPC-A ID (must be <3) | 01H |
| 2DH-2EH(UPC-A ID) | 2 | UPC-A ID String | “A” |
| 2FH(EAN ID length) | 1 | Length of EAN-13 ID (must be <3) | 01H |
| 30H-31H(EAN ID) | 2 | EAN-13 ID String | “F” |
| 32H(EAN-8 ID length) | 1 | Length of EAN-8 ID (must be <3) | 02H |
| 33H-34H(EAN-8 ID) | 2 | EAN-8 ID String | “FF” |
| 35H(CDB ID length) | 1 | Length of Codabar ID (must be <3) | 01H |
| 36H-37H(CDB ID) | 2 | Codabar ID String | “N” |
| 38H(C128 ID length) | 1 | Length of Code 128 ID (must be <3) | 01H |
| 39H-3AH(C128 ID) | 2 | Code 128 ID String | “K” |
| 3BH(C93 ID length) | 1 | Length of Code 93 ID (must be <3) | 01H |
| 3CH-3DH(C93 ID) | 2 | Code 93 ID String | “L” |
| 3EH(MSI ID length) | 1 | Length of MSI ID (must be <3) | 01H |
| 3FH-40H(MSI ID) | 2 | MSI ID String | “P” |
| 41H-50H | 16 | Reserved | |
| 51H | 1 | Length of Postamble | 00H |
| 52H-5BH | 10 | Data of Postamble | |
| 5CH | 1 | Reserved | |
| 5DH | 1 | Length of Preamble | 00H |
| 5EH-67H | 10 | Data of Preamble | |
| 68H | 1 | Reserved | |
| 69H | 1 | Length of Truncate header character | 00H |
| 6AH | 1 | Length of Truncate trailer character | 00H |
| 6BH-76H | 12 | Reserved | |
| 77H(Power Down) | 1 | Power down timer Setting (minute) | 0 |
| 78H(Sleep Timer) | 1 | Sleep Timter Setting (second) | 5 |
| 79H(Version Number) | 1 | Version Number lower | |
| 7AH(Version Number) | 1 | Version Number higher | |
| 7BH-F9H | 127 | Reserved | |

ZBA, Inc.

94 Old Camplain Road Hillsborough, NJ 08844

Ph: 908-359-2070 Fax: 908-595-0909

Web: <http://www.zbausa.com/>