

# **Programming Guide**

**2D Image Reader**

## This Programming Guide is intended for: Z-5132 GT

### Revision History

Changes to the original manual are listed below:

| Version | Date       | Description of Version                                                                                                                          |
|---------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.0     | 2022/5/4   | Preliminary release                                                                                                                             |
| 1.1     | 2022/9/16  | QR Model 1 Code disable barcode corrected                                                                                                       |
| 1.2     | 2024/12/16 | Corrected Full ASCII ---SO barcode, added default character lengths, added redundant checks for STD 2of 5, Industrial 2 of 5, and Matrix 2 of 5 |

# Important Notice

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## General Handling Precautions

Do not dispose the scanner in fire.

Do not put the scanner directly in the sun or by any heat source.

Do not use or store the scanner in a very humid place.

Do not drop the scanner or allow it to collide violently with other objects.

Do not take the scanner apart without authorization

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# Settings and Programming

Scan selected barcodes in this manual to affect setup and programming of your imaging barcode scanner. Decoding options and interface protocols can be tailored to a specific application.

Setup parameters are stored in non-volatile memory in the scanner and are retained even when power is off. Setup parameters change only when you reset them. You may need to hide adjacent code patches with your hand when scanning.

## Default Parameters

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The factory default setting 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 scanner is in programming mode. Default values are highlighted in grey background in the settings.

## Factory Default Setting

### Scanner Operation

| User Preferences         |              |
|--------------------------|--------------|
| Parameter                | Default      |
| Baud Rate                | 9600 BPS     |
| Interface                | USB Keyboard |
| Good read beep length    | 50 msec      |
| Good read beep frequency | Medium       |
| Aiming pattern           | Auto         |
| Terminal character       | CR           |
| Country code             | US           |

### Symbologies

| Symbology          | Default |
|--------------------|---------|
| Codabar            | Enable  |
| Code 39            | Enable  |
| Code 32            | Disable |
| Interleaved 2 of 5 | Enable  |
| Matrix 2 of 5      | Disable |
| Standard 2 of 5    | Disable |

|                   |         |
|-------------------|---------|
| Industrial 2 of 5 | Disable |
| Pharmacode        | Disable |
| Code 11           | Disable |
| Code 93           | Enable  |
| Code 128          | Enable  |
| MSI               | Disable |
| Plessey           | Disable |
| UPC-A             | Enable  |
| UPC-E             | Enable  |
| EAN-8             | Enable  |
| EAN-13            | Enable  |
| GS1 Databar       | Enable  |
| GS1-Limited Code  | Enable  |
| GS1-Expanded Code | Enable  |
| Composite CC-A    | Disable |
| Composite CC-B    | Disable |
| Composite CC-C    | Disable |
| PDF417            | Enable  |
| Micro PDF417      | Disable |
| Aztec             | Disable |
| Maxicode          | Disable |
| Data Matrix       | Enable  |
| Micro QR          | Enable  |
| QR                | Enable  |
| Telepen           | Disable |
| Chinese pose code | Disable |

## Code Identifiers

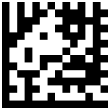
| Identifier code setting                         | Zebex | AIM  |
|-------------------------------------------------|-------|------|
| CODE 39 identifier code setting                 | M     | J A0 |
| ITF 2 of 5 identifier code setting              | I     | J I0 |
| CHINESE POST CODE identifier code setting       | H     | J h0 |
| UPC-E identifier code setting                   | E     | J E0 |
| UPC-A identifier code setting                   | A     | J E0 |
| EAN-13 identifier code setting                  | F     | J E0 |
| EAN-8 identifier code setting                   | FF    | J E0 |
| CODABAR identifier code setting                 | N     | J F0 |
| CODE 128 identifier code setting                | K     | J C0 |
| CODE 93 identifier code setting                 | L     | J G0 |
| MSI identifier code setting                     | P     | J M0 |
| GS1 Databar identifier code setting             | RS    | J e0 |
| GS1 Databar limited identifier code setting     | RL    | J e0 |
| GS1 Databar expanded identifier code setting    | RX    | J e0 |
| Industrial 2 of 5 Identifier code setting       | D     | J S0 |
| Code 11 Identifier code setting                 | O     | J H0 |
| Standard 2 of 5 Identifier code setting         | S     | J R0 |
| Matrix 2of 5 (Japanese) Identifier code setting | G     | J J0 |
| Telepen identifier code setting                 | T     | J T2 |
| PDF417 identifier code setting                  | p     | J L0 |
| QR Code identifier code setting                 | q     | J Q1 |
| DataMatrix identifier code setting              | d     | J d1 |
| AZTEC identifier code setting                   | a     | J z0 |
| Maxi code identifier code setting               | m     | J U0 |

# User Preferences

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## System Settings

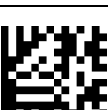
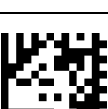
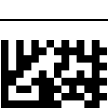
Use the following codes to set, reset, or display firmware version.

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

## Beep Settings

Use the following codes to change beep settings.

|                                                                                     |                               |
|-------------------------------------------------------------------------------------|-------------------------------|
|  | Medium beeper tone            |
|  | Low beeper tone               |
|  | High beeper tone              |
|  | Speaker disable               |
|  | Long sound duration (100msec) |

|                                                                                     |                                                                                                                                         |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
|    | Medium sound duration(50msec)                                                                                                           |
|    | Short sound duration(20msec)                                                                                                            |
|    | Very short sound duration(5msec)                                                                                                        |
|    | Very Long sound duration (200msec)                                                                                                      |
|    | Ultra long sound duration (500msec)                                                                                                     |
|   | Loud volume (50/50 duty)                                                                                                                |
|  | Medium volume (30/70 duty)                                                                                                              |
|  | Slight volume (20/80 duty)                                                                                                              |
|  | Led/Beep after transmission. Use this bar code to indicate a "good read" after a bar code has been successfully decoded.                |
|  | Led/Beep before transmission, Use this bar code to indicate a good read" after successfully transmitting the bar code data to the host. |
|  | Power –up tone enable                                                                                                                   |
|  | Power –up tone disable                                                                                                                  |

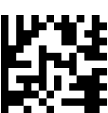
## Customer's Factory Default

Scan barcodes below to set or delete customer's factory default.

|                                                                                   |                            |
|-----------------------------------------------------------------------------------|----------------------------|
|  | Return as customer default |
|  | Save as customer default   |

## Interface Switch

Your 2D Imager supports interfaces such as USB HID, RS232 serial, USB virtual COM, etc.. To switch the interface, simply select the appropriate cable and configure the proper interface by following interface selection.

|                                                                                     |                                        |
|-------------------------------------------------------------------------------------|----------------------------------------|
|   | Return as USB Full Speed               |
|  | Return as USB High Speed               |
|  | Return as USB-virtual COM port default |
|  | Return to HID USB default              |
|  | Return to RS232 default                |
|  | Return as OPOS port default(USB mode)  |
|  | OPOS RS232 mode                        |

|                                                                                   |             |
|-----------------------------------------------------------------------------------|-------------|
|  | Update mode |
|  | Image Mode  |

## Aim Pattern

Aiming pattern works as an aiming system to aid in barcode reading. Use the following settings to enable or disable this function.

|                                                                                     |                                       |
|-------------------------------------------------------------------------------------|---------------------------------------|
|    | Illumination Light Off (NO_USE_ILLUM) |
|  | Illumination Light On (USE_ILLUM)     |
|  | Aiming Light Off (NO_USE_AIM)         |
|  | Aiming Light On (USE_AIM)             |

## Scan Mode

Scan a barcodes below to set the scanner to different modes.

|                                                                                   |                                                                                                                                                                                                                  |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <b>Trigger mode</b><br>The scanner becomes inactive as soon as the data is transmitted. It must be triggered to become active again.                                                                             |
|  | <b>Auto scan mode (Z-5132 default)</b><br>The scanner is still active after the data is transmitted but the successive transmission of the same barcode is not allowed when the trigger switch is pressed again. |
|  | <b>Presentation mode</b><br>Also called auto trigger mode. The scanner is inactive but will automatically detect barcodes presented in the scan zone and become active.                                          |

## Same Code Delay Time

Scan a barcode below to select the duration of the delay time for scan code.

|                                                                                     |                              |
|-------------------------------------------------------------------------------------|------------------------------|
|  | Same Code Delay time 50msec  |
|  | Same Code Delay time 100msec |
|  | Same Code Delay time 200msec |
|  | Same Code Delay time 300msec |
|  | Same Code Delay time 400msec |
|  | Same Code Delay time 500msec |

|                                                                                    |                               |
|------------------------------------------------------------------------------------|-------------------------------|
|   | Same Code Delay time 600msec  |
|   | Same Code Delay time 700msec  |
|   | Same Code Delay time 800msec  |
|   | Same Code Delay time 900msec  |
|   | Same Code Delay time 1000msec |
|  | Same Code Delay time Infinite |

## RS232 Interface Settings

Set the imager's baud rate to match the host device. Otherwise, data may not reach the host device or may reach it in distorted form.

|                                                                                     |                 |
|-------------------------------------------------------------------------------------|-----------------|
|  | Baud Rate 2400  |
|  | Baud Rate 4800  |
|  | Baud Rate 9600  |
|  | Baud Rate 19200 |

|                                                                                     |                  |
|-------------------------------------------------------------------------------------|------------------|
|    | Baud Rate 38400  |
|    | Baud Rate 57600  |
|    | Baud Rate 115200 |
|    | Even parity      |
|    | Odd parity       |
|   | None parity      |
|  | 1 stop bit       |
|  | 2 stop bit       |
|  | 7 data bit       |
|  | 8 data bit       |
|  | ACK/NAK          |
|  | Xon/Xoff         |

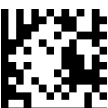
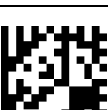
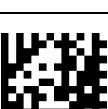
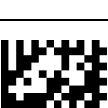
|                                                                                     |                                                    |
|-------------------------------------------------------------------------------------|----------------------------------------------------|
|    | RTS/CTS (this function is not supported by Z-5132) |
|    | None handshaking                                   |
|    | Enable BEEPER ON<BEL> CHARACTER                    |
|    | Ignore BEEP ON <BEL> CHARACTER                     |
|    | ACK/NAK response time 300ms                        |
|   | ACK/NAK response time 2s                           |
|  | ACK/NAK response time 500ms                        |
|  | ACK/NAK response time 3s                           |
|  | ACK/NAK response time 1s                           |
|  | ACK/NAK response time 5s                           |
|  | ACK/NAK response time infinity                     |
|  | Message terminator—none                            |

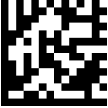
|                                                                                    |                            |
|------------------------------------------------------------------------------------|----------------------------|
|   | message terminator—CR/LF   |
|   | message terminator—CR      |
|   | message terminator—LF      |
|   | message terminator—H tab   |
|   | message terminator—STX/ETX |
|  | message terminator—EOT     |

## Keyboard Settings

To change any option, scan the appropriate barcode(s) provided.

|                                                                                     |                                                     |
|-------------------------------------------------------------------------------------|-----------------------------------------------------|
|    | Keyboard language support---USA                     |
|    | Keyboard language support---UK send scan code       |
|    | Keyboard language support---GERMANY                 |
|    | Keyboard language support---FRENCH send scan code   |
|   | Keyboard language support---SPANISH send scan code  |
|  | Keyboard language support---ITALIAN send scan code  |
|  | Keyboard language support--- Switzerland            |
|  | Keyboard language support---Sweden send scan code   |
|  | Keyboard language support---Belgium send scan code  |
|  | Keyboard language support---Portugal send scan code |
|  | Keyboard language support---Turkish send scan code  |

|                                                                                     |                                                             |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------|
|    | Keyboard language support---Hungary                         |
|    | Keyboard language support---Japanese                        |
|    | Keyboard language support---iMac-French                     |
|    | Capital lock on                                             |
|    | Capital lock off                                            |
|   | Function key emulation enable                               |
|  | Function key emulation disable                              |
|  | Send number as normal data                                  |
|  | Send number as keypad data                                  |
|  | Alphabet follow as keyboard<br><b>RS-232 also available</b> |
|  | Alphabet always upper case<br><b>RS-232 also available</b>  |
|  | Alphabet always lower case<br><b>RS-232 also available</b>  |

|                                                                                   |                            |
|-----------------------------------------------------------------------------------|----------------------------|
|  | Caps lock override enable  |
|  | Caps lock override disable |
|  | Enable Alt mode.           |

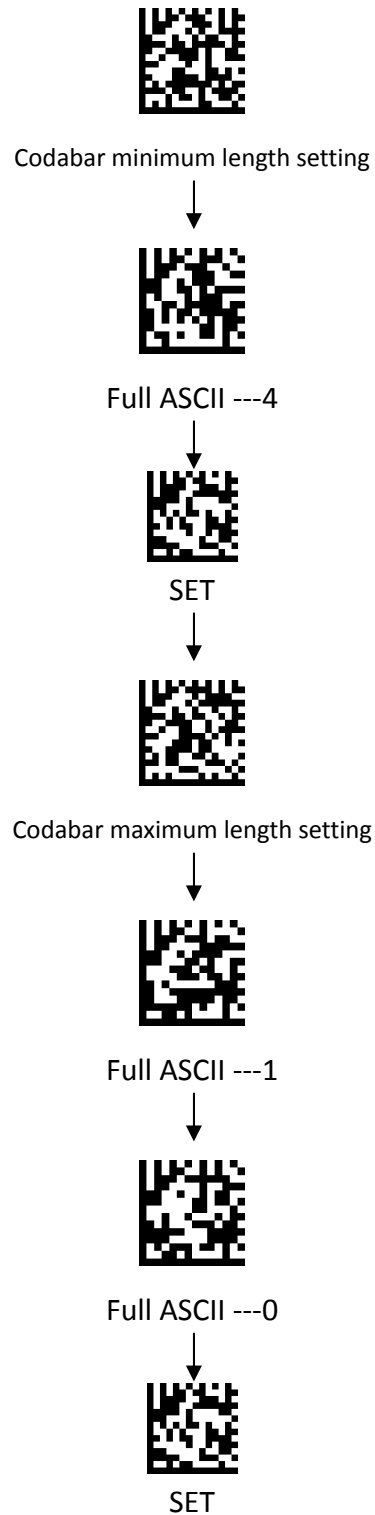
Please see the table below on how each setting affects the case of the data.

| <br>ABCabc | Host Capital lock off | Host Capital lock on |
|---------------------------------------------------------------------------------------------|-----------------------|----------------------|
| <b>Alphabet follow as keyboard</b>                                                          | ABCabc                | abcABC               |
| <b>Alphabet always upper case</b>                                                           | ABCABC                | ABCABC               |
| <b>Alphabet always Lower case</b>                                                           | abcabc                | abcabc               |
| <b>Caps Lock Override Enable</b>                                                            | ABCabc                | ABCabc               |
| <b>Caps Lock Override Disable</b>                                                           | ABCabc                | abcABC               |

# Symbology Settings

This section provides the programming barcodes for enabling and disabling symbology functions. If the default values suit requirements, programming is not necessary.

**Example: Felting length 4 to 10 characters**





Set

## Codabar Settings

To change any option, scan the appropriate barcode(s) provided.

|                                                                                     |                                                               |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------|
|    | Codabar enable                                                |
|    | CODABAR disable                                               |
|    | Codabar data redundant check=off                              |
|    | Codabar data redundant check=1                                |
|   | Codabar data redundant check=2                                |
|  | Codabar data redundant check=3                                |
|  | Codabar start/stop character transmission-----none            |
|  | Codabar start/stop character transmission-----A,B,C,D         |
|  | Codabar start/stop character transmission-----DC1~DC4         |
|  | Codabar start/stop character transmission-----a/t,b/n,c/*,d/e |
|  | Codabar start/stop character transmission -a,b,c,d            |



|                                                                                   |                                                                         |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------|
|  | Codabar maximum length setting<br><b>Default length 6~32 characters</b> |
|  | Codabar minimum length setting                                          |
|  | No check character                                                      |
|  | Validate modulo 16,but don't transmit                                   |
|  | Validate modulo 16,but transmit                                         |



Set

## Code 39/Code 32 Settings

To change any option, scan the appropriate barcode(s) provided.

|  |                                           |
|--|-------------------------------------------|
|  | Code 39 enable                            |
|  | Code 39 disable                           |
|  | Code 32 enable                            |
|  | Code 32 disable                           |
|  | Code 39 data redundant check=off          |
|  | Code 39 data redundant check=1            |
|  | Code 39 data redundant check=2            |
|  | Code 39 data redundant check=3            |
|  | Standard code 39                          |
|  | FULL ASCII code 39                        |
|  | Code 39 start/stop character transmission |



Set

|  |                                                                          |
|--|--------------------------------------------------------------------------|
|  | Code 39 start/stop character without transmission                        |
|  | Code 39 check digit calculate and transmit                               |
|  | Code 39 check digit calculate but without transmit                       |
|  | No check character                                                       |
|  | Code 39 maximum length setting<br><b>Default length 3~ 62 characters</b> |
|  | Code 39 minimum length setting                                           |
|  | Code 32 (Italian pharmacy)transmit "A" character                         |
|  | Code 32 (Italian pharmacy)without transmit "A" character                 |



Set

## Code 93 Settings

To change any option, scan the appropriate barcode(s) provided.

|                                                                                     |                                                                         |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
|    | Code 93 enable                                                          |
|    | Code 93 disable                                                         |
|    | Code 93 data redundant check=off                                        |
|    | Code 93 data redundant check=1                                          |
|   | Code 93 data redundant check=2                                          |
|  | Code 93 data redundant check=3                                          |
|  | Code 93 maximum length setting<br><b>Default length 3~62 characters</b> |
|  | Code 93 minimum length setting                                          |



Set

## Code 128/EAN 128 Settings

To change any option, scan the appropriate barcode(s) provided.

|  |                                                                          |
|--|--------------------------------------------------------------------------|
|  | Code 128 enable                                                          |
|  | Code 128 disable                                                         |
|  | EAN-128 enable                                                           |
|  | EAN-128 disable                                                          |
|  | Code 128 data redundant check=off                                        |
|  | Code 128 data redundant check=1                                          |
|  | Code 128 data redundant check=2                                          |
|  | Code 128 data redundant check=3                                          |
|  | Code 128 maximum length setting<br><b>Default length 3~62 characters</b> |
|  | Code 128 minimum length setting                                          |



Set

## Chinese Postcode Settings

To change any option, scan the appropriate barcode(s) provided.

|                                                                                     |                                                              |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------|
|    | Chinese post code enable                                     |
|    | Chinese post code disable                                    |
|    | Chinese post code data redundant check=off                   |
|    | Chinese post code data redundant check=1                     |
|   | Chinese post code data redundant check=2                     |
|  | Chinese post code data redundant check=3                     |
|  | Chinese post code check digit calculate and transmit         |
|  | Chinese post code check digit calculate but without transmit |



Set

## MSI Settings

To change any option, scan the appropriate barcode(s) provided.

|  |                                                                            |
|--|----------------------------------------------------------------------------|
|  | MSI enable                                                                 |
|  | MSI disable                                                                |
|  | MSI/PLESSY maximum length setting<br><b>Default length 4~32 characters</b> |
|  | MSI/PLESSY minimum length setting                                          |
|  | MSI/Plessy double check digit calculate but not transmit                   |
|  | MSI/Plessy double check digit without calculate and transmit               |
|  | MSI/Plessy double check digit calculate but only first digit transmit      |
|  | MSI/Plessy double check digit calculate and both transmit                  |
|  | MSI/Plessy single check digit calculate but without transmit               |
|  | MSI/Plessy single check digit calculate and transmit                       |



Set

## Code 11 Settings

To change any option, scan the appropriate barcode(s) provided.

|                                                                                     |                                                                          |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
|    | CODE 11 enable                                                           |
|    | CODE 11 disable                                                          |
|    | CODE 11 maximum length setting<br><b>Default length 6 ~32 characters</b> |
|    | CODE 11 minimum length setting                                           |
|   | Disable verification                                                     |
|  | Code 11 check digit transmitted                                          |
|  | Code 11 check digit not transmitted                                      |



Set

## ITF 2 of 5 Settings

To change any option, scan the appropriate barcode(s) provided.

|  |                                                                                 |
|--|---------------------------------------------------------------------------------|
|  | ITF 2 of 5 enable                                                               |
|  | ITF 2 of 5 disable                                                              |
|  | ITF 25 data redundant check=off                                                 |
|  | ITF25 data redundant check=1                                                    |
|  | ITF25 data redundant check=2                                                    |
|  | ITF 25 data redundant check=3                                                   |
|  | ITF 2 of 5 code maximum length setting<br><b>Default length 4~32 characters</b> |
|  | ITF 2 of 5 code minimum length setting                                          |
|  | ITF 2 of 5 no check character                                                   |
|  | ITF 2 of 5 check digit calculate and transmit                                   |
|  | ITF 2 of 5 check digit calculate but without transmit                           |



Set

|  |                                        |
|--|----------------------------------------|
|  | ITF 2 of 5 first fixed length setting  |
|  | ITF 2 of 5 second fixed length setting |
|  | ITF 2 of 5 fixed length setting reset  |

## Telepen Settings

To change any option, scan the appropriate barcode(s) provided.

|  |                 |
|--|-----------------|
|  | Telepen Enable  |
|  | Telepen Disable |

## Pharmacode Settings

To change any option, scan the appropriate barcode(s) provided.

|  |                    |
|--|--------------------|
|  | Pharmacode Enable  |
|  | Pharmacode Disable |



Set

## UPC/EAN/JAN Settings

To change any option, scan the appropriate barcode(s) provided.

|  |                                  |
|--|----------------------------------|
|  | EAN convert to ISSN/ISBN enable  |
|  | EAN convert to ISSN/ISBN disable |
|  | UPC/EAN/JAN enable               |
|  | UPC/EAN/JAN disable              |
|  | EAN-8 OR EAN-13 ENABLE           |
|  | UPC-A AND EAN-13 ENABLE          |
|  | UPC-A AND UPC-E ENABLE           |
|  | UPC-A ENABEL                     |
|  | UPC-E ENABLE                     |
|  | EAN-13 ENABLE                    |
|  | EAN-8 ENABEL                     |



Set

|  |                                          |
|--|------------------------------------------|
|  | UPC/EAN ADDon off                        |
|  | Addon 5 only                             |
|  | Addon 2 only                             |
|  | Addon 2 or 5                             |
|  | Force UPC-E to UPC-A format enable       |
|  | Force UPC-E to UPC-A format disable      |
|  | Force UPC-A to EAN-13 format enable      |
|  | Force UPC-A to EAN-13 format disable     |
|  | Transmit UPC-A check digit enable        |
|  | Transmit UPC-A check digit disable       |
|  | Transmit UPC-E leading character enable  |
|  | Transmit UPC-E leading character disable |



Set

|  |                                          |
|--|------------------------------------------|
|  | Transmit UPC-E check digit enable        |
|  | Transmit UPC-E check digit disable       |
|  | Transmit EAN-8 check digit enable        |
|  | Transmit EAN-8 check digit disable       |
|  | Transmit EAN-13 check digit enable       |
|  | Transmit EAN-13 check digit disable      |
|  | Transmit UPC-A leading character enable  |
|  | Transmit UPC-A leading character disable |
|  | Addon format with separator              |
|  | Addon format without separator           |
|  | EAN/UPC +addon (none mandatory)          |
|  | EAN/UPC +addon (mandatory)               |



Set

|  |                                                                                                   |
|--|---------------------------------------------------------------------------------------------------|
|  | EAN-8 to EAN-13 format enable                                                                     |
|  | force EAN-8 to EAN-13 format disable                                                              |
|  | EAN-13 first "0" can be transmitted                                                               |
|  | EAN-13 first "0" can't be transmitted                                                             |
|  | EAN-13 with first 0 ID code same as "UPC-A"                                                       |
|  | EAN-13 with first 0 ID code same as "EAN-13"                                                      |
|  | double code disable(9784/192)                                                                     |
|  | double code enable(9784/192)                                                                      |
|  | double code send for other                                                                        |
|  | double code not send for other                                                                    |
|  | EAN/UPC + add-on mandatory for 491 Japanese (bookland) Supplement requirement, not sent for other |
|  | EAN/UPC + add-on mandatory 491 Japanese (bookland) Supplement requirement, optionally for other   |



Set

|  |                                                                                                 |
|--|-------------------------------------------------------------------------------------------------|
|  | EAN/UPC +addon mandatory for 978/977 (bookland)<br>Supplement requirement, not sent for other   |
|  | EAN/UPC +addon mandatory for 978/977 (bookland)<br>Supplement requirement, optionally for other |
|  | UPC-A data redundant check=off                                                                  |
|  | UPC-A data redundant check=1                                                                    |
|  | UPC-A data redundant check=2                                                                    |
|  | UPC-A data redundant check=3                                                                    |
|  | UPC-E data redundant check=off                                                                  |
|  | UPC-E data redundant check=1                                                                    |
|  | UPC-E data redundant check=2                                                                    |
|  | UPC-E data redundant check=3                                                                    |
|  | EAN-13 data redundant check=off                                                                 |
|  | EAN-13 data redundant check=1                                                                   |



|  |                                |
|--|--------------------------------|
|  | EAN-13 data redundant check=2  |
|  | EAN-13 data redundant check=3  |
|  | EAN-8 data redundant check=off |
|  | EAN-8 data redundant check=1   |
|  | EAN-8 data redundant check=2   |
|  | EAN-8 data redundant check=3   |



Set

## STD 2 of 5 Settings

To change any option, scan the appropriate barcode(s) provided.

|  |                                                                                 |
|--|---------------------------------------------------------------------------------|
|  | STD 2 of 5 code enable                                                          |
|  | STD 2 of 5 code disable                                                         |
|  | Standard 2 of 5 check digit calculate and transmit                              |
|  | Standard 2 of 5 check digit calculate without transmit                          |
|  | STD 2 of 5 code maximum length setting<br><b>Default length 6~32 characters</b> |
|  | STD 2 of 5 code minimum length setting                                          |
|  | redundant check = off                                                           |
|  | redundant check = 1                                                             |
|  | redundant check = 2                                                             |
|  | redundant check = 3                                                             |



Set

## Industrial 2 of 5 Settings

To change any option, scan the appropriate barcode(s) provided.

|                                                                                     |                                                                                        |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
|    | Industrial 2 of 5 Enable                                                               |
|    | Industrial 2 of 5 Disable                                                              |
|    | Industrial 2 of 5 check digit calculate and transmit                                   |
|    | Industrial 2 of 5 check digit calculate without transmit                               |
|   | Industrial 2 of 5 code maximum length setting<br><b>Default length 6~32 characters</b> |
|  | Industrial 2 of 5 code minimum length setting                                          |
|  | redundant check = off                                                                  |
|  | redundant check = 1                                                                    |
|  | redundant check = 2                                                                    |
|  | redundant check = 3                                                                    |



Set

## Matrix 2 of 5 Settings

To change any option, scan the appropriate barcode(s) provided.

|                                                                                     |                                                                                    |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
|    | Matrix 2 of 5 code enable                                                          |
|    | Matrix 2 of 5 code disable                                                         |
|    | Matrix(Japanese) 2 of 5 code enable                                                |
|    | Matrix(Japanese) 2 of 5 code disable                                               |
|   | Matrix 2 of 5 code maximum length setting<br><b>Default length 6~32 characters</b> |
|  | Matrix 2 of 5 code minimum length setting                                          |
|  | Matrix 2 of 5 check digit calculate and transmit                                   |
|  | Matrix 2 of 5 check digit calculate without transmit                               |
|  | redundant check = off                                                              |
|  | redundant check = 1                                                                |
|  | redundant check = 2                                                                |
|  | redundant check = 3                                                                |



Set

## GS1 Settings

To change any option, scan the appropriate barcode(s) provided.

|  |                                        |
|--|----------------------------------------|
|  | GS1 Databar enable                     |
|  | GS1 Databar disable                    |
|  | GS1 Databar LIMITED enable             |
|  | GS1 Databar LIMITED disable            |
|  | GS1 Databar EXPANDED enable            |
|  | GS1 Databar EXPANDED disable           |
|  | GS1 Data Redundant check = off         |
|  | GS1 Data Redundant check = 1           |
|  | GS1 Data Redundant check = 2           |
|  | GS1 Data Redundant check = 3           |
|  | GS1 Limited Data Redundant check = off |



Set

|  |                                         |
|--|-----------------------------------------|
|  | GS1 Limited Data Redundant check = 1    |
|  | GS1 Limited Data Redundant check = 2    |
|  | GS1 Limited Data Redundant check = 3    |
|  | GS1 Expanded Data Redundant check = off |
|  | GS1 Expanded Data Redundant check = 1   |
|  | GS1 Expanded Data Redundant check = 2   |
|  | GS1 Expanded Data Redundant check = 3   |

## GS Substitution for NMVS Application

This setting enables GS substitution function in barcodes with GS characters.

|  |                                                           |
|--|-----------------------------------------------------------|
|  | NMVS Disable (default)<br>GS Substitution value: CTRL + ] |
|  | NMVS Enable<br>GS Substitution value: Alt + 29            |



Set

## QR Code Settings

To change any option, scan the appropriate barcode(s) provided.

|  |                                         |
|--|-----------------------------------------|
|  | QR Code enable                          |
|  | QR Code disable                         |
|  | Micro QR Code enable                    |
|  | Micro QR Code disable                   |
|  | QR Model 1 Code enable                  |
|  | QR Model 1 Code disable                 |
|  | QR Code Mirror enable                   |
|  | QR Code Mirror disable                  |
|  | QR/MQR polarity setting = Dark on Light |
|  | QR/MQR polarity setting = Light on Dark |
|  | QR/MQR polarity setting = either        |



Set

## Data Matrix Settings

To change any option, scan the appropriate barcode(s) provided.

|                                                                                   |                           |
|-----------------------------------------------------------------------------------|---------------------------|
|  | DataMatrix enable         |
|  | DataMatrix disable        |
|  | DataMatrix Mirror enable  |
|  | DataMatrix Mirror disable |

## PDF417 Settings

To change any option, scan the appropriate barcode(s) provided.

|                                                                                     |                                   |
|-------------------------------------------------------------------------------------|-----------------------------------|
|  | PDF417 enable                     |
|  | PDF417 disable                    |
|  | Micro PDF417 enable               |
|  | Micro PDF417 disable              |
|  | PDF417 Data Redundant check = off |



|                                                                                   |                                 |
|-----------------------------------------------------------------------------------|---------------------------------|
|  | PDF417 Data Redundant check = 1 |
|  | PDF417 Data Redundant check = 2 |
|  | PDF417 Data Redundant check = 3 |

## Aztec Settings

To change any option, scan the appropriate barcode(s) provided.

|                                                                                     |                                        |
|-------------------------------------------------------------------------------------|----------------------------------------|
|    | Aztec enable                           |
|  | Aztec disable                          |
|  | Aztec Mirror enable                    |
|  | Aztec Mirror disable                   |
|  | Aztec polarity setting = Dark on Light |
|  | Aztec polarity setting = Light on Dark |
|  | Aztec polarity setting = either        |



Set

## Maxicode Settings

To change any option, scan the appropriate barcode(s) provided.

|                                                                                   |                   |
|-----------------------------------------------------------------------------------|-------------------|
|  | Maxi code enable  |
|  | Maxi code disable |

## Composite Codes

To change any option, scan the appropriate barcode(s) provided.

|                                                                                     |              |
|-------------------------------------------------------------------------------------|--------------|
|   | CC-A Enable  |
|  | CC-A Disable |
|  | CC-B Enable  |
|  | CC-B Disable |
|  | CC-C Enable  |
|  | CC-C Disable |



Set

## Identifier Code Settings

To change any option, scan the appropriate barcode(s) provided.

|                                                                                     |                                                                    |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------|
|    | Disable identifier code                                            |
|    | Enable identifier code table as ZEBEX standard                     |
|    | Enable identifier code table as AIM standard. Refer to appendix A. |
|    | CODE 39 identifier code setting                                    |
|   | ITF 2 of 5 identifier code setting                                 |
|  | UPC-E identifier code setting                                      |
|  | UPC-A identifier code setting                                      |
|  | EAN-13 identifier code setting                                     |
|  | EAN-8 identifier code setting                                      |
|  | CODABAR identifier code setting                                    |
|  | CODE 128 identifier code setting                                   |



Set

|                                                                                     |                                                 |
|-------------------------------------------------------------------------------------|-------------------------------------------------|
|    | CODE 93 identifier code setting                 |
|    | MSI identifier code setting                     |
|    | GS1 Databar identifier code setting             |
|    | GS1 Databar limited identifier code setting     |
|    | GS1 Databar expanded identifier code setting    |
|   | Industrial 2 of 5 Identifier code setting       |
|  | Code 11 Identifier code setting                 |
|  | Standard 2 of 5 Identifier code setting         |
|  | Matrix 2of 5 (Japanese) Identifier code setting |
|  | Telepen identifier code setting                 |
|  | PDF417 identifier code setting                  |
|  | QR Code identifier code setting                 |



|                                                                                   |                                    |
|-----------------------------------------------------------------------------------|------------------------------------|
|  | DataMatrix identifier code setting |
|  | AZTEC identifier code setting      |
|  | Maxi code identifier code setting  |

## Character Settings

To change any option, scan the appropriate barcode(s) provided.

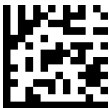
|                                                                                     |                                                 |
|-------------------------------------------------------------------------------------|-------------------------------------------------|
|   | Add code length as header enable(all barcode)   |
|  | Add code length as header disable (all barcode) |
|  | Header (Preamble)                               |
|  | Trailer (Postamble)                             |
|  | Truncate header character                       |
|  | Truncate trailer character                      |
|  | Inter character delay 0ms                       |



|  |                               |
|--|-------------------------------|
|  | Inter character delay 2ms     |
|  | Inter character delay 5ms     |
|  | Inter character delay 10ms    |
|  | Inter character delay 20ms    |
|  | Inter character delay 50ms    |
|  | Inter character delay 90msec  |
|  | Inter character delay 100msec |
|  | Inter message delay 0 ms      |
|  | Inter message delay 100 ms    |
|  | Inter message delay 500 ms    |
|  | Inter message delay 1000 ms   |

# Full ASCII Data Matrix Table

| Data Matrix                                                                         | ASCII                                                 | Hexa-code |
|-------------------------------------------------------------------------------------|-------------------------------------------------------|-----------|
|    | Full ASCII ---NUL                                     | 00        |
|    | Full ASCII ---SOH<br>Function key-----“Ins”           | 01        |
|    | Full ASCII ---STX<br>Function key-----“Del”           | 02        |
|    | Full ASCII ---ETX<br>Function key-----“Home”          | 03        |
|  | Full ASCII ---EOT<br>Function key-----“End”           | 04        |
|  | Full ASCII ---ENQ<br>Function key-----“Up<br>arrow”   | 05        |
|  | Full ASCII ---ACK<br>Function key-----“Down<br>arrow” | 06        |
|  | Full ASCII ---BEL<br>Function key-----“Left<br>arrow” | 07        |
|  | Full ASCII ---BS<br>Function<br>key-----“Backspace”   | 08        |
|  | Full ASCII ---HT<br>Function key-----“TAB”            | 09        |

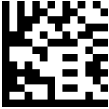
|                                                                                     |                                                                 |    |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------|----|
|    | Full ASCII ---LF<br>Function key-----“Enter<br>(alpha numeric)” | 0A |
|    | Full ASCII ---VT<br>Function key-----“right<br>arrow”           | 0B |
|    | Full ASCII ---FF<br>Function key-----“PgUp”                     | 0C |
|    | Full ASCII ---CR<br>Function<br>key-----“Enetr(num.)”           | 0D |
|    | Full ASCII ---SO<br>Function key-----“PgDn”                     | 0E |
|   | Full ASCII ---SI<br>Function key-----“Shift”                    | 0F |
|  | Full ASCII ---DLE<br>Function<br>key-----“5(num)”               | 10 |
|  | Full ASCII ---DC1<br>Function key-----“F1”                      | 11 |
|  | Full ASCII ---DC2<br>Function key-----“F2”                      | 12 |
|  | Full ASCII ---DC3<br>Function key-----“F3”                      | 13 |
|  | Full ASCII ---DC4<br>Function key-----“F4”                      | 14 |
|  | Full ASCII ---NAK<br>Function key-----“F5”                      | 15 |

|                                                                                     |                                               |    |
|-------------------------------------------------------------------------------------|-----------------------------------------------|----|
|    | Full ASCII ---SYN<br>Function key-----“F6”    | 16 |
|    | Full ASCII ---ETB<br>Function key-----“F7”    | 17 |
|    | Full ASCII ---CAN<br>Function key-----“F8”    | 18 |
|    | Full ASCII ---EN<br>Function key-----“F9”     | 19 |
|    | Full ASCII ---SUB<br>Function key-----“F10”   | 1A |
|   | Full ASCII ---ESC<br>Function key-----“F11”   | 1B |
|  | Full ASCII ---FS<br>Function key-----“F12”    | 1C |
|  | Full ASCII ---GS<br>Function key-----“ESC”    | 1D |
|  | Full ASCII ---RS<br>Function key-----“CTL(L)” | 1E |
|  | Full ASCII ---US<br>Function key-----“ALT(L)” | 1F |
|  | Full ASCII ---SP                              | 20 |
|  | Full ASCII ---!                               | 21 |

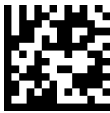
|                                                                                     |                  |    |
|-------------------------------------------------------------------------------------|------------------|----|
|    | Full ASCII ---“  | 22 |
|    | Full ASCII ---#  | 23 |
|    | Full ASCII ---\$ | 24 |
|    | Full ASCII ---%  | 25 |
|    | Full ASCII ---&  | 26 |
|   | Full ASCII ---‘  | 27 |
|  | Full ASCII --- ( | 28 |
|  | Full ASCII ---)  | 29 |
|  | Full ASCII ---*  | 2A |
|  | Full ASCII ---+  | 2B |
|  | Full ASCII ---,  | 2C |
|  | Full ASCII ----  | 2D |

|                                                                                     |                 |    |
|-------------------------------------------------------------------------------------|-----------------|----|
|    | Full ASCII ---. | 2E |
|    | Full ASCII ---/ | 2F |
|    | Full ASCII ---0 | 30 |
|    | Full ASCII ---1 | 31 |
|    | Full ASCII ---2 | 32 |
|   | Full ASCII ---3 | 33 |
|  | Full ASCII ---4 | 34 |
|  | Full ASCII ---5 | 35 |
|  | Full ASCII ---6 | 36 |
|  | Full ASCII ---7 | 37 |
|  | Full ASCII ---8 | 38 |
|  | Full ASCII ---9 | 39 |

|                                                                                     |                 |    |
|-------------------------------------------------------------------------------------|-----------------|----|
|    | Full ASCII ---: | 3A |
|    | Full ASCII ---; | 3B |
|    | Full ASCII ---< | 3C |
|    | Full ASCII ---= | 3D |
|    | Full ASCII ---> | 3E |
|   | Full ASCII ---? | 3F |
|  | Full ASCII ---@ | 40 |
|  | Full ASCII ---A | 41 |
|  | Full ASCII ---B | 42 |
|  | Full ASCII ---C | 43 |
|  | Full ASCII ---D | 44 |
|  | Full ASCII ---E | 45 |

|                                                                                     |                 |    |
|-------------------------------------------------------------------------------------|-----------------|----|
|    | Full ASCII ---F | 46 |
|    | Full ASCII ---G | 47 |
|    | Full ASCII ---H | 48 |
|    | Full ASCII ---I | 49 |
|    | Full ASCII ---J | 4A |
|   | Full ASCII ---K | 4B |
|  | Full ASCII ---L | 4C |
|  | Full ASCII ---M | 4D |
|  | Full ASCII ---N | 4E |
|  | Full ASCII ---O | 4F |
|  | Full ASCII ---P | 50 |
|  | Full ASCII ---Q | 51 |

|                                                                                     |                 |    |
|-------------------------------------------------------------------------------------|-----------------|----|
|    | Full ASCII ---R | 52 |
|    | Full ASCII ---S | 53 |
|    | Full ASCII ---T | 54 |
|    | Full ASCII ---U | 55 |
|    | Full ASCII ---V | 56 |
|   | Full ASCII ---W | 57 |
|  | Full ASCII ---X | 58 |
|  | Full ASCII ---Y | 59 |
|  | Full ASCII ---Z | 5A |
|  | Full ASCII ---[ | 5B |
|  | Full ASCII ---\ | 5C |
|  | Full ASCII ---] | 5D |

|                                                                                     |                 |    |
|-------------------------------------------------------------------------------------|-----------------|----|
|    | Full ASCII ---^ | 5E |
|    | Full ASCII ---_ | 5F |
|    | Full ASCII ---` | 60 |
|    | Full ASCII ---a | 61 |
|    | Full ASCII ---b | 62 |
|   | Full ASCII ---c | 63 |
|  | Full ASCII ---d | 64 |
|  | Full ASCII ---e | 65 |
|  | Full ASCII ---f | 66 |
|  | Full ASCII ---g | 67 |
|  | Full ASCII ---h | 68 |
|  | Full ASCII ---i | 69 |

|                                                                                     |                 |    |
|-------------------------------------------------------------------------------------|-----------------|----|
|    | Full ASCII ---j | 6A |
|    | Full ASCII ---k | 6B |
|    | Full ASCII ---l | 6C |
|    | Full ASCII ---m | 6D |
|    | Full ASCII ---n | 6E |
|   | Full ASCII ---o | 6F |
|  | Full ASCII ---p | 70 |
|  | Full ASCII ---q | 71 |
|  | Full ASCII ---r | 72 |
|  | Full ASCII ---s | 73 |
|  | Full ASCII ---t | 74 |
|  | Full ASCII ---u | 75 |

|                                                                                     |                   |    |
|-------------------------------------------------------------------------------------|-------------------|----|
|    | Full ASCII ---v   | 76 |
|    | Full ASCII ---w   | 77 |
|    | Full ASCII ---x   | 78 |
|    | Full ASCII ---y   | 79 |
|    | Full ASCII ---z   | 7A |
|   | Full ASCII ---{   | 7B |
|  | Full ASCII ---    | 7C |
|  | Full ASCII ---}   | 7D |
|  | Full ASCII ---~   | 7E |
|  | Full ASCII ---DEL | 7F |