THIR-6780 Series
Configuration Barcode Menu

1dimensional / 2dimensional
Image Reader

12-Sep-28

MTS MARS TOHKEN SOLUTION CO. LTD.

1st edition

【Update Information】

Edition	Date	Update Contents
1st edition	2012/ 9/28	New release

Table of Contents

Introduction

The configuration barcodes provided in this manual offer instant setup off the various scanner settings, E.G., serial communication baud rate, enabling and disabling barcodes.

Note: Default values in this guide are indicated by the notation "(*)".

Note: Barcodes may also be referred to as "symbols". This manual may use either or both conventions.

Please read the operation Manual of this reader carefully to ensure correct use of the equipment. Keep the document near the equipment for reference in the event of problems.

The contents of this document are subject to change without notice.

Ensure to scan the "Save Settings" barcode after settings have been changed to write the settings on the scanner's non-volatile flash memory. Without saving the settings the scanner will revert to the previously stored settings after power is reapplied.

Command manual Usage Notes

Some of the commands listed in this manual can also be set-up by sending commands from a host computer.

Abbreviations used

Check digit ……. C/D.

Start stop…….. ST/SP.

1. Communications Setup（serial interface）

・ Baud rate

To set the Baud rate to match the baud rate setting of the host device, scan the appropriate symbol below.

1200[bps]

2400[bps]

4800[bps]

9600[bps]（*）

19200[bps]

38400[bps]

57600[bps]

115200[bps]

・ Character Framing

To set the combination setting of Data Bits ,Parity and Stop Bits to match those settings of the Host device, scan the appropriate symbol below.

7 bits/Odd/Stop bit 1

7 bits/Odd/Stop bit 2

7 bits/Even/Stop bit 1

7 bits/Even/Stop bit 2

8 bits/None/Stop bit 1 (*)

8 bits/None/Stop bit 2

8 bits/Odd/Stop bit 1

8 bits/Odd/Stop bit 2

8 bits/Even/Stop bit 1

8 bits/Even/Stop bit 2

Save Settings
(Write into Flash ROM)

・ RTS/CTS Hardware Handshaking

To Enable or Disable RTS/CTS Hardware Handshaking (RTS/CTS H/H) to the Host device, scan the appropriate symbol below.

Enable RTS/CTS H/H

Disable RTS/CTS H/H (*)

・ Suffix character

A prefix character may be appended to the head of scan data for use in data editing.
To set the prefix character, scan the appropriate symbol below.

None (*)

[SX]

[EC]

Save Settings
(Write into Flash ROM)

・ Suffix character

A suffix character may be appended to the end of scan data for use in data editing.
To set the Suffix character, scan the appropriate symbol below.

None

[EX]

[EX][CR]

[CR][LF] (*)

[CR]

[CR][TAB]

[TAB][CR]

[TAB]

Save Settings
(Write into Flash ROM)

2. Symbol Setup

2.1 Common Setup

・ All Symbologies

To Enable or Disable to decode symbols for all symbolories, scan the appropriate symbol below.

Note: To enable only a select number of symbologies, it is advised to disable all symbologies first and enable only the symbology type(s) needed.

Enable All Symbologies

Disable All Symbologies

・ Mirrored Image

To Enable or Disable to decode symbols for Mirrored symbols, scan the appropriate symbol below.

Note: 1-dimentional barcodes can be decoded in both mirrored and normal modes.

Read Normal Image（*）

Read Mirrored Image

When in “Read Mirrored Image” mode, the barcode menu symbols cannot be read.
Use the following symbol to switch the scanner back to “Read Normal Image” mode.

Read Normal Image（*）

· Center Reading Mode

To Enable or Disable to read symbols located at the central part of the field of view only, scan the appropriate symbol below.

Enable Center Reading

Disable Center Reading (*)

· Symbol Length

To decode symbols with a specific length range for each symbology, this setting must be set through the serial command **DIGIT=ab,c-d[CR]** below.

Command Format: DIGIT=ab,c-d[CR]

a = code character	A: Code39	C: Code128	d: DataMatrix
	e: Composite, RSS	E: UPC/JAN/EAN	F: Codabar
	G: Code93	I: ITF	L: PDF417
	U: MaxiCode	Q: QR Code	z: AztecCode
	p: Customer Barcode (Japan Post)		
b = Minimum length	1~2047		
c = Maximum length	1~2047		
d= Option	CC: Composite Code		RSS: GS1 Databar

Note: Other than Code 128, the Minimum / Maximum length includes Stop, Start, and Check Digit characters.

Note: the Minimum length must be less than the Maximum length.

Example1: Code39, 10 through 20 digits accepted.
DIGIT=A10, 20

Example2: GS1 Databar, 14 through 16 digits accepted.
DIGIT=e14, 16-RSS

For all symbologies, default values are b=1minimum), c=2047(maximum).

・ Maximum decodable symbols per trigger input

The image reader can decode multiple symbols (up to four symbols) in a single image with a single pull of the trigger.

To set the maximum number of symbols to be decoded for a single trigger input, scan the appropriate symbol below.

One symbol (*)

Two symbols

Three symbols

Four symbols

Multiple symbols separator

To set the separator character to be inserted between the symbol data when using multiple symbols reading, scan the appropriate symbol below..

None

&

Comma (*)

[FS] (1C hex)

[GS] (1D hex)

[SP] (20 hex)

・ Output order for multiple symbols reading

To set the output order (transmitting data order) for multiple symbols reading, scan several symbols in the proper sequence below.
Unless otherwise specified, if an error occurs during a scanning sequence, just re-scan the correct parameter.

[Procedure]

(1) Set the maximum number of symbols to be decoded for a single trigger input. (previous page).

(2) Set the separator character to be inserted between the symbol data (previous page).

(3) Set the sorting method (none, in the order of decoding, symbol lengths, specified characters, or symbologies)

(4) Select the output sequence number to be programmed (up to 4).

(5) Set the item to be set (symbol lengths, First Character, Second Character, Type of Symbologies).

(6) Set the appropriate Data.
- (a) To set the symbol lengths, use the ”Character Data” on page 27.
- (b) To set the first or second character, use the “Character Code” on page 26.
- (c) To set the symboogy, use the “Symbology type” on page 29 and 30.

(7) When setting is complete, scan the “Confirm” symbol to accept the changes or “Cancel” to revert back to the previous settings. These symbols can be found on page 30.

(8) Repeat steps (4) through (7) to set the remaining items.

(9) Finally scan the “Save Settings” symbol to save the settings to the unit’s non-volatile Flash memory.

Note: Multiple RSS composite codes cannot be decoded from a single image, but a single RSS composite code may be decoded with other types of symbologies.

・ Sorting method

Not specified (in order of decoding) (*)

Symbol lengths

Specified characters

Type of symbologies

・ Output sequence number to be programmed

To set the output sequence number to be programmed, scan the appropriate symbol below.

Output 1

Output 2

Output 3

Output 4

・ Select the item to be set

To set the item to be set, scan the appropriate symbol below.

Symbol length

First character

Second character

Type of symbologies

Save Settings
(Write into Flash ROM)

・ Addition of Symbology Identifier (AIM Code Identifiers)

A Symbology Identifier specifies the type of symbology of a scanned symbol. If this function is enabled, Symbol Identifier is added before the decoded data.

To Enable or Disable this function, scan the appropriate symbol below.

<Symbol Information Character>		AIM Code Identifiers	
Code39	]A0	Code128	]C0
EAN128	]C1	Codabar	]F0
ITF	]I0	JAN/EAN/UPC	(No-character)
Maxi Code	]U1	Data Matrix	]d1
PDF417	]L0	QR Code	]Q1
RSS	]e0	Code93	]G0
Composite	]e0		

Enable
addition of Symbology Identifier

Disable
addition of Symbology Identifier (*)

Save Settings
(Write into Flash ROM)

Additional Symbol Information (Optional Data)

An optional single character (henceforth “Front Character”) corresponding to the type of symbology of the decoded symbol may be inserted before the decoded data. And similarly another optional character (henceforth “End Character”) may be inserted after the decoded data.

[Procedure]

(1) Enable or Disable to activate each Front Character and End Character setting respectively.

(2) Set the Front Character and End Character respectively.
The user has to follow the procedures in order otherwise the setup will be ignored.
1) Enter the Setup procedure
2) Review Character Set (refer to “Character Code” section),
and then confirm upper data and lower data of the Front/End Ccharacter respectively.
3) Scan the “Setup Front/End Character” for symbology type respectively.
4) Scan the “Character Data” symbol corresponding to the upper data.
5) Scan the “Character Data” symbol corresponding to the lower data.

Enable/Disable Front Character

To Enable or Disable Front Character, scan the appropriate symbol below.

Enable
Front Character

Disable
End Character (*)

Enter Setup procedure of Front character

To enter Setup procedure of Front Character, scan the appropriate symbol below.

Setup Front Character
for Code39

Setup Front Character
for Code128

Setup Front Character
for DataMatrix

Setup Front Character
for JAN/UPC

Setup Front Character
for Codabar

Setup Front Character
for ITF

Setup Front Character
for PDF417

Setup Front Character
for MaxiCode

Setup Front Character
for QR-Code

Setup Front Character
for EAN128

Setup Front Character
for GS1 Databar

Setup Front Character
for Code93

Setup Front Character
for Composite

Setup Front Character
for Customer Bar Code(Japan Post Code)

Setup Front Character
for AztecCode

Enable/Disable End Character

To Enable or Disable End Character, scan the appropriate symbol below.

Enable
End Character

Disable
End Character (*)

Setup Optional End character

To enter Setup procedure of End character, scan the appropriate symbol below.

Setup End Character
for Code39

Setup End Character
for Code128

Setup End Character
for DataMatrix

Setup End Character
for JAN/UPC

Setup End Character
for Codabar

Setup End Character
for ITF

Setup End Character
for PDF417

Setup End Character
for MaxiCode

Setup End Character
for QR-Code

Setup End Character
for GS1-128

Setup End Character
for GS1 Databar

Setup End Character
for Code93

Setup End Character
for Composite

Setup End Character
for Customer Barcode(Japan Post Code)

Setup End Character
for AztecCode

Additional Optional Single Data

An optional single character (henceforth “Front Data”) regardless to the type of symbology of the decoded symbol may be inserted before the decoded data. And similarly another optional character (henceforth “End Data”) may be inserted after the decoded data.

[Procedure]

(1) Enable or Disable to activate each Front Data and End Data setting respectively.

(2) Set the Front Data and End Data respectively.
The user has to follow the procedures in order otherwise the setup will be ignored.
1) Enter the Setup procedure
2) Review Character Set (refer to “Character Code” section),
and then confirm upper data and lower data of Front/End Data respectively.
3) Scan the “Setup Front /End Data”.
4) Scan the “Character Data” symbol corresponding to the upper data.
5) Scan the “Character Data” symbol corresponding to the lower data.

Enable/Disable Front Data

To Enable or Disable Front Data, scan the appropriate symbol below.

Enable Front Data

Disable Front Data (*)

Enter Setup procedure of Front Data

To enter Setup procedure of Front Data, scan the symbol below.

Setup Front Data

Save Settings
(Write into Flash ROM)

Enable/Disable End Data

To Enable or Disable End Data, scan the appropriate symbol below.

Enable End Data

Disable End Data(*)

Enter Setup procedure of End Data

To enter Setup procedure of End Data, scan the symbol below.

Setup End Data

Save Settings
(Write into Flash ROM)

・ Control Code

A control code contained in a symbol may be changed to another form and then transmitted, i.e. the control code may be changed into the ASCII code enclosed in the parenthesis ([,]) and then transmitted.

Example : [SX]1234[EX] ==> [02]1234[03]

Method of Transmit Control Code

To set method of transmitting control code, scan the appropriate symbol below.

Pass Through (*)

Changed to ASCII code within [ ].

Transmit Group Separator [GS]

To Enable or Disable transmitting Group Separator (GS) for GS1-128 symbology, scan the appropriate symbol below.

Enable Transmit GS (*)

Disable Transmit GS

Transmit Group Separator [FNC1]

Group Separator [FNC1] may be substituted to another single character. This function is available for GS-128, GS1 Databar only.

Default Setting Value : GS(0x1D)

Setting Procedure is below to set this single character substituted for Group Separator [FNC1],

[Procedure]

The user has to follow the procedures in order otherwise the setup will be ignored.

1) Review Character Set (refer to “Character Code” section),
   and then confirm upper data and lower data of the singlel character.
2) Scan the “Setup optional character setting for GS” below.
3) Scan the “Character Data” symbol corresponding to the upper data from 0 through F..
4) Scan the “Character Data” symbol corresponding to the lower data from 0 through F..

Setup optional character setting for GS

Character Code

The Character Code is used to set the following functions:

Set the Multiple symbols reading sort information
Add Symbol Information Data
Add optional data
Transform optional character from GS

Character Set

UPPER DATA

LOWER DATA	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	NUL	DLE	SP	0	@	P	`	p				ー	タ	ミ		
1	SOH	DC1	!	1	A	Q	a	q			。	ア	チ	ム		
2	STX	DC2	”	2	B	R	b	r			「	イ	ツ	メ		
3	ETX	DC3	#	3	C	S	c	s			」	ウ	テ	モ		
4	EOT	DC4	$	4	D	T	d	t			、	エ	ト	ヤ		
5	ENQ	NAK	%	5	E	U	e	u			・	オ	ナ	ユ		
6	ACK	SYN	&	6	F	V	f	v			ヲ	カ	ニ	ヨ		
7	BEL	ETB	’	7	G	W	g	w			ァ	キ	ヌ	ラ		
8	BS	CAN	(	8	H	X	h	x			ィ	ク	ネ	リ		
9	HT	EM	)	9	I	Y	i	y			ゥ	ケ	ノ	ル		
A	LF	SUB	*	:	J	Z	j	z			ェ	コ	ハ	レ		
B	VT	ESC	+	;	K	[	k	{			ォ	サ	ヒ	ロ		
C	FF	FS	,	<	L	¥	l	|			ャ	シ	フ	ワ		
D	CR	GS	−	=	M	]	m	}			ュ	ス	ヘ	ン		
E	SO	RS	.	>	N	^	n	¯			ョ	セ	ホ	゛		
F	SI	US	/	?	O	_	o	DEL			ッ	ソ	マ	゜		

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Note: Scanners set to use the HID interface cannot output the data in the gray section.

Character Data

To input Character Data first, scan the upper data symbol, followed by the lower data symbol. The same symbols can be used for both upper and lower data.

0

1

2

3

4

5

6

7

8

9

A

B

C

D

E

F

Save Settings
(Write into Flash ROM)

・ Symbology Type

To select the symbology types to dedode, scan the appropriate symbol below.

Not specified (*)

Code39

Code128

ITF

Codabar

JAN/EAN/UPC

PDF417

QR-Code

DataMatrix

MaxiCode

GS1-128

Postal

GS1 Databar

Composite Code

Code93

Aztec Code

・ Confirm / Cancel multiple reading setting

When setting of output order for multiple symbols reading is completed, scan the “Confirm” symbol to accept the changes or “Cancel” to revert back to the previous settings.

Confirm

Cancel

Save Settings
(Write into Flash ROM)

2.2. Symbol Reading setup

Code39

Code39 symbol reading
Check Digit (C/D) verification: Modulus 43

To select the Code39 reading, scan the appropriate symbol below.

Read Code39
No C/D check (*)

Read Code39
Check C/D
Transmit C/D

Read Code39
Check C/D
No C/D transmission

Read Code39
No C/D check
FULL ASCII On

Read Code39
Check C/D
Transmit C/D
FULL ASCII On

Read Code39
Check C/D
No C/D transmission
FULL ASCII On

Disable Code39 decoding

Save Settings
(Write into Flash ROM)

・ Code39 Start / Stop Transmit

To Enable or Disable the transmission of ST/SP characters at the head and the end of the read data, scan the appropriate symbol below.

Transmit
Code39 ST/SP

No transmission of
Code39 ST/SP（*）

Code128

To Enable or Disable to decode Code128 symbol, scan the appropriate symbol below.

Enable Code128 decoding（*）

Disable Code128 decoding

GS1-128(EAN128)

To Enable or Disable to decode GS1-128(EAN128) symbol, scan the appropriate symbol below.

Enable GS1-128 decoding (*)

Disable GS1-128 decoding

・ Codabar Setup

Enable / Disable CODABAR symbol decoding, Check Digit verification and transmission.
C/D Verification: Modulus 16

To select tCodabar reading, scan the appropriate symbol below.

Read Codabar
No C/D check (*)

Read Codabar
Check C/D
Transmit C/D

Read Codabar
Check C/D
No C/D Transmit

Disable Codabar decoding

Codabar ST/SP Character Case

To select the Codabar Start / Stop characters to upper or lower case, scan the appropriate symbol below.

Codabar ST/SP Character
Lower case

Codabar ST/SP Character
Upper case (*)

Save Settings
(Write into Flash ROM)

Codabar Start / Stop transmission

To Enable or Disable the transmission of the Codabar ST/SP characters, scan the appropriate symbol below

Transmit Codabar ST/SP (*)

No Codabar ST/SP transmission

· ITF Setup

Enables / Disables ITF (Interleaved 2 of 5) symbol decoding, Check Digit verification and transmission.
C/D Verification: Modulus 10

To select ITF reading, scan the appropriate symbol below.

Read ITF
No C/D Check (*)

Read ITF
Check C/D
Transmit C/D

Read ITF
Check C/D
No C/D transmission

Disable ITF decoding

・ ITF Digits Setup

Set the amount of accepted number of digits for ITF symbols.
The number of digits includes C/D.

To set up the number of digits for ITF symbols, scan the appropriate symbol below.

2 digits

4 digits

6 to 2047 digits (*)

Code93

To Enable or Disable Code93 symbol for decoding, scan the appropriate symbol below.

Enable Code93 decoding (*)

Disable Code93 decoding

GS1 Databar(RSS)

To Enable or Disable GS1 (RSS) symbol for decoding, scan the appropriate symbol below.

Enable GS1 Databar decoding

Disable GS1 Databar decoding (*)

Setting the Application Identifier

Output the Application Identifier of GS1-128 and GS1 Databar by enclosed in the parenthesis.

Outputs without parentheses (Output directly) if there are any defects in decoding data format..

To set the Application Identifier outputting type, scan the appropriate symbol below.

Output with additional parentheses

Output directly (*)

Example: 0104987028255779170804001O4ZA38M

↓

(01**)**04987028255779**(**17**)**080400**(**10**)**4ZA38M

Supported application identifier is below:

01, 10, 17, 21, 30, 7003, 91, 92, 93, 94, 95, 96, 97, 98, 99

Save Settings

(Write into Flash ROM)

Composite

To Enable or Disable Composite symbol for decoding, scan the appropriate symbol below.

Enable Composite Symbol decoding

Disable Composite Symbol decoding (*)

· JAN/EAN/UPC Setup

To Enable or Disable JAN/EAN/UPC symbol for decoding, scan the appropriate symbol below.

Enable JAN/EAN/UPC decoding (*)

Disable JAN/EAN/UPC decoding

JAN/EAN/UPC (Standard) Check Digit Transmission

To select the JAN-13/EAN-13 (Standard) C/D transmission, scan the appropriate symbol below.

JAN-13/EAN-13 (Standard)
Transmit C/D (*)

JAN-13/EAN-13 (Standard)
No C/D transmission

JAN/EAN (Shortened) Check Digit Transmission

To select the JAN-8/EAN-8 (Shortened) C/D transmission, scan the appropriate symbol below.

JAN-8/EAN-8 (Shortened)
Transmit C/D (*)

JAN-8/EAN-8 (Shortened)
No C/D transmission

UPC-A Check Digit Transmission

To select the UPC-A C/D transmission, scan the appropriate symbol below.

UPC-A Transmit C/D (*)

UPC-A Disable C/D Transmission

UPC-E Check Digit Transmission

To select the UPC-E C/D transmission, scan the appropriate symbol below.

UPC-E Transmit C/D (*)

UPC-E No C/D transmission

Save Settings
(Write into Flash ROM)

UPC-A Number System transmission

To Enable or Disable UPC-A Number System transmission, scan the appropriate symbol below.

Transmit UPC-A
Number System (*)

No transmission of UPC-A
Number System

UPC-E Number System Transmission

To Enable or Disable UPC-E Number System transmission, scan the appropriate symbol below.

Transmit UPC-E
Number System (*)

No transmission of UPC-E
Number System

UPC-E Format Conversion

To Enable or Disable the conversion UPC-E codes to UPC-A format, scan the appropriate symbol below.

Format Conversion to UPC-A (*)

No Format Conversion

UPC Output Digits

To Enable or Disable the conversion of adding A zero(0) to the beginning of the data when UPC 12 digits symbol read , scan the appropriate symbol below.

12 digits code unchanged (*)

12 digits code converted to 13 digits

Note: If UPC-E format conversion is NOT enabled the 12 digit code is left unchanged.

・ DataMatrix Setup

Enable / Disable DataMatrix decoding and set reading parameters.
Supports ECC200 Symbology only.

To select DataMatrix reading, scan the appropriate symbol below.

Enable DataMatrix decoding
Shape: Square
Marking: Dark on Light (*)

Enable DataMatrix decoding
Shape: Square
Marking: Light on Dark

Enable DataMatrix decoding
Shape: Square
Marking: Dark on Light & Light on Dark

Enable DataMatrix decoding
Shape: Square & Rectangle
Marking: Dark on Light

Enable DataMatrix decoding
Shape: Square & Rectangle
Marking: Light on Dark

Enable DataMatrix decoding
Shape: Square & Rectangle
Marking: Dark on Light & Light on Dark

Disable DataMatrix decoding

DataMatrix Cell Size

To select the reading cell size for Data Matrix codes, scan the appropriate symbol below.

Normal Cell Size (*)

Small Cell Size

Smaller Cell Size

Save Settings
(Write into Flash ROM)

・ Maxi Code Setup

Enable / Disable MaxiCode decoding and set the mode.

To select Maxi Code reading, scan the appropriate symbol below.

Enable MaxiCode decoding
All Modes (*)

Enable MaxiCode decoding
Mode 0

Enable MaxiCode decoding
Mode 1

Enable MaxiCode decoding
Mode 2

Enable MaxiCode decoding
Mode 3

Enable MaxiCode decoding
Mode 4

Enable MaxiCode decoding
Mode 5

Disable Maxi Code decoding

Transmission of Primary

To Enable or Disable the data transmission for decoding primary of Maxi Code (primary only), scan the appropriate symbol below.

Enable primary transmission (*)

Disable primary transmission

PDF417

To Enable or Disable PDF417 symbol for decoding, scan the appropriate symbol below.

Enable PDF417 decoding (*)

Disable PDF417 decoding

Save Settings
(Write into Flash ROM)

・ QR Code Setup

Enable / Disable QR-Code decoding and set the marking type.

To select QR Code reading, scan the appropriate symbol below.

Enable QR Code decoding
Marking: Dark on Light (*)

Enable QR Code decoding
Marking: Light on Dark

Enable QR Code decoding
Marking: Dark on Light & Light on Dark

Disable QR Code decoding

Save Settings
(Write into Flash ROM)

Customer Barcode(Japan Post Code)

To Enable or Disable Customer Barcode (Japan Post Code) symbol for decoding, scan the appropriate symbol below.

Enable Customer Barcode decoding

Disable Customer Barcode (*)

To Enable or Disable the reading of incomplete Customer Barcode symbol, scan the appropriate symbol below.

Read incomplete symbols also (*)

Read complete symbols only

Save Settings
(Write into Flash ROM)

Aztec Code

Enable / Disable Aztec Code decoding and set the marking type.

To select Aztec Code reading, scan the appropriate symbol below.

Enable Aztec Code decoding
Marking: Dark on Light (*)

Enable Aztec Code decoding
Marking: Light on Dark

Enable Aztec Code decoding
Marking: Dark on Light and Light on Dark

Disable Aztec Code decoding

Save Settings
(Write into Flash ROM)

3. Operational Setup

3.1 General Operational Setup

Writes Setup Values

To save all current settings into the device's non-volatile flash memory, scan the symbol below.

Save Settings
(Write Flash ROM)

Restore factory default settings

To return all settings to their default states, scan the symbol below.

Restore Factory Default Settings

My Settings

The scanner can register multiple separate configurations in non-volatile memory. This function should be utilized when multiple types of marking technologies needed to be read.

Registration of My Setting

To register the configuration into My setting, scan the appropriate symbol below.

Register the configuration into My setting 1

Register the configuration into My Setting 2

Load registered My Settings

To load the registered My Setting into reader configuration, scan the appropriate symbol below.

Load My Setting 1

Load My Setting 2

Buzzer setup

To Enable or Disable the buzzer indicator, scan the appropriate symbol below.

Enable Buzzer (*)

Disable Buzzer

Vibration

To Enable or Disable the vibrator indicator, which indicates successful decoding, scan the appropriate symbol below.

Disable Vibrator

Enable Vibrator (*)

Save Settings
(Write into Flash ROM)

Continuous Reading Mode

Do not trigger read while the reader is on continuous reading mode.
Autosense mode should be disabled when using the continuous reading mode.

Setting for Continuous Reading Mode

To Enable or Disable Continuous Reading Mode, scan the appropriate symbol below.

Enable Continuous Reading Mode

Disable Continuous Reading Mode

Save Settings
(Write into Flash ROM)

Continuous Reading Mode Interval

To set the interval time between successive scans in continuous reading mode, scan the appropriate symbol below.

Interval: 0 s (*)

Interval: 1 s

Interval: 2 s

Interval: 3 s

Interval: 4 s

Interval: 5 s

Interval: 6 s

Interval: 7 s

Interval: 8 s

Interval: 9 s

Prohibit Same Symbol decoding in Continuous Reading Mode

To Enable or Disable reading of the same symbol when in continuous reading mode, scan the appropriate symbol below.

Disable Same Symbol prohibition (*)

Enable Same Symbol Prohibition

Same Symbol prohibition duration in Continuous Reading Mode

To set the Prohibit Duration time for same symbol reading in Continuous Reading Mode, scan the appropriate symbol below.

,.

Prohibit Duration: 0.5s

Prohibit Duration: 1.5s

Prohibit Duration: 5s

Prohibit Duration: 10s

Prohibit Duration:
Increment by 0.5s

Prohibit Duration:
Decrement by 0.5s

· Autosense Mode

To Enter or Escape Autosense mode, scan the appropriate symbol below.

.

Note: Autosense mode is invalid while in Continuous Reading Mode. Continuous Reading Mode needs to be disabled before enabling Autosense mode.

Enter Autosense Mode

Escape Autosense Mode

Save Settings
(Write into Flash ROM)

Autosense Mode timeout

To set the duration time limit (Time out) to read symbol after detecting a label coming in, scan the appropriate symbol below.

Time out: 1s

Time out: 2s

Time out: 3s (*)

Time out: 4s

Time out: 5s

Time out: 6s

Time out: 8s

Time out: 10s

Decode Time out

When the scanner cannot decode the symbol within the limited time, it will stop decoding.
This mode needs the setting of maximum timeout time .
Increasing the setting time when the symbol data size is large and needs extra time to decode.
Decreasing the setting time when the data size is small that takes shorter time to decode.

To set the maximum timeout time, scan the appropriate symbol below.

0.5s

1s (*)

5s

10s

Timeout time
Increment by 0.5s

Timeout time
Decrement by 0.5s

Pointer in Autosense mode

Enable / Disable the pointer while in Autosense mode.

Note: The pointer will blink during decode, regardless of this setting,.

To Enable or Disable the pointer blinking, scan the appropriate symbol below.

Enable pointer (*)

Disable Pointer

Autosense sensitivity

Set the sensitivity of Autosense mode.

Note: High sensitivity makes detection of labels easier, but may cause unintended triggers.

To set the Autosense sensitivity , scan the appropriate symbol below.

0:Highest sensitivity

1:High sensitivity

2:Normal sensitivity (*)

3:Low sensitivity

4:Lowest sensitivity

Prohibit Same Symbol decoding in Auto Detection mode.

To Enable or Disable Same Symbol prohibition in Auto Detection mode, scan the appropriate symbol below.

Disable Same Symbol prohibition

Enable Same Symbol prohibition (*)

Same Symbol Prohibition duration in Auto Detection Mode

To set the prohibited time for same symbol reading in Auto Detection mode, scan the appropriate symbol below.

Prohibit Duration: 0.5s

Prohibit Duration: 1s

Prohibit Duration: 5s

Prohibit Duration: 10s

t

Prohibit Duration
Increment by 0.5s

Prohibit Duration
Decrement by 0.5 s

Save Settings
(Write into Flash ROM)

Cropping Image area

Set the image cropping area.

Note: Vertical 25% and horizontal 25% is an invalid setting, all other combinations are possible.

To set the image cropping area size in Auto Detection mode, scan the appropriate symbol below for Horizontal size and Vertical size respectively.

Horizontal:

Full size (*)

75%

50%

25%

Vertical:

Full size (*)

75%

50%

25%

Quick Setting with Function Button

Enables / disables the function button on the quick setting 1 and 2.

This setting prevents the change of the mode of the operation when the operation mode is configured incorrectly.

Note: Please refer to the operation manual of THIR-6780 series for quick setting 1 and 2.

To set the function button, scan the appropriate symbol below.

Disable quick setting 1 and 2

Enable quick setting 1 (*)

Enable quick setting 1 and 2

Save Settings
(Write into Flash ROM)

3.2 Setting Camera Control

AGC

Enable/Disable AGC (auto gain control) of the internal-camera.

“Enabled AGC”: the camera gain is adjusted automatically whenever scanner reads symbol.

“Disabled AGC”: when the “Disable AGC” (below) is scanned, the camera gain is held at just its gain value.

.

To Enable or Disable AGC, scan the appropriate symbol below.

Enable AGC (*)

Disable AGC

Illumination

To set the illumination lights to read symbols, scan appropriate symbol below.

All illumination OFF

Upper illumination ON (*)

Lower illumination ON

All illumination ON

Lower illumination always ON

Save Settings
(Write into Flash ROM)

3.3 Preset Mode setting

The scanner has the function of Preset Mode function that is used for verification of the decoded data. The scanner compares the decoded data with the preset data (Registered data) and will output only if the data is matched regardless of its symbology type.

Preset Mode has two modes, Preset Mode 1 and Preset Mode2.

Preset Mode 1: Preset data is the first decoded one after power up.

Preset Mode 2: Preset data is registered in advance by using the barcode menu or serial command.

・ Preset Mode 0

To cancel Preset Mode (Preset Mode : disabled), scan the symbol (Preset Mode 0) below.

Preset Mode 0 (*)
(Cancel Preset Mode)

・ Preset Mode 1

Preset data is the first decoded one after power up. Subsequent symbols will be read and compared with the preset data, resulting, in OK if they were the same as the preset data , or NG if they were different. The preset data is cleared when the scanner is powered OFF.

To set the scanner for Preset Mode1, scan the symbol (Preset Mode 1) below and then scan the symbol (Save of Setting) to write into Flash ROM. Then restart (power OFF and ON) the scanner.

Preset Mode 1

・ Preset Mode 2

This mode would registered the preset data by using the barcode menu or serial commands.
Both for the perfect matching and partial matching are available on data verification.
The preset data can be also stored into the non-volatile memory.

To set Preset Mode 2, scan the symbol (Preset data 2) below and follow the procedure below.

Preset Mode 2

Preset data registration

This registration is for complete matches only.
To set the Preset data ,scan the symbol (Set Preset Data) below, and followed by scanning the adequate symbols as preset data.

Set Preset Data

Save Settings
(Write into Flash ROM)

Setting for Digits

To decode symbols with a specific length range for each symbology, this setting must be set through the serial command **DIGIT=ab,c-d[CR]** below.

To enable the partial match verification, transmit the serial command (SET=PRENa) from the host computer.

Transmit the command of digits setting from the host computer to enable the partial match verification.

Command

SET=PRENa[CR] a = 0 No verification of digits

a = 1～ 100

For no verification of preset data digits, read the bar code below.

No verification of preset data digits

Setting for Verifying Character's

Transmit the command from host computer to set partial match verification of the column number setting.

By typing the wild card character "?" in the preset data, the character on the column number can be omitted from the verification. With the wild card, the scanner considers every value as a matched regardless of the value of the character on the column data from the symbol data. The character "?" cannot be verified.

Command

SET=PREDabcdef… [CR] : abcdef…: Preset data

SET=PRED?[CR] : No verification of every characters

NOTE) Read the bar code menu to set the control code (00[hex] ~ 1F[hex], 7F[hex]) .

Read the bar code below for not to verify all the characters in the preset data. (**SET=PRED?**)

Set Preset Characters not to be verified

Example of Preset data

Example 1: Compare with preset "12345" and read data.

Result example： 12345 Match
1234 NOT match
012345 NOT match

●Preset data by barcode menu

Scan the adequate symbols in following sequence.

1) Scan the “Preset Mode 2” symbol.
2) Scan the “Set preset Data” symbol.
3) Scan the “Character Data "symbols for “1”,“2”,”3”,”4” and ”5" respectively.
4) Scan the “Save Settings” symbol.

●Preset data by serial command

Send serial commands to the scanner from host computer as following sequence.

1) PREM=2[CR]
2) SET=PRED12345[CR]
3) WSETS[CR]

Example 2: Compare with first4 digits as “ABCD” (No specific Digits)

Result Example： ABCD3333 Match
ABCD7777777 NOT Match
DABC3333 NOT Match
ABC**7**7777777 NOT Match

●Preset data by barcode menu

1) Scan the “Preset Mode 2” symbol.
2) Scan the “Set preset Data” symbol.
3) Scan the “Character Data "symbols for “A”,“B”,”C”, and ”D" respectively.
4) Scan the “Save Settings” symbol.

●Preset by serial command

Send serial commands to the scanner from host computer as following sequence.

1) PREM=2[CR]
2) SET=PREDABCD[CR]
3) SET=PREN0[CR]
4) WSETS[CR]

Example 3) When 10 digits are expected, and the 3rd through 6th digits should be "ALFA".

Result Example： 00ALFA1234 Match
AAALFAAAAA Match
00ALFA1234**4** NOT Match
0ALFA01234 NOT Match

●Preset barcode menu

It is not capable to setup only barcode menu.

●Setup by Sending Command

Send serial commands to the scanner from host computer as following sequence.

1) PREM=2[CR]
2) SET=PRED??ALFA????[CR]
3) SET=PREN10[CR]
4) WSETS[CR]

Transmitting Preset Status

Output the current preset setting status. To output the status, read the barcode menu of preset status transmission below.

Transmitting Preset Status

Command **?pre [CR]**

Output Example
PREM=0 (0:non 1:power on 2:saved)
PRESET LENGTH:41
DATA(HEX):
31 32 33 3F 3F 3F 3F 3F 3F 3F
3F 41 42 43 43 44 45 03 04 05
3F 3F 3F 3F 3F 3F 3F 3F 46 47
48 49 3F 3F 3F 3F 3F 3F 39 31
30
DATA(ASCII):
123????????ABCCDE***????????FGHI??????910

Output Format
PREM=a (0:non 1:power on 2:saved)[CR]
PRESET LENGTH:b[CR]
DATA(HEX):[CR]
XX XX XX XX XX XX XX XX XX XX[CR]
XX XX XX XX XX XX XX XX XX XX[CR]
XX XX XX XX [CR]
DATA(ASCII):[CR]
xxxxxxxxxxxxxxxxxxxxxxxx

a : Preset mode
b : The number of Preset data digits
XX XX … : Preset data characters, displayed as Hexadecimal number pairs
xxxxxx… : Preset data character(ASCII/JIS Character code)
Preset data is including of control character, the control characters converted by “*”.

4. Diagnosis

Output the Decode Time

The actual time consumed during symbol decoding, (starting with the SYNC ON event), can be appended to the output data in the serial interface output.

Added Decode Time

NOT Added Decode

Output Example
1912345678907(0238ms)[CR]

Format
<Header>•<read data><aaaa>**ms**•<Terminator>
Where <aaaa>=4 digits of decode time in mil second.

Output Actual Reading Statistics

A statistical report of actual reading quality based on decode time can be output through the serial interface. The report contains minimum, maximum and average times for OK reads and Bad reads, and also the total count of SYNC events, OK reads and Bad reads. The report covers the time period since the last read barcode menu of **Clear Decode Time, Output Reads Count**, or else since power ON.

Report explanation:

"OK" denotes the cases when bar code reading and decode were successful.

"NG" denotes the cases when bar code reading or decode failed.

When multiple bar code label reading is enabled, the OK designation means that ALL labels read OK; The NG designation means that at least one label reading failed. (Multiple label symbol reading is an optional feature.)

Decode Time,
Output Read Count

Clear Decode Time,
Output Read Count

Output Example

*** TOTAL ***

NG 2:OK 175/SYNC 177

NG 1.12%:OK 98.87%

(Output Format

*** TOTAL ***[CR]

NGaaaaa:OKbbbbb/SYNCccccc[CR]

NGddd.dd%:OKeee.ee%[CR]

aaaaa : The number of NG reads (0 ～ 65535, more displays 65535)

bbbbb : The number of OK reads (0 ～ 65535, more displays 65535)

ccccc : The number of decode trials (0 ～ 65535, more displays 65535)

ddd.dd : The average of NG reads (0.00 ～ 100.00, displays 2 decimal places)

eee.ee : The average of OK reads (0.00 ～ 100.00, displays 2 decimal places)

・ Output Actual Reading Statistics2

The report of an actual reading which is based on the numbers of decodes attempts (shortest / longest / average decoding time and reading time can be output) after the power activation. The data will be erased when the scanner is turned off or when the bar code "Erase decoding time and reading time" is read.

“OK” denotes the cases when bar code reading and decode were successful.
“NG” denotes the cases when bar code reading or decode failed.

When multiple bar code label reading is enabled, the OK designation means that ALL labels read OK; The NG designation means that at least one label reading failed. (Multiple label symbol reading is an optional feature.)

Output decoding time and numbers of reading

Erase decoding time and numbers of reading

Example Output

*** DECODE TIME ***

OK: min(0186ms),max(0271ms),ave(0238ms)

NG: min(0382ms),max(1000ms),ave(0691ms)

NG 2:OK 177/SYNC 179

Format

*** DECODE TIME ***[CR]

OK: min(aaaams),max(bbbbms),ave(ccccms)[CR]

NG: min(ddddms),max(eeeems),ave(ffffms)[CR]

NGggggg:Okhhhhh/SYNCiiiii[CR]

aaaa	: The shortest decode time for OK reads (0000~6000)
bbbb	: The longest decode time for OK reads (0000~6000)
cccc	: Average decode time for OK reads (0000~6000)
dddd	: The shortest decode time for NG reads (0000~6000)
eeee	: The longest decode time for NG reads (0000~6000)
ffff	: Average decode time for NG reads (0000~6000)
ggggg	: The number of NG reads (0~65535, more displays 65535)
hhhhh	: The number OK reads (0~65535, more displays 65535)
iiiii	: The number of SYNC events(0~65535, more displays 65535)

・ Output of Bar Code Position Information

Set the output for the position information of decoded symbol.

a)Barycentric coordinates
Output the central coordinate of the decoded symbol. The origin coordinate is the upper left (000,000) on the display.

(Output example)
100000000990703(+312,+255)

(Output format)

<Header>•<read data>(abbb,accc)•<Terminator>
a :+ or -
bbb: Read Symbol Center of X coordinate(-999~+999)
ccc: Read Symbol Center of Y coordinate(-999~+999)

b) 4 Corner Coordinate Data

Coordinates of the four corners of the symbols are determined and added to the output data.
The screen upper left corner serves as the Origin point (000, 000).

Example Output
100000000990703(+269,+011)(+455,+086)(+386,+270)(+198,+199)

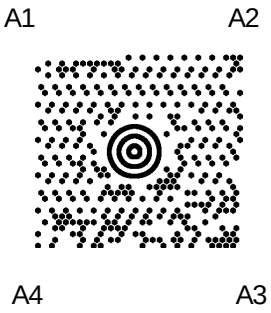
Format
<Header>•<read data> (A1)(A2)(A3)(A4)•<Terminator>
A1~A4：(abbb,accc)
Output coordinates of points A1, A2, A3, and A4 in that order each the following format.
a :+ or –
bbb: = X coordinate of a bar code corner (-999~+999)
ccc: = Y coordinate of a bar code corner (-999~+999)

Reference 4 Coordinate Position of Each Symbol

1 dimensional barcode

2 dimensional barcode

MaxiCode



QRCode

PDF417

DataMatrix

c) Output of Both Geometrical Center and 4 Corner Coordinates

Data of the geometrical center coordinates and 4 corner coordinates are both output to the serial interface with the read data. The origin coordinate is the upper left (000,000) on the display.

(Output example)
100000000990703(+140,+326)(+269,+011)(+455,+086)(+386,+270)(+198,+199)

Format
<Header>•<read data><B>(A1)(A2)(A3)(A4)•Terminator
B：Geometric Center
(A1)(A2)(A3)(A4)：Coordinates of 4 corners
B、A1~A4：(abbb,accc)
Output coordinates of points B, A1 through A4 in that order each the following format.

a :+ or -
bbb:X coordinate (-999~+999)
ccc:Y coordinate (-999~+999)

Setup Output Coordinate

NOT Output Coordinate

Output Geometric Center

Output 4 Corner Coordinate

Output Geometric Center and 4 Corners Coordinate

5. Setting Reference

Output the current setting of the reader (status).

・ Status1

Transmit Status 1

Save Settings
(Write into Flash ROM)

(Output example)
******** STATUS ******** THIR-XXXX
SHUTT=1 (0:1/60 1:1/125 2:1/250 3:1/500 4:1/1000)
(5:1/2000 6:1/4000 7:1/6000 8:1/8000)
GCV=6 (1-11) AGC_ENABLE:1 (0:disable 1:enable)
LIGHT=1 (0,2:OFF 1,3:ON) LABELTX=0 (0:through 1:[HEX])
ILLUM=1 (0:OFF 1:IN 2:EX 3:BOTH 4:LEAVE EX ON)
SYMBOLTX=0 (0:only data 1:add symbol information to data)
keep decoding:0 (0:normal decode 1:keep decoding mode)
contintvl=0 (interval time[s] for keep decoding mode)
HEAD=0 (0:non 1:[SX] 2:[EC])
TERM=3 (0:non 1:[EX] 2:[EX][CR] 3:[CR][LF] 4:[CR])
(5:[CR][TAB] 6:[TAB][CR])
FRAME=4 (0:7O1 1:7O2 2:7E1 3:7E2 4:8N1)
(5:8N2 6:8O1 7:8O2 8:8E1 9:8E2)
BAUD=9600 (1200,2400,4800,9600,19200,38400,57600,115200)
********* END ********* THIR-XXXX

Description of Status 1

SHUTT=_ Shutter speed (Second)
0:1/30 1:1/60 2:1/125 3:1/250
4:1/500 5:1/2000 6:1/4000
AGC= Transmitted AGC value to camera 0 – 255 200
AGC_ENABLE: Setting enable or disable Valuable AGC
1 Auto Control AGC Value
0 Fixed AGC Value
LIGHT=_ Illumination Setting
0: Auto Flash (After First Time Off, then AUTO)
1: Auto Flash (After First Time On, then Auto)
2: Always Off 3: Flash Every Reading
LABELTX= Transmit Control Code
0: Transmit
1: Convert ASCII Code

SYMBOLTX= Prefixed Symbol Information

0: Not Add Prefix Symbol Information

1: Add Prefix Symbol Information

keep decoding: Continuous Reading Mode

0 Dark on Light Mode

1 Continuous Reading Mode

contintvl= Continuous Reading Interval Mode (Second)

0 - 9 : 0 Second－9 Second 1 Second

GOUTMODE=_ Image Output Mode

0: Disable Image output

1: Enable Image output, Protocol: XMODEM(SUM128)

2: Enable Image output, Protocol: XMODEM(CRC16)

GOUTSIZE= Image Size

0:644 pixel×494 pixel (Full image)

1:320 pixel×247 pixel (1/4 image)

2:160 pixel×123 pixel (1/16 image)

HEAD= Header

0: Non parity 1:[SX] 2:[EC]

TERM= Terminator

0: Non parity 1:[EX] 2:[EX][CR]

3:[CR][LF] 4:[CR]

5:[CR][TAB] 6:[TAB][CR]

FRAME= Frame Format (bits, parity, stop bit)

0:701 1:7O2 2:7E1 3:7E2 4:8N1

5:8N2 6:8O1 7:8O2 8:8E1 9:8E2

BAUD= Baud rate [bps]

1200 2400 4800 9600

19200 38400 57600 115200

・ Status 2

Transmit Status 2

Save Settings
(Write into Flash ROM)

Output Example

```
******** STATUS ******** THIR-XXXX
 RSCS=0     (0: OFF 1: ON)     C39SS=0 (0: not trans. 1: trans.)
 CODASS=1 (0: not trans. 1: trans.)    CODACS=1 (0: small 1: capital)
 SEPA=2     (0:non   1:&   2:,   3:[FS]   4:[GS]   5:[SP])
 UPCTX=0 (0:12-digit   1:13-digit)
 PREFIX=0 (0: off   1:[NUL])
 SUFFIX=0 (0: off   1:[NUL])
 E128GS=1 (0: non   1:[GS])
 CODACHK=0 (0:standard 1:7DR)
 << SYMBOLOGIES MODE >>
   Symbology   mode    min     max   start   length      Head        Foot
     Code39          1       1   2047        1     2047     0:[   A], 0:[   A]
     Code128         1       1   2047        1     2047     0:[   C], 0:[   C]
     DataMatrix      1       1   2047        1     2047     0:[   d], 0:[   d]
     JAN/UPC         1       1   2047        1     2047     0:[   E], 0:[   E]
     CODABAR         1       1   2047        1     2047     0:[   F], 0:[   F]
     ITF             1       6   2047        1     2047     0:[   I], 0:[   I]
     PDF417          1       1   2047        1     2047     0:[   L], 0:[   L]
     MaxiCode        3F      1   2047        1     2047     0:[   U], 0:[   U]
     QR-Code         1       1   2047        1     2047     0:[   Q], 0:[   Q]
     PostalCode      0       1   2047        1     2047     0:[   p], 0:[   p]
     EAN-128         1       1   2047        1     2047     0:[   e], 0:[   e]
     RSS             00      1   2047        1     2047     0:[   R], 0:[   R]
     Code93          1       1   2047        1     2047     0:[   G], 0:[   G]
     Composite       00      1   2047        1     2047     0:[   c], 0:[   c]
     AztecCode       1       1   2047        1     2047     0:[   z], 0:[   z]
********* END ********* THIR-XXXX
```

Description of Status 2

RSCS= RS/CS Control
0:RS/CS Control Not carries out
1:RS/CS Control carries out.

C39SS= Transmit Code39 ST/SP Code
0:Not Transmit 1:Transmit

CODASS= Transmit Codabar ST/SP Code
0:Not Transmit 1:Transmit

CODACS= Codabar ST/SP Character
0:Lower Case Letter 1:Upper Case Letter
SEPA=_ Separator Setting
UPCTX=_ Output Digits of UPC Code
0:12 digits 1:13 digits
E128GS=_ Transmit Control Character [GS]
0:Not Transmit 1:Transmit

mode Reading Mode
min Reading Minimum Digits (1-2047)
ma Reading Maximum Digits (1-2047)
start Start Edit Digits (1-2047)
length Transmit Edit Digits (1-2047)

Code39: Reading Code39 (mode)
0 Disable
1 Read, DISABLE C/D CHECK
2 Read, ENABLE C/D CHECK, C/D Transmit
3 Read, ENABLE C/D CHECK, C/D Not Transmit
4 Read, DISABLE C/D CHECK, FULL ASCII On
5 Read, ENABLE C/D CHECK, C/D Transmit、FULL ASCII On
6 Read, ENABLE C/D CHECK, C/D Not Transmit、FULL ASCII On
Code128: Read Code128 (mode)
0 Disable
1 Read, ENABLE C/D CHECK, C/D Transmit

DataMatrix: Read DataMatrix (mode)

0 Disable

1 Read, Square, Dark on Light label

2 Read, Square, Light on Dark label

3 Read, Square, Dark on Light & Light on Dark label

5 Read, Square & Rectangle, Dark on Light label

6 Read, Square & Rectangle, Light on Dark label

7 Read, Square & Rectangle, Dark on Light & Light on Dark label

JAN/UPC: Read JAN/EAN/UPC (mode)

0 Disable

1 Read, ENABLE C/D CHECK,

CODABAR: Read Codabar (mode)

0 Disable

1 Read, DISABLE C/D CHECK

2 Read, ENABLE C/D CHECK, C/D Transmit

3 Read, ENABLE C/D CHECK, C/D Not Transmit

ITF: Read ITF (mode)

0 Disable

1 Read, DISABLE C/D CHECK

2 Read, ENABLE C/D CHECK, C/D Transmit

3 Read, ENABLE C/D CHECK, C/D Not Transmit

PDF417: Read PDF417 (mode)

0 Disable

1 Read,

MaxiCode: Read MaxiCode (mode)

Display Mode Base on 16 bit format, and Bit 0 through Bit 5 indicate Mode 0 through 5.

(1: Enable, 0: Disable)

3F (Read All Mode)

QR-Code: Read QR Code (mode)

0 Disable

1 Read, Dark on Light label

2 Read, Light on Dark label

3 Read, Dark on Light & Light on Dark label

PostalCode: Read customer barcode (Japan Post Code) (mode)

0: Disable

2: Read customer bar code (Japan Post Code)

EAN128: Read GS1-128 (mode)

0: Disable

1: Read

RSS: Read GS1 Databar (mode)

0: Disable

1: Read

Code93: Read Code93 (mode)

0: Disable

1: Read

Composite: Read Composite (mode)

0: Disable

1: Read

AztecCode: Read AztecCode (mode)

0: Disable

1 Read, Dark on Light label

2 Read, Light on Dark label

3 Read, Dark on Light & Light on Dark label

・ Status 3

Transmit status 3

Save Settings
(Write into Flash ROM)

Output Example

******** STATUS ******** THIR-XXXX
LABELS=1 (1-4:labels)
OUTFORM=0 (0:no check 1:digit 2:chara 3:symbol)

CheckNo.	digit	chara1	chara2	symbol
check[1] :	0	3F	3F	?
check[2] :	0	3F	3F	?
check[3] :	0	3F	3F	?
check[4] :	0	3F	3F	?

XYTX=0 (0:non 1:add(x,y))
TXWAIT=1000 (1000-2500,step10)
********* END ********** THIR-XXXX

Description of Status 3

LABELS= Numbers of Label
OUTFORM= Output Data Order Sequence
check[1] Setting Label No.1
check[2] Setting Label No.2
check[3] Setting Label No.3
check[4] Setting Label No.4
digit Setting Label No. n Digits
chara1 Compare Setting Label No. n Character (1st Byte)
chara2 Compare Setting Label No. n Character (2nd Byte)
symbol Setting Symbol Label No. n

XYTX=_ Output Read label coordinate
0: Disable
1: Output Geometric Center Coordinate
2: Output 4 Corner Coordinate
3: Output Geometric Center Coordinate and 4 Corner Coordinate

TXWAIT=_ Transmit Read Data Timeout (ms)
1000 – 2500 ms(by 10 ms)

・ Status 4

Transmit status 4

Save Settings
(Write into Flash ROM)

(Output example)

```
******** STATUS ******** THIR-XXXX
 ILLUMINT=50,70   ( 0-80, 0-100 )
 FNCBTN=1   ( 0:disable(all)   1:enable(switch)   2:enable(all) )
 SENDCHAR=¥0D   ( ¥00~¥FF )
 SENDIMG=1   ( 1:Full   2:1/2   3:1/4   4:1/8 )
 MODE=0   0:normal 1:image-out
 DECODELIM=1000   100-10000 step10
 DTTX=0   0:non 1:add(****ms)
 MIRROR=0   0:normal 1:mirror
 JPOST=0   0:fuzzy 1:perfect
 UPCE=0    0:UPC-A form 1:UPC-E form
 UPCANS=0 UPCENS=0   0:output number system 1:strip
 UASUM=0 UESUM=0      0:output UPC chksum 1:strip
 JE13SUM=0 JE8SUM=0 0:output EAN/JAN chksum 1:strip
 MAXIPS=0   0:prim. or prim.+sec. 1:prim.+sec.
 DMSIZE=0   (0:normal 1:smaller 2:very small)
 POSTALD=0 typ:3500-7000
 VERIFY=0 (0:OFF 1:ON)   VWAIT=3(x500mS 1-20 )
 GRVAREA=0
 buz=1 (0:OFF 1:ON) vibrate=0 (0:OFF 1:ON)
 GS1AI=0 (0:disable 1:enable)
********* END ********* THIR-XXXX
```

Description of Status 4

ILLUMINT= The brightness of lower illumination when the lower illumination is always ON (ILLUM=4)

First value：The brightness when the scanner is on standby

Second value：The brightness at the reading

FNCBTN=_ Function button control

0: Disable function button

1: Enable function button (Quick setting 1 only)

2：Enable function button (Both of quick setting 1 and 2)

SENDCHAR= Output data when the function button is pressed (Available only when the function button is set to the character string output)

¥0D (¥00~¥FF) *up to 2 characters are settable. (Example: ¥0D¥OA)

SENDIMG=_ Output image size when the function button is pressed (Available only when the function button is set to the image output)

1: Full 2: 1/2 3: 1/4 4: 1/8

MODE=_ Setting for binary output of image by command

0: No output by command 1: Output by command

DECODELIM=_ Setting Decode Timeout (ms)

100 - 10000ms

DTTX=_ Decoding time

0:Decoding time added 1: No decoding time added

MIRROR=_ Mirror Image

0: Read, Dark on Light

1: Read, Mirror Image

JPOST=_ Read Japan Post Code

1:Read Incomplete label 2：Read Perfect label

UPCE=_ UPC-E Format Convert

0: Convert UPC-A Format

1: Not Convert

UPCANS=_ Transmit UPC-A Number System

0: Transmit 1: Not Transmit

UPCENS=_ Transmit UPC-E Number System

0: Transmit 1: Not Transmit

UASUM=_Transmit UPC-A C/D

0: Transmit 1: Not Transmit

UESUM=_Transmit UPC-E C/D

0: Transmit 1: Not Transmit

JE13SUM=_ Transmit JAN/EAN Standard C/D

0: Transmit 1: Not Transmit

JE8SUM=_ Transmit JAN/EAN Shortened C/D

0: Transmit 1: Not Transmit

MAXIPS=_ Transmit Maxi Code Primary

0: Transmit 1: Not Transmit

DMSIZE= Cell size of DataMatrix

0: Default cell size 1: Small cell size 2: Smaller cell size

VERIFY= Prohibition of continuous reading same symbol

0: Normal Continuous Reading 1: Prohibit continuous reading same symbol

VWAIT= Prohibition duration of continuous reading same symbol

1.5secs Values between 1～20(0.5 sec～10 sec)

GRVAREA= Center reading mode

0: Disable 1: Enable

buz=_ Buzzer setting

0: Buzzer OFF 1: Buzzer ON

vibrate= Vibration setting

0: Vibration OFF 1: Vibration ON

GS1AI=_Outputs with putting parenthesis around the application identifier

0: Output putting with parentheses 1: Output directly

・ Status IMG

Check the reading area cropping status.

Transmit status IMG

Save Settings
(Write into Flash ROM)

(Output example)

******** STATUS ******** THIR-XXXX
IMODE=0 PX=0 PY=0 WX=752 WY=480
CAPX=0 (0:100%, 1:75%, 2:50%, 3:25%)
CAPY=0 (0:100%, 1:75%, 2:50%, 3:25%)
IMGSEL=1 (0:captured image 1:decoded image)
********* END ********* THIR-XXXX

(Description of status IMG)

IMODE= The coordination of image where to start capturing.
0: Full size 1: Specified

PX=_, PY=_ Specification of the starting coordinate for image transmission

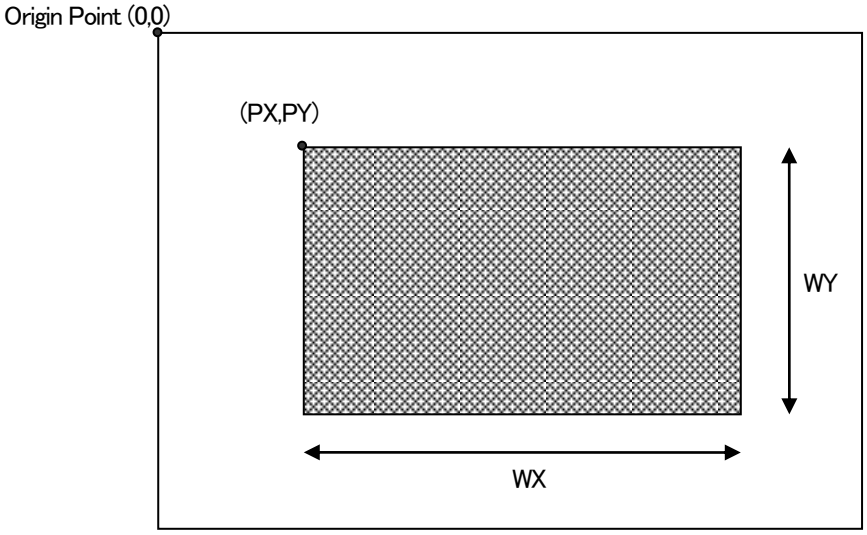
WX=_, WY= The coordination of image where to end capturing (horizontal and vertical)

CAPX=_ Prefixed cropping (Horizontal)
0: 100% 1: 75% 2: 50% 3: 25%

CAPY=_ Prefixed cropping (Vertical)
0: 100% 1: 75% 2: 50% 3: 25%

Image Area Definition

The origin point is located on the upper left of the image when the image transmitting area is specified.



・ Status “LF”

Transmit status LF

Save Settings
(Write into Flash ROM)

(Output example)
******** STATUS ******** THIR-XXXX
LFMODE=0 (0:OFF 1:ON)
LFMOVELIM=2 (0:1000ms 1:2000ms 2:3000ms 3:4000ms
4:5000ms 5:6000ms 6:8000ms 7:10000ms)
LFDECLIM=2(x500mS 1-20)
LFPOINTER=1 (0:OFF 1:ON)
VSENS=2 (0-4)
LFVERIFY=1 (0:OFF 1:ON) LFVWAIT=6(x500mS 1-20)
LFINTVL=0 (0-5000ms)
********* END ********* THIR-XXXX

(Description of status LF)
LFMODE=_ Choosing Auto Detection mode
0: OFF 1: ON

LFMOVELIM=_ Detection ignored time (ms)
0: 1000 1: 2000 2: 3000 3: 4000
4: 5000 5: 6000 6: 8000 7: 10000

LFDECLIM= Time for LFMOVELIM (within this time the scanner ignores the detection of an object) (s)
1～20: 0.5(S)～10(S) [Step: 0.5(s)]

LFPOINTER= Aiming beam during auto detection mode
0: Off 1: Blink

VSENS=_ Sensitivity against change of image
0 (Highest) ～ 4 (Lowest)

LFVERIFY= Don’t want to read same data?
0: No 1: Yes

LFVERIFYLIM=_ Time for LFVERIFY (within this time the scanner doesn’t read same data continuously)
1～20 : 0.5 (s)～10 (s) [Step: 0.5(s)]

LFINTVL= Interval of continuous reading after the auto detection mode (ms)
0～5000 ms

6. Setting for HID Type Only

Setting of special function for HID type (Human Interface Device), describe at below.

Data Transmission Interval

Setting for data transmission interval time

(Note)
-Reactivate the scanner after reading “Save the Setting” barcode to reflect the setting of the data transmission interval time.
-Depending on the receiving device, data receiving failure may happen in short transmission interval.
-Depending on the data receiving interval of the computer, the setting of data transmission interval cannot be reflected in the scanner’s performance.

0ms

3ms

5ms

7ms

10ms

20ms

30ms

Save Settings
(Write into Flash ROM)

Keyboard Selection

1) Select Japanese or English keyboard from the bar code below and save the setting.
2) Reactivate the scanner to reflect the setting.

Select Japanese Keyboard

Select English Keyboard

・ Caps Lock Setting

Sets Caps lock convert.

Capslock OFF

Capslock ON

Capslock AUTO

Output example)
Output data：AaBbCc

Setting		Result
Scanner Setting	Keyboard Status	Output
Caps Lock OFF	Caps Lock OFF	AaBbCc
	Caps Lock ON	aAbBcC
Caps Lock ON	Caps Lock OFF	aAbBcC
	Caps Lock ON	AaBbCc
Caps Lock AUTO	Caps Lock OFF	AaBbCc
	Caps Lock ON	AaBbCc

Save Settings
(Write into Flash ROM)

・ Setting for Uppercase/Lowercase Conversion

Converted alphabets can be output if there are alphabets in the output data.

No conversion

Uppercase conversion

Lowercase conversion

Uppercase/lowercase conversion

Output example)

Output data：AaBbCc

Setting	Result
Scanner Setting	Output
No Conversion	AaBbCc
Uppercase Conversion	AABBCC
Lowercase Conversion	aabbcc
Uppercase/Lowercase Conversion	aAbBcC

Save of Setting
(Write Flash ROM)

・ HID Status

Display the HID status information.

Transmit HID Status

Save Setting
(Write Flash ROM)

(Output example)
******** STATUS ******** THIR-XXXX
 HIDDELAY=1 (0:0ms 1:10ms 2:20ms 3:30ms 4:3ms 5:5ms 6:7ms)
 HIDKEYTYPE=0 (0:JIS 1:ISO)
 HIDCAPS=0 (0:OFF 1:ON 2:AUTO)
 STRCONV=0 (0:OFF 1:UPPER 2:LOWER 3:EXCHANGE)
********* END ********** THIR-XXXX

(Description of Status HID)
HIDDELAY= Data transmitting interval (ms)
0: 0 1: 10 2: 20 3: 30
4: 3 5: 5 6: 7

HIDKEYTPYE= Keyboard
0:JIS(Japanese) 1:ISO(English)

HIDCAPS= CapsLock
0: CapsLock OFF
1: CapsLock ON
2: CapsLock Auto

STRCONV= Character conversion
0: No character conversion
1: Convert all characters into lowercase
2: Convert all characters into uppercase
3: Convert uppercase into lowercase and lowercase into uppercase

7. USB Device Type

This function switches the type of USB device when connected to a Windows computer.

Available interface types:
-USB Virtual COM (VCOM) Image Reader
-Human Interface Device (HID) Image Reader

[How to switch between device types]
-Settings for both of reader and computer is necessary.

1) How to switch VCOM type into HID type
How to change reader setting
1. Read the bar code to start switching.
2. Read the bar code of HID image reader.
3. Read the “Save Settings” bar code.

How to change PC setting
1. Close the application which uses virtual COM.
2. Click “Safely Remove Hardware” and select ”Tohken Virtual COM Port for USB”.
3. Unplug the USB connector of the reader from PC and re-plug it again.

2) How to switch HID type into VCOM type
How to change reader setting
1. Read the bar code to start switching.
2. Read the bar code of USB image reader.
3. Read the “Save Settings” bar code.

How to change PC setting
Unplug the USB connector of the reader from PC and plug it again.

Initiate USB interface type switch

Enable Switching

Select interface type

VCOM Image Reader

HID Image Reader

Save Settings

Save Settings

[Memorandum]

[Memorandum]

[Memorandum]

MARS TOHKEN SOLUTION CO.LTD.

Head Office	Shinjuku-gyoen Muromachi Bldg., 1-8-5, Shinjuku, Shinjuku-ku, Tokyo	160-0022
Sales div. & Overseas		TEL +81-3-3352-8537
Nagoya Office	4-2-12 Meieki, Nakamura-ku, Nagoya-shi, Aichi 450-0002	TEL +81-52-565-9091
Osaka Office	2-9-1 Higashi-tenma, Kita-ku, Osaka-shi, Osaka 530-0044	TEL +81-6-6353-5476
Fukuoka Office	1-14-16 Hakata-ekimae, Hakata-ku, Hakata-shi, Fukuoka 812-0011	TEL +81-92-441-3638
Hitachi Office	2-14-20 Higashi-ishikawa, Hitachinaka-shi, Ibaraki 312-0052	TEL +81-29-276-9555

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