RTscan

User Guide

For RT218

Software Development Manual

Revision History

Version	Description	Date	Writer
V0.1	Add setting codes that part cannot identify, such as Length settings for CODE11 and MSI ,RSS switch	2015.05.26	
V0.2	1.Add the control of floodlight and positioning light 2.Communication mode: Add USB KBW and USB serial port 3.Trigger mode: Add automatic induction mode	2015.07.27	
V0.3	Add default configuration parameters (default configuration contains the default configuration 1 and 2)	2015.08.04	
V0.4	Add the difference between 1D and 2D software Overview: 1D does not support automatic induction mode 1D product does not support USB interface 1D product only has a floodlight	2015.10.14	
V0.5	Automatic induction mode adds higher sensitivity	2015.10.19	
V0.6	1D supports automatic induction mode	2015.12.02	
V0.7	Add five default configuration	2015.12.17	
V0.8	Add auto newline	2016.01.07	
V0.9	Add default configuration 3	2016.01.22	
V0.10	The version can output all product information by setting code	2016.01.27	
V0.11	1D has the function of identifying two barcodes at the same time.	2016.03.25	
V0.12	1.Add communication mode: Support AUTO UK and AUTO UV 2.DM adds the function of reading Multi-code mode	2016.05.06	
V0.13	Add 2D barcode Packet format description	2016.05.25	
V0.14	The version supports Aztec Code, Maxi Code and Han Xin Code	2016.06.07	
V0.15	Add default configuration 4	2016.06.17	
V1.0	Formal Version	2016.10.31	
V1.01	Add prompt switch. Add Matrix 25 and Standard 25.	2016.11.17	
V1.02	Add detailed SSI command	2017.02.21	
V1.03	Add new functions Modify some of the contents of the manual	2017.04.21	
V1.04	Add event report, wiegand, PS2, setting code password mode,disable passive trigger scanning, default configuration ,command table	2017.06.15	
V1.05	Add WAKEUP contents Add REQUEST_REVISION contents Delete default configuration 6-8	2017.06.28	
V1.06	Add ECI control of QR and DM Add logout password function	2017.07.20	
V1.07	Add invoice type Modify some mistakes	2017.08.16	
V1.08	Add input character set type Add output ctrl combination key	2017.09.01	

	Modify partial contents of table 4-3		
V1.09	Add TTDATA, TTDATA+Serial Port Add ASCII Add Barcode Global Switch Add SSI Command of Custom Beeper Sound Add Terminator CR CR, CR LF CR LF Add Quick Settings of Keyboard Output Time Interval Add Button Continuous Add Keyboard Type Add Codabar Start Character and Terminator and Letter Case Setting of Start Character and Teminator Add ISSN，PLESSEY Table 1-11 adds AIM128，ISSN，PLESSEY Code 39 adds Convert Code 39 to Code 32 (Italian Pharma Code) ， Code 32 Prefix and Transport Start Character and Terminator.	2017.11.23	
V1.10	Modify 'transmit Code ID Character' content Modify 'AIM code Identifiers' table	2018.02.11	
V1.11	Add RSS AI character, Code 39 bigcode, Bank code of Brazil, Read 1D inverse barcode Add keyboard, AIM128，DEU14，DEU12，Code 128，UCC/EAN128，EAN-8，EAN-13，UPC-E，UPC-A，ITF14，NEC-25(COOP25)，Discrete 2 of 5，Code 93，Codabar，Plessey，QR barcode new content	2018.03.14	
V1.12	Add communication mode HID POS, Disable KBW Function Key, Hide Custom Barcode Data, Fast Setting of Output Interval of The Same Code, UPC-E1, Decoding Light Control, Continuously Set Multiple Prefix and Suffix Modes, EAN-13 Transmit Check Digit, Heartbeat Control, "Chech"，"Slovakia" keyboard	2018.06.28	
V1.13	Supplement the content of Wiegand Protocol Type、Country/Language Keyboard、Decoding Light Control、Trigger Mode、Input Character Set Type；Add Wiegand Output Time Interval Setting、COMPOSITE、Duration in Scanning Quick Setting、Set Prefix and Suffix according to Barcode Type、ASCII Control Character Output Mode Selection、Beeper Type、Positioning light Flicker、EAN-8 Transmit Check Digit、Insert Custom Data；Modify UPC-E1、EAN-13 Transmit Check Digit、AIM128、I 2 of 5 Check Digit Verification；Delete Convert I 2 of 5 to EAN-13、Output Ctrl Combination Key、Disable KBW Function Key.	2019.06.05	
V1.14	Modify some typesetting issues. Add Beeper Mute Function、Input Character Set Type Function、Wiegand WG64、Code 32 Check Digit Verification、Transmit Code 32 Check Digit、Data bit、Continue Scanning、URL Blocking、Multi-country Common Function、Output CTRL+key combination, but not including the keys on the keyboard、RS485 Networking Function，all above functions.	2020.07.13	

Contents

1. SSI Commands

Table 1-1 SSI Commands

Name	Type	Opcode	Description	Support
CMD_ACK	H/D	0xD0	Effective response	Yes
CMD_NAK	H/D	0xD1	Invalid response	Yes
DECODE_DATA	D	0xF3	Decode data(only for 1D barcode)	Yes
LED_OFF	H	0xE8	Close LED	Yes
LED_ON	H	0xE7	Open LED	Yes
PARAM_DEFAULTS	H	0xC8	Restore default parameters of the SE series	Yes
PARAM_REQUEST	H	0xC7	Request one parameter of the SE series	Yes
PARAM_SEND	H/D	0xC6	Send one parameter of the SE series	Yes
REQUEST_REVISION	H	0xA3	Request the engine's software version message	Yes
REPLY_REVISION	D	0xA4	Reply the engine's software version message	Yes
SCAN_DISABLE	H	0xEA	Disable scanning	Yes
SCAN_ENABLE	H	0xE9	Enable scanning	Yes
SLEEP	H	0xEB	Sleep state	Yes
START_DECODE	H	0xE4	Start decoding	Yes
STOP_DECODE	H	0xE5	Start decoding	Yes
WAKEUP	H	N/A	Wakeup	Yes
RESET	H	0xFA	Reset	Yes
EVENT	D	0xF6	Event indicated by associated event code	Yes

Table 1-2 shows the general packet format for SSI messages, and *Table 1-3* lists the descriptions of fields that occur in all messages. These descriptions are repeated for each Opcode in the SSI message formats section. For messages that use the *Data* field, the specific type of data is shown in that field.

Table 1-2 General Packet Format

Length	Opcode	Message Source	Status	Data	Checksum

Table 1-3 Field Descriptions

Field Name	Format	Sub-Field	Meaning
Length	1 Byte	Length	Length of message not including the checksum bytes. Maximum value is 0xFF.
Opcode	1 Byte	See *Table 1-1* for details.	Identifies the type of packet data being sent.
Message Source	1 Byte	0 = Scan engine 04 = Host	Identifies where the message is coming from.
Status	Bit 0	Retransmit	0 = First time packet is sent 1 = Subsequent transmission Attempts
	Bit 1	Reserved	Always set to zero
	Bit 2	Reserved	Always set to zero
	Bit 3	Change Type (applies to parameters)	0 = Temporary change 1 = Permanent change
	Bits 4 – 7		Unused bits must be set to 0.
Data	Variable number of bytes	See individual sections for details.	

Checksum	2 Bytes	2's complement sum of message contents excluding checksum.	Checksum of message formatted as HIGH BYTE LOW BYTE，HIGH BYTE is in front.

Note: The checksum is a 2 byte checksum and must be sent as HIGH BYTE followed by LOW BYTE.

CMD_ACK

Description: Positive acknowledgment of received packet

Table 1-4 Packet Format

Length	Opcode	Message Source	Status	Data	Checksum
0x04	0xD0				

Table 1-5 Field Descriptions

Field Name	Format	Size	Description
Length	Length of message(not including checksum)	1 Byte	Length Field
Opcode	0xD0	1 Byte	Identifies this Opcode type
Message Source	0 = Scan engine 4 = Host	1 Byte	Identifies where the message is coming from.
Status	Bit 0: Retransmit Bit 1-7: unused	1 Byte	Identifies the transmission status All unused bits must be set to 0
Data			None
Checksum	2's complement sum of message contents excluding checksum	2 Bytes	Checksum of message

This message is sent to the SSI packet transmitter when the received packet passes the checksum check and no negative acknowledgment conditions apply (see CMD_NAK). If the data is in response to a command (e.g., PARAM_REQUEST, REQUEST_REVISION, etc.), no ACK is sent.

NOTE :ACK/NAK handshaking can be disabled, but this is not recommended.

It is not necessary to respond to a valid ACK or NAK message.

Host Requirements

The scan engine must send a CMD_ACK or response data within the programmable Serial Response Time-out to acknowledge receipt of all messages, unless noted otherwise in the message description section. If the host sends data and does not receive a response within the programmable serial response time-out, it resends the message (with the retransmit status bit set) before declaring a failure. The host should limit the number of retries.

Scan Engine Requirements

The scan engine must send a CMD_ACK or response data within the programmable Serial Response Time-out to acknowledge receipt of all messages, unless noted otherwise in the message description section. If the scan engine does not receive an ACK within this time period, it sends the previous message again. The scan engine retries twice more (with the retransmit status bit set) before declaring a transmit error.

CMD_NAK

Description: Negative acknowledgment of received packet

Table 1-6 Packet Format

Length	Opcode	Message Source	Status	Cause	Checksum
0x05	0xD1				

Table 1-7 Field Descriptions

Field Name	Format	Size	Description
Length	Length of message (not including checksum).	1 Byte	Length Field
Opcode	0xD1	1 Byte	Identifies this Opcode type.
Message Source	4 = Host 0 = Scan engine	1 Byte	Identifies where the message is coming from.
Status	Bit 0: Retransmit	1 Byte	Identifies the transmission status. Unused

	Bit 1-7: unused		bits must be set to 0.
Cause	Reason code	1 Byte	Identifies the reason the NAK occurred: 0=Reserved 1=(RESEND) Checksum failure 2= (BAD_CONTEXT) Unexpected or Unknown message 3= Reserved 4= Reserved 5= Reserved 6= (DENIED) Host Directive Denied 7= Reserved 8= Reserved 9= Reserved
Checksum	2's complement sum of message contents excluding checksum	2 Bytes	Checksum of message.

This message is sent when the received packet fails the checksum verification or some error occurred while handling the message.

NOTE :ACK/NAK handshaking can be disabled, but this is not recommended.

It is not necessary to respond to a valid ACK or NAK message.

Table 1-8 describes NAK types supported by the scan engine.

Table 1-8 Scan engine-Supported NAK Types

NAK Type	Meaning	Receiver Action
NAK_RESEND	Checksum incorrect.	Ensure checksum is correct. Limit number of resends. Send packet again with resend bit set.
NAK_DENIED	Host is unable to comply with the requested message(e.g., beep code is out of range).	Do not send data with this message again. Developer should check values with specified values. Developer should ensure the proper character is sent, if using wake-up character.
NAK_BAD_CONTEXT	Host does not recognize the command.	

The scan engine only resends a message twice. If the message is not sent successfully either time, the scan engine declares a transmit error and issues transmit error beeps (LO-LO-LO-LO).

Do not send data with this message again. Developer should check values with specified values. Developer should ensure the proper character is sent, if using wake-up character.

DECODE_DATA

Description: Decode data in SSI packet format

Table 1-9 Packet Format

Length	Opcode	Message Source	Status	Barcode Type	Decode Data	Checksum
	0xF3	0x00				

Table 1-10 Field Descriptions

Field Name	Format	Size	Description
Length	Length of message (not including checksum).	1 Byte	Length Field
Opcode	0xF3	1 Byte	Identifies this Opcode type.
Message Source	0 = Scan engine	1 Byte	Identifies where the message is coming from
Status	Bits 1-7: unused Bit 0: Retransmit	1 Byte	Identifies the transmission status. Unused bits must be set to 0.
Barcode Type	See *Table 1-11*	1 Byte	Identifies the scanned data code type.
Decode Data	<data>	Variable	Data is decoded data including prefix and suffix sent in ASCII format.
Checksum	2's complement sum of message contents excluding checksum.	2 Bytes	Checksum of message.

The scan engine uses this opcode when packeted data is selected to send decoded barcode data to the host. The decoded message is contained in the Decode Data field.

Table 1-11 lists all scan engine supported code types. The associated hex value for each code (as required) is entered in the Code Type field.

Table 1-11 Supported Code Types

Code Type	Hex Value	Code Type	Hex Value
Not Applicable	0x00	EAN 13 with 5 Supps.	0x8B
Code 39	0x01	EAN 13	0x0B
Codabar	0x02	EAN 13 with 2 Supps.	0x4B
Code 128, Setup128	0x03	EAN 13 with 5 Supps.	0x8B
Discrete 2 of 5	0x04	MSI	0x0E
IATA 2 of 5	0x05	GS1-128	0x0F
Interleaved 2 of 5	0x06	UPC E1	0x10
Code 93	0x07	UPC E1 with 2 Supps.	0x50
UPC A	0x08	UPC E1 with 5 Supps.	0x90
UPC A with 2 Supps.	0x48	Trioptic Code 39	0x15
UPC A with 5 Supps.	0x88	Bookland EAN	0x16
UPC E0	0x09	Coupon Code	0x17
UPC E0 with 2 Supps.	0x49	GS1 DataBar-14	0x30
UPC E0 with 5 Supps.	0x89	GS1 DataBar Limited	0x31
EAN 8	0x0A	GS1 DataBar Expanded	0x32
EAN 8 with 2 Supps	0x4A	Code11	0x0C
EAN 8 with 5 Supps	0x8A	PDF417	0xF0
QR	0xF1	Data Matrix(DM)	0xF2
Aztec Code	0xF3	Maxi Code	0xF4
Veri Code	0xF5	Han Xin	0xF7
AIM128	0xA2	ISSN	0xA3
PLESSEY	0xA4		

Host Requirements

If ACK/NAK handshaking is enabled, the host responds to each of these messages.

Scan Engine Requirements

Decode data is sent in this format if packeted decode data is selected via parameter. The host responds to this message with a CMD_ACK, if ACK/NAK handshaking is enabled.

LED_OFF

Description: De-activate LED output

Table 1-12 Packet Format

Length	Opcode	Message Source	Status	LED Selection	Checksum
0x05	0xE8	0x04		0x01	

Table 1-13 Field Descriptions

Field Name	Format	Size	Description
Length	Length of message (not including checksum)	1 Byte	Length field
Opcode	0xE8	1 Byte	Identifies this Opcode type
Message Source	4 = Host	1 Byte	Identifies where the message is coming from
Status	Bit 0: Retransmit Bit 1-7: Unused	1 Byte	Identifies the transmission status. Unused bits must be set to 0
LED Selection	Bit 0 - 7: LED bit numbers to turn off	1 Byte	Bit 0 = decode LED All other bits should be set to 0
Checksum	2's complement sum of message contents excluding checksum	2 Bytes	Checksum of message

The host sends this message to turn off the decode LED.

Host Requirements

None.

Scan Engine Requirements

The scan engine turns off the decode LED.

LED_ON

Description: Activate LED output

Table1-14 Packet Format

Length	Opcode	Message Source	Status	LED Selection	Checksum
0x05	0xE7	0x04		0x01	

Table 1-15 Field Descriptions

Field Name	Format	Size	Description
Length	Length of message (not including checksum)	1 Byte	Length field
Opcode	0xE7	1 Byte	Identifies this Opcode type
Message Source	4 = Host	1 Byte	Identifies where the message is coming from
Status	Bit 0: Retransmit Bit 1-7: Unused	1 Byte	Identifies the transmission status. Unused bits must be set to 0
LED Selection	Bit 0 - 7: LED bit numbers to turn on	1 Byte	Bit 0 = decode LED All other bits should be set to 0
Checksum	2's complement sum of message contents excluding checksum	2 Bytes	Checksum of message

The host sends this message to turn on the decode LED.

Host Requirements

None.

Scan Engine Requirements

The scan engine turns on the decode LED.

PARAM_DEFAULTS

Description: Sets the parameters to their factory default values

Table 1-16 Packet Format

Length	Opcode	Message Source	Status	Checksum
0x04	0xC8	0x04		

Table 1-17 Field Descriptions

Field Name	Format	Size	Description
Length	Length of message (not including checksum)	1 Byte	Length field
Opcode	0xC8	1 Byte	Identifies this Opcode type
Message Source	4 = Host	1 Byte	Identifies where the message is coming from
Status	Bit 0: Retransmit Bit 1-7: Unused	1 Byte	Identifies the transmission status Unused bits must be set to 0
Checksum	2's complement sum of message contents excluding checksum	2 Bytes	Checksum of message

This command returns all parameters to their factory default settings.

Host Requirements

The host sends this command to reset the scan engines parameter settings to the factory default values.

Scan Engine Requirements

Upon receiving this command, the scan engine resets all its parameters to the factory default values. The behavior is the same as scanning a **Set Factory Defaults** barcode.

Recommendations

When setting parameters via SSI with the permanent flag set, the following conditions must be met:

- The system must have stable power applied to the scan engine.
- The scan engine and host must be operating and communicating with no interference.
- Power must be maintained for at least two seconds after sending the command or scanning the parameter barcode.

Failure to meet these conditions can corrupt the scan engine's memory.

PARAM_REQUEST

Description: Request values of selected parameters

Table 1-18 Packet Format

Length	Opcode	Message Source	Status	Request Data	Checksum
	0xC7	0x04			

Table 1-19 Field Descriptions

Field Name	Format	Size	Description
Length	Length of message (not including checksum)	1 Byte	Length field
Opcode	0xC7	1 Byte	Identifies this Opcode type
Message Source	4 = Host	1 Byte	Identifies where the message is coming from
Status	Bit 0: Retransmit Bit 1-7: Unused	1 Byte	Identifies the transmission status Unused bits must be set to 0
Request Data	<Param_num><Param_num><Param_num>...	Variable	
Checksum	2's complement sum of message contents excluding checksum	2 Bytes	Checksum of message

The host uses this message to request selected parameters from the scan engine.

Host Requirements

The host requests the scan engine's current values for specific parameters by listing the parameter numbers in the Request_Data field. If the host asks for a parameter value not supported by the scan engine, the scan engine does not send a value for this unsupported param_num. If none of the requested values is supported, the scan engine transmits an empty PARAM_SEND message. If the host requests the value of all the parameters, it sends a special param_num called ALL_PARAMS (0xFE) in the first position of the Request_Data field.

NOTE: The scan engine's response to this command is PARAM_SEND, not ACK. Depending on the time-out set, and the number of parameters requested, this reply may fall outside the programmable Serial Response Time-out. If this occurs, this is not a time-out error. To compensate, increase the time-out.

Scan Engine Requirements

When the scan engine receives this message, it processes the information by formatting a PARAM_SEND message containing all requested parameters supported and their values. The programmable Serial Response Time-out can be exceeded when processing this message, depending on the time-out set and the number of parameters requested.

Hints for requesting parameter values

Before forming a PARAM_REQUEST, confirm that the scan engine supports the requested parameters. To find out what parameters are supported, send an 0xFE (request all parameters). The response to this is a PARAM_SEND which contains all the supported parameters and their values. 0xFE must be in the first position of the request_data field if used, or it is treated as an unsupported parameter.

Unsupported parameters are not listed in the PARAM_SEND response. Requesting unsupported parameters has no effect, but can cause delays in responding to requests for valid parameters. See *Table 1-20* for example requests and responses.

Table 1-20 Example Requests and Replies

	PARAM_REQUEST message	Response PARAM_SEND message
#ALL	05 C7 04 00 FE FE 32	0D C6 00 00 FF 01 00 02 01 9C 07 E6 63 FC 3E
#1, 9C	06 C7 04 00 01 9C FE 92	09 C6 00 00 FF 01 00 9C 07 FD 8E
#All, 1, 9C	07 C7 04 00 FE 01 9C FD 93	0D C6 00 00 FF 01 00 02 01 9C 07 E6 63 FC 3E
#1, 9C, ALL	07 C7 04 00 01 9C FE FD 93	09 C6 00 00 FF 01 00 9C 07 FD 8E
#4	05 C7 04 00 04 FF 2C	05 C6 00 00 FF FE 36
#ALL - 3 times	07 C7 04 00 FE FE FE FC 34	0D C6 00 00 FF 01 00 02 01 9C 07 E6 63 FC 3E
#1 -3 times	07 C7 04 00 01 01 01 FF 2B	0B C6 00 00 FF 01 00 01 00 01 00 FE 2D

PARAM_SEND

Description: Respond to a PARAM_REQUEST, change particular parameter values

Table 1-21 Packet Format

Length	Opcode	Message Source	Status	Beep Code	Param data	Checksum
	0xC6					

Table 1-22 Field Descriptions

Field Name	Format	Size	Description
Length	Length of message (not including checksum)	1 Byte	Length field
Opcode	0xC6	1 Byte	Identifies this Opcode type
Message Source	0 = Scan engine 4 = Host	1 Byte	Identifies where the message is coming from
Status	Bit 0: Retransmit Bits 1, 2: Unused Bit 3: Change Type Bits 4-7: Unused	1 Byte	Bit 0: 1= Retransmit Bit 3: 1 = Permanent change 0 =Temporary change - lost when power removed Unused bits must be set to 0
Beep code		1 Byte	If no beep is required, set this field to 0xFF
Param_data	See *Table 3-1*		The parameter numbers and data to be sent to the requester
Checksum	2's complement sum of message contents excluding checksum	2 Bytes	Checksum of message

This message is sent by the scan engine in response to the PARAM_REQUEST message, or by the host to change the scan engine's parameter values.

Parameter numbers 0xF0 (+256), 0xF1 (+512), 0xF2 (+768) are used to access parameters whose numbers are 256 and higher. For example, to access the first parameter in the 256-511 range, use 0xF0 and 0x00.

Host Requirements

The host transmits this message to change the scan engine's parameters. Be sure the Change Type bit in the Status byte is set as desired. If no beep is required, the beep code must be set to 0xFF.

NOTE: Due to the processing time of interpreting and storing parameters contained in the message, the scan engine may not be able to send an ACK within the programmable Serial Response time-out. This is not an error; to compensate, increase the time-out.

Scan Engine Requirements

When the scan engine receives a PARAM_SEND, it interprets and stores the parameters, then send ACKs command (if ACK/NAK handshaking is enabled). These parameters are stored permanently only if the Change Type (bit 3 of the Status byte) is set to 1. If bit 3 is set to 0 the changes are temporary, and are lost when the scan engine is powered down.

If the PARAM_SEND is sent by the host contains a valid beep code, the scan engine issues the requested beep sequence, and changes the requested parameter values.

The scan engine issues a PARAM_SEND in response to a PARAM_REQUEST from the host. It responds to the PARAM_REQUEST message by sending all supported parameter values. No value is sent for any unsupported param_num. If none of the requested values is supported, the PARAM_SEND message is

transmitted with no parameters. When sending this command, the Change Type bit (bit 3 of Status byte) can be ignored.

Recommendations

When setting parameters via SSI with the permanent flag set, the following conditions must be met:

- The system must have stable power applied to the scan engine.
- The engine and host must be operating and communicating with no interference.
- Power must be maintained for at least two seconds after sending the command or scanning the parameter barcode.

Failure to meet these conditions can corrupt the scan engine's memory.

REPLY_REVISION

Description: Reply to REQUEST_REVISION command with software revision string

Table 1-23 Packet Format

Length	Opcode	Message Source	Status	Revision	Checksum
	0xA4	0x00			

Table 1-24 Field Descriptions

Field Name	Format	Size	Description
Length	Length of message (not including checksum)	1 Byte	Length field
Opcode	0xA4	1 Byte	Identifies this Opcode type
Message Source	0 = Scan engine	1 Byte	Identifies where the message is coming from
Status	Bit 0: Retransmit Bit 1-7: Unused	1 Byte	Identifies the transmission status Unused bits must be set to 0
Revision	ASCII data	variable	Software revision in ASCII (see format below)
Checksum	2's complement sum of message contents excluding checksum	2 Bytes	Checksum of message

Host Requirements

None.

Scan Engine Requirements

The scan engine sends its revision string to the host in the following format:
Product Name <space> Product ID <space> Hardware version <space> Firmware version
Product Name corresponds to the scan engine product name.
Product ID is the only ID of the product.
The hardware version of the scan engine, version format is 1.1.3.
The firmware version of the scan engine, version format is 1.1.3.

REQUEST_REVISION

Description: Request the software revision string from the scan engine

Table 1-25 Packet Format

Length	Opcode	Message Source	Status	Data	Checksum
0x04	0xA3	0x04			

Table 1-26 Field Descriptions

Field Name	Format	Size	Description
Length	Length of message (not including checksum)	1 Byte	Length field
Opcode	0xA3	1 Byte	Identifies this Opcode type
Message Source	4 = Host	1 Byte	Identifies where the message is coming from
Status	Bit 0: Retransmit Bit 1-7: Unused	1 Byte	Identifies the transmission status Unused bits must be set to 0

Data			None
Checksum	2's complement sum of message contents excluding checksum	2 Bytes	Checksum of message

Host Requirements

The host sends this message to request revision information from the scan engine. The scan engine responds with REPLY_REVISION.

Scan Engine Requirements

The scan engine sends its revision string to the host. See *REPLY_REVISION* for format.

NOTE:

Sleep Mode: Send 0x00, delay 50ms once. Then send the query command. There is still no data if waiting for 600ms,you should repeat the above process three times.

Normal Mode: Send the query command.There is still no data if waiting for 600ms,you should repeat the above process three times.

SCAN_DISABLE

Description: Prevent the scan engine from scanning barcodes

Table 1-27 Packet Format

Length	Opcode	Message Source	Status	Data	Checksum
0x04	0xEA	0x04			

Table 1-28 Field Descriptions

Field Name	Format	Size	Description
Length	Length of message (not including checksum)	1 Byte	Length field
Opcode	0xEA	1 Byte	Identifies this Opcode type
Message Source	4 = Host	1 Byte	Identifies where the message is coming from
Status	Bit 0: Retransmit Bit 1-7: Unused	1 Byte	Identifies the transmission status Unused bits must be set to 0
Data			None
Checksum	2's complement sum of message contents excluding checksum	2 Bytes	Checksum of message

Host Requirements

All scan attempts are disabled by this command until either a SCAN_ENABLE is sent, or the scan engine is reset.

Scan Engine Requirements

When the scan engine receives this command, it ignores all trigger/START_DECODE requests until a SCAN_ENABLE command is received.

SCAN_ENABLE

Description: Permit the scan engine to scan barcodes

Table 1-29 Packet Format

Length	Opcode	Message Source	Status	Data	Checksum
0x04	0xE9	0x04			

Table 1-30 Field Descriptions

Field Name	Format	Size	Description
Length	Length of message (not including checksum)	1 Byte	Length field
Opcode	0xE9	1 Byte	Identifies this Opcode type
Message Source	4 = Host	1 Byte	Identifies where the message is coming from
Status	Bit 0: Retransmit Bit 1-7: Unused	1 Byte	Identifies the transmission status Unused bits must be set to 0

Data			None
Checksum	2's complement sum of message contents excluding checksum	2 Bytes	Checksum of message

Host Requirements

The host sends the SCAN_ENABLE command to enable scanning in the scan engine. Scanning is enabled upon power-up, so this command need only be sent if a prior SCAN_DISABLE command was sent.

Scan Engine Requirements

The scan engine allows scanning and decoding upon receipt of this command.

NOTE :At initial power-up, the scan engine assumes SCAN_ENABLED.

SLEEP

Description: Request to place the scan engine into Sleep power state

Table 1-31 Packet Format

Length	Opcode	Message Source	Status	Data	Checksum
0x04	0xEB	0x04			

Table 1-32 Field Descriptions

Field Name	Format	Size	Description
Length	Length of message (not including checksum)	1 Byte	Length field
Opcode	0xEB	1 Byte	Identifies this Opcode type
Message Source	4 = Host	1 Byte	Identifies where the message is coming from
Status	Bit 0: Retransmit Bit 1-7: Unused	1 Byte	Identifies the transmission status Unused bits must be set to 0
Data			None
Checksum	2's complement sum of message contents excluding checksum	2 Bytes	Checksum of message

Host Requirements

The host sends this command to place the scan engine into Sleep power state. If the low power mode parameter is enabled, the scan engine goes into Sleep power state automatically, and the SLEEP command is not necessary.

NOTE :The scan engine does not sleep immediately upon acknowledging the command if it is processing data when the SLEEP command is sent.

Scan Engine Requirements

None.

START_DECODE

Description: Tell scan engine to attempt to decode a barcode

Table 1-33 Packet Format

Length	Opcode	Message Source	Status	Data	Checksum
0x04	0xE4	0x04			

Table 1-34 Field Descriptions

Field Name	Format	Size	Description
Length	Length of message (not including checksum)	1 Byte	Length field
Opcode	0xE4	1 Byte	Identifies this Opcode type
Message Source	4 = Host	1 Byte	Identifies where the message is coming from
Status	Bit 0: Retransmit Bit 1-7: Unused	1 Byte	Identifies the transmission status Unused bits must be set to 0
Data			None
Checksum	2's complement sum of message	2 Bytes	Checksum of message

	contents excluding checksum		

This command tells the scan engine to start a scan and decode session. The decode session ends with a successful decode, a scan session time-out, or a STOP_DECODE command.

Host Requirements

If the TRIGGER_MODE parameter is set to HOST, the host can use this command instead of a trigger pull.

Scan Engine Requirements

None.

STOP_DECODE

Description: Tell scan engine to abort a decode attempt

Table 1-35 Packet Format

Length	Opcode	Message Source	Status	Data	Checksum
0x04	0xE5	0x04			

Table 1-36 Field Descriptions

Field Name	Format	Size	Description
Length	Length of message (not including checksum)	1 Byte	Length field
Opcode	0xE5	1 Byte	Identifies this Opcode type
Message Source	4 = Host	1 Byte	Identifies where the message is coming from
Status	Bit 0: Retransmit Bit 1-7: Unused	1 Byte	Identifies the transmission status Unused bits must be set to 0
Data			None
Checksum	2's complement sum of message contents excluding checksum	2 Bytes	Checksum of message

This command tells the scan engine to stop a scan and decode attempt.

Host Requirements

The TRIGGER_MODE parameter must be set to HOST.

Scan Engine Requirements

None.

WAKEUP

Description: Wakeup scan engine after it's been put into Sleep power state

If the scan engine is in Sleep power state, sending the single character, **NULL** (0x00) wakes up the scan engine. This character is only needed when hardware handshaking is not used or is bypassed. (See *Power Management*)

Scan engine goes into sleep after 800ms no operation.Sending command in sleep mode should be recording to the below operation: Send 0x00, delay 50ms. Then send valid command.

Power Management

The scan engine has two power states (Awake and Sleep) and two power modes (Continuous Power and Low Power).

Power States

WAKEUP and SLEEP commands (see *WAKEUP* and *SLEEP*), are sent to the scan engine to set the Power state to Awake or Sleep. The Low Power mode has an automatic timer that puts the unit into the Sleep state after a specified period of time.

When the scan engine is in the Sleep power state， the PWRDWN signal (see *Table 1-37*) is asserted. The host uses this signal to remove power from the scan engine. Do not remove power without using this signal since the PWRDWN signal is the only indication if the scan engine is not transmitting, receiving, decoding, or writing data to non-volatile memory.

Table 1-37 Electrical Interface

Mnemonic	Pin No.	Type	Description
VCC	2	PWR	Power Supply: 3.3 VDC

GND	3	PWR	Ground
AIM/WAKE*	11	I	**Wake Up:** When the scan engine is in low power mode, pulsing this pin low for 200 nsec awakens the scan engine. **AIM:** This pin provides a hard wired trigger line that creates an AIM pattern (a spot). This spot allows positioning the barcode and laser beam alignment to maximize the scan capability of the scan engine. Aim mode is not supported on the scan engine-E100R.
FLASH_DWLD*	1	I	**Flash Down Load:** Do not drive high. Pull low for download.
RXD	4	I	**Received Data:** Serial input port.
CTS*	6	I	**Clear to Send:** Serial port handshaking line.
TRIG*	12	I	**Trigger:** Hardware triggering line. Driving this pin low causes the scan engine to start a scan and decode session.
TXD	5	O	**Transmitted Data:** Serial output port.
RTS*	7	O	**Request to Send:** Serial port handshaking line.
PWRDWN	8	O	**Power Down Ready**: When high, the scan engine is in low power mode.
BPR*	9	O	**Beeper:** Low current beeper output.
DLED*	10	O	**Decode LED:** Low current decode LED output.

Power Modes

Power modes are controlled by the Power Mode parameter (see *Power Mode*).

In Continuous Power mode, the scan engine remains in the Awake state after each decode attempt. The Continuous Power mode parameter (see *Power Mode*) sets the scan engine to remain in the Awake power state unless it receives a SLEEP command. In this mode, the scan engine can switch power states using the SLEEP and WAKEUP commands (see *SLEEP* and *WAKEUP*); automatic power state switching is not supported.

In Low Power mode, the scan engine enters into a low power consumption Sleep state whenever possible (provided all WAKEUP commands were released), drawing less current than in Continuous Power mode. This makes the Low Power mode more suitable for battery powered applications. The Low Power mode also allows the scan engine to switch power states using the SLEEP and WAKEUP commands (see *SLEEP* and *WAKEUP*). The scan engine must be awakened from the Sleep power state before performing any functions.

Host Requirements

Once the WAKEUP command is sent, the host must wait at least 10 msec, but less than 1 second before sending additional data, since the scan engine is required to wait 1 second after waking up before going back to sleep (if low power mode is enabled).

Scan Engine Requirements

The scan engine must not return to low power mode for at least 1 second after waking up.

NOTE :The mechanism to wake up a scan engine in this manner also works if characters other than WAKEUP are sent to the scan engine. There is, however, no guarantee that these commands are interpreted correctly upon power-up. Therefore, it is not recommended that characters other than WAKEUP be used to awaken the scan engine.

The WAKEUP character has no effect if sent when the scan engine is awake. If the host is unsure of the scan engine power state, it can send the wakeup character anytime it wants to communicate with the scan engine.

RESET

Description: Reset scan engine

Table 1-38 Packet Format

Length	Opcode	Message Source	Status	Data	Checksum
0x04	0xFA	0x04			

Table 1-39 Field Descriptions

Field Name	Format	Size	Description
Length	Length of message (not including checksum)	1 Byte	Length field
Opcode	0xE5	1 Byte	Identifies this Opcode type

Message Source	4 = Host	1 Byte	Identifies where the message is coming from
Status	Bit 0: Retransmit Bit 1-7: Unused	1 Byte	Identifies the transmission status Unused bits must be set to 0
Data			None
Checksum	2's complement sum of message contents excluding checksum	2 Bytes	Checksum of message

Host Requirements

Send 0xFA command.

Scan Engine Requirements

Which the scan engine replies ACK indicates reset.

EVENT

Description: Indicate selected events occurred

Table 1-40 Packet Format

Length	Opcode	Message Source	Status	Event Code	Checksum
0x05	0xF6	0x00			

Table 1-41 Field Descriptions

Field Name	Format	Size	Description
Length	Length of message (not including checksum)	1 Byte	Length field
Opcode	0xF6	1 Byte	Identifies this Opcode type
Message Source	0 = Decoder	1 Byte	Identifies where the message is coming from
Status	Bit 0: Retransmit Bit 1-7: Unused	1 Byte	Identifies the transmission status Unused bits must be set to 0
Event Code	Type of Event Code	1 Byte	See *Table 1-42*
Checksum	2's complement sum of message contents excluding checksum	2 Bytes	Checksum of message

Host Requirements

The host receives this message when a selected event occurs.

Decoder Requirements

Generate this message when a selected event occurs

The command does not require the host to reply to the ACK. Specific event switch refers to Event Report

Table 1-42 Event Codes

Event Class	Event	Code Reported
Boot Up Event	Scan engine completes power on	0x01
Trigger Event	Scan engine triggers to read	0x02

2. SSI Extended Command

Table 2-1 SSI Extended Command

Name	Type	Opcode	Description	Support
DECODE_DATA_TWO	D	0xF4	Decode data (only for 2D barcode)	Yes
CFG_PARAM_SEND	H/D	0xFC	Send configuration parameters (extended command format)	Yes
CFG_PARAM_REQUEST	H	0xFD	Request configuration parameters (extended command format)	Yes

Table 2-2 General Packet Format

Length 1	Opcode1	Length 2 High Byte	Length 2 Low byte	Opcode 2	Message Source	Status	Data	High 8-bit Check	Low 8-bit Check

255 is the maximum data length that SSI command supports，so SSI extended command is needed

Description：

Length 1：Always 0xFF

Length 2：Length does not include 2 bytes of check digit

Opcode1：Opcode 1 is the same as Opcode 2

More information refers to SSI Command.

Table 2-3 Field Descriptions

Field Name	Format	Sub-Field	Meaning
Length1	1 Byte	Length1	Length1 is 0xFF
Opcode1	1 Byte	See *Table 2-1* for details.	Identifies the type of packet data being sent.
Length2	2 Bytes	Packet length	Length2 has two bytes，high 8 bits in front ,low 8 bits at the back.
Opcode2	1 Byte	See *Table 2-1* for details.	The same as opcode1
Message Source	1 Byte	0 = Scan engine 04 = Host	Identifies where the message is coming from.
Status	Bit 0	Retransmit	0 = First time packet is sent 1 = Subsequent transmission attempts
	Bit 1	Reserved	Always set to zero
	Bit 2	Reserved	Always set to zero
	Bit 3	Change Type (applies to parameters)	0 = Temporary change 1 = Pe rmanent change
	Bits 4 – 7		Unused bits must be set to 0.
Data	Variable number of bytes	See individual sections for details.	
Checksum	2 Bytes	2's complement sum of message contents excluding checksum.	Checksum of message formatted as HIGH BYTE LOW BYTE，HIGH BYTE is in front.

Note: The checksum is a 2 byte checksum and must be sent as HIGH BYTE followed by LOW BYTE.

DECODE_DATA_TWO

Description: 2D barcode decoded packet format.

Table 2-4 Packet Format

Length1	Opcode1	Length2	Opcode2	Message Source	Status	Barcode Type	Decode Data	Checksum
0xFF	0xF4		0xF4	0x00				

Table 2-5 Field Descriptions

Field Name	Format	Size	Description
Length1	0xFF	1 Byte	Length1 is always 0xFF
Opcode1	0xF4	1 Byte	Identifies this Opcode type.
Length2	High 8 bits，low 8 bits	2 Bytes	Length2 has two bytes，high 8 bits in front ,low 8 bits at the back.
Opcode2	0xF4	1 Byte	Identifies this Opcode type.
Message Source	0 = Scan engine	1 Byte	Identifies where the message is coming from.
Status	Bit 0: Retransmit Bits 1-7: unused	1 Byte	Identifies the transmission status. Unused bits must be set to 0.
BarCode Type	See *Table 1-11*	1 Byte	Identifies the scanned data code type.
Decode Data	<data>	Variable	Data is decoded data including prefix and suffix sent in ASCII format.
Checksum	2's complement sum of message contents excluding checksum.	2 Bytes	Checksum of message.

Host Requirements

If ACK/NAK handshaking is enabled, the host responds to each of these messages.

Scan Engine Requirements

Decode data is sent in this format if packeted decode data is selected via parameter. The host responds to this message with a CMD_ACK, if ACK/NAK handshaking is enabled.

3. Parameter Configuration

Default setting code of special mark symbol is corresponding to different default configuration.No special mark symbol depends on default setting code with * symbol(except factory default configuration):

*** ： default configuration 1**

 # ： default configuration 2

% ： default configuration 3

& ： default configuration 4

Table 3-1

Parameter Name	Scanning Head			Note
	Parameter Values	Set Range	Default Values	
Default Configuration	0xF2 0xFF	0: Factory Configuration 1: Default Configuration 1 2: Default Configuration 2 3: Default Configuration 3 4: Default Configuration 4 5: Default Configuration 5	0(Factory Configuration)	
Duration in Scanning	0x88	10~250(unit：0.1s)	3.0 sec.	
Duration in Scanning Quick Setting	0xF2 0xCF	0x00: infinite time 0x03: 3s 0x05: 5s 0x0A: 10s 0x0B: 15s 0x0C: 20s 0x0D: 30s 0x0E: 60s		
Enable RS485 Networking Function	0xF6 0x33	0： Disable 1： Enable	0： Disable	

Modify 485 Device Slave Address	0xF8 0x11	Slave Address 00 01		
RS485 Networking Decoding Data Format	0xF6 0x34	0： Disable 1： Enable	0： Disable	
RS485 Networking Heartbeat Switch	0xF6 0x35	0： Disable 1： Enable	1： Enable	
Power Mode	0x80	0x00: Continuous Power 0x01: Low Power	0x01:Low Power	
Trigger Mode	0x8A	0x00: Level 0x02:Pulse 0x04: Continuous 0x08: Host 0x09: Automatic induction Mode 0x0A: Button Continuous 0x0B：Button Automatic Induction Mode	0x00： Level	
Continuous Reading Interval	0x89	0~9.9s（unit：0.1s）	0.5s	
Beeper Volume	0x8C	0x00: High 0x01: Medium 0x02: Low 0x03: Mute	0x00: High	
Beeper Type	0xF2 0xD8	0x00：Passive Beeper 0x01：Active Beeper	0x00：Passive Beeper	
Beep After Good Decode	0x38	0： Disable 1： Enable	1： Enable	
Terminator	0xF2 0x05	0x00： Disable 0x01： CR LF 0x02： CR 0x03： TAB 0x04： CR CR	*0x00： Disable #0x01： CR LF &0x01： CR LF %0x02： CR	

		0x05： CR LF CR LF		
Indicator Light Function	0xF2 0x0A	0x00： Good Decode 0x01： Power LED	0x00：Good Decode	
LED After Good Decode	0xF2 0x0B	0： Disable 1： Enable	1： Enable	
Decode Indicator Control	0xF2 0xCB	0：Mode 0 1：Mode 1 2：Mode 2 3：Mode 3	0：Mode 0	
Mute	0xF2 0x0C	0： Disable 1： Enable	0： Disable	
Boot Prompt	0xF2 0x0D	0： Disable 1： Enable	1： Enable	
Setup Code Prompt	0xF2 0x0E	0： Disable 1： Enable	1： Enable	
Transmit “No Read” Message	0x5E	0x01: Enable No Read 0x00: Disable No Read	0x00:Disable No Read	
Parameter Scanning	0xEC	0： Disable 1： Enable	1： Enable	
Send Setting Code	0xF1 0x71	0：Disable 1：Enable	0：Disable	
Linear Code Type Security Levels	0x4E	0x01: Linear Security Level 1 0x02: Linear Security Level 2 0x03: Linear Security Level 3 0x04: Linear Security Level 4	0x01:Linear Security Level 1	
Automatic Filling of Value-added Tax Invoice	0xF2 0x08	0： Disable 1： Enable	0： Disable	
Invoice Type	0xF2 0xAA	0: Special Invoice 1: Plain Invoice	0:Special Invoice	
Transmit ID Characters	0x2D	0: None 1: AIM code ID 2: User Defined ID	0(None)	

The prefix/suffix value Prefix Suffix1 Suffix2	0x69 0x68 0x6A	0x00~0x7F 0x00~0x7F 0x00~0x7F	0x00 0x0A 0x0D	
Scan Data Transmition Format	0xEB	0x00: Data Only 0x01: Data+Suffix1 0x02: Data+Suffix2 0x03: Data+Suf1+Suf2 0x04: Prefix+Data 0x05: Prefix+Data+Suf1 0x06: Prefix+Data+Suf2 0x07: Prefix+Data+Suf1+Suf2	0x00(Data Only)	
Baud Rate	0x9C	0x03:1200 0x04:2400 0x05:4800 0x06:9600 0x07:19200 0x08:38400 0x09:57600 0x0A:115200	0x06:9600	
Data Bit	0xA0	0x02: 7 Data Bits 0x03: 8 Data Bits	0x03: 8 Data Bits	
Parity	0x9E	0x00: Odd 0x01: Even 0x02: Mark 0x03: Space 0x04: None	0x04:None	
Software Handshaking	0x9F	0： Disable	1： Enable	

		1： Enable		
Decode Data Packet Format	0xEE	0： Disable 1： Enable	0： Disable	
Host Serial Response Time-out	0x9B	0.0~9.9	2s	
Stop Bit Select	0x9D	0x01: 1 Stop Bit 0x02: 2 Stop Bits	0x01(1 Stop Bit)	
Intercharacter Delay	0x6E	0~ 99 msec	0	
Host Character Time-out	0xEF	0.01~0.99S	200ms	
Communication Mode	0xF2 0x01	0: Serial Port 1:USB KBW 2: USB Serial Port 3：AUTO UK 4：AUTO UV 5： Wiegand 6：RS485 7：AUTO UW 8：AUTO UR 9：PS2 A: TTDATA B： TTDATA+Serial Port E：HID POS	0(Serial Port)	1D product does not support USB KBW and USB serial port
Wiegand protocol type	0xF2 0xA4	0：AUTO 1：WG26 2：WG34 3：WG66 4：Custom Wiegand transport 1 5：Custom Wiegand transport 2 6：WG64	0：AUTO	
Wiegand 26 Protocol Output Mode	0xF2 0xA5	0：3+5 1： Raw Data	0：3+5	
Wiegand Output Time Interval Setting	0xF3 0x16	0x16：Wiegand Output Time Interval		
PS2 Mode	0xF2 0xA6	0：AUTO		

		1： Independent PS2		
Floodlight Control	0xF2 0x02	0: Lighting when Read 1: Always Lighting 2: Always Close	0(Lighting when Read)	
Positioning Light Control	0xF2 0x03	0: Lighting when Read 1: Always Lighting 2: Always Close	0(Lighting when Read)	Only for 2D
Positioning light Flicker	0xF2 0xB8	0x00: Flicker 0x01: No Flicker	0x00: Flicker	
Sensitivity Level	0xF2 0x04	1: High Sensitivity 2: Medium Sensitivity 3: Low Sensitivity	1(High Sensitivity)	High Sensitivity:1 Medium Sensitivity:8 Low Sensitivity:15 Sensitivity values inquire the parameter values returned.
Custom Sensitivity	0xF3 0x01	1~15(unit:1)	1	
Stability of Induction Time	0xF3 0x02	0~9.9s(unit:0.1)	0.5s	
Output Interval of The Same Code	0xF3 0x03	0~9.9s (unit:0.1s)	0.5s	
1D Identifies Two Barcodes	0xF2 0x10	0： Disable 1： Enable	0： Disable	
1D inverse barcode reading	0xF2 0x91	0： Disable 1： Enable	0： Disable	
Output Product Information	0xF4 0x01	None	None	
Output Character Set Type	0xF2 0x06	0： Primitive Type 1：GBK(GB2312) 2：UTF8 3：EUC-KR Korean	1:GBK(GB2312)	
Input Character Set Type	0xF2 0xAB	0：AUTO 1：GBK(GB2312) 2：UTF8	0：AUTO	

		3：ASCII 4：Japanese 5：Korean 6：DEC Multinational Character Set (MCS) 7：ISO8859-1 Character Set 8：Japanese Single Byte (valid for special version)		
USB Type	0xF2 0x0F	0: USB1.1(Full Speed) 1：USB2.0(High Speed)	0: USB1.1(Full Speed)	
Country/Language Keyboard	0xF6 0x01	1： American Keyboard 2： Belgium 3：Brazil（ABNT2） 6： Denmark 7： Finland 8： France 9： Austria、Germany 0A：Greece 0B：Hungary 0D：Italy 0F：Netherlands 10： Norway 11：Poland 12： Portugal 13：Romania (standard) 14： Russia 15： Slovakia	1： American Keyboard	

		16： Spain 17： Sweden 19： Turkey_F 1A: Turkey_Q 1B: England 1C: Japan 1D: Chech 1E: Thailand Kedmanee 1F: Ukraine 20: Arabic_101 21: Croatia 22：Korea 23：Bulgaria 24：Multi-country Common		
Time interval that keyboard outputs character	0xF3 0x04	range: 0-1000ms unit: 5ms default: 5ms	5ms	
Quick Settings of Keyboard Output Time Interval	0xF2 0xB2	0：0ms 1：10ms 2：50ms		
Letter case conversion	0xF2 0xA1	0： Normal Letter Case 1： All Uppercase 2： All Lowercase 3： Case Inversion	0：Normal Letter Case	
Keyboard Type	0xF2 0xB4	0： Standard Keyboard 1： Virtual Keyboard	0：Standard Keyboard	

STX and ETX Setting	0xF2 0XB7	0： Disable 1： STX(prefix) 2： ETX(suffix1) 3： STX(prefix)+ETX(suffix1)	0： Disable	
Keyboard State Control	0xF2 0XB9	0： Disable 1： Enable	1： Enable	
ASCII Control Character Output Mode Selection	0xF2 0xAD	0：Output Function Key 1：Output Ctrl Combination Key 2：ALT Mode Output Control Character 3：Output Enter、DownArrow 4: Output CTRL+key combination, but not including the keys on the keyboard		
Boot Event	0xF2 0xA2	0： Disable 1： Enable	0： Disable	
Trigger Event	0xF2 0xA3	0： Disable 1： Eable Event 2： Eable GPIO Pin Event 3： Enable Event&GPIO Pin Event	0： Disable	
Enable Setting Code Password Mode	0xF2 0xA7	0： Disable 1： Enable	0： Disable	
Input Setting Code Password	0xF3 0x05			
Modify Setting Code Password	0xF3 0x06			
Logout Password	0xF2 0xA9			
Disable passive trigger scanning	0xF2 0xA8	0： Disable 1： Enable	0： Disable	
1D Global Switch	0xF2 0x11	0： Disable 1： Enable		

2D Global Switch	0xF2 0x50	0： Disable 1： Enable		
All Barcode Switch	0xF2 0x90	0： Disable 1： Enable		
Hide Head Data	0xF2 0xC6	0： Disable 1： Enable	0： Disable	
Set the Length of the Hidden Head Data	0xF3 0x0B			
Hide Intermediate Data	0xF2 0xC7	0： Disable 1： Enable	0： Disable	
Set the Starting Position of Hiding the Intermediate Data	0xF3 0x0C			
Set the Length of the Hidden Intermediate Data	0xF3 0x0D			
Hide Tail Data	0xF2 0xC8	0： Disable 1： Enable	0： Disable	
Set the Length of the Hidden Tail Data	0xF3 0x0E			
Enable/Disable Insert Custom Data	0xF2 0xDE	0： Disable 1： Enable	0: Disable	
Output Interval of The Same Code	0xF3 0x03	0~9.9s (Unit:0.1s)	0.5s	
Fast Setting	0xF2 0xC9	0x00： No Delay 0x01： Delay 1s 0x03： Delay 3s 0x05： Delay 5s 0x07： Delay 7s 0x09： Infinite Delay(Disable Output Interval of The Same Code)		
Continue Scanning	0xF2 0xED	0： Disable 1： Enable	0： Disable	
Continuously Set Multiple Prefix	0xF3 0x10			
Continuously Set Multiple Suffix	0xF3 0x11			
Complete Continuous Setup of Multiple Prefixes / Suffixes	0xFF 0XF6			

Set Multiple Prefix and Suffix Data Transmission Format	0xEB	0x08: Data + Multiple Suffixes 0x09: Multiple Prefixes+Data 0x0A: Multiple Prefixes+Data+Multiple Suffixes		
Heartbeat Control	0xF2 0xCD	0x00: Disable 0x01: Heartbeat doesn't need ACK 0x02: Heartbeat needs ACK	0： Disable	
URL Blocking	0xF2 0xEa	0： Disable 1： Enable	0： Disable	
About 1D Barcode(only for 1D)				
UPC-A	0x01	0： Disable 1： Enable	1： Enable	
Transmit UPC-A Check Digit	0x28	0： Disable 1： Enable	1： Enable	
UPC-A Preamble	0x22	0x00: No Preamble 0x01: System Character 0x02: System Character&Country Code	0x01: System Character	
UPC-A 2-bits Supplementals	0xF2 0x40	0： Disable 1： Enable	0： Disable	
UPC-A 5-bits Supplementals	0xF2 0x41	0： Disable 1： Enable	0： Disable	
UPC-A read supplementals	0xF2 0x42	0： Disable 1： Enable	0： Disable	
UPC-E	0x02	0： Disable 1： Enable	1： Enable	
Transmit UPC-E Check Digit	0x29	0： Disable 1： Enable	1： Enable	
UPC-E Preamble	0x23	0x00: No Preamble 0x01: System Character 0x02: System Character&Country Code	0x01: System Character	
Convert UPC-E to UPC-A	0x25	0： Disable 1： Enable	0： Disable	

UPC-E 2-bits Supplementals	0xF2 0x3D	0： Disable 1： Enable	0： Disable	
UPC-E 5-bits Supplementals	0xF2 0x3E	0： Disable 1： Enable	0： Disable	
UPC-E read supplementals	0xF2 0x3F	0： Disable 1： Enable	0： Disable	
UPC-E1	0xF2 0x15	0： Disable 1： Enable	0： Disable	
EAN-8	0x04	0： Disable 1： Enable	1： Enable	
EAN-8 Zero Extend（EAN-8 is expanded to EAN-13）	0x27	0： Disable 1： Enable	0： Disable	
EAN-8 2-bits Supplementals	0xF2 0x37	0： Disable 1： Enable	0： Disable	
EAN-8 5-bits Supplementals	0xF2 0x38	0： Disable 1： Enable	0： Disable	
EAN-8 read supplementals	0xF2 0x39	0： Disable 1： Enable	0： Disable	
EAN-8 Transmit Check Digit	0xF2 0x80	0： Disable 1： Enable	1：Enable	
EAN-13	0x03	0： Disable 1： Enable	1： Enable	
EAN-13 2-bits Supplementals	0xF2 0x3A	0： Disable 1： Enable	0： Disable	
EAN-13 5-bits Supplementals	0xF2 0x3B	0： Disable 1： Enable	0： Disable	
EAN-13 read supplementals	0xF2 0x3C	0： Disable 1： Enable	0： Disable	
EAN-13 Transmit Check Digit	0xF2 0x16	0： Disable 1： Enable	1： Enable	
Bookland EAN(ISBN)	0x53	0： Disable 1： Enable	0： Disable	
Decode UPC/EAN	0x10	0x00: Don't Decode	0: Don't Decode	

Supplementals		Supplementals 0x01: Decode Supplementals 0x02: Auto Decode Supplementals	Supplementals	
Bookland ISBN Format	0xF1 0x40	0:ISBN-10 1:ISBN-13	0:ISBN-10	
UPC/EAN Security Level	0x4D	0x00: Level 0 0x01: Level 1 0x02: Level 2 0x03: Level 3	0x00: Level 0	
Code 128 Symbologies Switch	0x08	0： Disable 1： Enable	1： Enable	
Send Code 128 Check Digit	0xF2 0x35	0： Disable 1： Enable	0： Disable	
GS1-128 (formerly UCC/EAN-128)	0x0E	0： Disable 1： Enable	1： Enable	
Send UCC/EAN-128 Check Digit	0xF2 0x36	0： Disable 1： Enable	0： Disable	
ISBT 128	0x54	0： Disable 1： Enable	1： Enable	
Enable Code 39 Barcode Scanning	0x00	0： Disable 1： Enable	1： Enable	
Set Lengths for Code 39	0x12(L1) 0x13(L2)	0~99 0~99	2 55	
Code 39 Check Digit Verification	0x30	0： Disable 1： Enable	0： Disable	
Transmit Code 39 Check Digit	0x2B	0： Disable 1： Enable	0： Disable	
Code 39 Full ASCII	0x11	0： Disable 1： Enable	0： Disable	
Code 39 Transport Start Character and Terminator	0xF2 0x30	0： Disable 1： Enable	0： Disable	

Code 39 bigcode	0xF2 0x27	0： Disable 1： Enable	0： Disable	
Convert Code 39 to Code 32 (Italian Pharma Code)	0x56	0： Disable 1： Enable	0： Disable	
Code 32 Prefix	0xE7	0： Disable 1： Enable	0： Disable	
Code 32 Check Digit Verification	0xF2 0x19	0： Disable 1： Enable	0： Disable	
Transmit Code 32 Check Digit	0xF2 0x1A	0： Transmit Check Digit 1：Transmit Start Character, Stop Character, Check Digit	0： Transmit Check Digit	
Code 93	0x09	0： Disable 1： Enable	0： Disable	
Set Lengths for Code 93	0x1A(L1) 0x1B(L2)	0~99 0~99	4 55	
Code 93 Check	0xF2 0x4A	0： Disable 1： Enable	1： Enable	
Send Code 93 Check Digit	0xF2 0x4B	0： Disable 1： Enable	0： Disable	
Enable Code 11 Barcode Scanning	0x0A	0： Disable 1： Enable	0： Disable	
Set Lengths for Code 11	0x1C(L1) 0x1D(L2)	0~99 0~99	4 55	
Code 11 Check Digit Verification	0x34	0: Disable 1: One check digit 2: Two check digit	0： Disable	
Transmit Code 11 Check Digit	0x2F	0： Disable 1： Enable	0： Disable	
Enable Interleaved 2 of 5/ITF/交叉 25 码	0x06	0： Disable 1： Enable	1： Enable	
Set Scanning Data Lengths for Interleaved 2 of 5	0x16 0x17	0~99 0~99	14 14	
Interleaved 2 of 5 Check Digit Verification	0x31	0: Disable	0： Disable	Now

		1: USS Check Digit 2: OPCC Check Digit		Support: 0: Disable 1: USS Check Digit
Transmit Interleaved 2 of 5 Check Digit	0x2C	0： Disable 1： Enable	0： Disable	
Enable ITF14	0xF2 0x43	0： Disable 1： Enable	0： Disable	
Transmit ITF14 Check Digit	0xF2 0x44	0： Disable 1： Enable	0： Disable	
Enable Discrete 2 of 5 /Industrial 2 of 5/IND25/工业 25 码	0x05	0： Disable 1： Enable	0： Disable	
Set Scanning Data Lengths for Discrete 2 of 5	0x14 0x15	0~99 0~99	12	
Discrete 2 of 5 Check	0xF2 0x48	0： Disable 1： Enable	0： Disable	
Transmit Discrete 2 of 5 Check Character	0xF2 0x49	0： Disable 1： Enable	0： Disable	
Matrix 25	0xF2 0x20	0： Disable 1： Enable	0： Disable	
Matrix 25 Check Digit Verification	0xF2 0x21	0： Disable 1： Enable	0： Disable	
Transmit Matrix 25 Check Character	0xF2 0x22	0： Disable 1： Enable	0： Disable	
Set Lengths for Matrix 25	L1=0xF5 0x00, L2=0xF5 0x01	0~99 0~99	12	
Standard 25/IATA 25	0xF2 0x23	0： Disable 1： Enable	0： Disable	
Standard 25 Check Digit Verification	0xF2 0x24	0： Disable 1： Enable	0： Disable	
Transmit Standard 25 Check Character	0xF2 0x25	0： Disable 1： Enable	0： Disable	

Set Lengths for Standard 25	L1=0xF5 0x02, L2=0xF5 0x03	0~99 0~99	12	
Enable Codabar Barcode Scanning	0x07	0： Disable 1： Enable	0： Disable	
Set Lengths for Codabar	0x18(L1) 0x19(L2)	0~99 0~99	5 55	
Codabar Check	0xF2 0x4C	0： Disable 1： Enable	0： Disable	
Transmit Codabar Check Character	0xF2 0x4D	0： Disable 1： Enable	0： Disable	
NOTIS Transmit Format	0x37	0： Disable 1： Enable	0： Disable	
Start Character and Terminator	0xF2 0x31	0：ABCD/ABCD 1：ABCD/TN*E	0：ABCD/ABCD	
Letter Case Setting of Start Character and Teminator	0xF2 0x32	0： Uppercase 1： Lowercase	0： Uppercase	
Enable MSI /MSI PLESSEY Barcode Scanning	0x0B	0： Disable 1： Enable	0： Disable	
Set Lengths for MSI	0x1E(L1) 0x1F(L2)	0~99 0~99	6 55	
MSI Check Digit	0x32	0: One digit 1: Two digits	0 (One digit)	
Transmit MSI Check Digit	0x2E	0： Disable 1： Enable	0： Disable	
MSI Check Digit Algorithm	0x33	0:Mod10/Mod11 1:Mod10/Mod10	1(Mod 10/Mod 10)	
Enable GS1 DataBar(RSS) 14 Barcode Scanning	0xF0 0x52	0： Disable 1： Enable	0： Disable	
Enable GS1 DataBar Limited Barcode Scanning	0xF0 0x53	0： Disable 1： Enable	0： Disable	
Enable GS1 DataBar Expanded Barcode Scanning	0xF0 0x54	0： Disable 1： Enable	0： Disable	

RSS AI Character	0xF2 0x26	0： Disable 1： Enable	1： Enable	
About 2D Barcode(only for 2D)				
PDF417				
PDF417 (100 017X)	0x0F	0： Disable 1： Enable	1： Enable	
Read Multi-code	0xF2 0x60	0： Read Monocode 1： Read Dicode 2： Read Monocode /Dicode	0： Read Monocode	
Read Normal Phase/ Phase Reversal	0xF2 0x61	0： Read Normal Phase 1： Read Phase Reversal 2： Read Normal Phase/ Phase Reversal	0： Read Normal Phase	
QRCode				
QRCode (100 325X)	F0h 25h	0： Disable 1： Enable	1： Enable	
Read Multi-code	0xF2 0x65	0： Read Monocode 1： Read Dicode 2： Read Monocode /Dicode	0： Read Monocode	
ECI Control	0xF2 0x66	0： Not Output ECI 1： Output ECI	0： Not Output ECI	
QR Read Normal Phase/ Phase Reversal	0xF2 0x67	0： Read Normal Phase 1： Read Phase Reversal 2： Read Normal Phase/ Phase Reversal	0： Read Normal Phase	
DataMatrix				
DataMatrix (100 324X)	F0h 24h	0： Disable 1： Enable	1： Enable	
Read Multi-code	0xF2 0x6A	0： Read Monocode 1： Read Dicode 2： Read Monocode /Dicode	0： Read Monocode	
Read Normal Phase/ Phase Reversal	0xF2 0x6B	0： Read Normal Phase	0： Read Normal Phase	

		1： Read Phase Reversal 2： Read Normal Phase/ Phase Reversal		
ECI Control	0xF2 0x6C	0： Not Output ECI 1： Output ECI	0： Not Output ECI	
MaxiCode				
MaxiCode (100 326X)	F0h 26h	0： Disable 1： Enable	0： Disable	
Aztec				
Aztec (100 328X)	F0h 28h	0： Disable 1： Enable	0： Disable	
Han Xin Code				
Han Xin Code (100 32FX)	F0h 2Fh	0： Disable 1： Enable	0： Disable	
Read Multi-code	0xF2 0x70	0： Read Monocode 1： Read Dicode 2： Read Monocode /Dicode	0： Read Monocode	
Read Normal Phase/ Phase Reversal	0xF2 0x71	0： Read Normal Phase 1： Read Phase Reversal 2： Read Normal Phase/ Phase Reversal	0： Read Normal Phase	
ISSN	0xF2 0x33	0： Disable 1： Enable	0： Disable	
PLESSEY	0xF2 0x34	0： Disable 1： Enable	0： Disable	
PLESSEY Check	0xF2 0x3E	0： Disable 1： Enable	0： Disable	
Transmit PLESSEY Check Character	0xF2 0x4F	0： Disable 1： Enable	0： Disable	
AIM128	0xF2 0x29	0： Disable 1： Enable	0： Disable	
Transmit AIM128 Check Character	0xF2 0x2A	0： Disable 1： Enable	0： Disable	

DEU14	0xF2 0x2B	0： Disable 1： Enable	0： Disable	
Transmit DEU14 Check Character	0xF2 0x2C	0： Disable 1： Enable	1： Enable	
DEU12	0xF2 0x2D	0： Disable 1： Enable	0： Disable	
Transmit DEU12 Check Character	0xF2 0x2E	0： Disable 1： Enable	1： Enable	
NEC-25(COOP25)	0xF2 0x45	0： Disable 1： Enable	0： Disable	
NEC-25(COOP25) Check	0xF2 0x46	0： Disable 1： Enable	0： Disable	
Transmit NEC-25(COOP25) Check Character	0xF2 0x47	0： Disable 1： Enable	0： Disable	
Brazilian Bank Code	0xF2 0x28	0： Disable 1： Enable	0： Disable	
COMPOSITE	0xF2 0x17	0： Disable 1： Enable	0： Disable	
EAN/UCC	0xF2 0x18	0： Disable 1： Enable	0： Disable	

Set Default Parameter

To restore Factory Default Configuration or Default Configuration 1-5, scan the appropriate barcode below.

Set Factory Defaults - Scan this barcode to restore the factory default values listed in *Table 4-6.*

Factory Default Configuration

(0x00)

Note: Default configurations of the scan engine depend on factory default configuration.

Default Configuration1

The parameter is main for the POS,.
Communication Mode: Serial port
Trigger Mode: Key holding.
Terminator： Disable

(0x01)

Default Configuration2

The parameter is main for Self-help parameter configuration,
Communication Mode: USB KBW
Trigger Mode: Auto-induction
Terminator: Auto newline(\r\n)

(0x02)

Default Configuration3

The parameter is main for scan engine parameters configuration
Communication Mode: USB KBW
Trigger Mode: Key holding
Terminator : Enter(\r)

(0x03)

Default Configuration4

Communication Mode: Serial port 9600
Trigger Mode: Key holding.
Terminator: Auto newline
2D barcode only open QR and DM.

(0x04)

Default Configuration5

Not yet enabled

(0x05)

Output Product Information

Parameter # 0xF4 0x01

Trigger Mode

Parameter # 0x8A

（Level）Key Holding

Press the button to trigger the reading, release the button to end the reading. Reading success or reading time over a single reading time will end the reading.

（Pulse）Single Key Trigger

Detects the change of the key level (Maintain 30ms, depending on the product)to start reading, and then detects the change of the key level (Maintain 30ms, depending on the product)again to end reading. Reading success or reading time over a single reading time will end the reading.

Continuous Mode

The reading engine performs continuous work. Reading success or reading time over a single reading time will end the reading. More than the specified time will automatically trigger the next reading.

Automatic Induction Mode

In automatic induction mode, the scan engine detects the brightness of the surroundings. Trigger reading when the brightness changes. Reading success or reading time over a single reading time will end the reading. Regardless of the last success or failure to read, re-enter the detection of the surrounding environment brightness.

Host

Through the command to trigger the scan engine to read, also through the command to trigger the scan engine to end reading. Reading success or reading time over a single reading time will end the reading.

Button Automatic Induction Mode

When the button is pressed all the way, it enters automatic induction mode until the button is released and scanning barcode is finished.

When the button is pressed, the positioning light is on, off when the button is released.

Note: Key Trigger(Level and Pulse) still valid in other modes

*** % & Level**
(0X00)

Pulse
(0X02)

Continuous
(0X04)

 # Automatic Induction Mode
(0x09)

Host
(0X08)

Button Continuous
(0x0A)

Button Automatic Induction Mode
(0x0B)

Duration in Scanning

Parameter # 0x88

This parameter sets the maximum time decode processing continues during a scan attempt. It is programmable in 0.1 second increments from 0.50 to 25.5 seconds.

To set a duration in scanning, scan the barcode below. Next scan three *Numeric Barcodes* in appendix that correspond to the desired on time. Single digit numbers must have a leading zero. For example, to set an on time of 0.5 seconds, scan the barcode below, then scan the "0", "0" and "5" barcodes; to set an on time of 10.5 seconds, scan the barcode below, then scan the "1", "0" and "5" barcodes. To change the selection or cancel an incorrect entry, scan *Cancel* in appendix.

Duration in Scanning(Default: 3.0 sec.)

Quick Setting

Parameter # 0xF2 0xCF

Support 3S、5S、10S、15S、20S、30S、60S and infinite time.

infinite time
(0x00)

3s
(0x03)

5s
(0x05)

10s
(0x0A)

15s
(0x0B)

20s
(0x0C)

30s
(0x0D)

60s
(0x0E)

Continuous Reading Interval

Parameter # 0x89

The interval time between two readings in continuous mode. Regardless of the last success or failure to read, more than the specified time will automatically trigger the next reading.

Default: 500ms,unit: 100ms,range: 0-9900ms

To set a Continuous Reading Interval, scan the barcode below. Next scan two *Numeric Barcodes* in appendix that correspond to the desired time-out. Single digit values must have a leading zero. For example, to set a time-out of 0.5 seconds, scan the barcode below, then scan the “0” and “5” barcodes. To change the selection or cancel an incorrect entry, scan *Cancel* in appendix.

Continuous Reading Interval
(Default: 500ms.)

Output Interval of The Same Code

To avoid reading the same barcode multiple times in continuous mode and automatic induction mode, set the scan engine to allow reading the same barcode after a delay.

Output interval of the same code is to refuse to read the same barcode within the set length of time.

Default: 500ms,unit:100ms,range: 0-9900ms

To set output interval of the same code, scan the barcode below. Next scan two *Numeric Barcodes* in appendix that correspond to the desired time-out. Single digit values must have a leading zero. For example, to set a time-out of 0.5 seconds, scan the barcode below, then scan the “0” and “5” barcodes. To change the selection or cancel an incorrect entry, scan Cancel in appendix.

Parameter #0xF3 0x03

Output Interval of The Same Code

For example:

Set output interval of the same code is 200ms

Scan output interval of the same code setting code,then scan *Numeric Barcodes* to set 0 and 2

Set output interval of the same code is 1500ms

Scan output interval of the same code setting code,then scan *Numeric Barcodes* 1 and 5

Fast Setting

Parameter # 0xF2 0xC9

Fast setting, Including 0s、1s、3s、5s、7s and infinite delay.

No Delay
(0x00)

Delay 1s
(0x01)

Delay 3s
(0x03)

Delay 5s
(0x05)

Delay 7s
(0x07)

3030C99

Infinite Delay(Disable Output Interval of The Same Code)
(0x09)

Continue Scanning

Parameter # 0xF2 0xED

This function is suitable for these trigger modes:（level）key holding , (pulse) single key trigger, host mode.

3030ED0

***Disable**
(0x00)

3030ED1

Enable
(0x01)

Disable passive trigger scanning

Scan below enable barcode,level and host triggers will be disabled.
Parameter # 0xF2 0xA8

3030A80

*** Disable**
(0x00)

3030A81

Enable
(0x01)

Sensitivity Level

Set automatic induction triggering sensitivity
Sensitivity Values Inquire the parameter values returned.
Special: 0,high: 1,Middle: 8,Low: 15, Default: High
Parameter # 0xF2 0x04

3030040
Special
(0x00)

3030041
*** High**
(0x01)

3030042
Middle
(0x02)

3030043
Low
(0x03)

Custom Sensitivity

Set Automatic induction triggering sensitivity, The smaller ,the more sensitive, Values range 00-15
Default: 01
Parameter #0xF3 0x01

3F30000001

For example：

Set sensitivity is 2

Scan the custom sensitivity setting code,then scan *Numeric Barcodes* 0 and 2

Stability of Induction Time

Stability of induction time, Default: 500ms, unit:100ms, range: 0-9900ms
Parameter #0xF3 0x02

3F30000002
Stability of Induction Time

For example:

Set stability of induction time is 200ms

Scan stability of induction time setting code,then scan *Numeric Barcodes* 0 and 2

Set stability of induction time is 1500ms

Scan stability of induction time setting code,then scan *Numeric Barcodes* 1 and 5

Communication Mode

Parameter # 0xF2 0x01

3030010

*** & Serial Port，UART，TTL，RS232**

(0x00)

3030011

 # % USB KBW

(0x01)

3030012

USB Serial Port

(0x02)

3030013

AUTO UK

(0x03)

3030014

AUTO UV

(0x04)

Wiegand
(0x05)

RS485
(0x06)

AUTO UW
(0X07)

AUTO UR
(0x08)

PS2
(0x09)

TTDATA
(0x0A)

TTDATA+serial port
(0x0B)

HID POS
（0x0E）

1D module does not support USB KBW and USB serial port

【AUTO_UK】Automatic mode UK, USB and serial ports output simultaneously (use KBW)

【AUTO_UV】Automatic mode UV, USB and serial output simultaneously (use USB port)

Serial Parameters

Baud Rate

Parameter # 0x9C

Baud rate is the number of bits of data transmitted per second. The scan engine's baud rate setting should match the data rate setting of the host device. If not, data may not reach the host device or may reach it in distorted form.

Baud Rate 1200
(0x03)

Baud Rate 2400
(0x04)

Baud Rate 4800
(0x05)

*** Baud Rate 9600**
(0x06)

Baud Rate 19,200
(0x07)

Baud Rate 38,400
(0x08)

Baud Rate 57600
(0x09)

Baud Rate 115200
(0x0A)

Data Bit

Parameter # 0xA0

Data bit: This is a parameter to measure the actual data bit in communication.

7 Data Bits
(0x02)

***8 Data Bits**
（0x03）

Parity

Parameter # 0x9E

A parity check bit is the most significant bit of each ASCII coded character. Select the parity type according to host device requirements.

If you select **ODD** parity, the parity bit has a value 0 or 1, based on data, to ensure that an odd number of 1 bits is contained in the coded character.

Odd
(0x00)

If you select **EVEN** parity, the parity bit has a value 0 or 1, based on data, to ensure that an even number of 1 bits is contained in the coded character.

Even
(0x01)

Select **MARK** parity and the parity bit is always 1.

Mark
(0x02)

Select **SPACE** parity and the parity bit is always 0.

Space
(0x03)

If no parity is required, select **NONE**.

*** None**
(0x04)

Stop Bit Select

Parameter # 0x9D

The stop bit(s) at the end of each transmitted character marks the end of transmission of one character and prepares the receiving device for the next character in the serial data stream. Set the number of stop bits (one or two) to match host device requirements.

*** 1 Stop Bit**
(0x01)

2 Stop Bits
(0x02)

Software Handshaking

Parameter # 0x9F

This parameter offers control of the data transmission process in addition to that offered by hardware handshaking. Hardware handshaking is always enabled and cannot be disabled by the user.

Disable ACK/NAK Handshaking

When this option is selected, the scan engine neither generates nor expects ACK/NAK handshaking packets.

Disable ACK/NAK
(0x00)

Enable ACK/NAK Handshaking

When this option is selected, after transmitting data, the scan engine expects either an ACK or NAK response from the host. The scan engine also sends ACKs or NAKs messages to the host.

The scan engine waits up to the programmable Host Serial Response Time-out to receive an ACK or NAK. If the scan engine does not get a response in this time, it resends its data up to two times before discarding the data and declaring a transmit error.

*** Enable ACK/NAK**
(0x01)

Host Serial Response Time-out

Parameter # 0x9B

This parameter specifies how long the scan engine waits for an ACK or NAK before resending. Also, if the scan engine wants to send, and the host has already been granted permission to send, the scan engine waits for the designated time-out before declaring an error.

The delay period can range from 0.0 to 9.9 seconds in 0.1 second increments. After scanning the barcode below, scan two *Numeric Barcodes* in appendix. Values less than 10 require a leading zero. To change the selection or cancel an incorrect entry, scan *Cancel* in appendix.

Host Serial Response Time-out(Default: 2.0 sec.)

Intercharacter Delay

Parameter # 0x6E

The intercharacter delay gives the host system time to service its receiver and perform other tasks between characters. Select the intercharacter delay option matching host requirements. The delay period can range from no delay to 99 msec in 1 msec increments. After scanning the barcode below, scan two *Numeric Barcodes* in appendix to set the desired time-out. To change the selection or cancel an incorrect entry, scan *Cancel* in appendix.

Intercharacter Delay(Default: 0 sec.)

Host Character Time-out

Parameter # 0xEF

This parameter determines the maximum time the scan engine waits between characters transmitted by the host before discarding the received data and declaring an error. The time-out is set in 0.01 second increments from 0.01 seconds to 0.99 seconds. After scanning the barcode below, scan two *Numeric Barcodes* in appendix to set the desired time-out. To change the selection or cancel an incorrect entry, scan *Cancel* in appendix.

Host Character Time-out(Default: 200 msec.)

Keyboard

Country/Language Keyboard

Parameter #0xF6 0x01

*** American Keyboard (0x01)**

Belgium
(0x02)

Brazil（ABNT2）
(0x03)

Denmark
(0x06)

Finland
(0x07)

France
(0x08)

Austria、Germany
(0x09)

Greece
(0x0A)

Hungary
(0x0B)

Italy
(0x0D)

Netherlands
(0x0F)

Norway
(0x10)

Poland（214）
(0x11)

Portugal
0x12

Romania (standard)
(0x13)

Russia
(0x14)

Slovakia
(0x15)

Spain
(0x16)

Sweden
(0x17)

Turkey_F
(0x19)

Turkey_Q
(0x1A)

England
(0x1B)

Japan
(0x1C)

Chech
(0x1D)

Thailand Kedmanee
(0x1E)

Ukraine
(0x1F)

Supporting countries of Arabic_101: Saudi Arabia, United Arab Emirates, Oman, Egypt, Bahrain, Qatar, Kuwait, Lebanon, Libya, Syria, Yemen, Iraq, Jordan

Arabic_101
(0x20)

Croatia
(0x21)

Korea
(0x22)

Bulgaria
(0x23)

Multi-country Common
(0x24)

[Note 1]: Need to install WIN plug-in

[Note 2]: Multi-country common: In principle, the output character set should be set to UTF8
[Note 3]: Multi-country common: Microsoft Word (Office Word) cannot use this method. You can use the virtual keyboard method, the output character set should be set to UTF8, and the keyboard should be set to an American keyboard.

Time interval that keyboard outputs character

Time interval that keyboard outputs character, range: 0-1000ms,unit: 5ms,default: 5ms
Parameter #0xF3 0x04

3F30000004

For example:
Time interval: 100ms
First scan the setting code above,then scan ‘0’, ‘2’, ‘0’ *Numeric Barcodes* in order.

Quick Settings of Keyboard Output Time Interval

Parameter # 0xF2 0xB2

3030B20
0ms
(0x00)

3030B21
10ms
(0x01)

3030B22
50ms
(0x02)

Letter case conversion

If set to "Case Inversion", the uppercase of the output data will be lowercase, lowercase letters will be uppercase; If set to "all uppercase", regardless of whether the letters in the output data are uppercase or lowercase, all converted to uppercase letters; If set to "all lowercase", regardless of whether the letters in the output data is uppercase or lowercase, all converted to lowercase letters.
Parameter #0xF2 0xA1

3030A10

*** Normal Letter Case**
(0x00)

3030A11

All Uppercase
(0x01)

3030A12

All Lowercase
(0x02)

3030A13

Case Inversion
(0x03)

Keyboard Type

Enable virtual keyboard, you can output the correct data in any keyboard language mode.When using virtual keyboard, you must ensure that the keypad keys are valid

Parameter # 0xF2 0xB4

3030B40

*** Standard Keyboard**
(0x00)

3030B41

Virtual Keyboard

(0x01)

Keyboard State Control

Scanner control the state of the keyboard.

Parameter # 0xF2 0XB9

Disable
(0x00)

*** Enable**
(0x01)

ASCII Control Character Output Mode Selection

Parameter # 0xF2 0xAD

Output Function Key: The control character is used as a custom function key. For details, see Appendix Table 4-3.

Output Ctrl Combination Key (This function is used with the prefix and suffix): Ctrl combination key output control characters. For details, see Appendix Table 4-3.

ALT Mode Output Control Character: Support full control character output in Chinese environment, specific reference standard ASCII table

Output Enter, DownArrow: Mask other control characters, only output: 0x07 output Enter, 0x0A output DownArrow, 0x0D output Enter.

Output Function Key
(0x00)

Output Ctrl Combination Key
(0x01)

ALT Mode Output Control Character
(0x02)

Output Enter、DownArrow
(0x03)

Output CTRL+key combination, but not including the keys on the keyboard
(0x04)

Wiegand

Wiegand Protocol Type

Parameter # 0xF2 0xA4

***AUTO**
(0x00)

WG26
(0x01)

WG34
(0x02)

WG66
(0x03)

Custom Wiegand transport 1
(0x04)

Custom Wiegand transport 2
(0x05)

WG64
(0x06)

Wiegand 26 Protocol Output Mode

Parameter # 0xF2 0xA5

***3+5**
(0x00)

Raw Data
(0x01)

Wiegand Output Time Interval Setting

Parameter # 0xF3 0x16

On the basis of the time to set, scan the corresponding coefficient (two digit setting code).Add 0 in front of single digit. For example, set 100 us, the coefficient is 01, then you need to scan two digital setting codes that is "0" and "1" in order. To set 1000 us, the coefficient is 10, then scan "1" and "0" in order. The time range of support setting is 1-10 (100us-1000us).

Wiegand Output Time Interval (0x16)

PS2 Mode

PS2 Operating Mode:

0: AUTO,connect two PS2 device.Default: The external keyboard is valid.The internal is valid when the data is output.

1:Independent PS2,only use internal PS2.

Parameter # 0xF2 0xA6

AUTO (0x00)

Independent PS2 (0x01)

RS485 Networking Function

Enable RS485 Networking Function

Enable or disable RS485 networking function

Parameter # 0xF6 0x33

Disable* (0x00)

6063301

Enable
(0x01)

Modify 485 Device Slave Address

Set 485 slave address
Parameter # 0xF8 0x11
Make setting code ^380811xxxx

808110001

Slave Address 00 01

RS485 Networking Decoding Data Format

Parameter # 0xF6 0x34
Disable:Send the decoded data directly, the format is add+data.
Enable:Use RS485 networking data packet format
When disable, the se955 packet format must be set to the original data.

6063400

Disable*
(0x00)

6063401

Enable
(0x01)

RS485 Networking Heartbeat Switch

Parameter # 0xF6 0x35

6063500

Disable
(0x00)

6063501

Enable*
(0x01)

Power Mode

Parameter # 0x80

This parameter determines the power mode of the engine.

In Low Power mode, the scan engine enters into a low power consumption Sleep power state whenever possible (provided all WAKEUP commands were released). See *Power Management .*

In Continuous Power mode, the scan engine remains in the Awake state after each decode attempt (see *Power Management*).

The Sleep and Awake commands (see *SLEEP* and *WAKEUP*) can be used to change the power state in either the Low Power mode or the Continuous Power mode.

1040450

Continuous Power
(0x00)

1040451

Low Power
(0x01)

Beeper

Beeper Volume

Parameter # 0x8C

To select a decode beep volume, scan the appropriate barcode.

2050802

Low
(0x02)

2050801

Medium
(0x01)

2050800
*** High**
(0x00)

2050803
Mute
(0x03)

Beeper Type

Parameter # 0xF2 0xD8

3030D80
*** Passive Beeper**
(0x00)

3030D81
Active Beeper
(0x01)

Beep After Good Decode

Parameter # 0x38

Scan this symbol to set the scan engine to beep after a good decode.

1040021
*** Beep After Good Decode**
(0x01)

Scan this symbol to set the scan engine not to beep after a good decode. The beeper still operates during parameter menu scanning and indicates error conditions.

1040020
Do Not Beep After Good Decode
(0x00)

Indicator Light Function

Parameter # 0xF2 0x0A

Scan the appropriate barcode below to set indicator light function.

*** Good Decode**
(0x00)

Power LED
(0x01)

LED After Good Decode

Parameter # 0xF2 0x0B

To enable or disable LED after good decode, scan the appropriate barcode below.

Disable
(0x00)

*** Enable**
(0x01)

Decode Indicator Control

Parameter # 0xF2 0xCB

Mode 0: The light is off when power on. Bright when decoding is successful. The light will be off after the specified time.

Mode 1: The light is on when power on.Off when decoding is successful. The light will be on after the specified time(Sleep mode is also bright).

Mode 2: The light is on when power on.Off when triggering decoding. Bright when decoding is successful. The light will be off after the specified time.

Mode 3: The decoding indicator light is used as the illumination light. When decoding, the light is on, and light is off when the decoding ends.

*** Mode 0**
(0x00)

Mode 1
(0x01)

Mode 2
(0x02)

Mode 3
(0x03)

Mute

Parameter # 0xF2 0x0C

To enable or disable close all prompt, scan the appropriate barcode below.

*** Disable**
(0x00)

Enable
(0x01)

Boot prompt

Parameter # 0xF2 0x0D

Disable
(0x00)

*** Enable**
(0x01)

Setup Code Prompt

Parameter # 0xF2 0x0E

Disable
(0x00)

*** Enable**
(0x01)

Floodlight Control

Parameter # 0xF2 0x02

*** Lighting when Read**
(0x00)

Always Lighting
(0x01)

Always Close
(0x02)

Positioning light

Only for 2D product.

Positioning light control

Parameter # 0xF2 0x03

*** Lighting when Read**
(0x00)

Always Lighting
(0x01)

Always Close
(0x02)

Positioning light Flicker

Parameter # 0xF2 0xB8

***Flicker**
(0x00)

No Flicker
(0x01)

Decode Data Packet Format

Parameter # 0xEE

This parameter selects whether decoded data is transmitted in raw format (unpacketed), or transmitted with the packet format as defined by the serial protocol.

If the raw format is selected, ACK/NAK handshaking is disabled for decode data.

*** Send Raw Decode Data**
(0x00)

Send Packeted Decode Data
(0x01)

Transmit “No Read” Message

Parameter # 0x5E

Enable this option to transmit “NR” if a symbol does not decode during the timeout period or before the trigger is released. Any enabled prefix or suffixes are appended around this message.

Enable No Read
(0x01)

When disabled, it cannot send any messages to the host even if the barcode cannot be decoded.

*** Disable No Read**
(0x00)

Transmit Code ID Character

Parameter # 0x2D

A code ID character identifies the code type of a scanned barcode. This can be useful when decoding more than one code type. The code ID character is inserted between the prefix character (if selected) and the decoded symbol.

Select no code ID character, a Symbol Code ID character, or an AIM Code ID character. The Symbol Code ID characters are listed below; see *AIM Code Identifiers*.

Code ID
(0x02)

AIM ID
(0x01)

*** None**
(0x00)

Terminator

Parameter # 0xF2 0x05

Add character format: Decode Data+Terminator.

*** Disable**
(0x00)

 # & CR LF
(0x01)

% CR
(0x02)

TAB
(0x03)

CR CR
(0x04)

CR LF CR LF
(0x05)

Prefix/Suffix

Prefix/Suffix Values

Parameter # P = 0x69, S1 = 0x68, S2 = 0x6A

A prefix and/or one or two suffixes can be appended to scan data for use in data editing. To set these values, scan a four-digit number (i.e. four barcodes) that corresponds to ASCII values. See the *Table 4-3* and *Numeric Barcodes* in appendix. To change the selection or cancel an incorrect entry, scan *Cancel* in appendix. To set the Prefix/Suffix values via serial commands, see *Character Comparison Table.*

NOTE: In order to use Prefix/Suffix values, the *Scan Data Transmission Format* must be set.

Scan Prefix

Scan Suffix 1

Scan Suffix 2

Data Format Cancel

Continuously Set Multiple Prefix and Suffix Modes

Continuously Set Multiple Prefix

Parameter # 0xF3 0x10

Default is one prefix,you can set up to ten prefixes.Scan the barcode below to continuously set multiple prefixess.Scan Numeric Barcodes to set prefix. Each four Numeric Barcodes corresponds to a prefix character through an appendix table. Automatically ends after scanning for ten prefixes. According to the number of prefixes needed, you can scan “Complete Continuous Setup of Multiple Prefixes / Suffixes” to complete the prefix setting in advance.

Note: In order to use multiple prefixes, you must set up data transmission Format, that is "multiple prefix + data" or "multiple prefix + data + multiple suffixes" correspond to multiple prefix functions.

Continuously Set Multiple Prefix (0x00)

Continuously Set Multiple Suffix

Parameter # 0xF3 0x11

Default is two suffixes, you can set up to ten suffixes. Scan the barcode below to continuously set multiple suffix. Scan Numeric Barcodes to set suffix. Each four Numeric Barcodes corresponds to a suffix character through an appendix table. Automatically ends after scanning for ten suffixes. According to the number of suffixes needed, You can scan “Complete Continuous Setup of Multiple Prefixes / Suffixes” to complete the suffix setting in advance.

Note: In order to use multiple suffixes, you must set up data transmission format, that is "data + multiple suffixes " or "multiple prefixes + data + multiple suffixes" correspond to multiple suffix functions.

Continuously Set Multiple Suffix (0x00)

Complete Continuous Setup of Multiple Prefixes / Suffixes

Parameter # 0xFF 0XF6

Scanning the code below exits the state of continuous setup of multiple prefixes or suffixes and preserves the current setting of prefixes or suffixes.

Note:If continuously set ten prefixes or suffixes, the setting will be automatically terminated. Otherwise the code below must be sanned each time to exit the state.

Complete Continuous Setup of Multiple Prefixes / Suffixes
(0x00)

Exit Set Prefix or Suffix

Parameter # 0xFF 0XF6

Scanning the barcode below will exit continuously set prefix or suffix. And reserve the current setting of prefix or suffix.

Note:If continuously set ten prefixes or suffixes,then automatic end setting. Otherwise, scan the barcode below every time to exit.

Exit Set Prefix or Suffix
(0x00)

Scan Data Transmission Format

Parameter # 0xEB

Scan the following corresponding barcodes to set the desired data transmission format.

Note:Scan the barcode below to set corresponding data format after setting prefixes or suffixes. For example, it is "data+suffix 1" data format before, after setting prefixes, must scan"prefixes+data" or "prefixes+data+suffixes" to set prefix function.

*** Original Data**
(0x00)

<DATA><SUFFIX 1>
(0x01)

<DATA><SUFFIX2>
(0x02)

<DATA> <SUFFIX 1><SUFFIX 2>

(0x03)

<PREFIX> <DATA >
(0x04)

<PREFIX> <DATA> <SUFFIX 1>
(0x05)

<PREFIX> <DATA> <SUFFIX 2>
(0x06)

<PREFIX> <DATA> <SUFFIX 1> <SUFFIX 2>
(0x07)

Data + Multiple Suffixes
(0x08)

Multiple Prefixes+Data
(0x09)

Multiple Prefixes+Data+Multiple Suffixes (0x0A)

STX and ETX Setting

Parameter # 0xF2 0XB7

*** Disable (0x00)**

STX(prefix) (0x01)

ETX(suffix 1) (0x02)

STX(prefix)+ETX(suffix 1) (0x03)

Set Prefix and Suffix according to Barcode Type

Set Prefix according to Barcode Type

Parameter # 0xF3 0x12

Set multiple prefix according to barcode type.First,scan the barcode below.Second,choose barcode type, according to table 1-11 and table 4-3, scan the index of the corresponding hexadecimal value.For example, the QR code type is 0XF1,then scan “1” “2” “4” “1” digital setting code to set the barcode type. Third,scan barcode to set prefix or suffix,for example,set number "1",then scan “1” “0” “4” “9” digital setting code.Last, scan Exit Set Prefix or Suffix barcode.

3F30000012

Set Prefix according to Barcode Type

Set Suffix according to Barcode Type

Parameter # 0xF3 0x13

Refer to “Set Prefix according to Barcode Type”

3F30000013

Set Suffix according to Barcode Type

Clear Prefix according to Barcode Type

Parameter # 0xF3 0x14

Clear multiple prefix according to barcode type.First,scan the barcode below.Second,choose barcode type, according to table 1-11 and table 4-3, scan the index of the corresponding hexadecimal value.For example, the QR code type is 0XF1,then scan “1” “2” “4” “1” digital setting code to clear the prefix of QR.

Note:If you need to clear the prefix of all barcode type,scan “1” “2” “5” “5”(0xFF) digital setting code.

3F30000014

Clear Prefix according to Barcode Type

Clear Suffix according to Barcode Type

Parameter # 0xF3 0x15

Refer to “Clear Prefix according to Barcode Type”.

3F30000015

Clear Suffix according to Barcode Type

Enable/Disable Prefix or Suffix

Parameter # 0xF2,0xD4

Scan the following corresponding barcode to set the desired data transfer format.

3030D40

Disable Prefix or Suffix (Raw Data)
(0x00)

Enable Prefix(Prefix+ Data)
(0x01)

Enable Suffix(Data+ Suffix)
(0x02)

Enable Prefix and Suffix(Prefix+Data+Suffix)
(0x03)

Hide Custom Barcode Data

Hide Head Data

Parameter # 0xF2 0xC6

Hide head data to decoded output data.It can be configured to hide any length. If the configuration length exceeds the barcode data length, then the whole content of the current barcode can be hidden.

*** Disable**
(0x00)

Enable
(0x01)

Set the Length of the Hidden Head Data

Parameter # 0xF3 0x0B

Set the length of the hidden head data, range is 1-255. Scan the barcode below and then scan the Numeric Barcodes, such as the need to hide 16 characters, then scan Numeric Barcodes 0,1,6 in sequence.

Hide Intermediate Data

Parameter # 0xF2 0xC7

Hide intermediate data to decoded output data. You can configure any starting position and length. If the starting position of the configuration exceeds the barcode data length, the current barcode is not hidden. If the configuration length exceeds the remaining barcode data length, all barcode data after the starting position is hidden.

*** Disable**
(0x00)

Enable
(0x01)

Set the Starting Position of Hiding the Intermediate Data

Parameter # 0xF3 0x0C

Set the starting position of hiding the intermediate data, range is 1-255. Scan the barcode below and then scan the Numeric Barcodes. For example, to hide data after the third character (the fourth begins to hide), scan Numeric Barcodes 0, 0,3 in sequence.

Set the Length of the Hidden Intermediate Data

Parameter # 0xF3 0x0D

Set the length of the hidden intermediate data, range is 1-255. Scan the barcode below and then scan the Numeric Barcodes. such as the need to hide 16 characters, then scan Numeric Barcodes 0,1,6 in sequence.

Hide Tail Data

Parameter # 0xF2 0xC8

Hide tail data to decoded output data. It can be configured to hide any length. If the configuration length exceeds the barcode data length, then the whole content of the current barcode can be hidden.

*** Disable**
(0x00)

Enable
(0x01)

Set the Length of the Hidden Tail Data

Parameter # 0xF3 0x0E

Set the length of the hidden tail data, range is 1-255. Scan the barcode below and then scan the *Numeric Barcodes*. such as the need to hide 16 characters, then scan *Numeric Barcodes* 0,1,6 in sequence.

Insert Custom Data

Enable/Disable Insert Custom Data

Parameter # 0xF2 0xDE

Support for inserting custom data anywhere in the barcode, up to 10 bytes.

***Disable**
(0x00)

Enable
(0x01)

Set Position of the Inserted Data

Parameter # 0xF3 0x17

According to the position to be inserted, scan the corresponding value (4 digit setting code). Fill 0 in front of the number of insufficient digits. For example, set after the 3rd character, you need to scan 4 digit setting code "0" "0" "0" "3".

If the position is 0, then insert the header of the decoded data. If the position is larger than the decoded data length, the tail of the decoded data is inserted by default. Supported settings for the insertion position range is 0-5000.

Set Position of the Inserted Data

（Next, scan the corresponding Numeric Barcodes.）

Set Inserted Data

Parameter # 0xF3 0x1A

Set to insert custom data, and scan the custom data that needs to be set. For example, if you need to set the character ‘QR’ (0x51, 0x52), then continuously scan two sets of digital setting code ‘1’‘0’‘8’‘1’ (1000+0x51) and ‘1’‘0’‘8’‘2’ (1000+0x52) .Support up to 10 custom data, can be set continuously. When 10 data is reached, the setting is automatically exited.Complete in advance: Scan the “Exit Set Custom Data” setting code, then exit the setting and save the currently set data.

Set Inserted Data

（Next, scan the corresponding Numeric Barcodes.）

Exit Setting Custom Data

Parameter # 0xFF 0XF6

Exit the setting and save the data that is currently set.

Exit Setting Custom Data

Output Character Set Type

0: Primitive Type
1:GBK(GB2312)
2: UTF8
Default: 0(**Primitive Type**)
Parameter # 0xF2 0x06

*** Primitive Type**

(0x00)

GBK(GB2312)
(0x01)

UTF8
(0x02)

EUC-KR Korean（for special version）
(0x03)

Input Character Set Type

Parameter # 0xF2 0xAB

***AUTO**
(0x00)

GBK(GB2312)
(0x01)

UTF8
(0x02)

ASCII
(0x03)

Japanese（for special version）
(0x04)

Korean（for special version）
(0x05)

DEC Multinational Character Set (MCS)
(0x06)

ISO8859-1 Character Set
(0x07)

Japanese Single Byte (valid for special version)
(0x08)

USB Type

USB type,0: USB1.1(Full Speed), 1:USB2.0(High Speed),Default USB1.1
Parameter # 0xF2 0x0F

***USB1.1(Full Speed)**
(0x00)

USB2.0(High Speed)
(0x01)

Event Report

Send Event Report Command refers to EVENT in SSI Commands.

Boot Event

Parameter # 0xF2 0xA2

***** Disable**
(0x00)

Enable
(0x01)

Trigger Event

When scan engine triggers reading, it can be prompted by a command or GPIO pin. The GPIO pin is prompted to remain low until the end of the reading

Parameter # 0xF2 0xA3

3030A30

*** Disable**
(0x00)

3030A31

Enable Event
(0x01)

3030A32

Eable GPIO Pin Event
(0x02)

3030A33

Enable Event&GPIO Pin Event
(0x03)

Heartbeat Control

Parameter # 0xF2 0xCD

00: Disable heartbeat function

01: Send a heartbeat every 9 seconds(04 50 00 00 FF AC)

02: Send a heartbeat every 9 seconds(04 51 00 00 FF AB), If the ACK is not received in 3 seconds, the device restarts

3030CD0

*** Disable**
(0x00)

Heartbeat doesn't need ACK
(0x01)

Heartbeat needs ACK
(0x02)

URL Blocking

Block URLs starting with "http://" and "https://"

Parameter # 0xF2 0xEa

***Disable**
(0x00)

Enable
(0x01)

Invoice Function

Open the invoice function, automatically shut down CODE128 code, if you need to read CODE128, can open CODE128.

Automatic Filling of Value-added Tax Invoice

Parameter # 0xF2 0x08

*** Disable**
(0x00)

3030081
Enable
(0x01)

Invoice Type

Parameter # 0xF2 0xAA

3030AA0
*** Special Invoice**
(0x00)

3030AA1
Plain Invoice
(0x01)

Parameter Scanning

Parameter # 0xEC

To disable decoding of parameter barcodes, scan the barcode below. The **Set Defaults** parameter barcode can still be decoded. To enable decoding of parameter barcodes, either scan **Enable Parameter Scanning** below, **Set Factory Defaults** or set this parameter to 0x01 via a serial command.

1040601
*** Enable Parameter Scanning**
(0x01)

1040600
Disable Parameter Scanning
(0x00)

Send Setting Code

Parameter # 0xF1 0x71

Enable Send Setting Code to transmit barcodes in the following format, in Code 128, to the host:

<FNC3>L<any length data>
<FNC3>B<12 characters of data>

Note that the special Code 128 character <FNC3> must appear at the beginning of this data. However, if the appropriate data does not follow this as shown above, it does not transmit to the host device.

Enable Send Setting Code
(0x01)

*** Disable Send Setting Code**
(0x00)

Setting Code Password Mode

Enable setting code password mode,then scan setting code after inputing right password.Once input right password,this time boot is valid.

Note: 2 password(00-99)

Enable Setting Code Password Mode

Parameter # 0xF2 0xA7

*** Disable**
(0x00)

Enable
(0x01)

Input Setting Code Password

2 Password, From 0-9

Parameter # 0xF3 0x05

Scan below barcode to input setting code password.Next scan two *Numeric Barcodes* in appendix that correspond to required password.Single digit numbers must have a leading zero. For example,input password 68,scan below barcode,then scan ‘6’ and ‘8’. To change the selection or cancel an incorrect entry, scan *Cancel* in appendix.

Modify Setting Code Password

You can only modify password when you enable Setting Code Password Mode.

Parameter # 0xF3 0x06

Scan below barcode to modify setting code password.Next scan two *Numeric Barcodes* in appendix that correspond to new password.Single digit numbers must have a leading zero.For example,new password is 96,scan below barcode,then scan '9' and '6' . To change the selection or cancel an incorrect entry, scan *Cancel* in appendix.

Logout Password

After logouting password, you should input password again when you need.

Parameter # 0xF2 0xA9

Logout Password

Linear Code Type Security Level

Parameter # 0x4E

The scan engine offers four levels of decode security for linear code types (e.g. Code 39, Interleaved 2 of 5). Select higher security levels for decreasing levels of barcode quality. As security levels increase, the scan engine's aggressiveness decreases.

Select the security level appropriate for your barcode quality.

Linear Security Level 1

The following code types must be successfully read twice before being decoded:

*** Linear Security Level 1**
(0x01)

表 3-1 Table 3-2

Code Type	Length
Codabar	All
MSI	4 or less
D 2 of 5	8 or less
I 2 of 5	8 or less

Linear Security Level 2

All code types must be successfully read twice before being decoded.

Linear Security Level 2
(0x02)

Linear Security Level 3

Code types other than the following must be successfully read twice before being decoded. The following codes must be read three times:

Linear Security Level 3
(0x03)

Table 3-3

Code Type	Length
MSI	4 or less
D 2 of 5	8 or less
I 2 of 5	8 or less

Linear Security Level 4

All code types must be successfully read three times before being decoded.

Linear Security Level 4
(0x04)

1D identifies two barcodes

1D barcode scan engine identifies two barcodes at the same time , There must be two barcodes read at the same time otherwise reading failure (setting code can only be read one).

Parameter # 0xF2 0x10

*** Disable**
(0x00)

Enable
(0x01)

1D Inverse Barcode Reading

Parameter # 0xF2 0x91

*** Disable**
(0x00)

3030911

Enable
(0x01)

Barcode Global Switch

1D Global Switch

Parameter # 0xF2 0x11

3030110

Disable
(0x00)

3030111

Enable
(0x01)

2D Global Switch

Parameter # 0xF2 0x50

3030500

Disable
(0x00)

3030501

Enable
(0x01)

All Barcode Switch

Parameter # 0xF2 0x90

Disable
(0x00)

Enable
(0x01)

UPC-A

Enable/Disable UPC-A

Parameter # 0x01

To enable or disable UPC-A, scan the appropriate barcode below.

1000011

*** Enable UPC-A**
(0x01)

1000010

Disable UPC-A
(0x00)

UPC-A Preamble

Parameter # 0x22

Preamble characters (Country Code and System Character) can be transmitted as part of a UPC-A symbol. Select one of the following options for transmitting UPC-A preamble to the host device: transmit system character only, transmit system character and country code (“0” for USA), or transmit no preamble.

2030100

No Preamble
(<DATA>)
(0x00)

2030101

*** System Character**
(<SYSTEM CHARACTER> <DATA>)
(0x01)

2030102

System Character & Country Code
(< COUNTRY CODE> <SYSTEM CHARACTER><DATA>)
(0x02)

Transmit UPC-A Check Digit

Parameter # 0x28

Scan the appropriate barcode below to transmit the symbol with or without the UPC-A check digit.

1020021

*** Transmit UPC-A Check Digit**
(0x01)

1020020

Do Not Transmit UPC-A Check Digit
(0x00)

UPC-A 2-bits Supplementals

Parameter # 0xF2 0x40

3030401

Enable
（0x01）

3030400

*** Disable**
（0x00）

UPC-A 5-bits Supplementals

Parameter # 0xF2 0x41

3030411

Enable
（0x01）

3030410

*** Disable**
（0x00）

UPC-A Read Supplementals

Parameter # 0xF2 0x42

3030421

Enable
（0x01）

3030420

*** Disable**
（0x00）

UPC-E

Enable/Disable UPC-E

Parameter # 0x02

To enable or disable UPC-E, scan the appropriate barcode below.

1000021

*** Enable UPC-E**
(0x01)

1000020

Disable UPC-E
(0x00)

UPC-E Preamble

Parameter # 0x23

Preamble characters (Country Code and System Character) can be transmitted as part of a UPC-E symbol. Select one of the following options for transmitting UPC-E preamble to the host device: transmit system character only, transmit system character and country code (“0” for USA), or transmit no preamble.

2030000

No Preamble
(<DATA>)
(0x00)

*** System Character**
(<SYSTEM CHARACTER> <DATA>)
(0x01)

System Character & Country Code
(< COUNTRY CODE> <SYSTEM CHARACTER><DATA>)
(0x02)

Transmit UPC-E Check Digit

Parameter # 0x29

Scan the appropriate barcode below to transmit the symbol with or without the UPC-E check digit.

*** Transmit UPC-E Check Digit**
(0x01)

Do Not Transmit UPC-E Check Digit
(0x00)

Convert UPC-E to UPC-A

Parameter # 0x25

Enable this parameter to convert UPC-E (zero suppressed) decoded data to UPC-A format before transmission. After conversion, data follows UPC-A format and is affected by UPC-A programming selections (e.g., Preamble, Check Digit).

Scan **DO NOT CONVERT UPC-E TO UPC-A** to transmit UPC-E (zero suppressed) decoded data.

Convert UPC-E to UPC-A
(0x01)

*** Do Not Convert UPC-E to UPC-A**
(0x00)

UPC-E 2-bits Supplementals

Parameter # 0xF2 0x3D

Enable
（0x01）

*** Disable**
（0x00）

UPC-E 5-bits Supplementals

Parameter # 0xF2 0x3E

Enable
（0x01）

*** Disable**
（0x00）

UPC-E Read Supplementals

Parameter # 0xF2 0x3F

Enable
（0x01）

*** Disable**
（0x00）

UPC-E1

Parameter # 0xF2 0x15

*** Disable**
(0x00)

Enable
(0x01)

EAN-8

Enable/Disable EAN-8

Parameter # 0x04

To enable or disable EAN-8, scan the appropriate barcode below.

*** Enable EAN-8**
(0x01)

Disable EAN-8
(0x00)

EAN-8 Zero Extend

Parameter # 0x27

When enabled, this parameter adds five leading zeros to decoded EAN-8 symbols to make them compatible in format to EAN-13 symbols.

Disable this parameter to transmit EAN-8 symbols as is.

Enable EAN-8 Zero Extend
(0x01)

*** Disable EAN-8 Zero Extend**
(0x00)

EAN-8 2-bits Supplementals

Parameter # 0xF2 0x37

Enable
（0x01）

*** Disable**
（0x00）

EAN-8 5-bits Supplementals

Parameter # 0xF2 0x38

Enable
（0x01）

*** Disable**
（0x00）

EAN-8 Read Supplementals

Parameter # 0xF2 0x39

Enable
（0x01）

*** Disable**
（0x00）

EAN-8 Transmit Check Digit

Parameter # 0xF2 0x80

Disable
(0x00)

***Enable**
(0x01)

EAN-13

Enable/Disable EAN-13

Parameter # 0x03

To enable or disable EAN-13, scan the appropriate barcode below.

*** Enable EAN-13**
(0x01)

Disable EAN-13
(0x00)

EAN-13 2-bits Supplementals

Parameter # 0xF2 0x3A

Enable
（0x01）

*** Disable**
（0x00）

EAN-13 5-bits Supplementals

Parameter # 0xF2 0x3B

Enable
（0x01）

*** Disable**
（0x00）

EAN-13 Read Supplementals

Parameter # 0xF2 0x3C

Enable
（0x01）

*** Disable**
（0x00）

EAN-13 Transmit Check Digit

Parameter # 0xF2 0x16

Disable
(0x00)

***Enable**
(0x01)

Enable/Disable Bookland EAN(ISBN)

Parameter # 0x53

To enable or disable EAN Bookland, scan the appropriate barcode below.

Enable Bookland EAN
(0x01)

*** Disable Bookland EAN**
(0x00)

Bookland ISBN Format

Parameter # 0xF1 0x40

If you enabled Bookland EAN using *Enable/Disable Bookland EAN* , select one of the following formats for Bookland data:

Bookland ISBN-10 - The scan engine reports Bookland data starting with 978 in traditional 10-digit format with the special Bookland check digit for backward-compatibility. Data starting with 979 is not considered Bookland in this mode.

Bookland ISBN-13 - The scan engine reports Bookland data (starting with either 978 or 979) as EAN-13 in 13-digit format to meet the 2007 ISBN-13 protocol.

***Bookland ISBN-10**
(0x00)

Bookland ISBN-13
(0x01)

NOTE :For Bookland EAN to function properly, first enable Bookland EAN using *Enable/Disable Bookland EAN*, then select either Decode UPC/EAN Supplementals, Autodiscriminate UPC/EAN Supplementals, or Enable 978/979 Supplemental Mode in *Decode UPC/EAN Supplementals* .

Decode UPC/EAN Supplementals

Parameter # 0x10

Supplementals are barcodes appended according to specific format conventions (e.g.UPC A+2, UPC E+2, EAN 13+2, EAN 13+5). The following options are available:

- **Do not read supplementals** – The scan engine can only read the barcode no matter the barcode with supplementals or not.
- **Only read the barcode with supplementals**- The scan engine can only read the barcode with supplementals.
- **Auto read supplementals**- The scan engine can not only read the barcode with supplementals,but also read the barcode without supplementals.

*** Ignore UPC/EAN with Supplementals**
(0x00)

Decode UPC/EAN with Supplementals
(0x01)

Autodiscriminate UPC/EAN Supplementals
(0x02)

UPC/EAN Security Level

Parameter # 0x4D

The scan engine offers four levels of decode security for UPC/EAN barcodes. Increasing levels of security are provided for decreasing levels of barcode quality. Increasing security decreases the scan engine's aggressiveness, so choose only that level of security necessary for the application.

UPC/EAN Security Level 0

This default setting allows the scan engine to operate in its most aggressive state, while providing sufficient security in decoding most "in-spec" UPC/EAN barcodes.

*** UPC/EAN Security Level 0**
(0x00)

UPC/EAN Security Level 1

As barcode quality levels diminish, certain characters become prone to mis-decodes before others (i.e., 1, 2, 7, 8). If mis-decodes of poorly printed barcodes occur, and the mis-decodes are limited to these characters, select this security level.

UPC/EAN Security Level
(0x01)

UPC/EAN Security Level 2

If mis-decodes of poorly printed barcodes occur, and the mis-decodes are not limited to characters 1, 2, 7, and 8, select this security level.

UPC/EAN Security Level 2
(0x02)

UPC/EAN Security Level 3

If misdecodes still occur after selecting Security Level 2, select this security level. Be advised, selecting this option is an extreme measure against mis-decoding severely out of spec barcodes. Selection of this level of security significantly impairs the decoding ability of the scan engine. If this level of security is necessary, try to improve the quality of the barcodes.

UPC/EAN Security Level 3
(0x03)

Code 128

Including AIM128 ,but the output type is different.

Enable/Disable Code 128

Parameter # 0x08

To enable or disable Code 128, scan the appropriate barcode below.

1000101

*** Enable Code 128**
(0x01)

1000100

Disable Code 128
(0x00)

Transmit Check Digit

Parameter # 0xF2 0x35

3030351

Enable
（0x01）

3030350

*** Disable**
（0x00）

Set Lengths for Code 128

Parameter # L1=0xF5 0x04, L2=0xF5 0x05

F1118485F50000005

One Discrete Length

F2118485F50000005

Two Discrete Lengths

Length Within Range

Any Length

GS1-128 (formerly UCC/EAN-128)

Enable/Disable GS1-128 (formerly UCC/EAN-128)

Parameter # 0x0E

To enable or disable GS1-128, scan the appropriate barcode below.

*** Enable GS1-128**
(0x01)

Disable GS1-128
(0x00)

UCC/EAN-128 Transmit Check Digit

Parameter # 0xF2 0x36

Enable
（0x01）

*** Disable**
（0x00）

Set Lengths for UCC/EAN-128

Parameter # L1=0xF5 0x06, L2=0xF5 0x07

F1118687F50000007

One Discrete Length

F2118687F50000007

Two Discrete Lengths

F3118687F50000007

Length Within Range

F0118687F50000007

Any Length

ISBT 128

Parameter # 0x54

To enable or disable ISBT 128, scan the appropriate barcode below.

1000331

*** Enable ISBT 128**
(0x01)

1000330

Disable ISBT 128
(0x00)

Code 39

Enable/Disable Code 39

Parameter # 0x00

To enable or disable Code 39, scan the appropriate barcode below.

*** Enable Code 39**
(0x01)

Disable Code 39
(0x00)

Set Lengths for Code 39

Parameter # L1 = 0x12, L2 = 0x13

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s) the code contains. Lengths for Code 39 may be set for any length, one or two discrete lengths, or lengths within a specific range. If Code 39 Full ASCII is enabled, **Length Within a Range** or **Any Length** are the preferred options. To set lengths via serial commands, see *Setting Code Lengths Via Serial Commands.*

NOTE :When setting lengths, single digit numbers must always be preceded by a leading zero.

One Discrete Length - This option limits decodes to only those Code 39 symbols containing a selected length. Lengths are selected from the *Numeric Barcodes* in appendix. For example, to decode only Code 39 symbols with 14 characters, scan **Code 39 - One Discrete Length**, then scan **1** followed by **4**. To change the selection or cancel an incorrect entry, scan *Cancel* in appendix.

Code 39 - One Discrete Length

Two Discrete Lengths - This option limits decodes to only those Code 39 symbols containing either of two selected lengths. Lengths are selected from the *Numeric Barcodes* in appendix. For example, to decode only those Code 39 symbols containing either 2 or 14 characters, select **Code 39 - Two Discrete Lengths**, then scan **0**, **2**, **1**, and then **4**. To change the selection or cancel an incorrect entry, scan *Cancel* in appendix.

Code 39 - Two Discrete Lengths

Length Within Range - This option limits decodes to only those Code 39 symbols within a specified range. For example, to decode Code 39 symbols containing between 4 and 12 characters, first scan **Code 39 - Length Within Range**. Then scan **0**, **4**, **1,** and **2** according to *Numeric Barcodes* in appendix. To change the selection or cancel an incorrect entry, scan *Cancel* in appendix.

Code 39 - Length Within Range

Any Length - Scan this option to decode Code 39 symbols containing any number of characters.

Code 39 - Any Length

Code 39 Check Digit Verification

Parameter # 0x30

When this feature is enabled, the scan engine checks the integrity of all Code 39 symbols to verify that the data complies with specified check digit algorithm. Only those Code 39 symbols which include a modulo 43 check digit are decoded. Only enable this feature if your Code 39 symbols contain a module 43 check digit.

Verify Code 39 Check Digit
(0x01)

*** Do Not Verify Code 39 Check Digit**
(0x00)

Transmit Code 39 Check Digit

Parameter # 0x2B

Scan this symbol to transmit the check digit with the data.

Transmit Code 39 Check Digit
(0x01)

Scan this symbol to transmit data without the check digit.

*** Do Not Transmit Code 39 Check Digit**
(0x00)

Enable/Disable Code 39 Full ASCII

Parameter # 0x11

Code 39 Full ASCII is a variant of Code 39 which pairs characters to encode the full ASCII character set. To enable or disable Code 39 Full ASCII, scan the appropriate barcode below.

See ***Table 4-3*** for the mapping of Code 39 characters to ASCII values.

1020111

Enable Code 39 Full ASCII
(0x01)

1020110

*** Disable Code 39 Full ASCII**
(0x00)

NOTE :Trioptic Code 39 and Code 39 Full ASCII cannot be enabled simultaneously. If you get an error beep when enabling Code 39 Full ASCII, disable Trioptic Code 39 and try again.

Code 39 Transport Start Character and Terminator

Parameter # 0xF2 0x30

3030300

*** Disable**
(0x00)

3030301

Enable
(0x01)

Code 39 bigcode

Parameter # 0xF2 0x27

Currently only 1D products support the barcode.

3030271

Enable
（0x01）

3030270

*** Disable**
（0x00）

Convert Code 39 to Code 32 (Italian Pharma Code)

Parameter # 0x56

Code 32 is a variant of Code 39 used by the Italian pharmaceutical industry. Scan the appropriate barcode below to enable or disable converting Code 39 to Code 32.

1020300

*** Disable**
(0x00)

1020301

Enable
(0x01)

Code 32 Prefix

Parameter # 0xE7

Enable this parameter to add the prefix character “A” to all Code 32 barcodes. Convert Code 39 to Code 32(Italian Pharma Code) must be enabled for this parameter to function.

1020320

*** Disable**
(0x00)

1020321

Enable
(0x01)

Code 32 Check Digit Verification

Parameter # 0xF2 0x19

3030190

*** Disable**
(0x00)

Enable
(0x01)

Transmit Code 32 Check Digit

Parameter # 0xF2 0x1A

***Transmit Check Digit**
(0x00)

Transmit Start Character, Stop Character, Check Digit
(0x01)

Code 93

Enable/Disable Code 93

Parameter # 0x09

To enable or disable Code 93, scan the appropriate barcode below.

Enable Code 93
(0x01)

***** Disable Code 93**
(0x00)

Set Lengths for Code 93

Parameter # L1 = 0x1A, L2 = 0x1B

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s) the code contains. Lengths for Code 93 may be set for any length, one or two discrete lengths, or lengths within a specific range. To set lengths via serial commands, see *Setting Code Lengths Via Serial Commands* .

One Discrete Length - Select this option to decode only those codes containing a selected length. For example, select **Code 93 One Discrete Length**, then scan **1**, **4**, to limit the decoding to only Code 93 symbols containing 14 characters. *Numeric Barcodes* is in appendix. To change the selection or cancel an incorrect entry, scan *Cancel* in appendix.

Code 93 - One Discrete Length

Two Discrete Lengths - Select this option to decode only those codes containing two selected lengths. For example, select **Code 93 Two Discrete Lengths**, then scan **0**, **2**, **1**, **4**, to limit the decoding to only Code 93 symbols containing 2 or 14 characters. *Numeric Barcodes* is in appendix. To change the selection or cancel an incorrect entry, scan *Cancel* in appendix.

Code 93 - Two Discrete Lengths

Length Within Range - This option sets the unit to decode a code type within a specified range. For example, to decode Code 93 symbols containing between 4 and 12 characters, first scan **Code 93 Length Within Range**, then scan **0**, **4**, **1** and **2** (single digit numbers must always be preceded by a leading zero). *Numeric Barcodes* is in appendix. To change the selection or cancel an incorrect entry, scan *Cancel* in appendix.

Code 93 - Length Within Range

Any Length - Scan this option to decode Code 93 symbols containing any number of characters.

Code 93 - Any Length

Code 93 Check

Parameter # 0xF2 0x4A

*** Enable**
（0x01）

Disable
（0x00）

Transmit Code 93 Check Digit

Parameter # 0xF2 0x4B

Enable
（0x01）

*** Disable**
（0x00）

Code 11

Enable/Disable Code 11

Parameter # 0x0A

To enable or disable Code 11, scan the appropriate barcode below.

Enable Code 11
(0x01)

*** Disable Code 11**
(0x00)

Set Lengths for Code 11

Parameter # L1 = 0x1C, L2 = 0x1D

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s) the code contains. Set lengths for Code 11 to any length, one or two discrete lengths, or lengths within a specific range.

One Discrete Length - Select this option to decode only Code 11 symbols containing a selected length. Select the length using the *Numeric Barcodes* in appendix. For example, to decode only Code 11 symbols with 14 characters, scan **Code 11 - One Discrete Length**, then scan **1** followed by **4**. To correct an error or to change the selection, scan *Cancel* in appendix.

Two Discrete Lengths - Select this option to decode only Code 11 symbols containing either of two selected lengths. Select lengths using the *Numeric Barcodes* in appendix. For example, to decode only those Code 11 symbols containing either 2 or 14 characters, select **Code 11 - Two Discrete Lengths**, then scan **0**, **2**, **1**, and then **4**. To correct an error or to change the selection, scan *Cancel* in appendix.

Length Within Range - Select this option to decode a Code 11 symbol with a specific length range. Select lengths using the *Numeric Barcodes* in appendix. For example, to decode Code 11 symbols containing between 4 and 12 characters, first scan **Code 11 - Length Within Range**. Then scan **0**, **4**, **1,** and **2** (single digit numbers must always be preceded by a leading zero). To correct an error or change the selection, scan *Cancel* in appendix.

Any Length - Scan this option to decode Code 11 symbols containing any number of characters within the scan engine capability.

Code 11 - One Discrete Length

Code 11 - Two Discrete Lengths

Code 11 - Length Within Range

Code 11 - Any Length

Code 11 Check Digit Verification

Parameter # 0x34

This feature allows the scan engine to check the integrity of all Code 11 symbols to verify that the data complies with the specified check digit algorithm. This selects the check digit mechanism for the decoded Code 11 barcode. The options are to check for one check digit, check for two check digits, or disable the feature.

To enable this feature, scan the barcode below corresponding to the number of check digits encoded in your Code 11 symbols.

*** Disable**
(0x00)

One Check Digit
(0x01)

Two Check Digits
(0x02)

Transmit Code 11 Check Digit

Parameter # 0x2F

This feature selects whether or not to transmit the Code 11 check digit.

Transmit Code 11 Check Digit
(0x01)

*** Do Not Transmit Code 11 Check Digit**
(0x00)

NOTE： Code 11 Check Digit Verification must be enabled for this parameter to function.

Interleaved 2 of 5/ITF/交叉 25 码

Enable/Disable Interleaved 2 of 5

Parameter # 0x06

To enable or disable Interleaved 2 of 5, scan the appropriate barcode below.

*** Enable Interleaved 2 of 5**
(0x01)

Disable Interleaved 2 of 5

(0x00)

Set Lengths for Interleaved 2 of 5

Parameter # L1 = 0x16, L2 = 0x17

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s) the code contains. Lengths for I 2 of 5 may be set for any length, one or two discrete lengths, or lengths within a specific range. To set lengths via serial commands, see *Setting Code Lengths Via Serial Commands*.

NOTE: When setting lengths, single digit numbers must always be preceded by a leading zero.

One Discrete Length - Select this option to decode only those codes containing a selected length. For example, select **I 2 of 5 One Discrete Length**, then scan **1**, **4**, to decode only I 2 of 5 symbols containing 14 characters. *Numeric Barcodes* is in appendix. To change the selection or cancel an incorrect entry, scan *Cancel* in appendix.

I 2 of 5 - One Discrete Length

Two Discrete Lengths - Select this option to decode only those codes containing two selected lengths. For example, select **I 2 of 5 Two Discrete Lengths**, then scan **0**, **6**, **1**, **4**, to decode only I 2 of 5 symbols containing 6 or 14 characters. *Numeric Barcodes* is in appendix. To change the selection or cancel an incorrect entry, scan *Cancel* in appendix.

I 2 of 5 - Two Discrete Lengths

Length Within Range - Select this option to decode only codes within a specified range. For example, to decode I 2 of 5 symbols containing between 4 and 12 characters, first scan **I 2 of 5 Length Within Range**, then scan **0**, **4**, **1** and **2** (single digit numbers must always be preceded by a leading zero). *Numeric Barcodes* is in appendix. To change the selection or cancel an incorrect entry, scan *Cancel* in appendix.

I 2 of 5 - Length Within Range

Any Length - Scan this option to decode I 2 of 5 symbols containing any number of characters.

NOTE: Selecting this option may lead to misdecodes for I 2 of 5 codes.

I 2 of 5 - Any Length

I 2 of 5 Check Digit Verification

Parameter # 0x31

When enabled, this parameter checks the integrity of an I 2 of 5 symbol to ensure it complies with a specified algorithm, either USS (Uniform Symbology Specification), or OPCC (Optical Product Code Council).

2051E00

*** Disable**
(0x00)

2051E01

Enable
(0x01)

Transmit I 2 of 5 Check Digit

Parameter # 0x2C

Scan this symbol to transmit the check digit with the data.

1020211

Transmit I 2 of 5 Check Digit
(0x01)

Scan this symbol to transmit data without the check digit.

1020210

***Do Not Transmit I 2 of 5 Check Digit**
(0x00)

ITF14

Parameter # 0xF2 0x43

3030431

Enable
（0x01）

3030430

*** Disable**
（0x00）

Transmit ITF14 Check Digit

Parameter # 0xF2 0x44

3030441

Enable
（0x01）

3030440

*** Disable**
（0x00）

Discrete 2 of 5/Industrial 2 of 5/IND25/工业 25 码

Enable/Disable Discrete 2 of 5

Parameter # 0x05

To enable or disable Discrete 2 of 5, scan the appropriate barcode below.

1000051

Enable Discrete 2 of 5
(0x01)

1000050

*** Disable Discrete 2 of 5**
(0x00)

Set Lengths for Discrete 2 of 5

Parameter # L1 = 0x14, L2 = 0x15

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s) the code contains. Lengths for D 2 of 5 may be set for any length, one or two discrete lengths, or lengths within a specific range. To set lengths via serial commands, see *Setting Code Lengths Via Serial Commands.*

One Discrete Length - Select this option to decode only those codes containing a selected length. For example, select **D 2 of 5 One Discrete Length**, then scan **1**, **4**, to decode only D 2 of 5 symbols containing 14 characters. *Numeric Barcodes* is in appendix. To change the selection or cancel an incorrect entry, scan *Cancel* in appendix.

1010607023700

D 2 of 5 - One Discrete Length

Two Discrete Lengths - Select this option to decode only those codes containing two selected lengths. For example, select **D 2 of 5 Two Discrete Lengths**, then scan **0**, **2**, **1**, **4**, to decode only D 2 of 5 symbols containing 2 or 14 characters. *Numeric Barcodes* is in appendix. To change the selection or cancel an incorrect entry, scan *Cancel* in appendix.

D 2 of 5 - Two Discrete Lengths

Length Within Range - Select this option to decode codes within a specified range. For example, to decode D 2 of 5 symbols containing between 4 and 12 characters, first scan **D 2 of 5 Length Within Range**, then scan **0**, **4**, **1** and **2** (single digit numbers must be preceded by a leading zero). *Numeric Barcodes* is in appendix. To change the selection or cancel an incorrect entry, scan *Cancel* in appendix.

D 2 of 5 - Length Within Range

Any Length - Scan this option to decode D 2 of 5 symbols containing any number of characters.
NOTE: Selecting this option may lead to misdecodes for D 2 of 5 codes.

D 2 of 5 - Any Length

Discrete 2 of 5 Check

Parameter # 0xF2 0x48

Enable
（0x01）

*** Disable**
（0x00）

Transmit Discrete 2 of 5 Check Digit

Parameter # 0xF2 0x49

Enable
（0x01）

*** Disable**
（0x00）

Matrix 25

Enable/Disable Matrix 25

Parameter # 0xF2 0x20

To enable or disable Matrix 25, scan the appropriate barcode below.

Enable Matrix 25
(0x01)

*** Disable Matrix 25**
(0x00)

Matrix 25 Check Digit Verification

Parameter # 0xF2 0x21

Enable Matrix 25 Check Digit Verification
(0x01)

***Disable Matrix 25 Check Digit Verification**
(0x00)

Transmit Matrix 25 Check Digit

Parameter # 0xF2 0x22

3030221

Enable Matrix 25 Transmit Check Character (0x01)

3030220

*** Disable Matrix 25 Transmit Check Character (0x00)**

Set Lengths for Matrix 25

Parameter # L1=0xF5 0x00, L2=0xF5 0x01

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s) the code contains. Lengths for Matrix 25 may be set for any length, one or two discrete lengths, or lengths within a specific range. To set lengths via serial commands, see *Setting Code Lengths Via Serial Commands.*

One Discrete Length - Select this option to decode only those codes containing a selected length. For example, select **Matrix 25 One Discrete Length**, then scan **1**, **4**, to decode only Matrix 25 symbols containing 14 characters. *Numeric Barcodes* is in appendix. To change the selection or cancel an incorrect entry, scan *Cancel* in appendix.

F1118081F50000001

Matrix 25 - One Discrete Length

Two Discrete Lengths - Select this option to decode only those codes containing two selected lengths. For example, select **Matrix 25 Two Discrete Lengths**, then scan **0**, **2**, **1**, **4**, to decode only Matrix 25 symbols containing 2 or 14 characters. *Numeric Barcodes* is in appendix. To change the selection or cancel an incorrect entry, scan *Cancel* in appendix.

F2118081F50000001

Matrix 25 - Two Discrete Lengths

Length Within Range - Select this option to decode codes within a specified range. For example, to decode Matrix 25 symbols containing between 4 and 12 characters, first scan **Matrix 25 Length Within Range**, then scan **0**, **4**, **1** and **2** (single digit numbers must be preceded by a leading zero). *Numeric Barcodes* is in appendix. To change the selection or cancel an incorrect entry, scan *Cancel* in appendix.

F3118081F50000001

Matrix 25 - Length Within Range

Any Length - Scan this option to decode Matrix 25 symbols containing any number of characters.
NOTE: Selecting this option may lead to misdecodes for Matrix 25 codes.

F0118081F50000001

Matrix 25 - Any Length

Standard 25/IATA 25(标准 25)

Enable/Disable Standard 25

Parameter # 0xF2 0x23

To enable or disable Standard 25, scan the appropriate barcode below.

3030230

*** Disable**
(0x00)

3030231

Enable
(0x01)

Standard 25 Check Digit Verification

Parameter # 0xF2 0x24

3030240

*** Disable Standard 25 Check Digit Verification**
(0x00)

3030241

Enable Standard 25 Check Digit Verification
(0x01)

Transmit Check Digit

Parameter # 0xF2 0x25

3030250

*** Disable Standard 25 Transmit Check Character**
(0x00)

Enable Standard 25 Transmit Check Character
(0x01)

Set Lengths for Standard 25

Parameter # L1=0xF5 0x02, L2=0xF5 0x03

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s) the code contains. Lengths for Standard 25 may be set for any length, one or two discrete lengths, or lengths within a specific range. To set lengths via serial commands, see *Setting Code Lengths Via Serial Commands.*

One Discrete Length - Select this option to decode only those codes containing a selected length. For example, select **Standard 25 One Discrete Length**, then scan **1**, **4**, to decode only Standard 25 symbols containing 14 characters. *Numeric Barcodes* is in appendix. To change the selection or cancel an incorrect entry, scan *Cancel* in appendix.

Standard 25 - One Discrete Length

Two Discrete Lengths - Select this option to decode only those codes containing two selected lengths. For example, select **Standard 25 Two Discrete Lengths**, then scan **0**, **2**, **1**, **4**, to decode only Standard 25 symbols containing 2 or 14 characters. *Numeric Barcodes* is in appendix. To change the selection or cancel an incorrect entry, scan *Cancel* in appendix.

Standard 25 - Two Discrete Lengths

Length Within Range - Select this option to decode codes within a specified range. For example, to decode Standard 25 symbols containing between 4 and 12 characters, first scan **Standard 25 Length Within Range**, then scan **0**, **4**, **1** and **2** (single digit numbers must be preceded by a leading zero). *Numeric Barcodes* is in appendix. To change the selection or cancel an incorrect entry, scan *Cancel* in appendix.

Standard 25 - Length Within Range

Any Length - Scan this option to decode Standard 25 symbols containing any number of characters.
NOTE: Selecting this option may lead to misdecodes for Standard 25 codes.

Codabar

Enable/Disable Codabar

Parameter # 0x07

To enable or disable Codabar, scan the appropriate barcode below.

Enable Codabar
(0x01)

*** Disable Codabar**
(0x00)

Set Lengths for Codabar

Parameter # L1 = 0x18, L2 = 0x19

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s) the code contains. Lengths for Codabar may be set for any length, one or two discrete lengths, or lengths within a specific range. To set lengths via serial commands, see *Setting Code Lengths Via Serial Commands.*

One Discrete Length - Select this option to decode only those codes containing a selected length. For example, select **Codabar One Discrete Length**, then scan **1**, **4**, to decode only Codabar symbols containing 14 characters. *Numeric Barcodes* is in appendix. To change the selection or cancel an incorrect entry, scan *Cancel* in appendix.

Codabar - One Discrete Length

Two Discrete Lengths - This option sets the unit to decode only those codes containing two selected lengths. For example, select **Codabar Two Discrete Lengths**, then scan **0**, **2**, **1**, **4**, to decode only Codabar symbols containing 6 or 14 characters. *Numeric Barcodes* is in appendix. To change the selection or cancel an incorrect entry, scan *Cancel* in appendix.

Codabar - Two Discrete Lengths

Length Within Range - Select this option to decode a code within a specified range. For example, to decode Codabar symbols containing between 4 and 12 characters, first scan **Codabar Length Within**

Range, then scan **0**, **4**, **1** and **2** (single digit numbers must always be preceded by a leading zero). *Numeric Barcodes* is in appendix. To change the selection or cancel an incorrect entry, scan *Cancel* in appendix.

Codabar - Length Within Range

Any Length - Scan this option to decode Codabar symbols containing any number of characters.

Codabar - Any Length

Codabar Check

Parameter # 0xF2 0x4C

Enable
（0x01）

*** Disable**
（0x00）

Transmit Codabar Check Digit

Parameter # 0xF2 0x4D

Enable
（0x01）

*** Disable**
（0x00）

NOTIS Editing

Parameter # 0x37

When enabled, this parameter strips the start and stop characters from decoded Codabar symbol.

1020061

Enable NOTIS Editing
(0x01)

1020060

*** Disable NOTIS Editing**
(0x00)

Start Character and Terminator

The start character and terminator are allowed to be one of the four characters of “A”, “B” “C” “D”.The terminator is also allowed to be one of the four characters of “T”, “N”, “*”, “E”.

Parameter # 0xF2 0x31

3030310

***ABCD/ABCD**
(0x00)

3030311

ABCD/TN*E
(0x01)

Letter Case Setting of Start Character and Teminator

Parameter # 0xF2 0x32

3030320

*** Uppercase**
(0x00)

Lowercase
(0x01)

MSI/MSI PLESSEY

Enable/Disable MSI

Parameter # 0x0B

To enable or disable MSI, scan the appropriate barcode below.

Enable MSI
(0x01)

*** Disable MSI**
(0x00)

Set Lengths for MSI

Parameter # L1 = 0x1E, L2 = 0x1F

The length of a code refers to the number of characters (i.e., human readable characters) the code contains, and includes check digits. Lengths for MSI can be set for any length, one or two discrete lengths, or lengths within a specific range. See *Table 4-3* for ASCII equivalents. To set lengths via serial commands, see *Setting Code Lengths Via Serial Commands.*

One Discrete Length - Select this option to decode only those codes containing a selected length. For example, select **MSI Plessey One Discrete Length**, then scan **1**, **4**, to decode only MSI Plessey symbols containing 14 characters. *Numeric Barcodes* is in appendix. To change the selection or cancel an incorrect entry, scan *Cancel* in appendix.

MSI - One Discrete Length

Two Discrete Lengths - Select this option to decode only those codes containing two selected lengths. For example, select **MSI Plessey Two Discrete Lengths**, then scan **0**, **6**, **1**, **4**, to decode only MSI Plessey symbols containing 6 or 14 characters. *Numeric Barcodes* is in appendix. To change the selection or cancel an incorrect entry, scan *Cancel* in appendix.

MSI - Two Discrete Lengths

Length Within Range - Select this option to decode codes within a specified range. For example, to decode MSI symbols containing between 4 and 12 characters, first scan **MSI Length Within Range**, then scan **0**, **4**, **1** and **2** (single digit numbers must always be preceded by a leading zero). *Numeric Barcodes* is in appendix. To change the selection or cancel an incorrect entry, scan *Cancel* in appendix.

MSI - Length Within Range

Any Length - Scan this option to decode MSI Plessey symbols containing any number of characters.
NOTE: Selecting this option may lead to misdecodes for MSI codes.

MSI - Any Length

MSI Check Digits

Parameter # 0x32

These check digits at the end of the barcode verify the integrity of the data. At least one check digit is always required. Check digits are not automatically transmitted with the data.

*** One MSI Check Digit (0x00)**

If two check digits are selected, also select an *MSI Check Digit Algorithm*.

Two MSI Check Digit (0x01)

Transmit MSI Check Digit

Parameter # 0x2E

Scan this symbol to transmit the check digit with the data.

Transmit MSI Check Digit (0x01)

Scan this symbol to transmit data without the check digit.

*** Do Not Transmit MSI Check Digit**
(0x00)

MSI Check Digit Algorithm

Parameter # 0x33

When the Two MSI check digits option is selected, an additional verification is required to ensure integrity. Select one of the following algorithms:

MOD 10/ MOD 11
(0x00)

***MOD 10/ MOD 10**
(0x01)

GS1 DataBar/RSS

Enable/Disable GS1 DataBar-14

Parameter # 0xF0 0x52

To enable or disable GS1 DataBar-14, scan the appropriate barcode below.

Enable GS1 DataBar-14
(0x01)

*** Disable GS1 DataBar-14**
(0x00)

Enable/Disable GS1 DataBar Limited

Parameter # 0xF0 0x53

To enable or disable GS1 DataBar Limited, scan the appropriate barcode below.

Enable GS1 DataBar Limited
(0x01)

*** Disable GS1 DataBar Limited**
(0x00)

Enable/Disable GS1 DataBar Expanded

Parameter # 0xF0 0x54

To enable or disable GS1 DataBar Expanded, scan the appropriate barcode below.

Enable GS1 DataBar Expanded
(0x01)

*** Disable GS1 DataBar Expanded**
(0x00)

RSS AI Character

Parameter # 0xF2 0x26

*** Enable**
（0x01）

Disable
（0x00）

PDF417

Scan normal or mirror image picture.

Enable/Disable PDF417

Parameter # 0x0F

To enable or disable PDF417, scan the appropriate barcode below.

1000170

Disable PDF417
(0x00)

1000171

*** Enable PDF417**
(0x01)

Read Multi-code

Parameter # 0xF2 0x60

3030600

*** Read Monocode**
(0x00)

3030601

Read Dicode
(0x01)

3030602

Read Monocode /Dicode
(0x02)

Read Normal Phase/ Phase Reversal

Parameter # 0xF2 0x61

*** Read Normal Phase**
(0x00)

Read Phase Reversal
(0x01)

Read Normal Phase/ Phase Reversal
(0x02)

QR

Read normal phase/ phase reversal/ mirror image picture

Enable/Disable QR

Parameter # 0xF0 0x25

To enable or disable QR, scan the appropriate barcode below.

Disable QRCode
(0x00)

*** Enable QRCode**
(0x01)

Read Multi-code

Parameter # 0xF2 0x65

3030650
*** Read Monocode**
(0x00)

3030651
Read Dicode
(0x01)

3030652
Read Monocode /Dicode
(0x02)

ECI Control

Parameter # 0xF2 0x66

3030660
*** Not Output ECI**
(0x00)

3030661
Output ECI
(0x01)

QR Read Normal Phase/ Phase Reversal

Parameter # 0xF2 0x67

3030670
*** Read Normal Phase**
(0x00)

3030671
Read Phase Reversal
(0x01)

3030672
Read Normal Phase/ Phase Reversal
(0x02)

Data Matrix(DM)

Scan normal or mirror image picture.

Enable/Disable Data Matrix(DM)

Parameter # 0xF0 0x24

To enable or disable Data Matrix(DM), scan the appropriate barcode below.

1003240
Disable DataMatrix
(0x00)

1003241
*** Enable DataMatrix**
(0x01)

Read Multi-code

Parameter # 0xF2 0x6A

30306A0
*** Read Monocode**
(0x00)

Read Dicode
(0x01)

Read Monocode /Dicode
(0x02)

Read Normal Phase/ Phase Reversal

Parameter # 0xF2 0x6B

*** Read Normal Phase**
(0x00)

Read Phase Reversal
(0x01)

Read Normal Phase/ Phase Reversal
(0x02)

ECI Control

Parameter # 0xF2 0x6C

*** Not Output ECI**
(0x00)

30306C1
Output ECI
(0x01)

Maxi Code

Enable/Disable Maxi Code

Parameter # 0xF0 0x26

To enable or disable Maxi Code, scan the appropriate barcode below.

1003260
*** Disable MaxiCode**
(0x00)

1003261
Enable MaxiCode
(0x01)

Aztec Code

Enable/Disable Aztec Code

Parameter # 0xF0 0x28

To enable or disable Aztec Code, scan the appropriate barcode below.

1003280
*** Disable Aztec Code**
(0x00)

1003281
Enable Aztec Code
(0x01)

Han Xin Code

Enable/Disable Han Xin Code

Parameter # 0xF0 0x2F

To enable or disable Han Xin Code, scan the appropriate barcode below.

10032F0

*** Disable Han Xin Code**
(0x00)

10032F1

Enable Han Xin Code
(0x01)

Read Multi-code

Parameter # 0xF2 0x70

3030700

*** Read Monocode**
(0x00)

3030701

Read Dicode
(0x01)

3030702

Read Monocode /Dicode
(0x02)

Read Normal Phase/ Phase Reversal

Parameter # 0xF2 0x71

3030710

*** Read Normal Phase**
(0x00)

3030711

Read Phase Reversal
(0x01)

3030712

Read Normal Phase/ Phase Reversal
(0x02)

ISSN

ISSN turns to EAN13 when it's disabled.
Parameter # 0xF2 0x33

3030330

*** Disable**
(0x00)

3030331

Enable
(0x01)

PLESSEY

PLESSEY

Parameter # 0xF2 0x34

3030340

*** Disable**
(0x00)

3030341

Enable
(0x01)

PLESSEY Check

Parameter # 0xF2 0x3E

30304E1

Enable
（0x01）

30304E0

*** Disable**
（0x00）

Transmit PLESSEY Check Digit

Parameter # 0xF2 0x4F

30304F1

Enable
（0x01）

30304F0

*** Disable**
（0x00）

AIM128

AIM128

Only for 1D;For 2D, AIM128 merges with CODE128.

Parameter # 0xF2 0x29

3030291

Enable
（0x01）

*** Disable**
（0x00）

Transmit AIM128 Check Digit

Only for 1D;For 2D, AIM128 merges with CODE128.
Parameter # 0xF2 0x2A

Enable
（0x01）

*** Disable**
（0x00）

Set Lengths for AIM128

Parameter # L1=0xF5 0x0A, L2=0xF5 0x0B
Only for 1D;For 2D, AIM128 merges with CODE128.

One Discrete Length

Two Discrete Lengths

Length Within Range

F0118A8BF5000000B

Any Length

DEU14

DEU14

Only for 1D;For 2D, DEU14 merges with ITF.

Parameter # 0xF2 0x2B

30302B1

Enable

（0x01）

30302B0

*** Disable**

（0x00）

Transmit DEU14 Check Digit

Only for 1D;For 2D, DEU14 merges with ITF.

Parameter # 0xF2 0x2C

30302C1

*** Enable**

（0x01）

30302C0

Disable

（0x00）

DEU12

DEU12

Only for 1D;For 2D, DEU12 merges with ITF.

Parameter # 0xF2 0x2D

Enable
（0x01）

*** Disable**
（0x00）

Transmit DEU12 Check Digit

Only for 1D;For 2D, DEU12 merges with ITF.
Parameter # 0xF2 0x2E

*** Enable**
（0x01）

Disable
（0x00）

NEC-25(COOP25)

NEC-25(COOP25)

Parameter # 0xF2 0x45

Enable
（0x01）

*** Disable**
（0x00）

NEC-25(COOP25) Check

Parameter # 0xF2 0x46

3030461

Enable
（0x01）

3030460

*** Disable**
（0x00）

Transmit NEC-25(COOP25) Check Digit

Parameter # 0xF2 0x47

3030471

Enable
（0x01）

3030470

*** Disable**
（0x00）

Set Lengths for NEC-25(COOP 25)

Parameter # L1=0xF5 0x08, L2=0xF5 0x09

F1118889F50000009

One Discrete Length

F2118889F50000009

Two Discrete Lengths

Length Within Range

Any Length

Brazilian Bank Code

Parameter # 0xF2 0x28
Currently only 1D products support the barcode.

Enable
（0x01）

*** Disable**
（0x00）

COMPOSITE

Enable/Disable COMPOSITE

Parameter # 0xF2 0x17

***Disable**
(0x00)

Enable
(0x01)

EAN/UCC

Enable/Disable EAN/UCC

Parameter # 0xF2 0x18

***Disable**
(0x00)

Enable
(0x01)

4. Appendix

Table 4-1 Param Data Format

Parameter Number	Data Format
0 through 0xEF	<param_num> <value>
0xF0, 0xF1, 0xF2	<extended parameter code> <param_num offset> <value>
0xF4	<WORD parameter><Parameter Number><Value : High Byte><Value : Low Byte> Or <WORD parameter><Extended parameter code><Parameter Number> <Value : High Byte><Value : Low Byte>

Numeric Barcodes

For parameters requiring specific numeric values, scan the appropriately numbered barcode(s).

0

1

2

3

4

5

6

7

8

9

Cancel

To change the selection or cancel an incorrect entry, scan the barcode below.

Cancel

Setting Code Lengths Via Serial Commands

There are two lengths (L1 and L2) for each variable length code type.
Depending on the selected option, the scan engine decodes:
One discrete length barcode；
Two discrete length barcodes；
Barcodes within a range of lengths within the scan engine capability；
Any length of barcodes within the scan engine capability.

Table 4-2 lists the requirements for each option.

Table 4-2 Setting Variable Code Lengths

Code Length Option	L1 value	L2 value
One discrete length is decoded.	Discrete length to decode	0x00
Two discrete lengths is decoded.	Higher length value	Lower length value
Lengths within a range are decoded within the scan engine capability.	Lower length value	Higher length value
Any length barcode is decoded within the scan engine capability.	0x00	0x00

Character Comparison Table

To append a prefix and suffixes to the decode data:

1、Set the Scan Data Transmission Format (parameter 0xE2) to the desired option.

2、Enter the required value(s) for Prefix (0x69), Suffix1 (0x68) or Suffix2 (0x6A) using the hex values for the desired ASCII value from *Table 4-3*

Table 4-3 Character Equivalents

Scan Value	Hex Value	Keyboard Function Key Operation	Keyboard Ctrl Combination Key
1000	00h	Null	CTRL 2
1001	01h	Keypad Enter	CTRL A
1002	02h	Caps lock	CTRL B
1003	03h	Right Arrow	CTRL C
1004	04h	Up Arrow	CTRL D
1005	05h	Null	CTRL E
1006	06h	Null	CTRL F
1007	07h	Enter	CTRL G
1008	08h	Left Arrow	CTRL H
1009	09h	Horizontal Tab	CTRL I
1010	0Ah	Down Arrow	CTRL J
1011	0Bh	Vertical Tab	CTRL K
1012	0Ch	Backspace	CTRL L
1013	0Dh	Enter	CTRL M
1014	0Eh	Insert	CTRL N
1015	0Fh	Esc	CTRL O
1016	10h	F11	CTRL P
1017	11h	Home	CTRL Q
1018	12h	Print Screen	CTRL R
1019	13h	Delete	CTRL S
1020	14h	tab+shift	CTRL T
1021	15h	F12	CTRL U
1022	16h	F1	CTRL V
1023	17h	F2	CTRL W

Table 4-3 Character Equivalents(Continued)

Scan Value	Hex Value	Keyboard Function Key Operation	Keyboard Ctrl Combination Key
1024	18h	F3	CTRL X
1025	19h	F4	CTRL Y
1026	1Ah	F5	CTRL Z
1027	1Bh	F6	CTRL [
1028	1Ch	F7	CTRL \
1029	1Dh	F8	CTRL]
1030	1Eh	F9	CTRL 6
1031	1Fh	F10	CTRL -
1032	20h	Space	Space
1033	21h	/A	!
1034	22h	/B	‘
1035	23h	/C	#
1036	24h	/D	$
1037	25h	/E	%
1038	26h	/F	&
1039	27h	/G	‘
1040	28h	/H	(
1041	29h	/I	)
1042	2Ah	/J	*
1043	2Bh	/K	+
1044	2Ch	/L	,
1045	2Dh	-	-
1046	2Eh	.	.
1047	2Fh	/	/
1048	30h	0	0
1049	31h	1	1
1050	32h	2	2
1051	33h	3	3
1052	34h	4	4
1053	35h	5	5
1054	36h	6	6
1055	37h	7	7

Table 4-3 Character Equivalents(Continued)

Scan Value	Hex Value	Keyboard Function Key Operation	Keyboard Ctrl Combination Key
1056	38h	8	8
1057	39h	9	9
1058	3Ah	/Z	:
1059	3Bh	%F	;
1060	3Ch	%G	<
1061	3Dh	%H	=
1062	3Eh	%I	>
1063	3Fh	%J	?
1064	40h	%V	@
1065	41h	A	A
1066	42h	B	B
1067	43h	C	C
1068	44h	D	D
1069	45h	E	E
1070	46h	F	F
1071	47h	G	G
1072	48h	H	H
1073	49h	I	I
1074	4Ah	J	J
1075	4Bh	K	K
1076	4Ch	L	L
1077	4Dh	M	M
1078	4Eh	N	N
1079	4Fh	O	O
1080	50h	P	P
1081	51h	Q	Q
1082	52h	R	R
1083	53h	S	S
1084	54h	T	T
1085	55h	U	U
1086	56h	V	V

Table 4-3 Character Equivalents(Continued)

Scan Value	Hex Value	Keyboard Function Key Operation	Keyboard Ctrl Combination Key
1087	57h	W	W
1088	58h	X	X
1089	59h	Y	Y
1090	5Ah	Z	Z
1091	5Bh	%K	[
1092	5Ch	%L	\
1093	5Dh	%M	]
1094	5Eh	%N	^
1095	5Fh	%O	_
1096	60h	%W	‘
1097	61h	+A	a
1098	62h	+B	b
1099	63h	+C	c
1100	64h	+D	d
1101	65h	+E	e
1102	66h	+F	f
1103	67h	+G	g
1104	68h	+H	h
1105	69h	+I	i
1106	6Ah	+J	j
1107	6Bh	+K	k
1108	6Ch	+L	l
1109	6Dh	+M	m
1110	6Eh	+N	n
1111	6Fh	+O	o
1112	70h	+P	p
1113	71h	+Q	q
1114	72h	+R	r
1115	73h	+S	s
1116	74h	+T	t
1117	75h	+U	u

Table 4-3 Character Equivalents(Continued)

Scan Value	Hex Value	Keyboard Function Key Operation	Keyboard Ctrl Combination Key
1118	76h	+V	v
1119	77h	+W	w
1120	78h	+X	x
1121	79h	+Y	y
1122	7Ah	+Z	z
1123	7Bh	%P	{
1124	7Ch	%Q	|
1125	7Dh	%R	}
1126	7Eh	%S	~
1127	7Fh		Undefined

Values from 1128 through 1255 (hex values 80h through FFh for SSI) may also be set.

Code ID

Table 4-4

Barcode Type	Code ID
Code 128	D
GS1-128(UCC/EAN-128)	K
AIM 128	D
ISBT-128	D
EAN-8	A
EAN-13	A
ISSN	L
ISBN/Bookland EAN	L
UPC-E	A
UPC-A	A
Interleaved 2 of 5/ITF	F
ITF-14	F
Deutsche Post 14	w
Deutsche Post 12	l
NEC-25(COOP 2 of 5)	o
Matrix 2 of 5	V
Industrial 2 of 5/Discrete 2 of 5/IND25	G
Standard 2 of 5 (IATA 25)	G
Code 39	B
Code 93	E
Codabar	C
Code 11	H
Plessey	J
MSI-Plessey	J
GS1-DataBar（ RSS）	R
PDF417	r
QR	q
AZTEC(Aztec Code)	a
DM(DataMatrix)	u
MaxiCode	x
Han Xin Code	c
Code 32	B
Trioptic Code 39	M
Coupon Code	N
GS1 DataBar-14	R
GS1 DataBar Limited	R
GS1 DataBar Expanded	R
SETUP128	S
Veri Code	v

AIM Code Identifiers

Table 4-5

Barcode Type	AIM ID	Instruction
Code 128	]C0	Common data
GS1-128(UCC/EAN-128)	]C1	FNC1 in the first code word position.
AIM 128	]C2	FNC1 in the second code word position.
ISBT-128	]C0	
EAN-8	]E4	Common data
	]E4…]E1…	Add 2-bit additional code
	]E4…]E2…	Add 5-bit additional code
EAN-13	]E0	Common data
	]E3	Add 2/5-bit additional code
ISSN	]X0	Common data
ISBN/Bookland EAN	]X0	Common data
UPC-E	]E0	Common data
	]E3	Add 2/5-bit additional code
UPC-A	]E0	Common data
	]E3	Add 2/5-bit additional code
Interleaved 2 of 5/ITF	]I0	Common data
	]I1	Check and output check character
	]I3	Check but don't output check character
ITF-14	]I1	Output check character
	]I3	Not output check character
Deutsche Post 14	]X0	Common data
Deutsche Post 12	]X0	Common data
NEC-25(COOP 2 of 5)	]X0	Common data
Matrix 2 of 5	]X0	Common data
Industrial 2 of 5/ Discrete 2 of 5/IND25	]S0	Common data
Standard 2 of 5 (IATA 25)	]R0	Common data
Code 39	]A0	Common data
	]A1	MOD43 Check and output check character
	]A3	MOD43 Check but don't output check character
	]A4	Full ASCII expand,but don't check.
	]A5	Full ASCII expand,and output check character
	]A7	Full ASCII expand,but don't output check character
Code 93	]G0	Common data
Codabar	]F0	Common data
	]F2	Check and output check character
	]F4	Check but don't output check character
Code 11	]H3	Common data
	]H0	MOD11 single character check, and output check character.
	]H3	MOD11 single character check, but don't output check character.
Plessey	]P0	Common data
MSI-Plessey	]M0	Common data
	]M0	MOD10 check and output check character
	]M1	MOD10 check but don't output check character
GS1-DataBar（ RSS）	]e0	Standard data packet
PDF417	]L0	No options specified at this time. Always transmit 3.
QR	]Q0	QR barcode Mode1（conform AIM ISS 97-001 ）
	]Q1	QR barcode Mode2 (2005 symbol) ,do not use the ECI protocol
	]Q2	QR barcode Mode2(2005 symbol), Use the ECI protocol

	]Q3	QR barcode Mode2 (2005 symbol),do not use the ECI protocol，FNC1 is in the first place
	]Q4	QR barcode Mode2 (2005 symbol),use the ECI protocol , FNC1 is in the first place
	]Q5	QR barcode Mode2 (2005 symbol),do not use the ECI protocol , FNC1 is in the second place
	]Q6	QR barcode Mode2 (2005 symbol),use the ECI protocol , FNC1 is in the second place
AZTEC(Aztec Code)	]z0	No options specified at this time. Always transmit 3.
DM(DataMatrix)	]d0	ECC 000 - 140
	]d1	ECC 200
	]d2	ECC 200,FNC1 is in the first or fifth place
	]d3	ECC 200, FNC1 is in the second or sixth place
	]d4	ECC 200 supports ECI protocol
	]d5	ECC 200, FNC1 is in the first or fifth place and supports ECI protocol
	]d6	ECC 200, FNC1 is in the second or sixth place and supports ECI protocol
MaxiCode	]U1	No options specified at this time. Always transmit 3.
Han Xin Code	]X0	No options specified at this time. Always transmit 3.

Parameter Command

Table 4-6

Name	Command
CMD_ACK	04 D0 04 00 FF 28
CMD_NAK	RESEND:05 D1 04 00 01 FF 25 BAD_CONTEXT:05 D1 04 00 02 FF 24 DENIED:05 D1 04 00 06 FF 20
DECODE_DATA	None
LED_OFF	05 E8 04 00 01 FF 0E
LED_ON	05 E7 04 00 01 FF 0F
PARAM_DEFAULTS	04 C8 04 00 FF 30
PARAM_REQUEST	Listed in the following table
PARAM_SEND	Listed in the following table
REQUEST_REVISION	04 A3 04 00 FF 55
REPLY_REVISION	None
SCAN_DISABLE	04 EA 04 00 FF 0E
SCAN_ENABLE	04 E9 04 00 FF 0F
SLEEP	04 EB 04 00 FF 0D
START_DECODE	04 E4 04 00 FF 14
STOP_DECODE	04 E5 04 00 FF 13
WAKEUP	None
RESET	04 FA 04 00 FE FE
Custom Beeper Sound	05 E6 04 00 00 FF 11 05 E6 04 00 01 FF 10

Table 4-7

Parameter Name	Command	Command Inquiry
Default Configuration	Factory Configuration:08 C6 04 08 00 F2 FF 00 FD 35 Default Configuration 1:08 C6 04 08 00 F2 FF 01 FD 34 Default Configuration 2:08 C6 04 08 00 F2 FF 02 FD 33 Default Configuration 3:08 C6 04 08 00 F2 FF 03 FD 32 Default Configuration 4:08 C6 04 08 00 F2 FF 04 FD 31 Default Configuration 5:08 C6 04 08 00 F2 FF 05 FD 30	06 C7 04 00 F2 FF FD 3E
Duration in Scanning	4s：07 C6 04 08 00 88 28 FE 77 10s:07 C6 04 08 00 88 64 FE 3B Temporary: 1s: 07 C6 04 00 FF 88 0A FD 9E	05 C7 04 00 88 FE A8
Duration in Scanning Quick Setting	Infinite Time： 08 C6 04 08 00 F2 CF 00 FD 65 last 3s： 08 C6 04 08 00 F2 CF 03 FD 62 last 5s： 08 C6 04 08 00 F2 CF 05 FD 60 last 10s： 08 C6 04 08 00 F2 CF 0A FD 5B last 15s： 08 C6 04 08 00 F2 CF 0B FD 5A last 20s： 08 C6 04 08 00 F2 CF 0C FD 59 last 30s： 08 C6 04 08 00 F2 CF 0D FD 58 last 60s： 08 C6 04 08 00 F2 CF 0E FD 57	06 C7 04 00 F2 CF FD 6E
Enable RS485 Networking Function	Disable: 08 C6 04 08 00 F6 33 00 FD FD Enable: 08 C6 04 08 00 F6 33 01 FD FC	06 C7 04 00 F6 33 FE 06
Modify 485 Device Slave Address	Set slave address 00 01 command :09 A1 04 08 00 F8 11 00 01 FE 40	06 A0 04 00 F8 11 FE 4D
RS485 Networking Decoding Data Format	Disable:08 C6 04 08 00 F6 34 00 FD FC Enable:08 C6 04 08 00 F6 34 01 FD FB	06 C7 04 00 F6 34 FE 05
RS485 Networking Heartbeat Switch	Disable: 08 C6 04 08 00 F6 35 00 FD FB Enable: 08 C6 04 08 00 F6 35 01 FD FA	06 C7 04 00 F6 35 FE 04
Power Mode	Continuous Power：07 C6 04 08 00 80 00 FE A7 Low Power： 07 C6 04 08 00 80 01 FE A6	05 C7 04 00 80 FE B0
Trigger Mode	Level：07 C6 04 08 00 8A 00 FE 9D Pulse：07 C6 04 08 00 8A 02 FE 9B Continuous：07 C6 04 08 00 8A 04 FE 99 Host：07 C6 04 08 00 8A 08 FE 95 Automatic Induction Mode: 07 C6 04 08 00 8A 09 FE 94 Button Continuous：07 C6 04 08 00 8A 0A FE 93 Button Automatic Induction Mode:07 C6 04 08 00 8A 0B FE 92 Temporary: Level: 07 C6 04 00 FF 8A 00 FD A6 Continuous：07 C6 04 00 FF 8A 04 FD A2 Host: 07 C6 04 00 FF 8A 08 FD 9E Host:07 C6 04 00 00 8A 08 FE 9D	05 C7 04 00 8A FE A6

Continuous Reading Interval	0s:07 C6 04 08 00 89 00 FE 9E 0.5s: 07 C6 04 08 00 89 05 FE 99 3s：07 C6 04 08 00 89 1E FE 80	05 C7 04 00 89 FE A7
Beeper Volume	Low：07 C6 04 08 00 8C 02 FE 99 Medium: 07 C6 04 08 00 8C 01 FE 9A High: 07 C6 04 08 00 8C 00 FE 9B Mute: 07 C6 04 08 00 8C 03 FE 98	05 C7 04 00 8C FE A4
Beeper Type	* Passive Beeper: 08 C6 04 08 00 F2 D8 00 FD 5C Active Beeper: 08 C6 04 08 00 F2 D8 01 FD 5B	06 C7 04 00 F2 D8 FD 65
Beep After Good Decode	Enable：07 C6 04 08 00 38 01 FE EE Disable：07 C6 04 08 00 38 00 FE EF	05 C7 04 00 38 FE F8
Terminator	Disable:08 C6 04 08 00 F2 05 00 FE 2F CR LF:08 C6 04 08 00 F2 05 01 FE 2E CR:08 C6 04 08 00 F2 05 02 FE 2D TAB: 08 C6 04 08 00 F2 05 03 FE 2C CR CR：08 C6 04 08 00 F2 05 04 FE 2B CR LF CR LF：08 C6 04 08 00 F2 05 05 FE 2A	06 C7 04 00 F2 05 FE 38
Indicator Light Function	Good Decode: 08 C6 04 08 00 F2 0A 00 FE 2A Power LED: 08 C6 04 08 00 F2 0A 01 FE 29	06 C7 04 00 F2 0A FE 33
LED After Good Decode	Disable: 08 C6 04 08 00 F2 0B 00 FE 29 Enable: 08 C6 04 08 00 F2 0B 01 FE 28	06 C7 04 00 F2 0B FE 32
Decode Indicator Control	Mode 0: 08 C6 04 08 00 F2 CB 00 FD 69 Mode 1: 08 C6 04 08 00 F2 CB 01 FD 68 Mode 2: 08 C6 04 08 00 F2 CB 02 FD 67 Mode 3: 08 C6 04 08 00 F2 CB 03 FD 66	06 C7 04 00 F2 CB FD 72
Mute	Disable: 08 C6 04 08 00 F2 0C 00 FE 28 Enable: 08 C6 04 08 00 F2 0C 01 FE 27	06 C7 04 00 F2 0C FE 31
Boot Prompt	Disable: 08 C6 04 08 00 F2 0D 00 FE 27 Enable: 08 C6 04 08 00 F2 0D 01 FE 26	06 C7 04 00 F2 0D FE 30
Setup Code Prompt	Disable: 08 C6 04 08 00 F2 0E 00 FE 26 Enable: 08 C6 04 08 00 F2 0E 01 FE 25	06 C7 04 00 F2 0E FE 2F
Transmit “No Read” Message	Enable：07 C6 04 08 00 5E 01 FE C8 Disable：07 C6 04 08 00 5E 00 FE C9	05 C7 04 00 5E FE D2
Parameter Scanning	Enable：07 C6 04 08 00 EC 01 FE 3A Disable：07 C6 04 08 00 EC 00 FE 3B	05 C7 04 00 EC FE 44
Send Setting Code	Enable：08 C6 04 08 00 F1 71 01 FD C3 Disable：08 C6 04 08 00 F1 71 00 FD C4	06 C7 04 00 F1 71 FD CD
Linear Code Type Security Levels	Level 1：07 C6 04 08 00 4E 01 FE D8 Level 2：07 C6 04 08 00 4E 02 FE D7 Level 3：07 C6 04 08 00 4E 03 FE D6 Level 4：07 C6 04 08 00 4E 04 FE D5	05 C7 04 00 4E FE E2
Automatic Filling of Value-added Tax Invoice	Disable: 08 C6 04 08 00 F2 08 00 FE 2C Enable: 08 C6 04 08 00 F2 08 01 FE 2B	06 C7 04 00 F2 08 FE 35
Invoice Type	Special Invoice: 08 C6 04 08 00 F2 AA 00 FD 8A Plain Invoice: 08 C6 04 08 00 F2 AA 01 FD 89	06 C7 04 00 F2 AA FD 93
Transmit ID Characters	Disable：07 C6 04 08 00 2D 00 FE FA AIM：07 C6 04 08 00 2D 01 FE F9 Custom：07 C6 04 08 00 2D 02 FE F8	05 C7 04 00 2D FF 03
The prefix/suffix value	Prefix Character String Setting 31 Suffix Character String Setting 32 33:	07 C7 04 00 69 68 6A FD F3

Prefix Suffix1 Suffix2	0B C6 04 08 00 69 31 68 32 6A 33 FD 52 Prefix 0x00 Suffix 0x0D 0x0A : 0B C6 04 08 00 69 00 68 0D 6A 0A FD D1	
Scan Data Transmition Format	Data：07 C6 04 08 00 EB 00 FE 3C Data+Suffix1：07 C6 04 08 00 EB 01 FE 3B Data+Suffix2：07 C6 04 08 00 EB 02 FE 3A Data+Suffix1+Suffix2：07 C6 04 08 00 EB 03 FE 39 Prefix+Data：07 C6 04 08 00 EB 04 FE 38 Prefix+Data+Suffix1：07 C6 04 08 00 EB 05 FE 37 Prefix+Data+Suffix2：07 C6 04 08 00 EB 06 FE 36 Prefix+Data+Suffix1+Suffix2：07 C6 04 08 00 EB 07 FE 35	05 C7 04 00 EB FE 45
Baud Rate	1200：07 C6 04 08 00 9C 03 FE 88 2400：07 C6 04 08 00 9C 04 FE 87 4800：07 C6 04 08 00 9C 05 FE 86 9600：07 C6 04 08 00 9C 06 FE 85 19200：07 C6 04 08 00 9C 07 FE 84 38400：07 C6 04 08 00 9C 08 FE 83 57600：07 C6 04 08 00 9C 09 FE 82 115200：07 C6 04 08 00 9C 0A FE 81	05 C7 04 00 9C FE 94
Data Bit	7 Data Bits: 07 C6 04 08 00 A0 02 FE 85 8 Data Bits: 07 C6 04 08 00 A0 03 FE 84	05 C7 04 00 A0 FE 90
Parity	Odd： 07 C6 04 08 00 9E 00 FE 89 Even： 07 C6 04 08 00 9E 01 FE 88 Mark： 07 C6 04 08 00 9E 02 FE 87 Space：07 C6 04 08 00 9E 03 FE 86 None： 07 C6 04 08 00 9E 04 FE 85	05 C7 04 00 9E FE 92
Software Handshaking	Enable：07 C6 04 08 00 9F 01 FE 87 Disable：07 C6 04 08 00 9F 00 FE 88	05 C7 04 00 9F FE 91
Decode Data Packet Format	Send Raw Decode Data ：07 C6 04 08 00 EE 00 FE 39 Send Packeted Decode Data： 07 C6 04 08 00 EE 01 FE 38	05 C7 04 00 EE FE 42
Host Serial Response Time-out	0.1s: 07 C6 04 08 00 9B 01 FE 8B	05 C7 04 00 9B FE 95
Stop Bit Select	1 Stop Bit: 07 C6 04 08 00 9D 01 FE 89 2 Stop Bits: 07 C6 04 08 00 9D 02 FE 88	05 C7 04 00 9D FE 93
Intercharacter Delay	1s: 07 C6 04 08 00 6E 01 FE B8	05 C7 04 00 6E FE C2
Host Character Time-out	500ms:07 C6 04 08 00 EF 32 FE 06 200ms:07 C6 04 08 00 EF 14 FE 24 50ms: 07 C6 04 08 00 EF 05 FE 33	05 C7 04 00 EF FE 41
Communication Mode	Serial Port: 08 C6 04 08 00 F2 01 00 FE 33 USB KBW: 08 C6 04 08 00 F2 01 01 FE 32 USB Serial Port: 08 C6 04 08 00 F2 01 02 FE 31	06 C7 04 00 F2 01 FE 3C

	AUTO UK: 08 C6 04 08 00 F2 01 03 FE 30 AUTO UV: 08 C6 04 08 00 F2 01 04 FE 2F TTDATA: 08 C6 04 08 00 F2 01 0A FE 29 TTDATA+Serial Port： 08 C6 04 08 00 F2 01 0B FE 28 HID POS: 08 C6 04 08 00 F2 01 0E FE 25	
Wiegand protocol type	AUTO: 08 C6 04 08 00 F2 A4 00 FD 90 WG26: 08 C6 04 08 00 F2 A4 01 FD 8F WG34: 08 C6 04 08 00 F2 A4 02 FD 8E WG66: 08 C6 04 08 00 F2 A4 03 FD 8D Custom Wiegand transport 1：08 C6 04 08 00 F2 A4 04 FD 8C Custom Wiegand transport 2：08 C6 04 08 00 F2 A4 05 FD 8B WG64: 08 C6 04 08 00 F2 A4 06 FD 8A	06 C7 04 00 F2 A4 FD 99
Wiegand 26 Protocol Output Mode	3+5: 08 C6 04 08 00 F2 A5 00 FD 8F RAW: 08 C6 04 08 00 F2 A5 01 FD 8E	06 C7 04 00 F2 A5 FD 98
Wiegand Output Time Interval	08 C6 04 08 00 F3 16 16 FE 07	06 C7 04 00 F3 16 FE 26
PS2 Mode	AUTO: 08 C6 04 08 00 F2 A6 00 FD 8E Independent PS2: 08 C6 04 08 00 F2 A6 01 FD 8D	06 C7 04 00 F2 A6 FD 97
Floodlight Control	Lighting when Read:08 C6 04 08 00 F2 02 00 FE 32 Always Lighting:08 C6 04 08 00 F2 02 01 FE 31 Always Close: 08 C6 04 08 00 F2 02 02 FE 30	06 C7 04 00 F2 02 FE 3B
Positioning Light Control	Lighting when Read:08 C6 04 08 00 F2 03 00 FE 31 Always Lighting:08 C6 04 08 00 F2 03 01 FE 30 Always Close: 08 C6 04 08 00 F2 03 02 FE 2F	06 C7 04 00 F2 03 FE 3A
Positioning light Flicker	*Flicker: 08 C6 04 08 00 F2 B8 00 FD 7C No Flicker: 08 C6 04 08 00 F2 B8 01 FD 7B	06 C7 04 00 F2 B8 FD 85
Sensitivity Level	Special:08 C6 04 08 00 F2 04 00 FE 30 High:08 C6 04 08 00 F2 04 01 FE 2F Middle:08 C6 04 08 00 F2 04 02 FE 2E Low:08 C6 04 08 00 F2 04 03 FE 2D	06 C7 04 00 F2 04 FE 39
Custom Sensitivity	00:08 C6 04 08 00 F3 01 00 FE 32 01:08 C6 04 08 00 F3 01 01 FE 31 05:08 C6 04 08 00 F3 01 05 FE 2D 10:08 C6 04 08 00 F3 01 0A FE 28 15:08 C6 04 08 00 F3 01 0F FE 23	06 C7 04 00 F3 01 FE 3B
Stability of Induction Time	500ms:08 C6 04 08 00 F3 02 05 FE 2C 1000ms:08 C6 04 08 00 F3 02 0A FE 27 300ms: 08 C6 04 08 00 F3 02 03 FE 2E	06 C7 04 00 F3 02 FE 3A
Output Interval of The Same Code	1500ms:08 C6 04 08 00 F3 03 0F FE 21 500ms:08 C6 04 08 00 F3 03 05 FE 2B 300ms: 08 C6 04 08 00 F3 03 03 FE 2D	06 C7 04 00 F3 03 FE 39
1D Identifies Two Barcodes	Disable: 08 C6 04 08 00 F2 10 00 FE 24 Enable: 08 C6 04 08 00 F2 10 01 FE 23	06 C7 04 00 F2 10 FE 2D
1D inverse barcode reading	Disable：08 C6 04 08 00 F2 91 00 FD A3 Enable：08 C6 04 08 00 F2 91 01 FD A2	06 C7 04 00 F2 91 FD AC

Output Product Information	None	06 C7 04 00 F4 01 FE 3A
Output Character Set Type	Raw: 08 C6 04 08 00 F2 06 00 FE 2E GBK:08 C6 04 08 00 F2 06 01 FE 2D UTF8:08 C6 04 08 00 F2 06 02 FE 2C EUC-KR Korean: 08 C6 04 08 00 F2 06 03 FE 2B	06 C7 04 00 F2 06 FE 37
Input Character Set Type	AUTO: 08 C6 04 08 00 F2 AB 00 FD 89 GBK(GB2312): 08 C6 04 08 00 F2 AB 01 FD 88 UTF8: 08 C6 04 08 00 F2 AB 02 FD 87 ASCII: 08 C6 04 08 00 F2 AB 03 FD 86 Japanese:08 C6 04 08 00 F2 AB 04 FD 85 Korean:08 C6 04 08 00 F2 AB 05 FD 84 DEC Multinational Character Set (MCS): 08 C6 04 08 00 F2 AB 06 FD 83 ISO8859-1 Character Set: 08 C6 04 08 00 F2 AB 07 FD 82 Japanese Single Byte (valid for special version): 08 C6 04 08 00 F2 AB 08 FD 81	06 C7 04 00 F2 AB FD 92
USB Type	USB1.1 (Full Speed): 08 C6 04 08 00 F2 0F 00 FE 25 USB2.0 (High Speed) 08 C6 04 08 00 F2 0F 01 FE 24	06 C7 04 00 F2 0F FE 2E
Country/Language Keyboard	America: 08 C6 04 08 00 F6 01 01 FE 2E Belgium: 08 C6 04 08 00 F6 01 02 FE 2D Brazil（ABNT2）：08 C6 04 08 00 F6 01 03 FE 2C Denmark: 08 C6 04 08 00 F6 01 06 FE 29 Finland: 08 C6 04 08 00 F6 01 07 FE 28 France: 08 C6 04 08 00 F6 01 08 FE 27 Austria、Germany: 08 C6 04 08 00 F6 01 09 FE 26 Greece：08 C6 04 08 00 F6 01 0A FE 25 Hungary：08 C6 04 08 00 F6 01 0B FE 24 Italy: 08 C6 04 08 00 F6 01 0D FE 22 Netherlands：08 C6 04 08 00 F6 01 0F FE 20 Norway: 08 C6 04 08 00 F6 01 10 FE 1F Poland：08 C6 04 08 00 F6 01 11 FE 1E Portugal: 08 C6 04 08 00 F6 01 12 FE 1D Romania (standard)：08 C6 04 08 00 F6 01 13 FE 1C Russia: 08 C6 04 08 00 F6 01 14 FE 1B Slovakia: 08 C6 04 08 00 F6 01 15 FE 1A Spain: 08 C6 04 08 00 F6 01 16 FE 19 Sweden: 08 C6 04 08 00 F6 01 17 FE 18 Turkey_F: 08 C6 04 08 00 F6 01 19 FE 16 Turkey_Q: 08 C6 04 08 00 F6 01 1A FE 15 England: 08 C6 04 08 00 F6 01 1B FE 14 Japan: 08 C6 04 08 00 F6 01 1C FE 13 Chech: 08 C6 04 08 00 F6 01 1D FE 12 Thailand Kedmanee：08 C6 04 08 00 F6 01 1E FE 11 Ukraine：08 C6 04 08 00 F6 01 1F FE 10 Arabic_101：08 C6 04 08 00 F6 01 20 FE 0F Croatia：08 C6 04 08 00 F6 01 21 FE 0E	06 C7 04 00 F6 01 FE 38

	Korea：08 C6 04 08 00 F6 01 22 FE 0D Bulgaria：08 C6 04 08 00 F6 01 23 FE 0C Multi-country Common: 08 C6 04 08 00 F6 01 24 FE 0B	
Time interval that keyboard outputs character	0ms: 08 C6 04 08 00 F3 04 00 FE 2F 5ms: 08 C6 04 08 00 F3 04 01 FE 2E 10ms: 08 C6 04 08 00 F3 04 02 FE 2D	06 C7 04 00 F3 04 FE 38
Quick Settings of Keyboard Output Time Interval	0ms: 08 C6 04 08 00 F2 B2 00 FD 82 10ms: 08 C6 04 08 00 F2 B2 01 FD 81 50ms: 08 C6 04 08 00 F2 B2 02 FD 80	06 C7 04 00 F2 B2 FD 8B
Letter case conversion	Normal Letter Case: 08 C6 04 08 00 F2 A1 00 FD 93 All Uppercase: 08 C6 04 08 00 F2 A1 01 FD 92 All Lowercase: 08 C6 04 08 00 F2 A1 02 FD 91 Case Inversion: 08 C6 04 08 00 F2 A1 03 FD 90	06 C7 04 00 F2 A1 FD 9C
Keyboard Type	Standard Keyboard： 08 C6 04 08 00 F2 B4 00 FD 80 Virtual Keyboard： 08 C6 04 08 00 F2 B4 01 FD 7F	06 C7 04 00 F2 B4 FD 89
STX and ETX Setting	Disable：08 C6 04 08 00 F2 B7 00 FD 7D STX(Prefix)：08 C6 04 08 00 F2 B7 01 FD 7C ETX(Suffix 1)：08 C6 04 08 00 F2 B7 02 FD 7B STX(Prefix)+ ETX(Suffix 1)：08 C6 04 08 00 F2 B7 03 FD 7A	06 C7 04 00 F2 B7 FD 86
Keyboard State Control	Disable：08 C6 04 08 00 F2 B9 00 FD 7B Enable：08 C6 04 08 00 F2 B9 01 FD 7A	06 C7 04 00 F2 B9 FD 84
ASCII Control Character Output Mode Selection	Output Function Key:08 C6 04 08 00 F2 AD 00 FD 87 Output Ctrl Combination Key:08 C6 04 08 00 F2 AD 01 FD 86 ALT Mode Output Control Character:08 C6 04 08 00 F2 AD 02 FD 85 Output Enter、DownArrow:08 C6 04 08 00 F2 AD 03 FD 84 Output CTRL+key combination, but not including the keys on the keyboard: 08 C6 04 08 00 F2 AD 04 FD 83	06 C7 04 00 F2 AD FD 90
Boot Event	Disable: 08 C6 04 08 00 F2 A2 00 FD 92 Enable: 08 C6 04 08 00 F2 A2 01 FD 91	06 C7 04 00 F2 A2 FD 9B
Trigger Event	Disable: 08 C6 04 08 00 F2 A3 00 FD 91 Enable: 08 C6 04 08 00 F2 A3 01 FD 90 Enable GPIO Pin Event: 08 C6 04 08 00 F2 A3 02 FD 8F Enable Event&GPIO Pin Event: 08 C6 04 08 00 F2 A3 03 FD 8E	06 C7 04 00 F2 A3 FD 9A
Enable Setting Code Password Mode	Disable: 08 C6 04 08 00 F2 A7 00 FD 8D Enable: 08 C6 04 08 00 F2 A7 01 FD 8C	06 C7 04 00 F2 A7 FD 96
Input Setting Code Password	Password 68: 08 C6 04 08 00 F3 05 68 FD C6 Password 96: 08 C6 04 08 00 F3 05 96 FD 98	06 C7 04 00 F3 05 FE 37
Modify Setting Code Password	New Password 68: 08 C6 04 08 00 F3 06 68 FD C5 New Password 96: 08 C6 04 08 00 F3 06 96 FD 97	06 C7 04 00 F3 06 FE 36

Logout Password	08 C6 04 08 00 F2 A9 00 FD 8B	06 C7 04 00 F2 A9 FD 94
Disable passive trigger scanning	Disable: 08 C6 04 08 00 F2 A8 00 FD 8C Enable: 08 C6 04 08 00 F2 A8 01 FD 8B	06 C7 04 00 F2 A8 FD 95
1D Global Switch	Disable：08 C6 04 08 00 F2 11 00 FE 23 Enable：08 C6 04 08 00 F2 11 01 FE 22	06 C7 04 00 F2 11 FE 2C
2D Global Switch	Disable：08 C6 04 08 00 F2 50 00 FD E4 Enable：08 C6 04 08 00 F2 50 01 FD E3	06 C7 04 00 F2 50 FD ED
All Barcode Switch	Disable：08 C6 04 08 00 F2 90 00 FD A4 Enable：08 C6 04 08 00 F2 90 01 FD A3	06 C7 04 00 F2 90 FD AD
Hide Head Data	Disable：08 C6 04 08 00 F2 C6 00 FD 6E Enable：08 C6 04 08 00 F2 C6 01 FD 6D	06 C7 04 00 F2 C6 FD 77
Hide Intermediate Data	Disable：08 C6 04 08 00 F2 C7 00 FD 6D Enable：08 C6 04 08 00 F2 C7 01 FD 6C	06 C7 04 00 F2 C7 FD 76
Hide Tail Data	Disable：08 C6 04 08 00 F2 C8 00 FD 6C Enable：08 C6 04 08 00 F2 C8 01 FD 6B	06 C7 04 00 F2 C8 FD 75
Enable/Disable Insert Custom Data	Disable：08 C6 04 08 00 F2 DE 00 FD 56 Enable：08 C6 04 08 00 F2 DE 01 FD 55	06 C7 04 00 F2 DE FD 5F
Output Interval of The Same Code	1500ms:08 C6 04 08 00 F3 03 0F FE 21 500ms:08 C6 04 08 00 F3 03 05 FE 2B 300ms: 08 C6 04 08 00 F3 03 03 FE 2D	06 C7 04 00 F3 03 FE 39
Fast Setting	No Delay：08 C6 04 08 00 F2 C9 00 FD 6B Delay 1s：08 C6 04 08 00 F2 C9 01 FD 6A Delay 3s：08 C6 04 08 00 F2 C9 03 FD 68 Delay 5s：08 C6 04 08 00 F2 C9 05 FD 66 Delay 7s：08 C6 04 08 00 F2 C9 07 FD 64 Infinite Delay(Disable Output Interval of The Same Code)：08 C6 04 08 00 F2 C9 09 FD 62	06 C7 04 00 F2 C9 FD 74
Continue Scanning	Disable：08 C6 04 08 00 F2 ED 00 FD 47 Enable：08 C6 04 08 00 F2 ED 01 FD 46	06 C7 04 00 F2 ED FD 50
Continuously Set Multiple Prefix	Continuously Set Multiple Prefix：08 C6 04 08 00 F3 10 00 FE 23	06 C7 04 00 F3 10 FE 2C
Continuously Set Multiple Suffix	Continuously Set Multiple Suffix：08 C6 04 08 00 F3 11 00 FE 22	06 C7 04 00 F3 11 FE 2B
Complete Continuous Setup of Multiple Prefixes / Suffixes	Complete Continuous Setup of Multiple Prefixes / Suffixes：08 C6 04 08 00 FF F6 00 FD 31	06 C7 04 00 FF F6 FD 3A
Set Multiple Prefix and Suffix Data Transmission Format	Data + Multiple Suffixes：07 C6 04 08 00 EB 08 FE 34 Multiple Prefixes+Data：07 C6 04 08 00 EB 09 FE 33 Multiple Prefixes+Data+Multiple Suffixes：07 C6 04 08 00 EB 0A FE 32	05 C7 04 00 EB FE 45
Heartbeat Control	Disable：08 C6 04 08 00 F2 CD 00 FD 67 ACK Heartbeat doesn't need ACK：08 C6 04 08 00 F2 CD 01 FD 66 ACK Heartbeat needs ACK：08 C6 04 08 00 F2 CD 02 FD 65	06 C7 04 00 F2 CD FD 70
URL Blocking	Disable：08 C6 04 08 00 F2 EA 00 FD 4A Enable：08 C6 04 08 00 F2 EA 01 FD 49	06 C7 04 00 F2 EA FD 53

About 1D Barcode(only for 1D)		
UPC-A		
Scan	Disable：07 C6 04 08 00 01 00 FF 26 Enable：07 C6 04 08 00 01 01 FF 25	05 C7 04 00 01 FF 2F
Transmit UPC-A Check Digit	Disable：07 C6 04 08 00 28 00 FE FF Enable：07 C6 04 08 00 28 01 FE FE	05 C7 04 00 28 FF 08
Supplemental Code	(00) None：07 C6 04 08 00 10 00 FF 17 Enable（01）：07 C6 04 08 00 10 01 FF 16 AUTO Distinguish(02)：07 C6 04 08 00 10 02 FF 15 378/379 Supplemental Mode（04）：07 C6 04 08 00 10 04 FF 13 978 Supplemental Mode（05）：07 C6 04 08 00 10 05 FF 12 Precise Mode（03）：07 C6 04 08 00 10 03 FF 14	05 C7 04 00 10 FF 20
Preamble	None(00)：07 C6 04 08 00 22 00 FF 05 System Character（01）：07 C6 04 08 00 22 01 FF 04 Country Character & System Character(02)：07 C6 04 08 00 22 02 FF 03	05 C7 04 00 22 FF 0E
UPC-A 2-bits Supplemental	Enable：08 C6 04 08 00 F2 40 01 FD F3 Disable：08 C6 04 08 00 F2 40 00 FD F4	06 C7 04 00 F2 40 FD FD
UPC-A 5-bits Supplemental	Enable：08 C6 04 08 00 F2 41 01 FD F2 Disable：08 C6 04 08 00 F2 41 00 FD F3	06 C7 04 00 F2 41 FD FC
UPC-A Read Supplementals	Enable：08 C6 04 08 00 F2 42 01 FD F1 Disable：08 C6 04 08 00 F2 42 00 FD F2	06 C7 04 00 F2 42 FD FB
UPC-E		
Scan	Disable：07 C6 04 08 00 02 00 FF 25 Enable：07 C6 04 08 00 02 01 FF 24	05 C7 04 00 02 FF 2E
Transmit UPC-E Check Digit	Disable：07 C6 04 08 00 29 00 FE FE Enable：07 C6 04 08 00 29 01 FE FD	05 C7 04 00 29 FF 07
Supplemental Code	None(00)：07 C6 04 08 00 10 00 FF 17 Enable（01）：07 C6 04 08 00 10 01 FF 16 AUTO Distinguish(02)：07 C6 04 08 00 10 02 FF 15 378/379 Supplemental Mode（04）：07 C6 04 08 00 10 04 FF 13 978 Supplemental Mode（05）：07 C6 04 08 00 10 05 FF 12 Precise Mode（03）：07 C6 04 08 00 10 03 FF 14	05 C7 04 00 10 FF 20
Preamble	None(00)：07 C6 04 08 00 23 00 FF 04 System Character（01）：07 C6 04 08 00 23 01 FF 03 Country Character & System Character(02)：07 C6 04 08 00 23 02 FF 02	05 C7 04 00 23 FF 0D
Convert UPC-E to UPC-A	Disable：07 C6 04 08 00 25 00 FF 02 Enable：07 C6 04 08 00 25 01 FF 01	05 C7 04 00 25 FF 0B
UPC-E 2-bits Supplemental	Enable：08 C6 04 08 00 F2 3D 01 FD F6	06 C7 04 00 F2 3D FE 00

	Disable：08 C6 04 08 00 F2 3D 00 FD F7	
UPC-E 5-bits Supplemental	Enable：08 C6 04 08 00 F2 3E 01 FD F5 Disable：08 C6 04 08 00 F2 3E 00 FD F6	06 C7 04 00 F2 3E FD FF
UPC-E Read Supplementals	Enable：08 C6 04 08 00 F2 3F 01 FD F4 Disable：08 C6 04 08 00 F2 3F 00 FD F5	06 C7 04 00 F2 3F FD FE
UPC-E1	Disable：08 C6 04 08 00 F2 15 00 FE 1F Enable：08 C6 04 08 00 F2 15 01 FE 1E	06 C7 04 00 F2 15 FE 28
EAN-8		
Scan	Disable：07 C6 04 08 00 04 00 FF 23 Enable：07 C6 04 08 00 04 01 FF 22	05 C7 04 00 04 FF 2C
Supplemental Code	None(00)：07 C6 04 08 00 10 00 FF 17 Enable（01）：07 C6 04 08 00 10 01 FF 16 AUTO Distinguish(02)：07 C6 04 08 00 10 02 FF 15 378/379 Supplemental Mode（04）：07 C6 04 08 00 10 04 FF 13 978 Supplemental Mode（05）：07 C6 04 08 00 10 05 FF 12 Precise Mode（03）：07 C6 04 08 00 10 03 FF 14	05 C7 04 00 10 FF 20
EAN-8 is expanded to EAN-13	Disable：07 C6 04 08 00 27 00 FF 00 Enable：07 C6 04 08 00 27 01 FE FF	05 C7 04 00 27 FF 09
2-bits Supplemental	Enable：08 C6 04 08 00 F2 37 01 FD FC Disable：08 C6 04 08 00 F2 37 00 FD FD	06 C7 04 00 F2 37 FE 06
5-bits Supplemental	Enable：08 C6 04 08 00 F2 38 01 FD FB Disable：08 C6 04 08 00 F2 38 00 FD FC	06 C7 04 00 F2 38 FE 05
Read Supplementals	Enable：08 C6 04 08 00 F2 39 01 FD FA Disable：08 C6 04 08 00 F2 39 00 FD FB	06 C7 04 00 F2 39 FE 04
EAN-8 Transmit Check Digit	Disable：08 C6 04 08 00 F2 80 00 FD B4 Enable：08 C6 04 08 00 F2 80 01 FD B3	06 C7 04 00 F2 80 FD BD
EAN-13		
Scan	Disable：07 C6 04 08 00 03 00 FF 24 Enable：07 C6 04 08 00 03 01 FF 23	05 C7 04 00 03 FF 2D
EAN-13 2-bits Supplemental	Enable：08 C6 04 08 00 F2 3A 01 FD F9 Disable：08 C6 04 08 00 F2 3A 00 FD FA	06 C7 04 00 F2 3A FE 03
EAN-13 5-bits Supplemental	Enable：08 C6 04 08 00 F2 3B 01 FD F8 Disable：08 C6 04 08 00 F2 3B 00 FD F9	06 C7 04 00 F2 3B FE 02
EAN-13 Read Supplementals	Enable：08 C6 04 08 00 F2 3C 01 FD F7 Disable：08 C6 04 08 00 F2 3C 00 FD F8	06 C7 04 00 F2 3C FE 01
EAN-13 Transmit Check Digit	Disable：08 C6 04 08 00 F2 16 00 FE 1E Enable：08 C6 04 08 00 F2 16 01 FE 1D	06 C7 04 00 F2 16 FE 27
Supplemental Code	None(00)：07 C6 04 08 00 10 00 FF 17 Enable（01）：07 C6 04 08 00 10 01 FF 16 AUTO Distinguish(02)：07 C6 04 08 00 10 02 FF 15 378/379 Supplemental Mode（04）：07 C6 04 08 00 10 04 FF 13 978 Supplemental Mode（05）：07 C6 04 08 00 10 05 FF 12	05 C7 04 00 10 FF 20

	Precise Mode（03）：07 C6 04 08 00 10 03 FF 14	
Bookland EAN(ISBN)		
Scan	Disable：07 C6 04 08 00 53 00 FE D4 Enable：07 C6 04 08 00 53 01 FE D3	05 C7 04 00 53 FE DD
Format	Output 10 bits:08 C6 04 08 00 F1 40 00 FD F5 Output 13 bits:08 C6 04 08 00 F1 40 01 FD F4	06 C7 04 00 F1 40 FD FE
UPC/EAN Security Level	Level 1：07 C6 04 08 00 4D 00 FE DA Level 2：07 C6 04 08 00 4D 01 FE D9 Level 3：07 C6 04 08 00 4D 02 FE D8 Level 4：07 C6 04 08 00 4D 03 FE D7	05 C7 04 00 4D FE E3
Code 128 Symbologies Switch	Disable：07 C6 04 08 00 08 00 FF 1F Enable：07 C6 04 08 00 08 01 FF 1E	05 C7 04 00 08 FF 28
Transmit Code 128 Check Digit	Enable：08 C6 04 08 00 F2 35 01 FD FE Disable：08 C6 04 08 00 F2 35 00 FD FF	06 C7 04 00 F2 35 FE 08
Set Lengths for Code 128	One Discrete Length： 06：0B C6 04 08 00 F5 04 06 F5 05 00 FD 2A Two Discrete Lengths： 04 and 06：0B C6 04 08 00 F5 04 06 F5 05 04 FD 26 Length Within Range： 04 to 09：0B C6 04 08 00 F5 04 04 F5 05 09 FD 23 Any Length： 0B C6 04 08 00 F5 04 00 F5 05 00 FD 30	08 C7 04 00 F5 04 F5 05 FD 3A
GS1-128 (formerly UCC/EAN-128)	Disable：07 C6 04 08 00 0E 00 FF 19 Enable：07 C6 04 08 00 0E 01 FF 18	05 C7 04 00 0E FF 22
Transmit UCC/EAN-128 Check Digit	Enable：08 C6 04 08 00 F2 36 01 FD FD Disable：08 C6 04 08 00 F2 36 00 FD FE	06 C7 04 00 F2 36 FE 07
Set Lengths for UCC/EAN-128	One Discrete Length： 06：0B C6 04 08 00 F5 06 06 F5 07 00 FD 26 Two Discrete Lengths： 04 and 06：0B C6 04 08 00 F5 06 06 F5 07 04 FD 22 Length Within Range： 04 to 09：0B C6 04 08 00 F5 06 04 F5 07 09 FD 1F Any Length： 0B C6 04 08 00 F5 06 00 F5 07 00 FD 2C	08 C7 04 00 F5 06 F5 07 FD 36
ISBT 128	Disable：07 C6 04 08 00 54 00 FE D3 Enable：07 C6 04 08 00 54 01 FE D2	05 C7 04 00 54 FE DC
Code 39		
Code 39	Disable：07 C6 04 08 00 00 00 FF 27 Enable：07 C6 04 08 00 00 01 FF 26	05 C7 04 00 00 FF 30
Set Lengths for Code 39	One Discrete Length： Length 06： 09 C6 04 08 00 12 06 13 00 FE FA Length 16: 09 C6 04 08 00 12 10 13 00 FE F0	06 C7 04 00 12 13 FF 0A

	Length 14: 09 C6 04 08 00 12 0E 13 00 FE F2 Two Discrete Lengths： 02 and 04： 09 C6 04 08 00 12 04 13 02 FE FA 16 and 14： 09 C6 04 08 00 12 10 13 0E FE E2 Length Within Range: 02 to 09： 09 C-6 04 08 00 12 02 13 09 FE F5 0x02 to 0x37(55) ： 09 C6 04 08 00 12 02 13 37 FE C7 14 to 15: 09 C6 04 08 00 12 0E 13 0F FE E3 14 to 15 (Temporary) : 09 C6 04 00 00 12 0E 13 0F FE EB 15 to 16 : 09 C6 04 08 00 12 0F 13 10 FE E1 Any Length：09 C6 04 08 00 12 00 13 00 FE F0	
Code 39 Check Digit Verification	Disable：07 C6 04 08 00 30 00 FE F7 Enable：07 C6 04 08 00 30 01 FE F6	05 C7 04 00 30 FF 00
Transmit Code 39 Check Digit	Disable：07 C6 04 08 00 2B 00 FE FC Enable：07 C6 04 08 00 2B 01 FE FB	05 C7 04 00 2B FF 05
Code 39 Full ASCII	07 C6 04 08 00 11 01 FF 15	05 C7 04 00 11 FF 1F
Code 39 Transport Start Character and Terminator	Disable：08 C6 04 08 00 F2 30 00 FE 04 Enable：08 C6 04 08 00 F2 30 01 FE 03	06 C7 04 00 F2 30 FE 0D
Code 39 bigcode	Enable：08 C6 04 08 00 F2 27 01 FE 0C Disable：08 C6 04 08 00 F2 27 00 FE 0D	06 C7 04 00 F2 27 FE 16
Convert Code 39 to Code 32 (Italian Pharma Code)	Disable：07 C6 04 08 00 56 00 FE D1 Enable：07 C6 04 08 00 56 01 FE D0	05 C7 04 00 56 FE DA
Code 32 Prefix	Disable：07 C6 04 08 00 E7 00 FE 40 Enable：07 C6 04 08 00 E7 01 FE 3F	05 C7 04 00 E7 FE 49
Code 32 Check Digit Verification	Disable: 08 C6 04 08 00 F2 19 00 FE 1B Enable: 08 C6 04 08 00 F2 19 01 FE 1A	06 C7 04 00 F2 19 FE 24
Transmit Code 32 Check Digit	Transmit Check Digit: 08 C6 04 08 00 F2 1A 00 FE 1A Transmit Start Character, Stop Character, Check Digit: 08 C6 04 08 00 F2 1A 01 FE 19	06 C7 04 00 F2 1A FE 23
Code 93		
Code 93	Disable：07 C6 04 08 00 09 00 FF 1E Enable：07 C6 04 08 00 09 01 FF 1D	05 C7 04 00 09 FF 27
Set Lengths for Code 93	One Discrete Length： 04：09 C6 04 08 00 1A 041B 00 FE EC Two Discrete Lengths： 04 and 06：09 C6 04 08 00 1A 06 1B 04 FE E6 Length Within Range: 04 to 09：09 C6 04 08 00 1A 04 1B 09 FE E3 Any Length：09 C6 04 08 00 1A 00 1B 00 FE F0	06 C7 04 00 1A 1B FE FA
Code 93 Check	Enable：08 C6 04 08 00 F2 4A 01 FD E9 Disable：08 C6 04 08 00 F2 4A 00 FD EA	06 C7 04 00 F2 4A FD F3
Transmit Code 93 Check Digit	Enable：08 C6 04 08 00 F2 4B 01 FD E8	06 C7 04 00 F2 4B FD F2

	Disable：08 C6 04 08 00 F2 4B 00 FD E9	
Code 11		
Enable Code 11 Barcode Scanning	Disable：07 C6 04 08 00 0A 00 FF 1D Enable：07 C6 04 08 00 0A 01 FF 1C	05 C7 04 00 0A FF 26
Set Lengths for Code 11	One Discrete Length： 06：09 C6 04 08 00 1C 06 1D 00 FE E6 Two Discrete Lengths： 04 and 06：09 C6 04 08 00 1C 06 1D 04 FE E2 Length Within Range: 04 to 09：09 C6 04 08 00 1C 04 1D 09 FE DF Any Length：09 C6 04 08 00 1C 00 1D 00 FE EC	06 C7 04 00 1C 1D FE F6
Code 11 Check Digit Verification	None：07 C6 04 08 00 34 00 FE F3 1 bit：07 C6 04 08 00 34 01 FE F2 2 bits：07 C6 04 08 00 34 02 FE F1	05 C7 04 00 34 FE FC
Transmit Code 11 Check Digit	Disable：07 C6 04 08 00 2F 00 FE F8 Enable：07 C6 04 08 00 2F 01 FE F7	05 C7 04 00 2F FF 01
Interleaved 2 of 5/ITF/交叉 25 码		
Enable Interleaved 2 of 5/ITF/交叉 25 码	Disable：07 C6 04 08 00 06 00 FF 21 Enable：07 C6 04 08 00 06 01 FF 20	05 C7 04 00 06 FF 2A
Set Scanning Data Lengths for Interleaved 2 of 5	One Discrete Length： 06：09 C6 04 08 00 16 06 17 00 FE F2 Two Discrete Lengths： 04 and 06：09 C6 04 08 00 16 06 17 04 FE EE Length Within Range: 04 to 09：09 C6 04 08 00 16 04 17 09 FE EB Any Length：09 C6 04 08 00 16 00 17 00 FE F8	06 C7 04 00 16 17 FF 02
Interleaved 2 of 5 Check Digit Verification	Disable：07 C6 04 08 00 31 00 FE F6 Enable：07 C6 04 08 00 31 01 FE F5	05 C7 04 00 31 FE FF
Transmit Interleaved 2 of 5 Check Digit	Disable：07 C6 04 08 00 2C 00 FE FB Enable：07 C6 04 08 00 2C 01 FE FA	05 C7 04 00 2C FF 04
ITF14	Enable：08 C6 04 08 00 F2 43 01 FD F0 Disable：08 C6 04 08 00 F2 43 00 FD F1	06 C7 04 00 F2 43 FD FA
Transmit ITF14 Check Digit	Enable：08 C6 04 08 00 F2 44 01 FD EF Disable：08 C6 04 08 00 F2 44 00 FD F0	06 C7 04 00 F2 44 FD F9
Discrete 2 of 5 /Industrial 2 of 5/IND25/工业 25 码		
Enable Discrete 2 of 5 /Industrial 2 of 5/IND25/工业 25 码	Disable：07 C6 04 08 00 05 00 FF 22 Enable：07 C6 04 08 00 05 01 FF 21	05 C7 04 00 05 FF 2B
Set Scanning Data Lengths for Discrete 2 of 5	One Discrete Length： 06：09 C6 04 08 00 14 06 15 00 FE F6 Two Discrete Lengths： 04 and 06　04 and 06：09 C6 04 08 00 14 06 15 04 FE F2 Length Within Range： 04 to 09　04 to 09：09 C6 04 08 00 14 04 15 09 FE EF Any Length：09 C6 04 08 00 14 00 15 00 FE FC	06 C7 04 00 14 15 FF 06
Discrete 2 of 5 Check	Enable：08 C6 04 08 00 F2 48 01 FD EB	06 C7 04 00 F2 48 FD F5

	Disable：08 C6 04 08 00 F2 48 00 FD EC	
Transmit Discrete 2 of 5 Check Digit	Enable：08 C6 04 08 00 F2 49 01 FD EA Disable：08 C6 04 08 00 F2 49 00 FD EB	06 C7 04 00 F2 49 FD F4
矩阵 25 Matrix 25		
Matrix 25	Disable：08 C6 04 08 00 F2 20 00 FE 14 Enable：08 C6 04 08 00 F2 20 01 FE 13	06 C7 04 00 F2 20 FE 1D
Matrix 25 Check Digit Verification	Disable：08 C6 04 08 00 F2 21 00 FE 13 Enable：08 C6 04 08 00 F2 21 01 FE 12	06 C7 04 00 F2 21 FE 1C
Transmit Matrix 25 Check Character	Disable：08 C6 04 08 00 F2 22 00 FE 12 Enable：08 C6 04 08 00 F2 22 01 FE 11	06 C7 04 00 F2 22 FE 1B
Set Lengths for Matrix 25	One Discrete Length： 06：0B C6 04 08 00 F5 00 06 F5 01 00 FD 32 Two Discrete Lengths： 04 and 06　04 and 06：0B C6 04 08 00 F5 00 06 F5 01 04 FD 2E Length Within Range: 04 to 09　04 to 09：0B C6 04 08 00 F5 00 04 F5 01 09 FD 2B Any Length： 0B C6 04 08 00 F5 00 00 F5 01 00 FD 38	08 C7 04 00 F5 00 F5 01 FD 42
Standard 25 / IATA 25 /标准 25		
Standard 25/IATA 25/标准 25	Disable：08 C6 04 08 00 F2 23 00 FE 11 Enable：08 C6 04 08 00 F2 23 01 FE 10	06 C7 04 00 F2 23 FE 1A
Standard 25 Check Digit Verification	Disable：08 C6 04 08 00 F2 24 00 FE 10 Enable：08 C6 04 08 00 F2 24 01 FE 0F	06 C7 04 00 F2 24 FE 19
Transmit Standard 25 Check Digit	Disable：08 C6 04 08 00 F2 25 00 FE 0F Enable：08 C6 04 08 00 F2 25 01 FE 0E	06 C7 04 00 F2 25 FE 18
Set Lengths for Standard 25	One Discrete Length： 06：09 C6 04 08 00 F5 02 06 F5 03 00 FD 2E Two Discrete Lengths： 04 and 06　04 and 06：09 C6 04 08 00 F5 02 06 F5 03 04 FD 2A Length Within Range: 04 to 09　04 to 09：09 C6 04 08 00 F5 02 04 F5 03 09 FD 27 Any Length：09 C6 04 08 00 F5 02 00 F5 03 00 FD 34	08 C7 04 00 F5 02 F5 03 FD 3E
Enable Codabar Barcode Scanning	Disable：07 C6 04 08 00 07 00 FF 20 Enable：07 C6 04 08 00 07 01 FF 1F	05 C7 04 00 07 FF 29
Set Lengths for Codabar	One Discrete Length： 04：09 C6 04 08 00 18 04 19 00 FE F0 Two Discrete Lengths： 09 C6 04 08 00 18 05 19 04 FE EB Length Within Range: 04 to 09　04 to 09：09 C6 04 08 00 18 04 19 09 FE E7 Any Length：09 C6 04 08 00 18 00 19 00 FE F4	06 C7 04 00 18 19 FE FE
Codabar Check	Enable：08 C6 04 08 00 F2 4C 01 FD E7 Disable：08 C6 04 08 00 F2 4C 00 FD E8	06 C7 04 00 F2 4C FD F1
Transmit Codabar Check	Enable：08 C6 04 08 00 F2 4D 01 FD E6	06 C7 04 00 F2 4D FD F0

Digit	Disable：08 C6 04 08 00 F2 4D 00 FD E7	
NOTIS Transmit Format	Disable：07 C6 04 08 00 37 00 FE F0 Enable：07 C6 04 08 00 37 01 FE EF	05 C7 04 00 37 FE F9
Start Character and Terminator Format	ABCD/ABCD：08 C6 04 08 00 F2 31 00 FE 03 ABCD/TN*E：08 C6 04 08 00 F2 31 01 FE 02	06 C7 04 00 F2 31 FE 0C
Letter Case Setting of Start Character and Teminator	Uppercase：08 C6 04 08 00 F2 32 00 FE 02 Lowercase：08 C6 04 08 00 F2 32 01 FE 01	06 C7 04 00 F2 32 FE 0B
MSI /MSI PLESSEY		
Enable MSI /MSI PLESSEY Barcode Scanning	Disable：07 C6 04 08 00 0B 00 FF 1C Enable：07 C6 04 08 00 0B 01 FF 1B	05 C7 04 00 0B FF 25
Set Lengths for MSI	One Discrete Length： 04：09 C6 04 08 00 1E 04 1F 00 FE E4 Two Discrete Lengths： 04 and 05：09 C6 04 08 00 1E 05 1F 04 FE DF Length Within Range: 02 to 09：09 C6 04 08 00 1E 02 1F 09 FE DD Any Length：09 C6 04 08 00 1E 00 1F 00 FE E8	06 C7 04 00 1E 1F FE F2
MSI Check Digit	1 bit: 07 C6 04 08 00 32 00 FE F5 2 bits:07 C6 04 08 00 32 01 FE F4	05 C7 04 00 32 FE FE
Transmit MSI Check Digit	Disable：07 C6 04 08 00 2E 00 FE F9 Enable：07 C6 04 08 00 2E 01 FE F8	05 C7 04 00 2E FF 02
MSI Check Algorithm	MOD10/11: 07 C6 04 08 00 33 00 FE F4 MOD10/10: 07 C6 04 08 00 33 01 FE F3	05 C7 04 00 33 FE FD
GS1 DataBar(RSS)		
Enable GS1 DataBar(RSS) 14 Barcode Scanning	Disable：08 C6 04 08 00 F0 52 00 FD E4 Enable：08 C6 04 08 00 F0 52 01 FD E3	06 C7 04 00 F0 52 FD ED
Enable GS1 DataBar Limited Barcode Scanning	Disable：08 C6 04 08 00 F0 53 00 FD E3 Enable：08 C6 04 08 00 F0 53 01 FD E2	06 C7 04 00 F0 53 FD EC
Enable GS1 DataBar Expanded Barcode Scanning	Disable：08 C6 04 08 00 F0 54 00 FD E2 Enable：08 C6 04 08 00 F0 54 01 FD E1	06 C7 04 00 F0 54 FD EB
RSS AI Character	Enable：08 C6 04 08 00 F2 26 01 FE 0D Disable：08 C6 04 08 00 F2 26 00 FE 0E	06 C7 04 00 F2 26 FE 17
About 2D Barcode(only for 2D)		
PDF417		
PDF417	Enable：07 C6 04 08 00 0F 01 FF 17 Disable：07 C6 04 08 00 0F 00 FF 18	05 C7 04 00 0F FF 21
Read Multi-code	Read Monocode: 08 C6 04 08 00 F2 60 00 FD D4 Read Dicode: 08 C6 04 08 00 F2 60 01 FD D3 Read Monocode /Dicode: 08 C6 04 08 00 F2 60 02 FD D2	06 C7 04 00 F2 60 FD DD
Read Normal Phase/ Phase Reversal	Read Normal Phase: 08 C6 04 08 00 F2 61 00 FD D3 Read Phase Reversal: 08 C6 04 08 00 F2 61 01 FD D2 Read Normal Phase/ Phase Reversal: 08 C6 04 08 00 F2 61 02 FD D1	06 C7 04 00 F2 61 FD DC
QRCode		

QRCode	Enable：08 C6 04 08 00 F0 25 01 FE 10 Disable：08 C6 04 08 00 F0 25 00 FE 11	06 C7 04 00 F0 25 FE 1A
Read Multi-code	Read Monocode: 08 C6 04 08 00 F2 65 00 FD CF Read Dicode: 08 C6 04 08 00 F2 65 01 FD CE Read Monocode /Dicode: 08 C6 04 08 00 F2 65 02 FD CD	06 C7 04 00 F2 65 FD D8
ECI Control	Not Output:08 C6 04 08 00 F2 66 00 FD CE Output:08 C6 04 08 00 F2 66 01 FD CD	06 C7 04 00 F2 66 FD D7
Read Normal Phase/ Phase Reversal	Read Normal Phase：08 C6 04 08 00 F2 67 00 FD CD Read Phase Reversal：08 C6 04 08 00 F2 67 01 FD CC Read Normal Phase/ Phase Reversal：08 C6 04 08 00 F2 67 02 FD CB	06 C7 04 00 F2 67 FD D6
MicroQRCode		
MicroQRCode	Enable：08 C6 04 08 00 F1 3D 01 FD F7 Disable：08 C6 04 08 00 F1 3D 00 FD F8	06 C7 04 00 F1 3D FE 01
DataMatrix		
DataMatrix	Enable：08 C6 04 08 00 F0 24 01 FE 11 Disable：08 C6 04 08 00 F0 24 00 FE 12	06 C7 04 00 F0 24 FE 1B
Read Multi-code	Read Monocode: 08 C6 04 08 00 F2 6A 00 FD CA Read Dicode: 08 C6 04 08 00 F2 6A 01 FD C9 Read Monocode /Dicode: 08 C6 04 08 00 F2 6A 02 FD C8	06 C7 04 00 F2 6A FD D3
Read Normal Phase/ Phase Reversal	Read Normal Phase: 08 C6 04 08 00 F2 6B 00 FD C9 Read Phase Reversal: 08 C6 04 08 00 F2 6B 01 FD C8 Read Normal Phase/ Phase Reversal: 08 C6 04 08 00 F2 6B 02 FD C7	06 C7 04 00 F2 6B FD D2
ECI Control	Not Output:08 C6 04 08 00 F2 6C 00 FD C8 Output:08 C6 04 08 00 F2 6C 01 FD C7	06 C7 04 00 F2 6C FD D1
MaxiCode		
MaxiCode	Disable：08 C6 04 08 00 F0 26 00 FE 10 Enable：08 C6 04 08 00 F0 26 01 FE 0F	06 C7 04 00 F0 26 FE 19
Aztec		
Aztec	Disable：08 C6 04 08 00 F0 28 00 FE 0E Enable：08 C6 04 08 00 F0 28 01 FE 0D	06 C7 04 00 F0 28 FE 17
Han Xin Code		
Han Xin Code	Disable：08 C6 04 08 00 F0 2F 00 FE 07 Enable：08 C6 04 08 00 F0 2F 01 FE 06	06 C7 04 00 F0 2F FE 10
Read Multi-code	Read Monocode: 08 C6 04 08 00 F2 70 00 FD C4 Read Dicode: 08 C6 04 08 00 F2 70 01 FD C3 Read Monocode /Dicode: 08 C6 04 08 00 F2 70 02 FD C2	06 C7 04 00 F2 70 FD CD

Read Normal Phase/ Phase Reversal	Read Normal Phase: 08 C6 04 08 00 F2 71 00 FD C3 Read Phase Reversal: 08 C6 04 08 00 F2 71 01 FD C2 Read Normal Phase/ Phase Reversal: 08 C6 04 08 00 F2 71 02 FD C1	06 C7 04 00 F2 71 FD CC
ISSN	Disable：08 C6 04 08 00 F2 33 00 FE 01 Enable：08 C6 04 08 00 F2 33 01 FE 00	06 C7 04 00 F2 33 FE 0A
PLESSEY	Disable：08 C6 04 08 00 F2 34 00 FE 00 Enable：08 C6 04 08 00 F2 34 01 FD FF	06 C7 04 00 F2 34 FE 09
PLESSEY Check	Enable：08 C6 04 08 00 F2 4E 01 FD E5 Disable：08 C6 04 08 00 F2 4E 00 FD E6	06 C7 04 00 F2 4E FD EF
Transmit PLESSEY Check Character	Enable：08 C6 04 08 00 F2 4F 01 FD E4 Disable：08 C6 04 08 00 F2 4F 00 FD E5	06 C7 04 00 F2 4F FD EE
AIM128	Enable：08 C6 04 08 00 F2 29 01 FE 0A Disable：08 C6 04 08 00 F2 29 00 FE 0B	06 C7 04 00 F2 29 FE 14
Transmit AIM128 Check Character	Enable：08 C6 04 08 00 F2 2A 01 FE 09 Disable：08 C6 04 08 00 F2 2A 00 FE 0A	06 C7 04 00 F2 2A FE 13
Set Lengths for AIM128	One Discrete Length： 06：0B C6 04 08 00 F5 0A 06 F5 0B 00 FD 1E Two Discrete Lengths： 04 and 06　04 and 06：0B C6 04 08 00 F5 0A 06 F5 0B 04 FD 1A Length Within Range： 04 to 09　04 to 09：0B C6 04 08 00 F5 0A 04 F5 0B 09 FD 17 Any Length： 0B C6 04 08 00 F5 0A 00 F5 0B 00 FD 24	08 C7 04 00 F5 0A F5 0B FD 2E
DEU14	Enable：08 C6 04 08 00 F2 2B 01 FE 08 Disable：08 C6 04 08 00 F2 2B 00 FE 09	06 C7 04 00 F2 2B FE 12
Transmit DEU14 Check Character	Enable：08 C6 04 08 00 F2 2C 01 FE 07 Disable：08 C6 04 08 00 F2 2C 00 FE 08	06 C7 04 00 F2 2C FE 11
DEU12	Enable：08 C6 04 08 00 F2 2D 01 FE 06 Disable：08 C6 04 08 00 F2 2D 00 FE 07	06 C7 04 00 F2 2D FE 10
Transmit DEU12 Check Character	Enable：08 C6 04 08 00 F2 2E 01 FE 05 Disable：08 C6 04 08 00 F2 2E 00 FE 06	06 C7 04 00 F2 2E FE 0F
NEC-25(COOP25)	Enable：08 C6 04 08 00 F2 45 01 FD EE Disable：08 C6 04 08 00 F2 45 00 FD EF	06 C7 04 00 F2 45 FD F8
NEC-25(COOP25) Check	Enable：08 C6 04 08 00 F2 46 01 FD ED Disable：08 C6 04 08 00 F2 46 00 FD EE	06 C7 04 00 F2 46 FD F7
Transmit NEC-25(COOP25) Check Character	Enable：08 C6 04 08 00 F2 47 01 FD EC Disable：08 C6 04 08 00 F2 47 00 FD ED	06 C7 04 00 F2 47 FD F6
Set Lengths for NEC-25(COOP25)	One Discrete Length： 06：0B C6 04 08 00 F5 08 06 F5 09 00 FD 22 Two Discrete Lengths： 04 and 06：0B C6 04 08 00 F5 08 06 F5 09 04 FD 1E Length Within Range： 04 to 09：0B C6 04 08 00 F5 08 04 F5 09 09 FD 1B	08 C7 04 00 F5 08 F5 09 FD 32

	Any Length： 0B C6 04 08 00 F5 08 00 F5 09 00 FD 28	
Brazilian Bank Code	Enable：08 C6 04 08 00 F2 28 01 FE 0B Disable：08 C6 04 08 00 F2 28 00 FE 0C	06 C7 04 00 F2 28 FE 15
COMPOSITE	Disable：08 C6 04 08 00 F2 17 00 FE 1D Enable：08 C6 04 08 00 F2 17 01 FE 1C	06 C7 04 00 F2 17 FE 26
EAN/UCC	Disable：08 C6 04 08 00 F2 18 00 FE 1C Enable：08 C6 04 08 00 F2 18 01 FE 1B	06 C7 04 00 F2 18 FE 25