NOTICE

This device complies with part 15 of the FCC Rules. Operation is subject to the following two condition: (1) This device may not cause harmful interface, and (2) This device must accept any interface received, including Interface that may cause undesired operation.

This equipment has been tested and found comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interface when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interface to radio communications. Operation of this equipment in a residential area is likely to cause harmful interface in which case the user will be required to correct the interface at his own expense.

Index

Installation

1) First of all, you must make sure that the power is disconnected form your equipment before connecting the scanner. Beside, you also have to check the cable connector of the scanner match your equipment interface correctly.

2) Boot up your computer after connecting the scanner with your equipment, the scanner will make a long music and light the LED, above scanner to indicate a successful power on. Trigger the button, the scan line in front of scanner will active. Now you can start to set programming optimal usage.

☛ If any of the above operation is not right, turn off the power immediately and check any improper connections. Go through all above steps again.

Recommened Steps

When the required settings have been configured, all settings are stored in non volatile memory of scanner after reading EXIT label. There are recommended steps as follows.

1) Set right host interface for your scanner at □10.
   (The scanner is in factory default as bold label)

2) Set interface to optimize protocol of scanner with your host in Charter 2.

3) Set system control of scanner, such as specific adjustments double confirm, power saving, indicator and scanning mode which you prefer usage in Chapter 3.

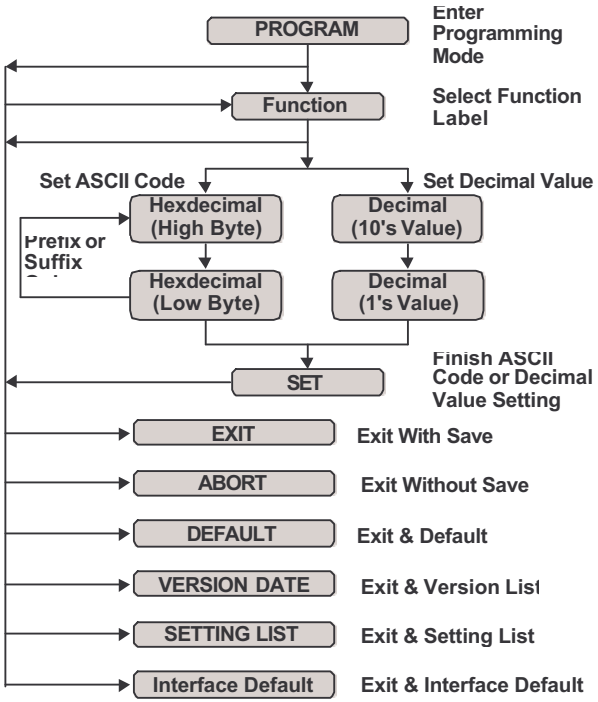
4) Set code option of scanner for your usage in Chapter 4. You must make sure to enable the symbology first, then Min./Max. code length, code ID checksum and truncate digits are also convered.

5) Set string format of the scanner, such as preamble, postamble, prefix, suffix, code ID and code name transmission for your application in Chapter 5.

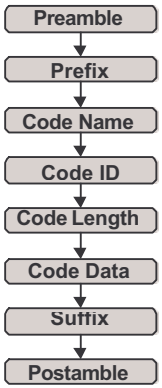
☛ If any of the error step is processing, scanner will generate a 5 wanrrying beeps to indicate an invaild setting. You have to take care this matter and set correctly again.

☛ If still not work properly. Please contact with dealer.

Configuration Flowchart



String Output Flowchart



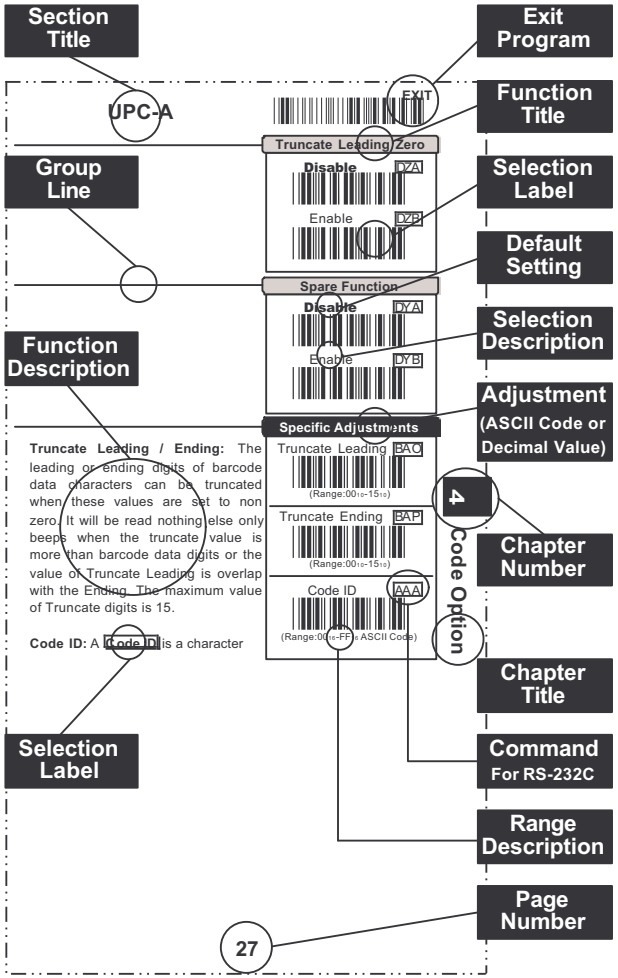
Default Setting

Code Type	Read Enable	Length Min.	Length Max.	Truncate Leading	Truncate Ending	Code ID
UPC-A	✓	-	-	0	0	A
UPC-E	✓	-	-	0	0	E
EAN-13	✓	-	-	0	0	F
EAN-8	✓	-	-	0	0	FF
Code-39	✓	0	0	0	0	M
Interleaved 2 of 5		6	0	0	0	I
Industrial 2 of 5		4	0	0	0	H
Matrix 2 of 5		4	0	0	0	G
China Post 2 of 5		11	11	0	0	J
Codabar/NW7	✓	4	0	0	0	N
Code-128	✓	0	0	0	0	K
Code-93		4	0	0	0	L
Code-11		4	0	0	0	O
MSI/Plessey		4	0	0	0	P
UK/Plessey		4	0	0	0	R
Telepen		4	0	0	0	S
IATA		4	0	0	0	Q

Adjustment	Value	Result
Beep Loudness	05	Level 5
Beep Tone	24	2.4 KHz
Beep Duration	06	60 mSec
Beep Tone1	12	1.2 KHz
Beep Duration1	06	60 mSec
Stand-by Time	15	15 Sec
Active Time	20	200 mSec
Sleep Time	20	200 mSec
Good-read Delay	50	500 mSec
Double Confirm Times	01	Once
Inter-char. Delay	01	1 mSec
Transmit Delay	00	0 mSec
Response Delay	30	3 Sec
Add-on Wait Time	50	500 mSec
Margin Delay	10	100 mSec
Preamble Data1	00_{16}	<NULL>
Preamble Data2	00_{16}	<NULL>
Postamble Data1	$0D_{16}$	<CR>
Postamble Data2	$0A_{16}$	<LF>
Prefix Data (All Datas)	00_{16}	<NULL>
Suffix Data (All Datas)	00_{16}	<NULL>
Add-on Insertion (All Datas)	00_{16}	<NULL>
Insertion1-4 (Position & All Datas)	00_{16}	<NULL>
Concatenation Data	29_{16}	<GS>

Manual Label Layout

The scanner must be set by reading the barcode labels in manual. The discription of label is as follows.



☛ The factory default settings are indicated by bold symbols.

Frequent Question

Q: Why scanner block the keyboard operation?
A: Check the cable connection with your equipment, then turn power on again.

Q: If scanner has a good read beep but nothing transferring after read a label.
A: Using the SETTING LIST at 10 to show what current setting of scanner is, or reset to Default, (or select right Interface default if scanner to be change another interface used), then re-program scanner again.

Q: If scanner dosen't need an Enter character addition after each barcode label transmission.
A: Refer to postamble transmission at 60, then set Disable.

Q: If scanner needs to read single digit code.
A: Refer to Min. code length of code option use "01" in Chapter 4 for single code readable.

Q: If scanner isn't able to discriminate an unknown label, but read manual very well.
A: Refer to code name at 64 to set Enable, read a barcode label, then you will know what symbology is read. Beside, it maybe need to verify checksum. Refer to verify checksum of code option in Chapter 4, and set Enable.

Q: If scanner transfers character very slow or loses some characters on screen in keyboard interface after reading a label.
A: You may set caps lock to be Alt+Keypad at 11. Otherwise, it maybe mis-match of transmission rate, therefore, you can adjust an appropriate Inter-char. Delay to match your equipment. See 11.

Q: If scanner want to read a label as function key for your apprication.
A: Refer to function key simulation at 11 and set Enable, then scanner can transmit a code as function key. It is used for keyboard interface only. Beside, you must make sure that a label is encoded as function key, and its ASCII code is from 00_{16} to $1F_{16}$ You can refer to ASCII code table at 71.

Q:Could I change scanner into different type interface directly?
A: You can change factory interface default for other type interface. By plug different cable, program scanner and set right interface to exit, then the scanner will be change to another interface. However, you must make sure what cable you need. Refer Cable Type to 66, 67.

Q: How to configure scanner via RS-232C?
A: Next to the selection description, you will find a frame command, such as AAB. These commands can be sent to scanner with RS-232C interface. You must make sure that scanner is the same protocal as your equipment of RS-232C, and light source of scanner has been actived by pressing button.

Example Beep Loudness Level "10", Good-read Beep "Enable"

To configure the reguired commands proceed as follows:
Send as: <ESC>($1B_{16}$) ⇨ Command(s) ⇨ <CR>($0D_{16}$)

Send <ESC>⇨ BAC⇨ %01⇨ %00⇨ %OK⇨ CEB⇨ <CR>

	Beep Londness Level	1	0	SET	Good-read Beep Enable

☛ Call to the dealer if scanner dose not work properly.

PROGRAM

Host Interface

Interface Default

Keyboard Wedge

RS-232C

WAND EMULATION

OCIA

Spare Interface

You can change factory interface default for other type interface. By plug different cable, program scanner and set right interface to exit, then the scanner will be change to another interface. However, you must make sure what cable you need. Refer Cable Type to 66, 67.

Miscellany

DEFAULT (without Interface)

VERSION DATE

SETTING LIST

ABORT

DEFAULT: All settings are reset as bold label, but exclude interface setting.

VERSION DATE: You can get the software date of decoder on screen. It is important for maintanace.

SETTING LIST: First it is recommended that you need to excute a text editor program (such as PE2 and Word) for keyboard interface, or excute a terminal program (such as Hyper Terminal) for RS-232. Then scanner will transmit current settings on screen.

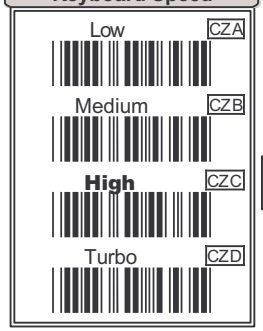
ABORT: If you have a mis-setting or want to skip this current configuration during you are programming, using this function, all front settings are aborted before you set EXIT to finish programming.
☛ Programming will be finished while each label of miscellany is read.

Keyboard Wedge

EXIT

Keyboard Speed

By selecting, you can change output speed of scanner to advance or match with host computer. Generally, set High or Turbo in working high performance. If some output characters of barcode have been lost or shown on screen slowly, you may need to set Medium or Low to match your host keyboard speed.



Function Key Simulation

Set Enable scanner can output code as pressing function-key in your application program while the barcode datas contain ASCII value between 01_{16} to $1F_{16}$. See 60 and Refer to ASCII table 71 at grey area. You'll find function-keys with ASCII codes.

Numeric Key Position

The Keypad have to selecte if your application program is only keypad numeric code acceptable. So, scanner will output code as press numeric key-pad when it read numeric digit. (The keypad is in the right side of keyboard, and Num Lock control key is also on.)

Caps Lock

By selecting Uppercase or Lowercase, scanner can get Caps Lock status. If Alt+Keypad is selected, Caps Lock and output will be independent.

Example Barcode "ABCdef"

Selection \ Status	Caps Lock **On**	Caps Lock **Off**
Uppercase	ABCdef	abcDEF
Lowercase	abcDEF	ABCdef
Alt+Keypad	ABCdef	ABCdef

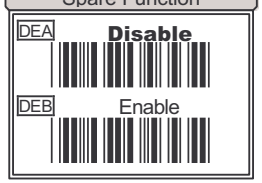
PROGRAM

Keyboard Wedge

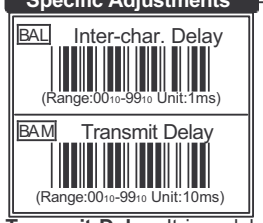
Keyboard Simulation

All of the PCs check the keyboard status during power-on selftest. It is recommended to Enable the function if you are working without keyboard installation. It simulates keyboard timing and pass keyboard present status to the PC during power-on.

Spare Function



Specific Adjustments



Inter-char. Delay: This delay is inserted after each data characters transmitted.If the transission speed is too high, the system may not be able to receive all characters. Adjust it and try out suited delay to makes system work properly.

Transmit Delay: It is a delay timer between barcode data output. The feature is used to transfer continually with shorter barcode data or multi-field scanning.

Example Barcode Data: "**ABCD**"

Inter-char. Delay: **2ms**
Transmit Delay: **10ms**

1) PROGRAM ⇨ Entry Programming

2) Inter-char. Delay ⇨ 0 ⇨ 2 ⇨ SET ⇨ 2ms Inter-char. Delay

02*1ms(Unit)=2ms

3) Transmit Delay ⇨ 0 ⇨ 1 ⇨ SET ⇨ 10ms Transmit Delay

01*10ms(Unit)=10ms

4) EXIT Exit Programming

Output

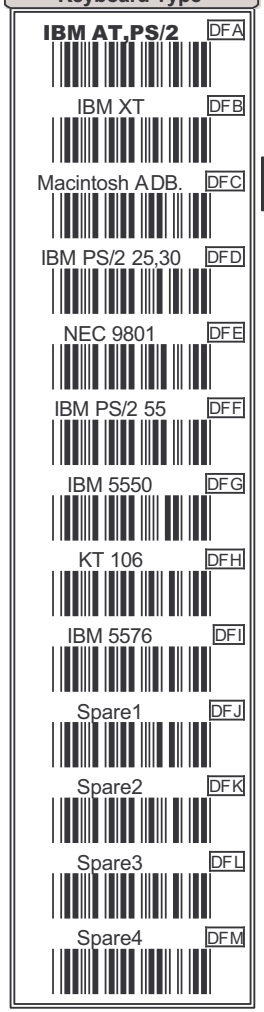
A	2ms	B	2ms	C	2ms	D	2ms	10ms

Keyboard Wedge

EXIT

Keyboard Type

Select keyboard type connector of your host computer. Scanner must be selected to the appropriate host interface cable converter. Refer to Cable Type at 66.

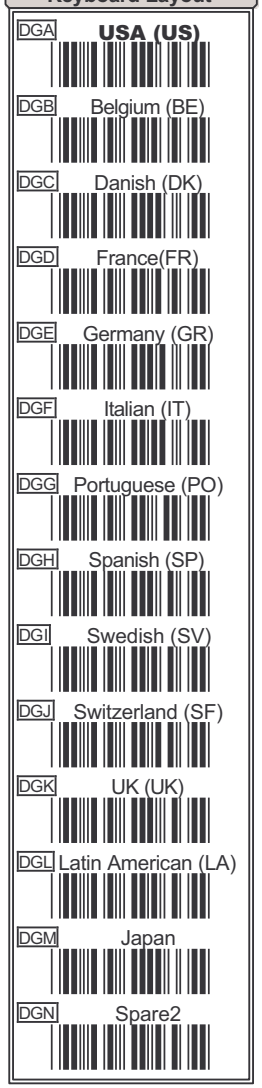


PROGRAM

Keyboard Wedge

Keyboard Layout

The selecting of keyboard layout supports many country languages other than USA keyboard layout. First you need to confirm country langage that you desire. In DOS, using command "Keyb" to selecte the desirable keyboard layout or in WINDOWS entry "Control' then pop "Keyboard" to selecte country at "language" item. For details, please refer to your DOS or WINDOWS user's manual.



EXIT

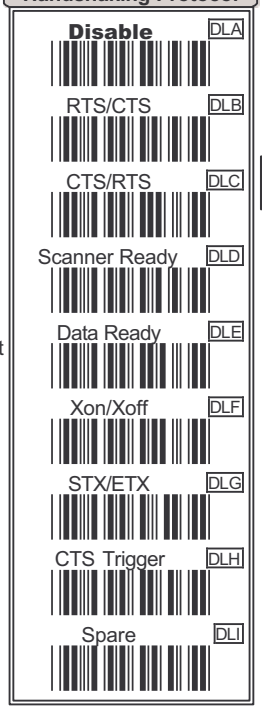
CTS: Clear To Send (Hardware Signal)
RTS: Request To Send (Hardware Signal)
STX: Start Of Text (ASCII Code 02_{16})
ETX: End Of Text (ASCII Code 03_{16})
Xon: Transmit On (ASCII Code 13_{16})
Xoff: Transmit Off (ASCII Code 11_{16})

Disable: The communication only uses TxD and RxD signals without regard for any hardware or software handshaking protocol.

RTS/CTS (CTS/RTS): If the scanner wants to send the barcode data to host computer, it will issue the RTS (CTS) signal first, wait for the CTS (RTS) signal from the host computer, and then perform the normal data communication. If there is no replied CTS (RTS) signal from the host computer after the timeout (Response Delay) duration, the scanner will issue a 5 warning beeps.

Scanner Ready: The scanner will active the RTS signal after power-on, and will transmit data upon receiving active CTS signals.

Handshaking Protocol



2 Interface

Data Ready: The scanner will active the RTS signal to indicate a successful decoding and will transmit data upon receiving CTS signals.

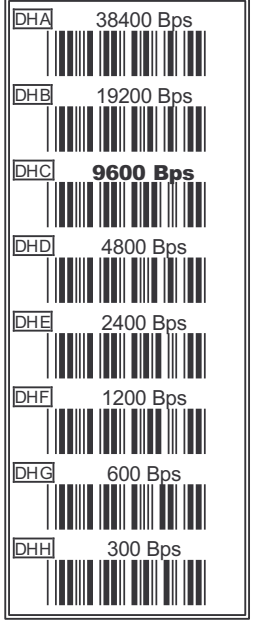
STX/ETX: The STX and ETX are used to pack barcode together in the normal data transmission.

Xon/Xoff: When the host computer is unable to accept data, it sends an Xoff code to inform the scanner to suspend data transmission,and Xon to continue.

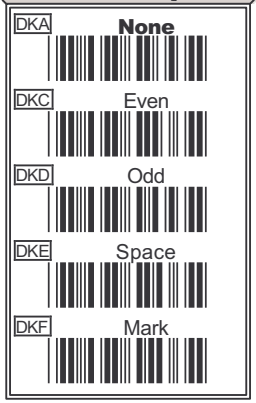
CTS Trigger: This operation enabled an external device to control scanning. The CTS trigger is controlled by applying an external trigger signal to the CTS input. When active, this signal causes scanning to begin as if the scanner's trigger was depressed. In the event of decoding, the trigger signal must be deactivated for a minimum of 50ms before another scan can be attempted.

PROGRAM

Baud Rate

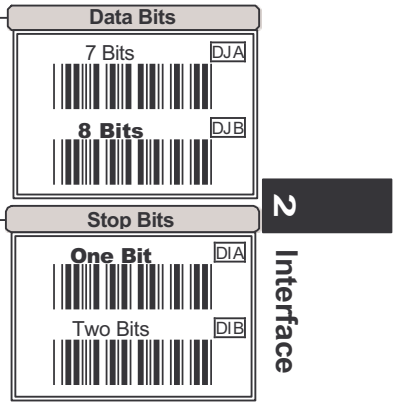


Data Parity



RS-232C

EXIT



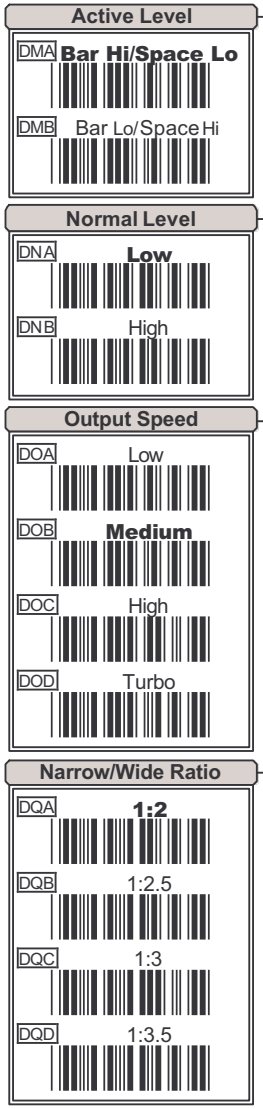
Inter-char. Delay: It is delay time between data character's output. It is same as Inter-char. Delay of keyboard wedge, see 12.

Transmit Delay: It is a delay time between barcode data output. It is also same as Transmit Delay of Keyboard wedge, see 12.

Response Delay: This delay is used for serial communication of the scanner to waiting for handshaking acknowledgment from the host computer. If scanner doesn't get any acknowledgments form host after the timeout occurs, it will issue 5 warning beeps.You may check handshanking mode or adjust a longer delay timer. The feature is particularly useful for some applications that the host computer takes a longer time to respond.

PROGRAM

Wand Emulation



Bar Hi/Space Lo: Black will be transmited as a high voltage level (+5V) and space as low level (0V).

Bar Lo/Space Hi: Black will be transmited as a low voltage level (0V) and space as high level (+5V).

You must make sure what is Normal Level of your wand decoder device in stand-by (idle). So, initial signal state as a High voltage level (+5V) or Low voltage level (0V).

This setting is same as serial transmission baud rate, and it must be approbated your wand decoder resolution. The unit of speed is a width of minimum narrow bar.

Output Speed	Bps (bits per second)
Low	1200
Medium	2400
High	4800
Turbo	9600

The setting is applied two kinds of ratio barcode symbologies with narrow and wide only, such as Code-39, Interleaved 2 of 5, Codabar, Plessey and IATA...etc. So, it will be ignored if some kinds of barcode symbologies, such as EAN, UPC, and Code-128, are read. This setting is able to adjust appropriate signal width during transmitting the bar image. The ratio allows to adjust from 1:2 to 1:3.5, but upon your wand decoder device.

Wand Emulation

EXIT

Inter-char. Gap

Discrete codes such as Code-39 and Codabar are featured an Inter-Char. Gap between two characters of barcode. It makes them suitable for printing in the Narrow or Wide gap by mechanical numbering system. You can choice one suit your decoder.

Narrow DPA

Wide DPB

Code-39 Simulation

Generally, wand emulation Output signals same as symbology when it read a barcode. By setting, the scanner can read many kinds of barcode symbologies, but transmitted as code-39 full ASCII format, even your decoder device no support them.

Disable DRA

Enable DRB

Specific Adjustments

Margin Delay: It is a timer of zone like space zone of barcode label margin. The width of margin time will be added before and after in each barcode data automatically when it is transmitted.

Margin Delay BAL

(Range:00$_{10}$-99$_{10}$ Unit:10ms)

Transmit Delay: It is a delay time between barcode data output. It is the same as Transmit Delay of keyboard wedge, see 12.

Transmit Delay BAM

(Range:00$_{10}$-99$_{10}$ Unit:10ms)

Example Normal Level: Low, Bar Lo/Space Hi

Barcode Pattern

PROGRAM

OCIA

Protocol Type

DSA NCR

DSB **DTS**

DSC NCR+ASCII

DSD DTS+ASCII

DSE ASCII

Data Parity

DTA Even

DTB **Odd**

DTC Space

DTD Mark

Spare Function

DUA **Disable**

DUB Enable

Specific Adjustments

BAM Transmit Delay

(Range:00$_{10}$-99$_{10}$ Unit:10ms)

Tansmit Delay: It is a delay time between barcode data output. It is also the same as Transmit Delay of keyboard wedge, see 12.

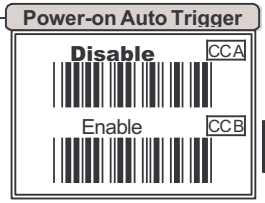
EXIT

Power-on Music

After power-on the scanner will generate music to indicate the successful selftest. You can inhibit the music by setting Disable.

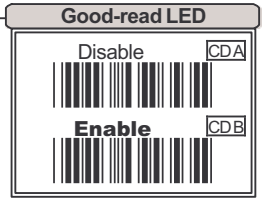
Power-on Auto Trigger

By setting Enable, the scanner will activate the light source after the power-on without trigger button.



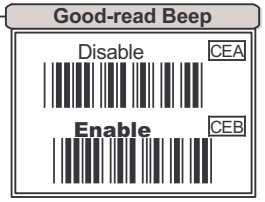
Good-read LED

After each successful reading, the scanner will light Good-read LED above scanner to indicate a good barcode reading.



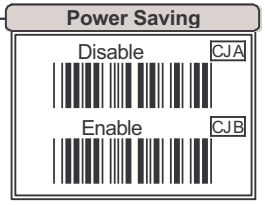
Good-read Beep

After each successful reading, the scanner will beep buzzer to indicate a good barcode reading, and its Loudness, Tone and Duration are adjustable by setting of Specific Adjustment at 24.



Power Saving

The scanner will operate in Power Saving mode as this function is Enabled. Current will be reduced to less than 20 mA, but sensibility is also become slowly. You will find the light source of CCD scanner to be flashed and motor of laser scanner to be stoppped as it read a code or timeout.



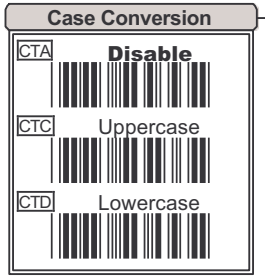
3 System Control

PROGRAM

Double Confirm

The scanner will require many times of successful decoding to confirm the barcode data, and the more confirm times the more inhibitive mis-reading code. (Refer to setting of Doubble Confirm Times at 25)

Case Conversion

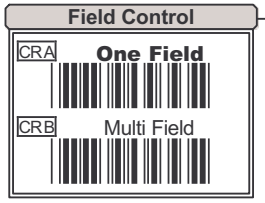


It converses all output characters to be same printing-case, even they have two kinds of case within a barcode data.

Example Barcode "BarCode",

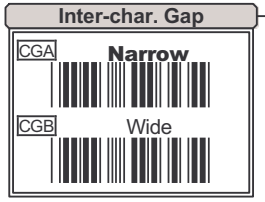
Uppercase	BARCODE
Lowercase	barcode

Field Control



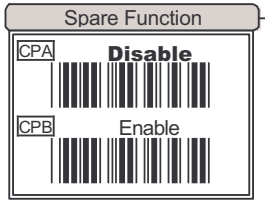
The scanner can read many sets of barcode data on the same scanning line at the same time, even they are different kinds of barcode symbology. The direction of read-out is form left to right. Refer to Codabar/NW7 of Test Chart at 69.

Inter-char. Gap



Discrete codes such as Code-39 and Codabar are featured with an Inter-char. Gap between two characters of barcode.You may set Wide as the Inter-char. Gap of barcode lable is wider.

Spare Function



EXIT

Scanning Mode

Good-read Off CAB
Momentry CAC
Alternate CAD
Timeout Off CAE
Timeout Flash CAF
Continue CAG
Test Only CAA
Object Detect CAI
Spare CAJ

Good-read Off: The trigger button must be pressed to active scanning. The light source of scanner stops scanning when there is a successful reading or no code is decoded after the Stand-by Timer 24 duration elapsed. (Laser Model Default)

Momentary: The trigger button acts as a switch. Press button to active scanning and release button stop scanning.

Alternate: The trigger button acts as a toggle switch. Press button to active or stop scanning.

Timeout Off: The trigger button must be pressed to active scanning, and scanner stops scanning when no code is decoded after the Stand-by Timer 24 duration elapsed.(CCD Model Default)

Timeout Flash: The trigger button must be pressed to keep scanning. The scanner flashes the light source when no code is decoded after the Stand-by Timer 24 duration elapsed. This mode can save the power resource and extend the operation life of the light source. The scanner can be waked up when there is a successful reading or trigger button to be pressed.

Continue: The scanner always keeps reading, and no matter when trigger button is pressed or duration is elapsed.

Test Only: The scanner always keeps reading continuously and same label reading is allowed without double confirm. The feature can test the performance of scanner for reading speed and sensitive. (Diagnostic mode)

Object Detect: Wake up automaticlly without trigger switch, if an object in the front of scanner is detected.(Some Laser Model Only)

☛ For saving power and longer lift of laser component, all scanning mode, the laser beam and motor will stop when no code is decoded.

PROGRAM

Specific Adjustments

BAC Beep Loudness (Range:01$_{10}$-10$_{10}$ Unit:Level)
BAD Beep Tone (Range:05$_{10}$-50$_{10}$ Unit:100Hz)
BAE Beep Duration (Range:01$_{10}$-99$_{10}$ Unit:10ms)
BDA Beep Tone1 (Range:05$_{10}$-50$_{10}$ Unit:100Hz)
BDB Beep Duration1 (Range:00$_{10}$-99$_{10}$ Unit:10ms)
BAF Stand-by Time (Range:01$_{10}$-99$_{10}$ Unit:1s)
BAG Active Time (Range:10$_{10}$-99$_{10}$ Unit:10ms)
BAH Sleep Time (Range:10$_{10}$-99$_{10}$ Unit:10ms)
BAI Good-read Delay (Range:10$_{10}$-99$_{10}$ Unit:10ms)

Beep Adjustments: You can adjust Beep Loudness, Beep Tone and Beep Duration of good reading upon your pavorite usage.

Stand-by Time: A timeout duration of 1 to 99 seconds can be adjusted. The Stand-by Time that is valid scanning duration. It is only effective when the scanning mode of CCD is operated in Good-read Off, Timeout Off or Timeout Flash mode. Beside, if laser scanner no code to read during Stand-by Time, the laser beam and motor will be shutdown to saving life time of laser diode.

Active/Sleep Time: There are two durations that are used when the scanner operated in Timeout Flash scanning mode. The scanner entries flash operation when no code is read until Stand-by Time timeout. The Action Time is lighting duration and the Sleep Time is blanking duration while light source flashing. The barcode can also be read during flashing of light source and then waked up the scanner automatically.

Good-read Delay: This feature is a limit duration during the same barcode data to be read continuously, except operated in Good-read Off and Test mode The timer will be reset when different barcode data reading.

EXIT

Specific Adjustments

Addon-Waiting Time BAK
(Range:01$_{10}$-99$_{10}$ Unit:10ms)

Double Confirm Times BAJ
(Range:01$_{10}$-99$_{10}$)

Public Min. Length BAA
(Range:01$_{10}$-56$_{10}$)

Public Max. Length BAB
(Range:04$_{10}$-56$_{10}$)

Add-on Waiting Time: This setting is only used for reading WPC symbologies with Add-on, such as EAN and UPC. The WPC must be decoded first, then Add-on. But Add-on may not decode very well during it read. Therefore, scanner offer a waiting time for reading Add-on confirmation and transmits WPC with Add-on at the same time.

Doubble Confirm Times: If it is enabled, the scanner will require many times successful decoding to confirm the barcode data. More confirm times more inhibitive miss-reading code. This feature should be depended on the symbology and quality of barcodes reading. Selecting a higher value will reduce read-out speed.

Public Min. / Max. Length: Public Minimum and Maximum length can be set to qualify data entry. They are effect all symbologies if their Min./Max. Code Length is zero. The length is defined to the actual barcode data length sent. Label with length exceeds these limits will be rejected. Make sure that the Minimum length setting is no greater than the Maximum length setting, or all the labels of the symboblogy will not be read. In particular, you can set the same value for both Minimum and Maximum reading length to force the fixed length barcode decoded. The values of setting are no effect in some fixed length symbobolgies (i.e. UPC and EAN call WPC).

PROGRAM

Read

DVA Disable
DVB **Enable**

Format

Leading Zero	Data Digts (11 Digits)	Check Digit

Add-on

DWA **Disable**
DWB Add-on 2 Only
DWC Add-on 5 Only
DWD Add-on 2 or 5

The Add-on barcode is the supplemental 2 or 5 characters for WPC code.

Format

Leading Zero	Data Digits (11 Digits)	Check Digit	Add-on 2 or 5

Waiting Add-on

DXA **Disable**
DXB Enable

It is recommended to set Enable if the WPC with Add-on code must be read together. You have to enable it first and refer to Add-on Waiting Time at 24 for good reading of Add-on.

Check Digit Transmission

EAA Disable
EAB **Enable**

By setting Enable, checks digit will be transmitted.

UPC-A

EXIT

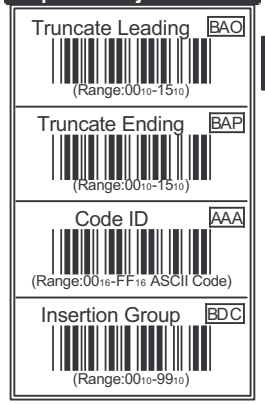
Truncate Leading Zero

The leading "0" digits of barcode data characters can be truncated when the function is enabled.
Example Barcode "00054321"

Output "54321"

Spare Function

Specific Adjustments



Truncate Leading / Ending: The leading or ending digits of barcode data characters can be truncated when these values are set to non zero. It will be read nothing else only beeps when the truncate value is more than barcode data digits or the value of Truncate Leading is overlap with the Ending. The maximum value of Truncate digits is 15.

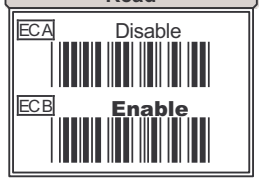
Code ID: A Code ID is a character which used to represent the symbobly upon succeeding reading. A Code ID is prefixed to the data begin or tail transmitted if the feature is selected. There are some symbobolgies (i.e. UPC-E and EAN-8) include 2 Code IDs. If your application want to transmit Code ID, you must set Code ID Transmission to Enable first. Refer to Code ID Transmission at 64.

Insertion Group: The scanner offer one or two insertion groups for own symbology. By setting one or two digits to indicate which insertion group you want to insert. You may refer to Character Insertion at 63.

PROGRAM

UPC-E

Read



Format

Leading Zero	Data Digits (6 Digits)	Check Digit

Add-on

Format

Leading Zero	Data Digits (6 Digits)	Check Digit	Add-on 2 or 5

Waiting Add-on

Refer to 26.

Expansion

The expansion function is used only for UPC-E and EAN-8 code reading. It extends to 13-digits with "0" digits when the feature is enabled.

Example Barcode "01236547" **Output** "0012360000057"

UPC-E

EXIT

Check Digit Transmission

Refer to 26.

Disable EIA

Enable EIB

Truncate Leading Zero

Refer to 27.

Disable EHA

Enable EHB

Spare Function

Disable EGA

Enable EGB

Specific Adjustments

Refer to 27.

Truncate Leading BAQ
(Range:00$_{10}$-15$_{10}$)

Truncate Ending BAR
(Range:00$_{10}$-15$_{10}$)

Code ID1 AAB
(Range:00$_{16}$-FF$_{16}$ ASCII Code)

Code ID2 AAC
(Range:00$_{16}$-FF$_{16}$ ASCII Code)

Insertion Group BDD
(Range:00$_{10}$-99$_{10}$)

4 Code Option

PROGRAM

EAN-13

Read

EKA Disable

EKB Enable

Format

Data Digts (12 Digits)	Check Digit

Add-on

ELA Disable

ELB Add-on 2 Only

ELC Add-on 5 Only

ELD Add-on 2 or 5

Format

Data Digits (12 Digits)	Check Digit	Add-on 2 or 5

Waiting Add-on

EMA Disable

EMB Enable

Refer to 26.

ISBN/ISSN Conversion

ENA Disable

ENB Enable

The ISBN (International Standard Book Number) and ISSN (International Standard Serial Number) are two kinds of barcode for book and magazine. The ISBN is 10 digits with leading "978" and the ISSN is 8 digits with leading "977" of the "EAN-13" symbobolgy.

Example Barcode "9879572222720" **Output** "9572222724"

Example Barcode "9771019248004" **Output** "10192484"

EAN-13

EXIT

Check Digit Transmission

Refer to 26.

Disable EQA

Enable EQB

Truncate Leading Zero

Refer to 27.

Disable EPA

Enable EPB

Spare Function

Disable EOA

Enable EOB

Specific Adjustments

Refer to 27.

Truncate Leading BAS
(Range:00$_{10}$-15$_{10}$)

Truncate Ending BAT
(Range:00$_{10}$-15$_{10}$)

Code ID AAD
(Range:00$_{16}$-FF$_{16}$ ASCII Code)

Insertion Group BDE
(Range:00$_{10}$-99$_{10}$)

4 Code Option

EAN-8

PROGRAM

Read

ESA Disable

ESB **Enable**

Format

Data Digits (7 Digits)	Check Digit

Add-on

ETA **Disable**

ETB Add-on 2 Only

ETC Add-on 5 Only

ETD Add-on 2 or 5

Format

Data Digits (7 Digits)	Check Digit	Add-on 2 or 5

Waiting Add-on

EUA **Disable**

EUB Enable

Refer to 26.

Expansion

EVA **Disable**

EVB Enable

Refer to 28.

EAN-8

EXIT

Check Digit Transmission

Refer to 26.

Disable EYA

Enable EYB

Truncate Leading Zero

Refer to 27

Disable EXA

Enable EXB

Spare Function

Disable EWA

Enable EWB

Specific Adjustments

Refer to 27.

Truncate Leading BAU
(Range:00$_{10}$-15$_{10}$)

Truncate Ending BAV
(Range:00$_{10}$-15$_{10}$)

Code ID1 AAE
(Range:00$_{16}$-FF$_{16}$ ASCII Code)

Code ID2 AAF
(Range:00$_{16}$-FF$_{16}$ ASCII Code)

Insertion Group BDF
(Range:00$_{10}$-99$_{10}$)

4 Code Option

CODE-39

PROGRAM

Read

FAA Disable

FAB **Enable**

Format

Start	Data Digits	Checksum	End
"*"	(Variable)	(Optional)	"*"

Format

FBA **Standard**

FBB Full ASCII

The Full ASCII Code-39 is an enhanced set of Code-39 that is the data with toatl of 128 characters to represent Full ASCII code. It is combined one of the digits +,%,$ and / with one of the alpha digits (A to Z).

Code-32 Translation

FCA **Disable**

FCC Without Leading 'A'

FCD With Leading 'A'

The Code-32 symbology (Italian Pharmaceutical) is an another version of Code-39 which is a 10 digits of barcode data from digit 0 to 9. The leading A is an optional character that can be set to transmit or not.

Start/End Transmission

FFA **Disable**

FFB Enable

The Start and End characters of Code-39 are "*". You can transmit all data digits including two "*".

Append

FEA **Disable**

FEB Enable

This function which allows several symbols to be concatenates and be treated as one single data entry. The scanner will not transmit the embedded appending code (space for Code-39), If Enable and other symbols with the appended code were read again, then codes will be transmitted without Code ID, Preamble and Prefix. When a symbol was decoded without the appended code, the data will be transmitted without Code ID and Prefix but the Postamble and Suffix codes are appended.

CODE-39

EXIT

Checksum Verification

The checksum of Code-39 is optional and made as the sum module 43 of the numerical value of the data digits.

Disable FGA

Enable FGB

Checksum Transmission

By setting Enable, checksum and will be transmitted.

Disable FHA

Enable FHB

Specific Adjustments

Min. / Max. Code Length: Each symbology has own Min./Max. Code Length. They can be set to qualify data entry. If their Min./Max. Code Length is zero, the Public Min./Max. Code Length are effect. The length is defined to the actual barcode data length sent. Label with length exceeds these limits will be rejected. Make sure that the Minimum length setting is no greater than the Maximum length setting, or all the labels of the symboblogy will not be read. In particular, you can set the same value for both Minimum and Maximum reading length to force the fixed length barcode decoded.

Refer to 27.

Truncate Leading BAY
(Range:00$_{10}$-15$_{10}$)

Truncate Ending BAZ
(Range:00$_{10}$-15$_{10}$)

Min. Code Length BAW
(Range:01$_{10}$-56$_{10}$)

Max. Code Length BAX
(Range:01$_{10}$-56$_{10}$)

Code ID AAG
(Range:00$_{16}$-FF$_{16}$ ASCII Code)

Code-32 ID ABH
(Range:00$_{16}$-FF$_{16}$ ASCII Code)

Insertion Group BDG
(Range:00$_{10}$-99$_{10}$)

4 Code Option

PROGRAM

Interleaved 2 of 5

Read

FKA Disable

FKB Enable

Format

Data Digits (Variable)	Checksum (Optional)

Format

FLA Standard

FLB Odd S-code

Generally, the Interleaved 2 of 5 symbology is a pair of digts in each barcode. Therefore, it contains an even digits. If the symbol is present an odd number as S-code, then Odd S-code have to select.

Checksum Verification

FNA Disable

FNB Enable

The checksum is made as the sum module 10 of the numberical values of all data digits.

Checksum Transmission

FOA Disable

FOB Enable

Refer to 35.

Spare Function

FMA Disable

FMB Enable

Interleaved 2 of 5

EXIT

Specific Adjustments

Truncate Leading BBC
(Range:00₁₀-15₁₀)

Truncate Ending BBD
(Range:00₁₀-15₁₀)

Min. Code Length BBA
(Range:00₁₀-56₁₀)

Max. Code Length BBB
(Range:00₁₀-56₁₀)

Code ID AAH
(Range:00₁₆-FF₁₆ ASCII Code)

S-Code ID ABI
(Range:00₁₆-FF₁₆ ASCII Code)

Insertion Group BDH
(Range:00₁₀-99₁₀)

Because, the start and end of interleaved 2 of 5 code is not olny one patten in symbol. In order to prevent partial reading, it is recommand to use the fixed code length for each 2 of 5 code barcode label. Setting the same Min./Max. Code Length, it is like a length filter, and only one length is accepted.

Refer to 27, 35.

PROGRAM

Industrial 2 of 5

Read

FQA Disable

FQB Enable

Checksum Verification

FSA Disable

FSB Enable

Checksum Transmission

FTA Disable

FTB Enable

Spare Function

FRA Disable

FRB Enable

Format

Data Digits (Variable)	Checksum (Optional)

The checksum is made as the sum module 10 of the numberical values of all data digits.

Refer to 35.

Industrial 2 of 5

EXIT

Refer to 27, 35.

Specific Adjustments

Truncate Leading BBG
(Range:00$_{10}$-15$_{10}$)

Truncate Ending BBH
(Range:00$_{10}$-15$_{10}$)

Min. Code Length BBE
(Range:00$_{10}$-56$_{10}$)

Max. Code Length BBF
(Range:00$_{10}$-56$_{10}$)

Code ID AAI
(Range:00$_{16}$-FF$_{16}$ ASCII Code)

Insertion Group BDI
(Range:00$_{10}$-99$_{10}$)

PROGRAM

Matrix 2 of 5

Read

FVA **Disable**

FVB Enable

Format

Data Digits (Variable)	Checksum (Optional)

Checksum Verification

FXA **Disable**

FXB Enable

The checksum is made as the sum module 10 of the numberical values of all data digits.

Checksum Transmission

FYA **Disable**

FYB Enable

Refer to 35.

Spare Function

FWA **Disable**

FWB Enable

Matrix 2 of 5

EXIT

Specific Adjustments

Refer to 27, 35.

Truncate Leading BBK
(Range:00₁₀-15₁₀)

Truncate Ending BBL
(Range:00₁₀-15₁₀)

Min. Code Length BBI
(Range:00₁₀-56₁₀)

Max. Code Length BBJ
(Range:00₁₀-56₁₀)

Code ID AAJ
(Range:00₁₆-FF₁₆ ASCII Code)

Insertion Group BDJ
(Range:00₁₀-99₁₀)

PROGRAM

China Post 2 of 5

Read

GAA **Disable**

GAB Enable

Format

Data Digits (Variable)	Checksum (Optional)

Checksum Verification

GCA **Disable**

GCB Enable

The checksum is made as the sum module 10 of the numberical values of all data digits.

Checksum Transmission

GDA **Disable**

GDB Enable

Refer to 35.

Spare Function

GBA **Disable**

GBB Enable

China Post 2 of 5

EXIT

The code length of Post 2 of 5 is always fixed at 11. Therefore, code length of Min. and Max. is also factory default is 11.

Refer to 27, 35.

Specific Adjustments

Truncate Leading BBO
(Range:00$_{10}$-15$_{10}$)

Truncate Ending BBP
(Range:00$_{10}$-15$_{10}$)

Min. Code Length BBM
(Range:00$_{10}$-56$_{10}$)

Max. Code Length BBN
(Range:00$_{10}$-56$_{10}$)

Code ID AAK
(Range:00$_{16}$-FF$_{16}$ ASCII Code)

Insertion Group BDK
(Range:00$_{10}$-99$_{10}$)

PROGRAM

Codabar/NW7

Read

GFA Disable

GFB **Enable**

Format

Start	Data Digits (Variable)	Cheksum (Optional)	End

Start/End Symbol Types

GGA **ABCD/ABCD**

GGB abcd/abcd

GGC ABCD/TN*E

GGD abcd/tn*e

The Codabar has four pairs of Start/End patten, you may choice one to match your application.

Same Start/End Pair

GHA **Disable**

GHB Enable

Sometime, the Codabar requires only same Start/End patten of barcode label to be decoded.

Start/End Transmission

GIA **Disable**

GIB Enable

Refer to 34.

Checksum Verification

GJA **Disable**

GJB Enable

The checksum is made as the sum module 16 of the numberical values of all data digits.

Codabar/NW7

EXIT

Checksum Transmission

Refer to 35.

Disable GKA

Enable GKB

Specific Adjustments

Refer to 27, 35.

Truncate Leading BBS
(Range:00$_{10}$-15$_{10}$)

Truncate Ending BBT
(Range:00$_{10}$-15$_{10}$)

Min. Code Length BBQ
(Range:00$_{10}$-56$_{10}$)

Max. Code Length BBR
(Range:00$_{10}$-56$_{10}$)

Code ID AAL
(Range:00$_{16}$-FF$_{16}$ ASCII Code)

Insertion Group BDL
(Range:00$_{10}$-99$_{10}$)

4 Code Option

PROGRAM

Code-128

Read

GMA Disable

GMB **Enable**

Format

Data Digits (Variable)	Checksum (Optional)

Format

GNA **Standard**

GNB UCC/EAN-128

The Code-128 can be translated to UCC/EAN-128 format if it starts with FNC1 character. The first FNC1 will be translated to "]C1", and next to be a concatenation code as <GS>(7F$_{16}$).

]C1	Datas	<GS>	Datas	Checksum

Append

GOA **Disable**

GOB Enable

This function which allows several symbols to be concatenates and be treated as one single data entry.

Checksum Verification

GQA Disable

GQB **Enable**

The checksum is presented as the sum module 103 of all data digits.

Checksum Transmission

GRA **Disable**

GRB Enable

Refer to 35.

Code-128

EXIT

Spare Function

Disable GPA

Enable GPB

Specific Adjustments

Truncate Leading BBW
(Range:00$_{10}$-15$_{10}$)

Truncate Ending BBX
(Range:00$_{10}$-15$_{10}$)

Min. Code Length BBU
(Range:00$_{10}$-56$_{10}$)

Max. Code Length BBV
(Range:00$_{10}$-56$_{10}$)

Code ID AAM
(Range:00$_{16}$-FF$_{16}$ ASCII Code)

UCC/EAN-128 ID ABJ
(Range:00$_{16}$-FF$_{16}$ ASCII Code)

Concatenation Data ABK
(Range:00$_{16}$-FF$_{16}$ ASCII Code)

Insertion Group BDM
(Range:00$_{10}$-99$_{10}$)

Concatenation Data: This featrure is only used for UCC/EAN-128 format. This Concatenation Data means you can re-assign second or after a FNC1 for your usage. The default of ASCII code is <GS>(1D$_{16}$).

Refer to 27, 35.

PROGRAM

Code-93

Read

GTA Disable

GTB Enable

Format

Data Digits (Variable)	Checksum1 (Optional)	Checksum2 (Optional)

Append

GVA Disable

GVB Enable

This function which allows several symbols to be concatenates and be treated as one single data entry.

Checksum Verification

GWA Disable

GWC One

GWD Two

The checksum is presented as the sum module 47 of all data digits.

Checksum Transmission

GXA Disable

GXB Enable

Refer to 35.

Spare Function

GUA Disable

GUB Enable

Code-93

EXIT

Refer to 27, 35.

Specific Adjustments

Truncate Leading BCA
(Range:00₁₀-15₁₀)

Truncate Ending BCB
(Range:00₁₀-15₁₀)

Min. Code Length BBY
(Range:00₁₀-56₁₀)

Max. Code Length BBZ
(Range:00₁₀-56₁₀)

Code ID AAN
(Range:00₁₆-FF₁₆ ASCII Code)

Insertion Group BDN
(Range:00₁₀-99₁₀)

4 Code Option

PROGRAM

Code-11

Read

GZA **Disable**

GZB Enable

Format

Data Digits (Variable)	Checksum1 (Optional)	Checksum2 (Optional)

Checksum Verification

HBA Disable

HBC One

HBD **Two**

The checksum is presented as the sum module 11 of all data digits.

Checksum Transmission

HCA **Disable**

HCB Enable

By setting Enable, checksum1 and checksum2 will be transmitted upon your selected checksum verificvation mothod.

Spare Function

HAA **Disable**

HAB Enable

Code-11

EXIT

Specific Adjustments

Refer to 27, 35.

Truncate Leading BCE
(Range:00₁₀-15₁₀)

Truncate Ending BCF
(Range:00₁₀-15₁₀)

Min. Code Length BCC
(Range:00₁₀-56₁₀)

Max. Code Length BCD
(Range:00₁₀-56₁₀)

Code ID AAO
(Range:00₁₆-FF₁₆ Ascll Code)

Insertion Group BDO
(Range:00₁₀-99₁₀)

PROGRAM

MSI/Plessey

Read

HEA **Disable**

HEB Enable

Format

Data Digits (Variable)	Checksum1 (Optional)	Checksum2 (Optional)

Checksum Verification

HGA Disable

HGB **Mod 10**

HGC Mod 10/10

HGD Mod 11/10

The MSI/Plessey has one or two optional checksum digits. The checksum is presented 3 kinds of mothod Mod 10, Mod 10/10 and Mod 11/10. The checksum1 and checksum2 will be calculated as the sum module 10 or 11 of the data digits.

Checksum Transmission

HHA **Disable**

HHB Enable

Refer to 50.

Spare Function

HFA **Disable**

HFB Enable

MSI/Plessey

EXIT

Specific Adjustments

Refer to 27, 35.

Truncate Leading BCI
(Range:00₁₀-15₁₀)

Truncate Ending BCJ
(Range:00₁₀-15₁₀)

Min. Code Length BCG
(Range:00₁₀-56₁₀)

Max. Code Length BCH
(Range:00₁₀-56₁₀)

Code ID AAP
(Range:00₁₆-FF₁₆ ASCII Code)

Insertion Group BDP
(Range:00₁₀-99₁₀)

UK/Plessey

PROGRAM

Read

HQA **Disable**

HQB Enable

Format

Data Digits (Variable)	Checksum1+2 (Optional)

Checksum Verification

HSA Disable

HSB **Enable**

Checksum Transmission

HTA **Disable**

HTB Enable

Refer to 35.

Spare Function

HRA **Disable**

HRB Enable

UK/Plessey

EXIT

Refer to 27, 35.

Specific Adjustments

Truncate Leading BCQ
(Range:00₁₀-15₁₀)

Truncate Ending BCR
(Range:00₁₀-15₁₀)

Min. Code Length BCO
(Range:00₁₀-56₁₀)

Max. Code Length BCP
(Range:00₁₀-56₁₀)

Code ID AAR
(Range:00₁₆-FF₁₆ ASCII Code)

Insertion Group BDQ
(Range:00₁₀-99₁₀)

PROGRAM

IATA

Read

HJA **Disable**

HJB Enable

IATA (International Air Transport Association)

Checksum Verification

HNA **Disable**

HNB Enable

The checksum is presented as sum module 7 of all data digits.

Checksum Transmission

HOA **Disable**

HOB Enable

Refer to 35.

Spare Function1

HKA **Disable**

HKB Enable

Spare Function2

HLA **Disable**

HLB Enable

IATA

EXIT

Refer to 27, 35.

Specific Adjustments

Truncate Leading BCM

(Range:00$_{10}$-15$_{10}$)

Truncate Ending BCN

(Range:00$_{10}$-15$_{10}$)

Min. Code Length BCK

(Range:00$_{10}$-56$_{10}$)

Max. Code Length BCL

(Range:00$_{10}$-56$_{10}$)

Code ID AAQ

(Range:00$_{16}$-FF$_{16}$ ASCII Code)

Insertion Group BDR

(Range:00$_{10}$-99$_{10}$)

4 Code Option

PROGRAM

Telepen

Read

HVA **Disable**

HVB Enable

Format

HWA **Numeric Only**

HWB Full ASCII Only

HWC Auto Switching

Format

Data Digits (Variable)	Checksum (Optional)

A Telepen can be transimtted with Numeric and Full ASCII format. Characters can be mixed both formats inside barcode label of Telepen. By setting Auto Switching, datas can be conversed between Numeric and Full ASCII by character <DLE>(7F$_{16}$) automatically.

Checksum Verification

HYA **Disable**

HYB Enable

Checksum Transmission

HZA **Disable**

HZB Enable

Refer to 35.

Spare Function

HXA **Disable**

HXB Enable

Telepen

EXIT

Refer to 27, 35.

Specific Adjustments

Truncate Leading BCU
(Range:00₁₀-15₁₀)

Truncate Ending BCV
(Range:00₁₀-15₁₀)

Min. Code Length BCS
(Range:00₁₀-56₁₀)

Max. Code Length BCT
(Range:00₁₀-56₁₀)

Code ID AAS
(Range:00₁₆-FF₁₆ ASCII Code)

Insertion Group BDS
(Range:00₁₀-99₁₀)

PROGRAM

Preamble/Postamble

Preamble Transmission

IEA **Disable**
IEB Enable

By setting Enable, Preamble will be appended before the data transmitted. Refer to String Output Flowchart at 5.

Preamble Data

AAZ Data1
(Range:00₁₆-FF₁₆ ASCII Code)

ABA Data2
(Range:00₁₆-FF₁₆ ASCII Code)

There are two control characters (Data1 and Data2) can be programmed for both Preamble and Postamble datas. They are appended to the data automatically when each barcode is decoded.

Postamble Transmission

IFA Disable
IFB **Enable**

By setting Enable, Postamble will be appended after the data transmitted. Refer to String Output Flowchart at 5.

Postamble Data

ABB Data1
(Range:00₁₆-FF₁₆ ASCII Code)

ABC Data2
(Range:00₁₆-FF₁₆ ASCII Code)

Generally, your application need to append a carrige return character to finish data transmitted or you may set the Postamble Transmission to be Disable for your applicationno without any control characters apppended after data transmitted. The factory default of Postamble Data1 and Data2 is <CR>($0D_{16}$) and <LF>($0A_{16}$).

Example Append the code "**@+**" after each barcode transimitted.

1) PROGRAM⇨ Entry Programming

2) Enable⇨ Enable Postamble Transmission

3) Data1⇨4⇨0⇨Data2⇨2⇨B⇨SET⇨ Postamble Data "@+"
"@" "+"

4) END Exit Programming

Prefix/Suffix

EXIT

Prefix Transmission

Up to 15 characters can be programed for Prefix data. The Prefix data of string will be placed after Preamble data and before the barcode data when it is Enable. Refer to String Output Flowchart at 5.

Disable IGA

Enable IGB

Clear All IMA

Prefix Data

Data ABF

(Range:00$_{16}$-FF$_{16}$ ASCII Code)

Suffix Transmission

Up to 15 characters can be programed for Suffix datas. The Suffix data of string will be placed after Postamble data and after the barcode data when it is Enable. Refer to String Output Flowchart at 5.

Disable IHA

Enable IHB

Clear All INA

Suffix Data

Data ABG

(Range:00$_{16}$-FF$_{16}$ ASCII Code)

Example Append a string "**ABCD**" after each barcode transimitted

1) PROGRAM⇨ Entry Programming

2) Enable⇨ Enable Suffix Transmission

3) Data⇨4⇨1⇨4⇨2⇨4⇨3⇨4⇨4⇨SET⇨Suffix Data "ABCD"

"A" "B" "C" "D"

4) EXIT Exit Programming

5 String Format

PROGRAM

Character Insertion

Add-on Insertion

IIA Disable

IIB Enable

Add-on Insertion Data

ABD Data1

(Range:00$_{16}$-FF$_{16}$ ASCII Code)

ABE Data2

(Range:00$_{16}$-FF$_{16}$ ASCII Code)

Insertion1 Data

BCW Position1

(Range:01$_{10}$-48$_{10}$)

ABL Data1

(Range:00$_{16}$-FF$_{16}$ ASCII Code)

ABM Data2

(Range:00$_{16}$-FF$_{16}$ ASCII Code)

Insertion2 Data

BCX Position2

(Range:01$_{10}$-48$_{10}$)

ABN Data1

(Range:00$_{16}$-FF$_{16}$ ASCII Code)

ABO Data2

(Range:00$_{16}$-FF$_{16}$ ASCII Code)

The scanner offers 2 characders of insertion between WPC and add-on code.

Format

WPC	Add-on Insertion	Add-on

The scanner offer 4 positions and 8 characters to insert among the symbol. The position default value is "00" to indicate no character insertion.Beside, make sure insertion positions are not greater than the symbols, otherwise the insertion datas are no effect.

Character Insertion

EXIT

Insertion3 Data

Position3 BCY (Range:00₁₀-15₁₀)

Data1 ABP (Range:00₁₆-FF₁₆ ASCII Code)

Data2 ABQ (Range:00₁₆-FF₁₆ ASCII Code)

Insertion4 Data

Position4 BCZ (Range:00₁₀-15₁₀)

Data1 ABR (Range:00₁₆-FF₁₆ ASCII Code)

Data2 ABS (Range:00₁₆-FF₁₆ ASCII Code)

Example Barcode "1234567"

	Postion	Data1	Data2
Insertion1	2	A	B
Insertion2	5	C	D

1) PROGRAM⇨ Entry programming

2) Position1⇨0⇨2⇨SET Position1 "2"

2) Data1⇨4⇨1⇨SET⇨ Insertion1
Data2⇨4⇨2⇨SET⇨ Data "AB"

4) Position2⇨0⇨2⇨SET Position2 "5"

5) Data1⇨4⇨3⇨SET⇨Data2⇨4⇨4⇨SET⇨ Insertion2 Data "CD"

6) Insert Group⇨1⇨2⇨SET Insertion1 and Insertion2
or Insert Group⇨2⇨1⇨SET

Output

12	**AB**	345	**CD**	67

6) Insert Group⇨0⇨1⇨SET Insertion1 only
or Insert Group⇨1⇨0⇨SET

Output

12	**AB**	34567

6) Insert Group⇨1⇨1⇨SET Insertion1 outopt twice

Output

12	**AB**	**AB**	34567

6) Insert Group⇨0⇨0⇨SET insertion off

Output

1234567

7) EXIT Exit Programming

5 String Format

PROGRAM

Other Control

Code ID Translation

IBA **Disable**

IBB Enable

If your application want to transmite Code ID, you must set this Enable.

Code ID Position

ICA **Before Code Data**

ICB After Code Data

Upon your usage, the transmitting position of Code ID can be selected to place Before or After Code Data when it transmitted.

Length Transmission

IKA **Disable**

IKB Enable

A number of data digits can be transmitted before the code data when Enable is selected. The total length is a number of barcode datas except Truncate Leading/Ending Digits. And the length has two digits.

Code Name Transmission

IJA **Disable**

IJB Enable

This function is useful to show unknown barcode symbologies which include all readable symbologies of the scanner. When Enable is selected, Code Name will be transmitted before code data, then you will know what kind of barcode symbology is.

Spare Function

IDA **Disable**

IDB Enable

Other Control

EXIT

Inverse PROGRAM

PROGRAM

If scanner is operated in inverse barcode reading, use inverse PROGRAM to entry scanner programming.

Normal/Inverse Barcode

Normal Barcode IPA

Inverse Barcode IPB

Normal & Inverse IPC

Generally, the scanner can only read positive barcode signals which are printed black on white (call normal barcode). By setting Inverse Barcode, the scanner will read negative barcode which bars are printed with light color and spaces with dark color (call inverse barcode). This function is optional for some special models.

Re-send with Trigger

Disable IQA

Enable IQB

Last barcode data can re-send with trigger. It' s only for Timeout Off, Timeout Flash and Continue scanning mode during the light source is on. In other way, if light is off, last barcode data will be clear and re-send invaild.

Ratio Adjustment

1:2.5 IOA

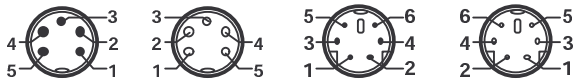
1:1.35 IOB

1:1.5 IOC

5 String Format

Cable Type

IBM PC, XT, AT & PS/2				
Function	5p Din(M)	5p Din(F)	6p Mini Din(M)	6p Mini Din(F)
Clock (Host)	1	---	5	---
Data (Host)	3	---	1	---
Clock (KBD.)	---	1	---	5
Data (KBD.)	---	3	---	1
Ground	2	2	3	3
GND Shield	2	2	3	3
VCC (+5V)	4	4	4	4



5p Din(M) 5p Din(F) 5p Mini Din(M) 6p Mini Din(F)

Macintosh		
Function	4p Mini Din(M)	4p Mini Din(F)
RST (Host)	2	2
Data (Host)	1	1
Ground	4	4
GND Shield	4	4
VCC (+5V)	3	3

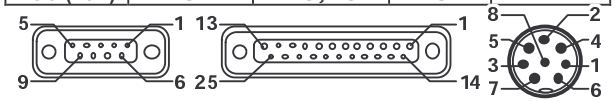
4p Mini Din(M) 4p Mini Din(F)

NEC 9801		
Function	8p Mini Din(M)	8p Mini Din(F)
Ready (Host)	4	---
Data (Host)	3	---
Reset (Host)	1	1
Retry (Host)	5	5
Ready (KBD.)	---	4
Data (KBD.)	---	3
Ground	2	2
GND Shield	2	2
VCC (+5V)	8	8

8p Mini Din(M) 8p Mini Din(F)

Cable Type

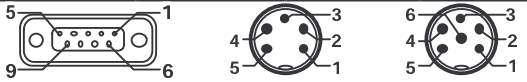
RS-232C				
Function	9p D-Sub(F)	25p D-Sub(F)	8p Din(M)	DC Jack(M)
TxD	2	3	1	---
RxD	3	2	2	---
RTS	8	5	3	---
CTS	7	4	4	---
Shorted	4,6	6,20	---	---
Ground	5	7	7	2
GND Shield	5	7	7	2
VCC (+5V)	9	16,25	8	1



9p D-Sub(F) 25p D-Sub(F) 8p Din(M)

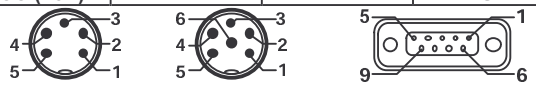
DC Jack(M)

Wand Emulation			
Function	9p D-Sub(F)	5p Din(M)	6p Din(M)
Data	2	2	2
Ground	7	3	3
GND Shield	8	3	3
VCC (+5V)	9	1	1



9p D-Sub(F) 5p Din(M) 6p Din(M)

TTL (CMOS)			
Function	5p Din(M)	6p Din(M)	9p D-Sub(F)
Start Of Scan	---	6	1
Data	2	2	2
Indicator	---	---	3
Trigger	5	5	5
Enable	4	4	6
Ground	3	3	7
GND Shield	3	3	8
VCC (+5V)	1	1	9



5p Din(M) 6p Din(M) 9p D-Sub(F)

Test Chart

UPC-A

000012345670

EAN-13 (ISBN) with Add-on 5

9789572216675 00420

(ISBN: 9572216678)

Code-39 (Full ASCII Code)

CODE39 T+E+S+T

(Full ASCII Code: *CODE39 Test*)

Interleaved 2 of 5

12345678905

Code-93

CODE93 TESTYd

Code-128 (C Type)

0123456789e

(UCC/EAN-128:]C10123456789e)

Test Chart

Codabar/NW7


C98765D


D43210A

MSI/Plessey


1055830 25

CODE-11


88626477797 33

UK/Plessey


1652000035461

Telepen


TELEPEN Test+
(Numeric: 57424942534251055774888916)

IATA


0010200001091196

ASCII Code Table

H / L	0	1	0	1
0	Null		NUL	DLE
1	Up	F1	SOH	DC1
2	Down	F2	STX	DC2
3	Left	F3	ETX	DC3
4	Right	F4	EOT	DC4
5	PgUp	F5	ENQ	NAK
6	PgDn	F6	ACK	SYN
7		F7	BEL	ETB
8	Bs	F8	BS	CAN
9	Tab	F9	HT	EM
A		F10	LF	SUM
B	Home	Esc	VT	ESC
C	End	F11	FF	FS
D	Enter	F12	CR	GS
E	Insert	Ctrl+	SO	RS
F	Delete	Alt+	SI	US

☛ For keyboard wedge only.

H / L	2	3	4	5	6	7
0	SP	0	@	P	`	p
1	!	1	A	Q	a	q
2	“	2	B	R	b	r
3	#	3	C	S	c	s
4	$	4	D	T	d	t
5	%	5	E	U	e	u
6	&	6	F	V	f	v
7	‘	7	G	W	g	w
8	(	8	H	X	h	x
9	)	9	I	Y	i	y
A	*	:	J	Z	j	z
B	+	;	K	[	k	{
C	,	<	L	\	l	|
D	-	=	M	]	m	}
E	.	>	N	^	n	~
F	/	?	O	_	o	DEL