IDTECH®

Value through Innovation

BTScan™ Barcode Scanner User's Manual

80126502-001 rev.A

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GENERAL

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FULL ASCII(CODE39)TABLE, FUNCTION KEY TABLE(GROUP33~47)

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Figure 2

No	Kind of Troubles	Symptoms	Solutions
1	Computer Type (Group 1)	Scanner seems to be performing as usual, but no data is being output.	1. Unplug the cable from the host computer. 2. Plug the cable back into the host computer. 3. Set the scanner to the exact computer type immediately.
2	Interfaces Selection (Group 1)	The scanner does not scan when the trigger is depressed.	1. Unplug the cable from the host computer. 2. Plug the cable back into the host computer. 3. Set the scanner to the correct interface. The cable needs to match the interface.
3	Setting Procedure have not completed (Setting Need Triple Shot scanning) --- Group - 4, 5, 8, 9, 17, 18, 19, 20, 22, 23, 25, 31	The scanner does not output data and beeps three times at every scan. This symptom indicates that a three-scan setting is not yet completed. Some settings take three scans to complete, they are: 1. Preamble, Postamble (Group4)(page 14) 2. Accuracy Adjustment (Group5)(page 15) 3. Customer ID Configuration (Group 8 & 9)(page 18-19) 4. Min/Max Length (Group 17, 18, 19, 20, 21, 22, 25) 5. ABC Codabar (Group 22 & 23) 6. CX-Codabar (Group 22 & 23) 7. Coupling Codabar (Group 22 & 23) 8. EAN 128 (Group 31)	1. Follow the procedures for these settings at the appropriate pages. 2. The scanner will beep three times for an incomplete setting. 3. Scan RESET to try a setting again.
4	Limitation of length of the bar code	The scanner is reading correctly, except for certain bar codes of a certain length.	Reset the Min/Max setting for the bar code symbology affected.
5	Setup Code Disabled	When scanning the Default barcode, the scanner is not reset to Default but output data “.A001$”.	Scan SETUP CODE ON(Group 1) to enable all setup codes.
6	RS232 Protocol Communication setting problem	The scanner appears to be working in the RS-232 interface, but no data is output.	Ensure the correct RS-232 communication parameters have been set: Baud Rate, Handshaking, Stop Bits, Data Bits, and Parity. These settings must be the same for both the scanner and the host.

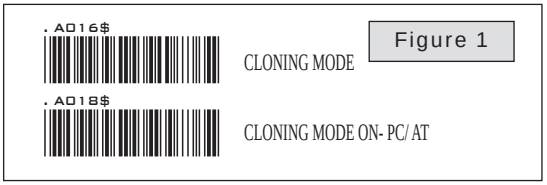
CLONING MODE

WHAT IS CLONING MODE?

CLONING duplicates a scanners settings in other scanners. It can save time when a number of scanners must be programmed to the same settings.

HOW SHOULD CLONING WORK?

1. Using this guide, make all the necessary settings for one wand.
2. Scan the CLONING MODE bar code shown below.
3. When CLONING MODE is scanned, all setup parameters will be converted to alphanumeric characters and shown on the monitor.
4. Using a bar code printer, print out all the setup parameters as Code 39 bar code labels.
5. Scan the printed labels sequentially with each wand to be programmed.



.A018$(Cloning Mode on PC/AT) - you can clone the settings to a PC/AT regardless of the kind of device chosen on the scanner.

NOTES:

1. All cloning strings are upper case.
2. All cloning strings printed on labels should be the same as those on the monitor sequentially from first to last.
3. Cloning mode works in Word Note Pad only.
4. Never edit the data on the first row (.A017$). It is an entry command for cloning.
5. The cloning string's length can be adjusted by combining multiple strings into one, or by breaking one string into multiple strings starting from the second row after "....". Length must be in sequences of four, such as 4, 8, 12, 16, 20 (MAX).
6. Be sure to print the dots exactly where they are shown on the monitor.

FORMAT OF CLONING

* Format of Cloning:

1st row >>> ".A017$" (never edit any data of the first row)
2nd row >>> "....XXXX" you can adjust the String's Length starting from the dots "...." forward. The length of the string should be in 4, 8, 12, 16 or 20 (MAX)digits.
3rd row ~ so on >>> XXXX
End row - A dot "." Is the ending of cloning.

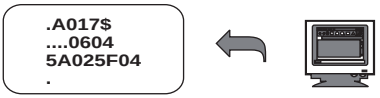
XXXX Stands for any string

EXAMPLE :

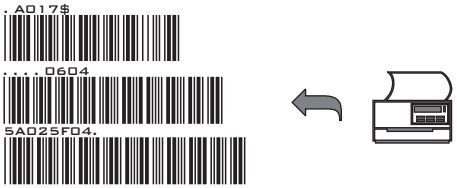
1. PROJECT ASSIGNMENTS:
1.1. Beep tone: **BEEP LOW -- HIGH.**
1.2. Capslock Mode: **CAPSLOCK ON.**
1.3. Reading Mode: **CONTINUOUS AUTO OFF.**

2. SETTING PROCEDURE:
2.1. Scan **BEEP LOW -- HIGH (GROUP 3)(page13).**
2.2. Scan **CAPSLOCK ON (GROUP 11).**
2.3. Scan **CONTINUOUS AUTO OFF (GROUP2)(page10).**

3. All parameters will be converted to alphanumeric characters and shown on the monitor.



4. Print the results shown on the monitor as bar codes with a bar code printer. The bar codes should be in the Code 39 symbology.



5. Scan these labels with any of the wands that must be programmed with the same settings as the first wand. Be sure to scan from the first row to the second and so on sequentially, top to bottom.

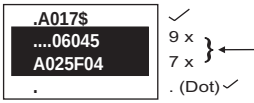
CORRECT SETTING

.A017$	
....	4
0604	4
5A02	4
5F04	4
.	. (Dot)

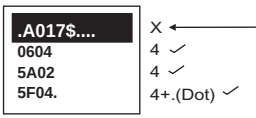
.A017$	
....06045A02	12
5F04.	4+.(Dot)

WRONG SETTING

Wrong Setting: The string "...." consists of 4 Dots, located at the beginning of second row; do not break the "...." into multiple strings.



Wrong Setting: The string lengths of the second and third row do not match the length requirements, because rows should be in length of four digits.

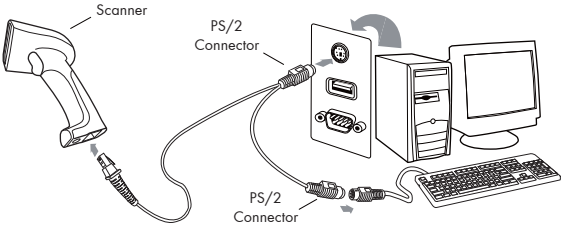


Wrong Setting because you add "...." after .A017$:
The .A017$ is a FIXED parameter to enter setup procedure. It is an unchangeable parameter. **Never add, delete or rearrange data from the FIRST row.**

HOW TO CONNECT THE SCANNER TO THE HOST TERMINAL: Handheld Barcode Scanner

KEYBOARD WEDGE INTERFACE

1. Power down the host computer.
2. Disconnect the keyboard cable from the computer.
3. Connect the "Y " cable between the keyboard and the scanner and computer.
4. Restart the computer.
5. The scanner will beep.
6. Set the scanner to KEYBOARD interface by referring to GROUP 1 (page 9) (Interfaces Selection)
7. Scanner will beep to confirm the setting.
8. Scan a bar code to confirm that data shows on the monitor.

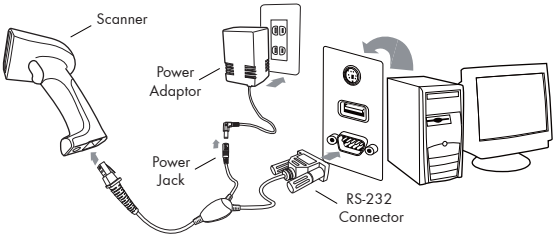


RS-232 INTERFACE

1. Power down the host computer.
2. Disconnect the RS-232 cable between the scanner and computer.
3. Connect the power adaptor to the cable.
4. Restart the computer,
5. Plug the power adaptor into a power outlet.
6. The scanner will beep.
7. Set the scanner to RS-232 interface by referring to GROUP 1(page 9) (Interfaces Selection).
8. Set RS-232 protocol: Baud Rate, Stop Bits, Handshaking, Data Bits and Parity.
9. Scan a bar code to confirm that data shows on the monitor.

NOTES:

1. Before plugging the power adaptor into the scanner, be sure the voltage, power consumption, and inner and outer DC characteristics are correct to avoid serious damage to the scanner and/or the computer.
2. Make sure the protocol communication settings of the scanner (such as baud rate, data bits, etc.) match those of the host computer. Otherwise, no data will be transmitted.



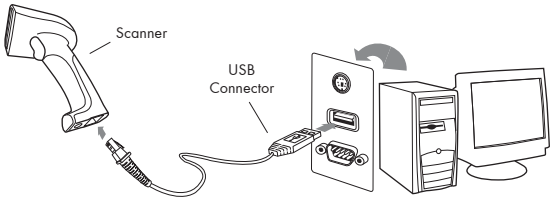
Check the power adaptor to ensure:

1. Input of AC current 110V/ 220V matches the power supply standard of the country in which the scanner is being used.
2. Adaptor output is +5V DC
3. The jack input is +5V DC

USB INTERFACE

The USB Interface supported is compatible with Apple MAC series, later PCs and Windows 98, 2000, Me and XP, Vista.

1. Connect the USB cable between the scanner and the computer.
2. The scanner will beep.
3. The scanner will detect the USB driver automatically. (The first time the scanner is connected via the USB port, follow the appropriate instructions for the host computer.)
4. Set the scanner to KEYBOARD/USB interface by referring to GROUP-1 (Interfaces Selection)
5. Scanner will beep to confirm the setting.
6. Scan a bar code to confirm that data shows on the monitor.

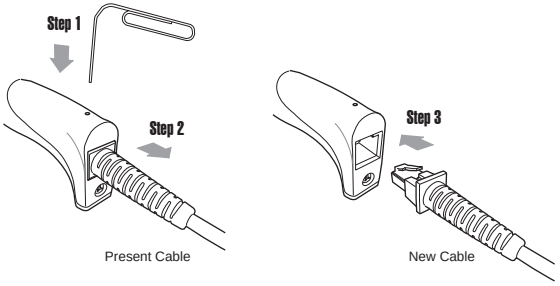


HOW TO CHANGE A CABLE

The scanners are designed to switch easily between interface options. To switch from one interface to another, the appropriate cable must be installed. To change a cabl, simply follow these steps:

1. To release the cable, insert a pin or straightened paper clip into the hole at the base of the scanner where the cable is connected.
2. Remove the cable from the scanner.
3. Plug in the new cable.

After changing to a new cable, be sure to reset the interface setting as appropriate (including parameter settings for the RS-232 interface).



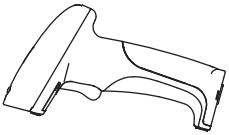
HOW TO SET PARAMETERS

How do you program a scanner with this user's guide?

1. Use the scanner to scan at the bar code representing the function/ parameter you want to set.
2. When you hear two beeps, the new settings have been defined or updated into the memory processor.

   Default parameters are indicated in bold type and underlined characters. The character font is ARIAL BLACK. CD = Check Digit. CDV = Check Digit Verification.

   Most settings require only a single bar code, but a few need several different bar codes to be scanned in order to completely define a setting. They are:



SETTING BAR CODE

Preamble / Postamble (maximum 16 digits)
Step 1: Scan CLR PRE/POSTAMBLE.
Step 2: Scan PREAMBLE or POSTAMBLE.
Step 3: Scan any alphanumeric from Full ASCII Table in Group 33-44 (page51-62)
Step 4: Scan PREAMBLE or POSTAMBLE.

Min Length / Max Length
Step 1: Scan MIN LENGTH or MAX LENGTH.
Step 2: Scan two digits from Group 41 (page59)
Step 3: Scan MIN LENGTH or MAX LENGTH.

Accuracy Adjustment
Step 1: Scan ACCURACY ADJUSTMENT.
Step 2: Scan one digit from GROUP 5 (page16)
Step 3: Scan ACCURACY ADJUSTMENT.

Customer Configuration ID (Example: Code 39)
Step 1: Scan CODE 39 SET ID from Group 8 (page19)
Step 2: Scan either one or two alphanumerics (maximum 2 digits) from Full ASCII table in Group 33-44 (page51-62)
Step 3: Scan CODE 39 SET ID from Group 8 (page19)

Set A Data - (CX-Codabar, ABC Codabar, Codabar Coupling).
Step 1: Scan SET INSERT DATA.
Step 2: Scan one alphanumeric character from Full ASCII Table in Group 33-44 (page51-62)
Step 3: Scan SET INSERT DATA.

NOTES:

1. The scanner will beep three times as a reminder that a setting is not yet complete.
2. If you make a mistake, forget a step, etc., scan RESET to start again.

RESET

GROUP-1

INTERFACES SELECTION, COMPUTER TYPE, DEFAULT, SETUP CODE

DEFAULT

. A001$

COMPUTER TYPE

. C004$

PC-AT

. C007$

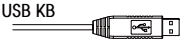
NOTEBOOK*

SYMPTOMS	SOLUTION
Scanner seems to be performing as usual, but no data is being output.	1. Unplug the cable from the host computer. 2. Plug the cable back into the host computer. 3. Set the scanner to the exact computer type immediately.

Caution: Please ensure the correct computer type is set when the scanner is attached to a new host computer. If set to Notebook, the scanner will operate with no external keyboard.

. C005$

USB KB



. C008$

USB KB

INTERFACES SELECTION

. C001$

PS2

. C002$

RS232

SYMPTOMS	SOLUTION
The wand does not scan/ The scanner does not scan when the trigger is depressed.	1. Unplug the cable from the host computer. 2. Plug the cable back into the host computer. 3. Set the wand to the correct interface. The cable needs to match the interface.

Caution: This scanner is designed to switch easily between interface options. To switch from one interface to another, the appropriate cable must be installed. After changing to a new cable, be sure to reset the interface setting as appropriate.

SETUP CODE READ

.B015$

SETUP CODE ON

.B016$

SETUP CODE OFF

Caution: Scanning SETUP CODE OFF will turn the scanner into unprogrammable state and the scanner will not react to any setup code.

GROUP-2

READING MODE SETTING

. F005$

CONTINUOUS MODE

* LED is always on.
* The trigger does not function in Continuous Mode.

. F001$

FLASH MODE

* The LED is on steady if a bar code is close to the scanner, but starts flashing if no bar code is detected after 60 seconds.
* The trigger does not function in Flash Mode.

. F002$

TRIGGER MODE

* The LED will light when the trigger is pressed.
* The LED will go off when the trigger is released.

. F006$

CONTINUOUS AUTO OFF

* The LED is always on when the trigger is pressed.
* The LED will go off if no bar code has been detected after 60 seconds.

. F003$

TOGGLE MODE

* This function works like Trigger Mode, but the scanner beeps to indicate a good read.

. F007$

*AUTO SENSING MODE(CCD)

* If Auto-Sensing Mode(CCD) is on, the LED will go off if no bar code is detected after Deactivation Time elapses.(The default is 3 sec.)
* The LED lights automatically when a BAR CODE is detected.
* If Auto-Sensing Mode(CCD) is on, the Magnetic Switch and Blue LED will be activated at the same time.

. F010$

*AUTO SENSING MODE(Laser)

* If Auto-Sensing Mode(Laser) is on, the LED will go off if no barcode is detected after Deactivation Time elapses.(The default is 3 sec.)
* The laser emits automatically when an OBJECT is detected.
* If Auto-Sensing Mode(Laser) is on, the Magnetic Switch will be activated.

NOTES:

1. To extend the scanner's life, keep the scanner set to Trigger Mode or Continuous Auto Off Mode.
2. The LED indicator will glow for GOOD READ.
3. For advanced settings of Auto-Sensing Mode(such as Deactivation Time, Magnetic Switch and Blue LED) please refer to the next pages.

APPENDIX

WIRELESS SCANNER SETTINGS

POWER OFF TIMEOUT

The timeout before automatic power-off to save battery power.

. B017$

1 MIN

. B018$

3 MIN

. B019$

5 MIN

. B020$

10 MIN

. B021$

DIABLE
(NO POWER-OFF)

LED & BEEPER INDICATION

	Status	Blue/Green LED	Red LED	Beeper	Remark
Scanner	Initializing	Flash	Flash	1 long beep	
	Successful Connection			2 beeps	
	Barcode Scan w/o Connection	Flash		3 beeps	
	Successful Barcode Scan	1 Flash		1 beep	
	Low Power		Flash	5 beeps	
	Unsuccessful Pincode Setup			3 short beeps	Scan **Pincode Stop** and retry
	Power Off or Standby				See **Power Off Timeout**
	Status	Blue LED	Red LED	Green LED	Remark
Cradle	Successful Connection	On			
	Charging		On	Flash	Power adaptor needed
	Full Charge		On	On	4 hours to fully charge

APPENDIX

WIRELESS SCANNER SETTINGS

SMARTPHONE CONNECTION

Android

1. Pair with the scanner via [**BT mode - SPP**].
2. Install Bluetooth Connect.apk and enter the program.
3. Enable [BluetoothConnect] in the Language & Keyboard setting window and choose [BluetoothConnect] as Input Method.
4. Click [Connect] and you will be able to connect the scanner.

*Please contact with your sales representative for detailed information on BluetoothConnect.

iOS (Apple)

Pair with the scanner via [**BT mode - HID**].

*To toggle iPhone/iPad Touch Keyboard, please scan below barcode:

. E044$

CONNECTION OPTIONS

. E042$

BT mode - SPP

1. Press the trigger for 1 second to activate the scanner.
2. Scan [**DISCONNECT**]
3. Scan [**BT mode - SPP**]; the scanner will emit 10 beeps.
4. Select "Wireless Scanner" from discovered device list. The default pincode is "1234".
5. Open serial communication software with com port (see Device Manager) properly set up.
6. The scanner will beep twice to verify the connection.

. E043$

BT mode - HID

1. Press the trigger for 1 second to activate the scanner.
2. Scan [**DISCONNECT**]
3. Scan [**BT mode - HID**]; the scanner will emit 11 beeps.
4. Select "Wireless Scanner" from discovered device list.
5. The Bluetooth application may prompt you to scan a pincode(see **PINCODE SETUP** section the on next page)
6. The scanner will beep twice to verify the connection.

. E031$

Disconnect

PINCODE SETUP

STEP 1

Pincode Start

.E032$

STEP 2

Scan numeric barcodes (see **NUMERIC BARCODES** below) based on the pincode generated by the Bluetooth application.

NUMERIC BARCODES

1

6

2

7

3

8

4

9

5

0

STEP 3

Enter

$TX

STEP 4

Pincode Stop

.E033$

GROUP-3

CHECK VERSION, BEEP TONE, TERMINATOR

BEEP TONE MODE

2.7KHz

.F019$

BEEP HIGH

.F021$

BEEP HIGH--LOW

.F018$

BEEP MEDIUM

.F020$

BEEP LOW--HIGH

.F022$

BEEP LOW

2.1KHz

. F012$

BEEP OFF

. F014$

BEEP HIGH

. F016$

BEEP HIGH--LOW

. F013$

BEEP MEDIUM

. F015$

BEEP LOW--HIGH

. F017$

BEEP LOW

CHECK VERSION

. A007$

CHECK VERSION

TERMINATOR

. D010$

NONE

. D011$

LF

. D012$

CR

. D013$

CR+LF

. D014$

TAB

. D015$

SPACE

. D016$

ESC

NOTES:

1. For the Keyboard Wedge interface the default terminator is CR.
2. For the USB interface the default terminator is CR.
3. For the RS232 interface the default terminator is CR+LF.

GROUP-4

SEND DATA LENGTH, PREAMBLE & POSTAMBLE.

SEND DATA LENGTH

.D019$

SEND DATA LENGTH ON

.D020$

SEND DATA LENGTH OFF

PREAMBLE & POSTAMBLE (PREFIX AND SUFFIX)

.A011$

CLEAR PRE/ POSTAMBLE

.A012$

PREAMBLE (16)

.A013$

POSTAMBLE (16)

EXAMPLE:

Set PREAMBLE String as " ## "
POSTAMBLE String as " $$ "

SETTING PROCEDURE:

STEP 1 : Scan : CLEAR PRE/ POSTAMBLE.
STEP 2 : Scan : PREAMBLE.
STEP 3 : Scan : " # " twice from FULL ASCII Table.
STEP 4 : Scan : PREAMBLE.
STEP 5 : Scan : POSTAMBLE.
STEP 6 : Scan : " $ " twice from FULL ASCII Table.
STEP 7 : Scan : POSTAMBLE.

FORMAT:

{Preamble}{Code ID}{Bar Code}{Postamble}

NOTES:

1. A PREAMBLE is a string of up to 16 characters added to the beginning of a scanned barcode.
2. A POSTAMBLE is a string of up to 16 characters added to the end of a scanned barcode.
3. Default value for both: None.

GROUP-5

ACCURACY ADJUSTMENT

0

1

2

3

4

5

6

7

8

9

ACCURACY ADJUSTMENT

.A010$

Accuracy Adjustment assures a more reliable decoded output. Enabling the feature and setting a number from 1 to 9 subjects the decoded output a higher standard of accuracy. The higher the number, the greater the accuracy.

SETTING PROCEDURE:

1. Scan ACCURACY ADJUSTMENT.
2. Scan one digit (1~9) from barcode menu above.
3. Scan ACCURACY ADJUSTMENT.

RESET

.P023$

NOTES:

1. The scanner will beep three times as reminder that a setting is not yet complete.
2. If you make a mistake, forget a step, etc., scan RESET to start again.

GROUP-6

LABEL TYPE POSITIVE / NEGATIVE, ENABLE AND DISABLE CODE ID

LABEL TYPE POSITIVE / NEGATIVE

.D021$

DISABLE NEGATIVE LABEL
(POSITIVE LABEL ENABLE)

.D022$

ENABLE NEGATIVE LABEL
(POSITIVE & NEGATIVE ENABLE)

ENABLE CODE ID

.A008$

FACTORY ID ON

.A014$

AIM ID ON

.A015$

SET ID ON

DISABLE CODE ID

.A009$

NOTES:

1. Only ONE code ID will be sent.
2. The code ID is located at the position before the bar code data and after the preamble.

EXAMPLE :
1.Preamble 145287,
2.Code ID: enable AIM ID,
3.Bar code symbologies : EAN 13+5

Preamble 145287	CODE ID AIM ID :]E0	BARCODE / DATA EAN 13 +5

OUTPUT : 145287]E0456398712345312411

GROUP-7

SYMBOLOGIES CODE ID IDENTIFIER, SET ID

SYMBOLOGIES CODE ID IDENTIFIER					
Symbologies	Factory ID	AIM ID (new)	Symbologies	Factory ID	AIM ID (new)
EAN 128	T	]C1	MSI	O	]M0
Code 128	K	]C0	MSI(MOD 10 / CDV & not send CD)		]M1
EAN8(+2/+5 OFF)	S	]E4	Code 32	B	]X0
EAN8(+2 ON)		]E4	Codabar	N	]F0
EAN8(+5 ON)		]E4	Codabar(ABC Codabar)		]F1
UPC-E(+2/+5 OFF)	E	]E0	Codabar(CDV & Send CD)		]F2
UPC-E(+2 ON)		]E3	Codabar(CDV & not send CD)		]F4
UPC-E(+5 ON)		]E3	UK Plessey	P	]P0
UPC-A(+2/+5 OFF)	A	]E0	Matrix 2 of 5	Y	]X0
UPC-A(+2 ON)		]E3	Full ASCII Code 39(disable CDV)	D	]A4
UPC-A(+5 ON)		]E3	Full ASCII Code 39(CDV & send CD)		]A5
EAN-13(+2/+5 OFF)	F	]E0	Full ASCII Code 39(CDV & not send CD)		]A7
EAN-13(+2 ON)		]E3	Standard Code 39(disable CDV)	M	]A0
EAN-13(+5 ON)		]E3	Standard Code 39(CDV & send CD)		]A1
Code 93	L	]G0	Standard Code 39(CDV & not send CD)		]A3
Code 11(disable CDV)	J	]H0	IATA 2 of 5	R	]R0
Code 11(send one CD)		]H0	Industrial 2 of 5	V	]S0
Code 11(send two CD)		]H1	China Post Code	H	]X0
Code 11(not send CD)		]H3	Interleaved 2 of 5(CDV & send CD)	I	]I1
Telepen(ASCII)	U	]B0	Interleaved 2 of 5(CDV & not send CD)		]I3
Telepen(Numeric)		]B1	Interleaved 2 of 5(disable CDV)		]I0

SET ID - SETTING PROCEDURES

Setting steps:

1. Scan the SET ID bar code for a particular symbology.
2. Scan one or two alphanumeric characters from the Full ASCII Table.
3. Scan the SET ID bar code again.

Example: Define the MSI Code ID = A, Code 93 = G9
MSI :
Step1: Scan MSI Set ID (Group 9).
Step2: "A" from (Group 37).
Step3: Scan MSI Set ID (Group 9).

Code 93:
Step1: Scan Code 93 Set ID (Group8).
Step2: "G" from(Group37), Scan "9" from(Group41).
Step3: Scan Code 93 Set ID (Group8).

NOTES:

1. The length of a Code ID is either one or two characters. If one character is set, the Code ID output will be one character. If two characters are set, the Code ID output will be two characters.
2. Only one type of Code ID will be sent.

GROUP-8

CODE ID CONFIGURATION: SET ID

.P001$  EAN 13 Set ID

.P002$  EAN 8 Set ID

.P003$  UPC E Set ID

.P004$  UPC A Set ID

.P005$  Code 39 Set ID

.P013$  Code 93 Set ID

.P007$  Codabar Set ID

.P021$  IATA Set ID

.P010$  Code 128 Set ID

.P016$  EAN 128 Set ID

.P022$  Telepen Set ID

.P009$  Code 11 Set ID

.P011$  Code 32 Set ID

.P012$  China Post Code (TOSHIBA Code) Set ID

GROUP-9

CODE ID CONFIGURATION: SET ID

MSI Code Set ID

UK Plessey Set ID

Matrix 2 of 5 Set ID

Interleaved 2 of 5
Set ID

Industrial 2 of 5 Set ID

Full ASCII Code39
Set ID

GS1 Databar (RSS)
Limited Set ID

GS1 Databar (RSS)
Expanded Set ID

GS1 Databar (RSS)
Set ID

LABEL Code Set ID
(Reserved)

RESET

1. The scanner will beep three times as a reminder that a setting is not yet complete.
2. If you make a mistake, forget a step, etc., scan RESET to start again.

GROUP-10

DELAY BETWEEN BLOCKS AND CHARACTERS

INTERBLOCK DELAY

0mS

10mS

50mS

100mS

200mS

500mS

INTERCHARACTER DELAY

140uS

500uS

1mS

4mS

16mS

GROUP-11

KEYBOARD LAYOUT/ CAPLOCK MODE/ NUMERIC KEY

KEYBOARD LAYOUT

. C010$

ENGLISH (USA)

. C018$

ENGLISH (UK)

. C011$

GERMAN

. C012$

FRENCH

. C009$

JAPAN (106 key only)

. C013$

SPANISH

. C014$

ITALIAN

. C015$

UNIVERSAL CODE

. C016$

SWISS

. C017$

CZECH (QWERTY)

CAPITAL LOCK MODE

. A004$

CAPLOCK ON

. A005$

CAPLOCK OFF

. A006$

CAPLOCK FREE

NOTE:

1. When barcode scanner is set to Caplock Free mode, no matter keyboard Capslock LED indicator is ON or OFF, output will be always the same as the Original barcode. In other words, what you see is what output is.(CODABAR is the exception)
2. If ABCD/ ABCD, abcd/ abcd, ABCD/T*E, abcd/tn*e are on, they work independently according to their rules.

NUMERIC KEY

. D017$

NUMERIC KEY

. D018$

ALPHANUMERIC KEY

GROUP-12

RS232: BAUD RATE, DATA BITS & PARITY

BAUD RATE

. E001$

300

. E002$

600

. E003$

1200

. E004$

2400

. E005$

4800

. E006$

9600

. E007$

19200

. E022$

38400

DATA BITS & PARITY

. E008$

8 Bits None

. E009$

8 Bits EVEN

. E010$

8 Bits ODD

. E011$

8 Bits MARK

. E012$

8 Bits SPACE

. E013$

7 Bits EVEN

. E014$

7 Bits ODD

. E015$

7 Bits MARK

. E021$

7 Bits SPACE

GROUP-13

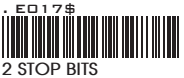
RS232: STOP BIT, HANDSHAKING, ACK/NAK, FLOW CONTROL, BCC

STOP BITS

. E016$

1 STOP BIT

. E017$



2 STOP BITS

HANDSHAKING

. E018$

NONE

. E019$

RTS enable at Power on

. E020$

RTS enable with Communication

ACK / NAK

. E023$

ON

. E024$

OFF

FLOW CONTROL: TIME OUT

. E025$

1 Sec

. E026$

3 Sec

. E027$

10 Sec

. E028$

Unlimited

BCC

. E029$

RS232 BCC Char On

. E030$

RS232 BCC Char Off

GROUP-14

WAND EMULATION PARAMETER SETTING

.D001$

200us

.D002$

600uS

LEVEL DURATION OF MINI WIDTH

.D003$

LOW

.D004$

HIGH

POLARITY OF IDLE CONDITION

.D005$

Bar High / Space Low

.D006$

Bar Low / Space High

OUTPUT OF WAND EMULATION

.D007$

PEN TYPE

.D008$

FULL ASCII CODE 39

WAVE FORM

GROUP-15

ENABLE/ DISABLE SYMBOLOGIES

ENABLE

. A002$

ENABLE ALL CODE

. K010$

CODE 32

. K001$

CHINA POSTAL CODE

. L010$

UK PLESSEY CODE

. N001$

INDUSTRIAL 2 OF 5

. M010$

MATRIX 2 OF 5

. J001$

INTERLEAVED 2 OF 5

. J010$

CODE 128

. I001$

CODABAR

. L014$

TELEPEN

DISABLE

. A003$

DISABLE ALL CODE

. K011$

CODE 32

. K002$

CHINA POSTAL CODE

. L011$

UK PLESSEY CODE

. N002$

INDUSTRIAL 2 OF 5

. M011$

MATRIX 2 OF 5

. J002$

INTERLEAVED 2 OF 5

. J011$

CODE 128

. I002$

CODABAR

. L015$

TELEPEN

GROUP-16

ENABLE/ DISABLE SYMBOLOGIES

ENABLE

. H001$

UPC-A

. H007$

UPC-E

. H019$

EAN-8

. H013$

EAN-13

. L001$

MSI

. G008$

CODE 39

. I 010$

CODE 11

. G010$

CODE 93

. M001$

EAN-128

. N017$

IATA

DISABLE

. H002$

UPC-A

. H008$

UPC-E

. H020$

EAN-8

. H014$

EAN-13

. L002$

MSI

. G009$

CODE 39

. I 011$

CODE 11

. G011$

CODE 93

. M002$

EAN-128

. N018$

IATA

GROUP-17

ENABLE/DISABLE SYMBOLOGIES, CHINA POSTAL CODE

ENABLE

. N032$

GS1 Databar ENABLE

. N038$

GS1 Databar STACKED ENABLE

. N010$

GS1 Databar LIMITED ENABLE

. N026$

GS1 Databar EXPANDED ENABLE

. N028$

GS1 Databar EXPANDED STACKED ENABLE

. G021$

PDF 417 ENABLE

DISABLE

. N033$

GS1 Databar DISABLE

. N039$

GS1 Databar STACKED DISABLE

. N011$

GS1 Databar LIMITED DISABLE

. N027$

GS1 Databar EXPANDED DISABLE

. N029$

GS1 Databar EXPANDED STACKED DISABLE

. G022$

PDF417 DISABLE

CHINA POSTAL CODE
[TOSHIBA CODE]

. K001$

ENABLE

. K002$

DISABLE

. K003$

DISABLE CDV

. K004$

CDV & SEND CD

. K005$

CDV & NOT SEND CD

. K006$

MIN LENGTH (11)

. K007$

MAX LENGTH (48)

APPENDIX

FULL ASCII (Code 39) NUMERIC TABLE

SETTING PROCEDURE

MIN / MAX LENGTH
STEP 1 - Scan: MIN LENGTH/ MAX LENGTH
STEP 2 - Scan: Two digits from Appendix.
STEP 3 - Scan: MIN LENGTH/ MAX LENGTH

Please note that when Min Length and / or Max Length are enabled, the scanner will only read bar codes that fall into those length parameters. Bar codes shorter or longer than specified will not be read. The default lengths for these are indicated in parentheses under the Min and Max bar codes for each symbology.

NOTES:

1. The scanner will beep three times as a reminder that a setting is not yet complete.
2. If you make a mistake, forget a step, etc., Scan RESET to start again.

RESET

GROUP-18

SYMBOLOGIES: MSI CODE, UK PLESSEY CODE

MSI

.L001$

ENABLE

.L002$

DISABLE

.L004$

CDV & SEND CD

.L003$

CDV & NOT SEND CD

.L007$

CHECK DIGIT DOUBLE MOD 10

.L008$

CHECK DIGIT DOUBLE 11 PLUS MOD 10

.L009$

CHECK DIGIT SINGLE MOD 10

.L005$

MIN LENGTH (6)

.L006$

MAX LENGTH (48)

UK PLESSEY CODE

.L010$

ENABLE

.L011$

DISABLE

.L012$

CDV & SEND CD

.L013$

CDV & NOT SEND CD

APPENDIX

FULL ASCII (Code 39) NUMERIC TABLE

SETTING PROCEDURE

MIN / MAX LENGTH
STEP 1 - Scan: MIN LENGTH/ MAX LENGTH
STEP 2 - Scan: Two digits from Appendix.
STEP 3 - Scan: MIN LENGTH/ MAX LENGTH

Please note that when Min Length and / or Max Length are enabled, the scanner will only read bar codes that fall into those length parameters. Bar codes shorter or longer than specified will not be read. The default lengths for these are indicated in parentheses under the Min and Max bar codes for each symbology.

NOTES:

1. The scanner will beep three times as a reminder that a setting is not yet complete.
2. If you make a mistake, forget a step, etc., Scan RESET to start again.

RESET

GROUP-19

SYMBOLOGIES: CODE 93, TELEPEN, IATA

. G010$

ENABLE

. G011$

DISABLE

CODE 93

. G012$

MIN LENGTH (6)

. G013$

MAX LENGTH (48)

. L014$

ENABLE TELEPEN

. L015$

DISABLE TELEPEN

TELEPEN

. L020$

TELEPEN ASCII

. L021$

TELEPEN NUMBER

. N017$

ENABLE

. N018$

DISABLE

. N019$

DISABLE CDV

. N020$

CDV & SEND CD

IATA

. N021$

CDV & NOT SEND CDV

. N022$

MIN LENGTH (6)

. N023$

MAX LENGTH (48)

APPENDIX

FULL ASCII (Code 39) NUMERIC TABLE

SETTING PROCEDURE

MIN / MAX LENGTH
STEP 1 - Scan: MIN LENGTH/ MAX LENGTH
STEP 2 - Scan: Two digits from Appendix.
STEP 3 - Scan: MIN LENGTH/ MAX LENGTH

Please note that when Min Length and / or Max Length are enabled, the scanner will only read bar codes that fall into those length parameters. Bar codes shorter or longer than specified will not be read. The default lengths for these are indicated in parentheses under the Min and Max bar codes for each symbology.

NOTES:

1. The scanner will beep three times as a reminder that a setting is not yet complete.
2. If you make a mistake, forget a step, etc., Scan RESET to start again.

RESET

GROUP-20

SYMBOLOGIES: INTERLEAVED 2 OF 5, CODE 11

.J001$

ENABLE

.J002$

DISABLE

.J003$

DISABLE CDV

.J004$

CDV & SEND CD

.J005$

CDV & NOT SEND CD

INTERLEAVED 2 OF 5

.J008$

First digit suppressed

.J009$

Last digit suppressed

.J014$

NO suppressed

.J006$

MIN LENGTH (6)

.J007$

MAX LENGTH (48)

.I010$

ENABLE

.I011$

DISABLE

.I012$

DISABLE CDV

.I013$

CDV & SEND CD

.I042$

CDV & SEND CD
(1 DIGIT)

CODE 11

.I043$

CDV & SEND CD
(2 DIGITS)

.I014$

CDV & NOT SEND CD

.I015$

MIN LENGTH (6)

.I016$

MAX LENGTH (32)

APPENDIX

FULL ASCII (Code 39) NUMERIC TABLE

SETTING PROCEDURE

MIN / MAX LENGTH
STEP 1 - Scan: MIN LENGTH/ MAX LENGTH
STEP 2 - Scan: Two digits from Appendix.
STEP 3 - Scan: MIN LENGTH/ MAX LENGTH

Please note that when Min Length and / or Max Length are enabled, the scanner will only read bar codes that fall into those length parameters. Bar codes shorter or longer than specified will not be read. The default lengths for these are indicated in parentheses under the Min and Max bar codes for each symbology.

NOTES:

1. The scanner will beep three times as a reminder that a setting is not yet complete.
2. If you make a mistake, forget a step, etc., Scan RESET to start again.

RESET

GROUP-21

SYMBOLOGIES: INDUSTRIAL 2 OF 5, MATRIX 2 OF 5

INDUSTRIAL 2 OF 5

. N001$

ENABLE

. N002$

DISABLE

. N003$

DISABLE CDV

. N004$

CDV & SEND CD

. N005$

CDV & NOT SEND CD

. N006$

MIN LENGTH (6)

. N007$

MAX LENGTH (48)

MATRIX 2 OF 5

. M010$

ENABLE

. M011$

DISABLE

. M012$

DISABLE CDV

. M013$

CDV & SEND CD

. M014$

CDV & NOT SEND CD

. M015$

MIN LENGTH (6)

. M016$

MAX LENGTH (48)

APPENDIX

FULL ASCII (Code 39) NUMERIC TABLE

SETTING PROCEDURE

MIN / MAX LENGTH
STEP 1 - Scan: MIN LENGTH/ MAX LENGTH
STEP 2 - Scan: Two digits from Appendix.
STEP 3 - Scan: MIN LENGTH/ MAX LENGTH

Please note that when Min Length and / or Max Length are enabled, the scanner will only read bar codes that fall into those length parameters. Bar codes shorter or longer than specified will not be read. The default lengths for these are indicated in parentheses under the Min and Max bar codes for each symbology.

NOTES:

1. The scanner will beep three times as a reminder that a setting is not yet complete.
2. If you make a mistake, forget a step, etc., Scan RESET to start again.

RESET

GROUP-22

SYMBOLOGIES: CODABAR

CODABAR

.I001$

ENABLE

.I002$

DISABLE

.I005$

DISABLE CDV

.I006$

CDV & SEND CD

.I007$

CDV & NOT SEND CD

.I008$

MIN LENGTH (6)

.I009$

MAX LENGTH (48)

START / STOP

.I030$

ST/SP: abcd/abcd

.I029$

ST/SP: ABCD/ABCD

.I031$

ST/SP: ABCD/TN*E

.I032$

ST/SP: abcd/tn*e

.I003$

SEND START / STOP

.I004$

Not Send START / STOP

Example of ST (Start) / SP (Stop)

123456	**Not Transmit ST/SP**
A123456B	**ST/SP: ABCD/ABCD**
a123456b	**ST/SP: abcd/abcd**
A123456N	**ST/SP: ABCD/TN*E**
a123456n	**ST/SP: abcd/tn*e**

.I027$

CLSI FORMAT ON

.I028$

CLSI FORMAT OFF

CLSI FORMAT

CLSI- Enable library space insertion. If you enable the CLSI format, this option inserts spaces in position 2, 7, 13 of the data string for use in library systems.

APPENDIX

FULL ASCII (Code 39) NUMERIC TABLE

SETTING PROCEDURE

MIN / MAX LENGTH
STEP 1 - Scan: MIN LENGTH/ MAX LENGTH
STEP 2 - Scan: Two digits from Appendix.
STEP 3 - Scan: MIN LENGTH/ MAX LENGTH

Please note that when Min Length and / or Max Length are enabled, the scanner will only read bar codes that fall into those length parameters. Bar codes shorter or longer than specified will not be read. The default lengths for these are indicated in parentheses under the Min and Max bar codes for each symbology.

NOTES:

1. The scanner will beep three times as a reminder that a setting is not yet complete.
2. If you make a mistake, forget a step, etc., Scan RESET to start again.

RESET

GROUP-23

SYMBOLOGIES: ABC- CODABAR, CX- CODABAR

ABC- CODABAR

.I017$

ON

.I018$

OFF

.I035$

SET INSERT DATA*

.I039$

INSERT DATA- ON

.I036$

INSERT DATA- OFF

* *The data can be any alphanumerics of FULL ASCII Table (GROUP 33-41)(page 51-59)*

REMARK:

ABC-CODABAR (American Blood Commission). The ABC Code is an acronym for American Blood Commission. This bar code is a variant of the CODABAR Code developed for the use in the blood bank. This Code consists of two bar codes which are decoded in one read cycle. The code is concatenated when the stop character of the first bar code and the start character of the second bar code is a " D ", these two " D " are not transmitted.

CX CODE- CODABAR

.I022$

ON

.I023$

OFF

.I037$

SET INSERT DATA*

.I040$

INSERT DATA- ON

.I038$

INSERT DATA- OFF

* *The data can be any alphanumerics of FULL ASCII Table (GROUP 33-41)(page 51-59)*

REMARK:

The CX-Code consists of two bar codes which are decoded in one read cycle, the code is concatenated when the stop character of the first bar code is a C, and the start character of the second bar code is a B. The B and C characters are not transmitted.

GROUP-24

SYMBOLOGIES: CODABAR COUPLING, ADJACENT REQUIRED

.I019$

ON

.I020$

OFF

.I021$

SET INSERT DATA*

CODABAR COUPLING

.I041$

INSERT DATA - ON

.I026$

INSERT DATA - OFF

ABC-Codabar and CX-Codabar have certain rules regarding the Stop Character of first bar code and the stop character of second bar code while in conjunction, while Codabar-Coupling is enabled, the data from any two Codabar bar codes can be coupled into one set of data without any limitations between the Stop character of first bar code and the Start character of second bar code. The Start and Stop characters associated with each bar code will be sent.

* *The data can be any alphanumerics of FULL ASCII Table (GROUP 33-44)(page 51-62)*

ADJACENT REQUIRED

If CODABAR ADJACENT is enabled, the scanner will only read two adjacent Codabar bar codes; a single bar code will not be read.

.I033$

ON

.I034$

OFF

NOTES:

1. Both ABC-Codabar and CX-Codabar can be enabled together, except when Codabar-Coupling is also enabled.
2. If ABC-Codabar, CX-Codabar, and Codabar-Coupling are all enabled at the same time, the scanner will read only Codabar-Coupling, that is, ABC-Codabar, CX-Codabar will be considered coupling formats.

SETTING PROCEDURE - SET INSERT DATA

Step 1- Scan SET INSERT DATA.
Step 2- Scan any combination of alphanumeric characters from FULL ASCII Table.
Step 3- Scan SET INSERT DATA.

RESET

NOTES:

1. The scanner will beep three times as a reminder that a setting is not yet complete.
2. If you make a mistake, forget a step, etc., Scan RESET to start again.

GROUP-25

SYMBOLOGIES: STANDARD & FULL ASCII CODE 39, CODE 32

STANDARD CODE 39 & FULL ASCII 39

. G008$

ENABLE

. G009$

DISABLE

. G001$

FULL ASCII CODE 39 ENABLE

. G002$

FULL ASCII CODE 39 DISABLE

. G014$

START / STOP - SEND

. G003$

DISABLE CDV

. G004$

CDV & SEND CD

. G005$

CDV & NOT SEND CD

. G006$

MIN LENGTH (1)

. G007$

MAX LENGTH (48)

. G015$

START / STOP Not SEND

NOTE:

The default for Code 39 is Standard Code 39. If Full ASCII Code 39 is enabled, Standard Code 39 will be automatically disabled.

CODE 32

. K010$

ENABLE

. K011$

DISABLE

. K012$

LEADING SEND

. K013$

LEADING NOT SEND

. K014$

TAILING SEND

. K015$

TAILING NOT SEND

APPENDIX

FULL ASCII (Code 39) NUMERIC TABLE

SETTING PROCEDURE

MIN / MAX LENGTH
STEP 1 - Scan: MIN LENGTH/ MAX LENGTH
STEP 2 - Scan: Two digits from Appendix.
STEP 3 - Scan: MIN LENGTH/ MAX LENGTH

Please note that when Min Length and / or Max Length are enabled, the scanner will only read bar codes that fall into those length parameters. Bar codes shorter or longer than specified will not be read. The default lengths for these are indicated in parentheses under the Min and Max bar codes for each symbology.

NOTES:

1. The scanner will beep three times as a reminder that a setting is not yet complete.
2. If you make a mistake, forget a step, etc., Scan RESET to start again.

RESET

GROUP-26

SYMBOLOGIES FORMATTING: UPC-E

UPC-E

. H007$

ENABLE

. H008$

DISABLE

. H009$

LEAD DIGIT SEND

. H010$

LEAD DIGIT NO SEND

. H011$

CHECK DIGIT SEND

. H012$

CHECK DIGIT NO SEND

ADD ON SUPPLEMENT

. H037$

+5 ON

. H038$

+ 5 OFF

. H039$

+2 ON

. H040$

+ 2 OFF

. H047$

ADD A SPACE ON

. H048$

ADD A SPACE OFF

. H056$

ADDENDA REQUIRED ON

. H055$

ADDENDA REQUIRED OFF

NOTE:
If ADDENDA REQUIRED is set to ON, the scanner will only read an UPC-E bar code that has an addenda. At the same time please also scan +5 ON or +2 ON so the scanner will output a 5-digit or 2-digit addendum.

GROUP-27

SYMBOLOGIES: UPC-E SYSTEM NUMBER

UPC-E0

.H064$

E(0) OFF

.H063$

E(0) ON

UPC-E1

.H065$

E(1) ON

.H066$

E(1) OFF

NOTE:

Most UPC bar codes lead with 0 number systems, for these bar codes use UPC E(0) selection. For the bar codes that lead with the 1 number, use UPC E(1) selection.

UPC-E EXPAND TO UPC-A

.H053$

ENABLE

.H054$

DISABLE

NOTE:

1. If UPC-E EXPAND TO UPC A FORMAT is enabled, the output of UPC-A will be 12 digits.
2. The default output of UPC-A is 12 digits, if UPC-A EXPAND TO EAN13 is enabled, a zero will be added to in front of the bar code.

GROUP-28

SYMBOLOGIES FORMATTING: UPC- A

. H001$

ENABLE

. H002$

DISABLE

. H003$

LEAD DIGIT SEND

UPC- A

. H004$

LEAD DIGIT NO SEND

. H005$

CHECK DIGIT SEND

. H006$

CHECK DIGIT NO SEND

UPC-A EXPAND TO EAN-13

. H068$

ENABLE

. H067$

DISABLE

. H033$

+5 ON

. H034$

+ 5 OFF

. H035$

+2 ON

. H036$

+ 2 OFF

ADD ON SUPPLEMENT

. H045$

ADD A SPACE ON

. H046$

ADD A SPACE OFF

. H060$

ADDENDA REQUIRED ON

. H059$

ADDENDA REQUIRED OFF

NOTE:

If ADDENDA REQUIRED is set to ON, the scanner will only read an UPC-E bar code that has an addenda. At the same time please also scan +5 ON or +2 ON so the scanner will output a 5-digit or 2-digit addendum.

GROUP-29

SYMBOLOGIES FORMATTING: EAN 8

. H019$

ENABLE

. H020$

DISABLE

. H021$

LEAD DIGIT SEND

EAN-8

. H022$

LEAD DIGIT NO SEND

. H023$

CHECK DIGIT SEND

. H024$

CHECK DIGIT NO SEND

. H029$

+ 5 ON

. H030$

+ 5 OFF

. H031$

+ 2 ON

. H032$

+ 2 OFF

ADD ON SUPPLEMENT

. H043$

ADD A SPACE ON

. H044$

ADD A SPACE OFF

. H062$

ADDENDA REQUIRED ON

. H061$

ADDENDA REQUIRED OFF

NOTE:

If ADDENDA REQUIRED is set to ON, the scanner will only read an UPC-E bar code that has an addenda. At the same time please also scan +5 ON or +2 ON so the scanner will output a 5-digit or 2-digit addendum.

GROUP-30

SYMBOLOGIES FORMATTING: EAN13, ISBN, ISSN, ISMN

EAN-13

. H013$

ENABLE

. H014$

DISABLE

. H015$

LEAD DIGIT SEND

. H016$

LEAD DIGIT NO SEND

. H017$

CHECK DIGIT SEND

. H018$

CHECK DIGIT NO SEND

ADD ON SUPPLEMENT

. H025$

+ 5 ON

. H026$

+ 5 OFF

. H027$

+ 2 ON

. H028$

+ 2 OFF

. H041$

ADD A SPACE ON

. H042$

ADD A SPACE OFF

. H058$

ADDENDA REQUIRED ON

. H057$

ADDENDA REQUIRED OFF

ISBN

. H050$

ISBN OFF

. H049$

ISBN ON

NOTES:

1. If ADDENDA REQUIRED is set to ON, the scanner will only read an EAN-13 bar code that has an addenda.
2. Either ISSN or ISBN will be considered as an extension of EAN-13. If ISSN or ISBN needs to be read, EAN-13 must be enabled. If ISSN and ISBN need to be read with addenda, EAN-13 must be enabled with ADDENDA REQUIRED set to ON, and +2 ON or +5 ON must be enabled as well.

ISSN

. H052$

ISSN OFF

. H051$

ISSN ON

NOTE:

Both ISSN and ISBN are the extension codes of EAN-13. If scanner is required to read either ISSN or ISBN, EAN-13 must be enabled. Otherwise the scanner will not be able to read ISSN or ISBN.

ISMN

. H070$

ISMN OFF

. H069$

ISMN ON

GROUP-31

SYMBOLOGIES: EAN/UCC-128, CODE 128

EAN/ UCC-128

.M001$

ENABLE

.M002$

DISABLE

.M003$

CODE ID ENABLE

.M004$

CODE ID DISABLE

.M005$

FUNC 1 CHAR SEND

.M006$

FUNC 1 CHAR NOT SEND

.M007$

DEFINE EAN 128

NOTES: DEFINE EAN 128

The first FNC1 character is translated to]c1, and the second FNC1 character is translated to an ASCII <GS> character (scan from Group 41, page 59)

String format:

]C1	DATA CHARACTERS	<GS>	DATA CHARACTERS

Setting Procedure:

1: Scan DEFINE EAN128.
2: Scan ASCII Code (page 59)
3: Scan DEFINE EAN128.

CODE 128

.J010$

ENABLE

.J011$

DISABLE

.J012$

MIN LENGTH (5)

.J013$

MAX LENGTH (48)

PDF417

.G021$

ENABLE

.G022$

DISABLE

GROUP-32

GS1 DataBar, LIMITED, EXPANDED

GS1 DataBar (RSS) - OMNI & STACKED

. N032$
GS1 DataBar ENABLE

. N033$
GS1 DataBar DISABLE

. N034$
GS1 DataBar CHECK DIGIT SEND

. N035$
GS1 DataBar CHECK DIGIT NOT SEND

. N036$
GS1 DataBar PREFIX SEND

. N037$
GS1 DataBar PREFIX NOT SEND

. N038$
GS1 DataBar STACKED ENABLE

. N039$
GS1 DataBar STACKED DISABLE

. P024$
GS1 DataBar SET ID

GS1 DataBar (RSS) - LIMITED

. N010$
GS1 DataBar LIMITED ENABLE

. N011$
GS1 DataBar LIMITED DISABLE

. N012$
GS1 DataBar LIMITED CHECK DIGIT SEND

. N013$
GS1 DataBar LIMITED CHECK DIGIT NOT SEND

. N024$
GS1 DataBar LIMITED PREFIX SEND

. N025$
GS1 DataBar LIMITED PREFIX NOT SEND

. P019$
GS1 DataBar LIMITED SET ID

GS1 DataBar (RSS) - EXPANDED

. N026$
GS1 DataBar EXPANDED ENABLE

. N027$
GS1 DataBar EXPANDED DISABLE

. N028$
GS1 DataBar EXPANDED STACKED ENABLE

. N029$
GS1 DataBar EXPANDED STACKED DISABLE

. N030$
GS1 DataBar EXPANDED MIN LENGTH

. N031$
GS1 DataBar EXPANDED MAX LENGTH

. P020$
GS1 DataBar EXPANDED SET ID

GROUP-33

FULL ASCII TABLE (CODE 39)
CONTROL CODES

%U  NUL

$A  SOH

$B  STX

$C  ETX

$D  EOT

$E  ENQ

$F  ACK

$G  BEL

$H  BS

$I  HT

$J  LF

$K  VT

$L  FF

$M  CR

$N  SO

$O  SI

GROUP-34

FULL ASCII TABLE (CODE 39)
CONTROL CODES

DLE	$P
DC1	$Q
DC2	$R
DC3	$S
DC4	$T
NAK	$U
SYN	$V
ETB	$W
CAN	$X
EM	$Y
SUB	$Z
ESC	%A
FS	%B
GS	%C
RS	%D
US	%E
SP	

GROUP-35

FULL ASCII TABLE (CODE 39)
SYMBOLS

+ 	+
- 	-
. 	.
$ 	$
% 	%
/ 	/
%L 	\
/ A 	!
%V 	@
/ C 	#
%N 	^
%S 	~
/ F 	&
/ J 	*
%O 	-
%H 	=
%Q 	|

GROUP-36

FULL ASCII TABLE (CODE 39)
SYMBOLS

{	%P 
}	%R 
[	%K 
]	%M 
(	/ H 
)	/ I 
<	%G 
>	%I 
`	%W 
"	/ B 
'	/ G 
,	/ L 
;	%F 
:	/ Z 
?	%J 
DEL	%T 

GROUP-37

FULL ASCII TABLE (CODE 39)
UPPER CASE ALPHABETS

A

B

C

D

E

F

G

H

I

J

K

L

M

GROUP-38

FULL ASCII TABLE (CODE 39)
UPPER CASE ALPHABETS

N 

O 

P 

Q 

R 

S 

T 

U 

V 

W 

X 

Y 

Z 

GROUP-39

FULL ASCII TABLE (CODE 39)
LOWER CASE ALPHABETS

a

b

c

d

e

f

g

h

i

j

k

l

m

GROUP-40

FULL ASCII TABLE (CODE 39)
LOWER CASE ALPHABETS

n

o

p

q

r

s

t

u

v

w

x

y

z

GROUP-41

FULL ASCII TABLE (CODE 39)
NUMBERS


0


1


2


3


4


5


6


7


8


9

GROUP-42

FULL ASCII TABLE (CODE 39)
FUNCTION KEYS

F1 $TA

F2 $TB

F3 $TC

F4 $TD

F5 $TE

F6 $TF

F7 $TG

F8 $TH

F9 $TI

F10 $TJ

F11 $TK

F12 $TL

Home $TM

End $TN

Enter (Numeric Key) $T+D

App $T+O

GROUP-43

FULL ASCII TABLE (CODE 39)
NAVIGATION KEYS

$TO

Cursor Right

$TP

Cursor Left

$TQ

Cursor Up

$TR

Cursor Down

$TS

Page Up

$TT

Page Down

$TU

Tab

$TV

Back Tab

$TW

Esc

$TX

Enter

$TY

BS

$TZ

Ins

$T%K

Del

GROUP-44

FULL ASCII TABLE (CODE 39)
MODIFIER KEYS

$T%L

Alt (Left) make*1

$T+E

Alt (Right) make

$T%N

Shift (Left) make *2

$T+I

Shift (Right) make

$T+K

Win (Left) make

$T+M

Win (Right) make

$T%W

Ctrl (Left) make *3

$T+G

Ctrl (Right) make

$T%M

Alt (Left) break

$T+F

Alt (Right) break

$T%O

Shift (Left) break

$T+J

Shift (Right) break

$T+L

Win (Left) break

$T+N

Win (Right) break

$T+A

Ctrl (Left) break

$T+H

Ctrl (Right) break

For UK Keyboard Special Character

$T+B


$T+C

£

Note:

*1: When “Alt(Left)Make” is programmed, please scan “Alt(Left)Break” to resume barcode setting.
*2: When “Shift(Left)Make” is programmed, please scan “Shift(Left)Break” to resume barcode setting.
*3: When “Ctrl(Left)Make” is programmed, please scan “Ctrl(Left)Break” to resume barcode setting.

GROUP-45
TROUBLE SHOOTING

Our Barcode Scanners are simple to install and use.
Most operational issues can be attributed to:

INCORRECT INTERFACE CONNECTION
INCORRECT CONFIGURATION SETUP
POOR BARCODE QUALITY

GENERAL PROCEDURES

1. First, make sure the scanner is firmly connected to the host computer, when attached correctly, the scanner will emit one long beep. When the trigger is pressed, LED will flash.

2. Once the power is on, try scanning some sample bar codes from this user's guide. The scanner should beep and the LED should flash to indicate a good read in the default configuration. If reading the bar code does not result in a good read, there may have been a problem with the scanning technique or the interface configuration setting. Reset the scanner to default.

3. If the scanner indicates a good read, but there is no output of data to the monitor, please check the cabling connection.

KEYBOARD INTERFACES PROBLEMS

In general, the Keyboard Wedge interface is trouble free, but there is still something to check in the event of a problem:

Do you have the correct cable?
Most computers use an XT/AT-compatible keyboard. Be sure you have the proper cable for your computer.

Does the keyboard work?
Since the keyed-in data from keyboard must pass through the decoder, the cabling connections are correct if the keyboard is functioning.

Can your computer accept the data fast enough?
Your computer's BIOS has a feature related to keyboard typing speed. Try to set the Intercharacter Delay feature to stimulate the keystroke entry speed.

Does keyboard port supply enough power?
Most notebook computers do not supply enough power to the scanner. The symptom of insufficient power is a lower "good read" rate (since there is not enough power to properly support the scanning operation).

RS232 INTERFACE PROBLEMS

Once you read bar code, there is no output on the monitor, the symptoms may be caused by:

1. Have you set the protocol of RS232 like Baud rate, data bits, parity and handshaking etc. of a scanner to match to the PC terminal setting?
   Solution: reset the above mentioned RS232 protocol of scanner to match to PC protocol.
2. Please check if the cable pinout assignment of bar code match to the pinout assignment of PC terminal?

No power supply to the scanner:

1. Do you connect the right power adaptor to the scanner?
2. Does scanner connect the cable with right pinout which match to PC terminal?

INTERFACE PROBLEMS

Are you using the Wand Emulation mode with Code 39 output? If so, is your decoder set to accept Code 39 data?
Check the scanner's configuration setting to make sure it can accept the bar code symbology you are trying to read.

Although the cable seems to connect properly, does the scanner not send data to the host computer?
There are no industrial standards for scanner interface cables, so even if they look alike and have similar connector, they might not be alike. For example, cables for Keyboard Wedge and Wand Emulation are similar, but they are not interchangeable due to different pin assignments.
Be sure the cable you are using attaches correctly to the matching connector.

CONFIGURATION SETUP

Are you set up for the right Interface?
Are you set up for the right interface? Did you select the Keyboard Wedge cable but set the scanner for RS-232 or Wand Emulation? Or did you change the Keyboard cable to RS-232 but forget to set the scanner interface to RS-232 as well? Set the scanner to its default settings, then select the correct interface based upon the cable and input you are using.

Symptom ---- The LED lighting is stuck, and no function at all, even triggered the scanner.

Solution ---- Set the scanner to default condition, and choose the right interfaces.

Is the proper symbology enabled?
Each bar code symbology can be individually enabled or disabled. It is suggested that you enable only those that you will be scanning, thereby eliminating the possibility of mis reads from the scanning of other symbologies.

Does the selected bar code symbology configuration match the bar code(s) being read?
Scanned data from each bar code symbology can be restricted to eliminate the scanning of unused symbologies.
The restrictions are individually set for each symbology.

POOR BAR CODE QUALITY

The third problem area has nothing to do with the scanner, but rather the printed quality of the bar code and/or the scanning technique employed.

TOLERANCE OF BAR CODE

A bar code may have a tolerance. Normally, the tolerances are caused by bar code font software or a printer. Software with a proven reputation should be chosen to generate bar codes. If the printed bar codes are distorted, the scanner might not recognize them.

It is very difficult to get a good read from a poor quality bar code unless it is scanned many times. As the quality of the symbology drops, the chances for undetected error increase. A bar code Check Digit Verification (CDV) should be used to check the quality of the suspect bar codes.

LABELS (PAPER & COLOR & PRINTER)

The light source of a bar code scanner is generally red, so there are some restrictions for the printing of labels. Care should be taken when choosing materials, especially color inks and papers. Sometimes the combination of the label color and the color of the ink can, in effect, blind the scanner. Media with a shiny surface will also cause reading difficulties for scanners.

Moreover, poor printing quality can also result in reading difficulties for the scanner. Bad printing may be caused by the type of printer used; dot matrix and inkjet printers will not procedure high quality bar codes. Also check to make sure the ink, ribbon, or toner in good supply.

APPENDIX 1

DEFAULT TABLE 1

GROUP	PARAMETER	DEFAULT
1	Computer Type	PC-AT
	Interface	(dependent on customer order)
	Setup Code	On
2	Reading Mode	Trigger
	Magnetic Switch	On
	Green LED/ Supplement Light (CCD Scanner)	On
	Deactivation Time (CCD & Laser Scanner)	3 Sec
	Same Code Interval (Laser Scanner)	30 Sec
3	Beep Tone Mode 2.1k	Beep Medium
	Beep Tone Mode 2.7k	Beep Medium
	Terminator	CR(KB, USB); CR+LF(RS232)
4	Send Data Length	Off
	Preamble & Postamble	None
5	Accuracy Adjustment	0
6	Label Type Positive/ Negative	Disable
6~9	Enable & Disable Code ID	Off
10	Interblock Delay	0ms
	Intercharacter Delay	140us
11	Keyboard Layout	English(USA)
	Caplock	Off
	Numeric Key	Alphanumeric Key
12	Baud Rate	9600
	Data Bits & Parity	8 Bits None
13	Stop Bits	1 stop bit
	Handshaking	None
	ACK/NAK	Off
	Flow Control Timeout	1 Sec
	BCC	Off
14	Level duration of Mini Width	200us
	Polarity of Idle Condition	High
	Output of Wand Emulation	Bar High/ Space Low
	Wave Form	Full ASCII 39
	Idle Mode	Off
	Pre-Idle Time	1 Min
15~16	Enable and Disable Symbologies	
	Code 32	Disable
	China Postal Code	Enable
	UK Plessey Code	Disable
	Industrial 2 of 5	Disable
	Matrix 2 of 5	Disable
	Interleaved 2 of 5	Enable
	Code 128	Enable
	Codabar	Enable
	Telepen	Disable
	UPC-A	Enable
	UPC-E	Enable
	EAN-8	Enable
	EAN-13	Enable
	MSI	Disable
	Code 39	Enable
	Code 11	Disable

APPENDIX 1

DEFAULT TABLE 2

GROUP		PARAMETER	DEFAULT
18	1	**MSI**	
		Enable/Disable	Disable
		Check Digits	CDV & send CD
		Check Digits Mode	Single MOD 10
	2	**UK Plesssy**	
		Enable/Disable	Disable
		Check Digits	CDV & not send CD
19	1	**Code 93**	
		Enable/Disable	Disable
		Min Length	6 digits
		Max Length	48 digits
	2	**Telepen**	
		Enable/Disable	Disable
		Telepen ASCII/ Number	Number
	3	**IATA**	
		Enable/Disable	Disable
		Check Digits	Disable CDV
		Min Length	6 digits
		Max Length	48 digits
20	1	**Interleaved 2 of 5**	
		Enable/Disable	Enable
		Check Digits	Disable CDV
		First/ last digit suppressed	No suppressed
		Min Length	6 digits
		Max Length	48 digits
	2	**Code II**	
		Enable/Disable	Disable
		Check Digits	Disable CDV
		Min Length	6 digits
		Max Length	32 digits
21	1	**Industrial 2 of 5**	
		Enable/Disable	Disable
		Check Digits	Disable CDV
		Min Length	6 digits
		Max Length	48 digits
	2	**Matrix 2 of 5**	
		Enable/Disable	Disable
		Check Digits	Disable CDV
		Min Length	6 digits
		Max Length	48 digits
22		**Codabar**	
		Enable/Disable	Enable
		Check Digits	Disable CDV
		Min Length	6 digits
		Max Length	48 digits
		ST/SP; Abcd/abcd, abcd/tn*c, ABCD/ABCD,ABCD/TN*C	ABCD/ABCD
		Start(ST)/Stop(SP)	Send
		CLSI Format	On
23	1	**ABC-Codabar**	
		ON/OFF	Off
		Insert Data	Off
	2	**CX-Codabar**	
		ON/OFF	Off
		Insert Data	Off
24		**Codabar-Coupling**	
		ON/OFF	Off
		Insert Data	Off
		Adjacent Required	Off
25	1	**Code 39**	
		Full ASCII 39 Enable/Disable	Enable
		Check Digits	Disable CDV
		Start/Stop	Not Send
		Min Length	1 digit
		Max Length	48 digits
	2	Code 32	
		Enable/Disable	Disable
		Leading	send
		Tailing	send

APPENDIX 1

DEFAULT TABLE 3

GROUP		PARAMETER	DEFAULT
26		**UPC-E**	
		Enable/Disable	Enable
		Check Digits	Send
		Lead Digits	Send
		Add a space	Off
		Addenda required	Off
		+5 On/Off	Off
		+2 On/Off	Off
27		**UPC-E systems number**	
		UPC E(0) On/Off	On
		UPC E(1) On/Off	Off
		UPC-E expand to UPC-A	Disable
		UPC-A expand to EAN-13	Disable
28		**UPC-A**	
		Enable/Disable	Enable
		Check Digits	Send
		Lead Digits	Send
		Add a space	Off
		Addenda required	Off
		+5 On/Off	Off
		+2 On/Off	Off
29		**EAN-8**	
		Enable/Disable	Enable
		Check Digits	Send
		Lead Digits	Send
		Add a space	Off
		Addenda required	Off
		+5 On/Off	Off
		+2 On/Off	Off
30		**EAN-13**	
		Enable/Disable	Enable
		Check Digits	Send
		Lead Digits	Send
		Add a space	Off
		Addenda required	Off
		+5 On/Off	Off
		+2 On/Off	Off
		ISSN On/Off	Off
		ISBN	Off
31	1	**EAN/UCC128**	
		Enable/Disable	Enable
		Code ID	Disable
		Func 1 Char Send	Not Send
	2	**Code 128**	
		Enable/Disable	Enable
		Check Digits	Disable CDV
		Min Length	5 digits
		Max Length	48 digits
	3	**PDF417**	
		Enable/Disable	Disable
32		GS1 Databar	Disable
		GS1 Databar Check Digit	Not Send
		GS1 Databar Prefix	Not Send
		GS1 Databar Stacked	Enable
		GS1 Databar Limited	Disable
		GS1 Databar Limited Check Digit	Not Send
		GS1 Databar Limited Prefix	Not Send
		GS1 Databar Expanded	Disable
		GS1 Databar Expanded Stacked	Enable

APPENDIX 2

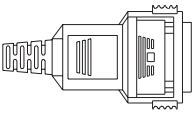
Cable Pin Assignment

INTERFACES:

1. TTL, Wand Emulation

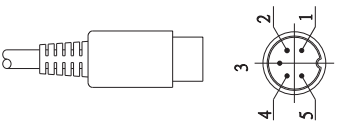
1.1) AMP (D-Sub 9Pin):

Pin	Signal
2	Data
7	GND
9	+5VCC



1.2) Din 5 male (240 degree):

Pin	Signal
1	+ 5VCC
2	Data
3	GND
4	N/A
5	N/A



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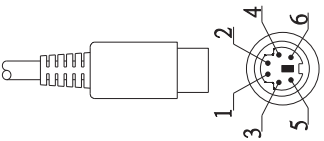
2. Keyboard Interface:

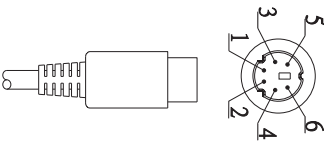
Type of connector:
2.1) PS/2 Mini Din6 Female:

Pin	Signal
1	PC Data
2	NC
3	GND
4	+5VCC
5	PC-Clk
6	NC



2.2) PS/2 Mini Din6 Male:

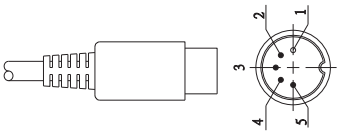
Pin	Signal
1	KB- Data
2	NC
3	GND
4	+5VCC
5	KB-Clk
6	NC



Type of connector:

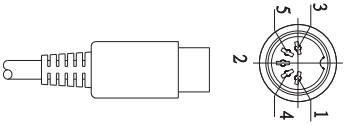
2.3) PC-AT: Din 5 Male:

Pin	Signal
1	KB-Clk
2	KB-Data
3	NC
4	GND
5	+5VCC



2.4) PC-AT: Din 5 Female:

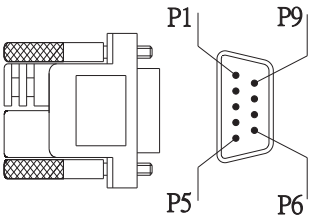
Pin	Signal
1	PC-Clk
2	PC-Data
3	NC
4	GND
5	+5VCC



3.RS232 Interfaces:

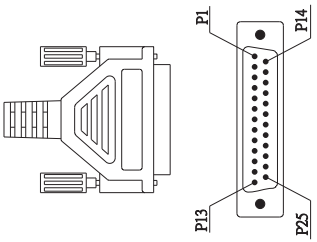
3.1) DB9F

Pin	Signal
2	TXD(Out)
3	RXD(In)
5	GND
7	CTS(In)
8	RTS(Out)
9	+5VCC



3.2) DB25F

Pin	Signal
2	RXD(In)
3	TXD(Out)
4	CTS(In)
5	RTS(Out)
7	GND
16	+5VCC
25	+5VCC



APPENDIX 3

BAR CODE TEST CHART

DENSITY	NARROW mm(mil)	WIDE mm(mil)	CHAR.GAP mm(mil)	N/W RATIO
MEDIUM DENSITY	0.25(10)	0.625(25)	0.25(10)	1/2.5

MEDIUM DENSITY

NW-7 (CODABAR)

CODE-39

Interleaved 2of5

UPC

EAN

APPENDIX 3

BAR CODE TEST CHART

DENSITY	NARROW mm(mil)	WIDE mm(mil)	CHAR.GAP mm(mil)	N/W RATIO
LOW DENSITY	0.33(13)	0.825(32.5)	0.33(13)	1/2.5

LOW DENSITY

C9876543210D

CODE-39 TEST

0012345690

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