



Scanner Configuration

SmartScan Manual

DOC Version 2.21

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RELEASE NOTES

VERSION	DATE	NOTES
2.21	Jan. 02, 2008	Larger setup barcodes
2.20	Nov. 30, 2007	New Word template applied <ul style="list-style-type: none">▶ New: 3667 Bluetooth Cradle for I166/I266▶ Modified: Auto-Sense mode supported on I100 only.▶ New: Appendix III – Host Serial Commands▶ New: Appendix IV – Upgrading Firmware
2.15	Nov.13, 2006	▶ Modified: Add notice for BT SPP and HID power saving – Please disable power saving when connecting more than two Ix66 scanners to Bluetooth dongle.
2.14~	Nov. 06, 2006	▶ New: Bluetooth HID supports Japanese keyboard.
2.12	Mar. 03, 2006	
2.11	Jan.27, 2006	▶ Modified: Typo errors corrected.
2.10	Jan.18, 2006	▶ Modified: Bluetooth HID doesn't support the following functions on PDAs running Windows CE – Capital Lock Setting: Auto Detection, Digit Transmission: Numeric Key, and Alt Composing. <ul style="list-style-type: none">▶ Modified: The default Capital Lock setting of Bluetooth HID is changed from "Auto Detection" to "Capital Lock Off".▶ New: Firmware version V4.20
2.00	Dec. 30, 2005	▶ New: Bluetooth HID supported <ul style="list-style-type: none">▶ New: Firmware version V4.10
1.00	Oct. 31, 2005	First release

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OVERVIEW

ENTER CONFIGURATION MODE

Serial Command
N/A



Enter Setup

EXIT CONFIGURATION MODE

UPDATE SETTINGS

Serial Command
9999



Update

EXIT WITHOUT CHANGES

Serial Command
9998



Abort

RESTORE DEFAULTS

Serial Command
9993













Restore Defaults

Note: The default value (if there is) for each setting is included in a pair of angle brackets "<>".



Update

LIST CURRENT SETTINGS

Serial Command 9950	 Page 1	List settings regarding Interface, Buzzer, and Scanner Parameters
Serial Command 9951	 Page 2	List settings regarding Prefix, Postfix, and Length Code Setting
Serial Command 9952	 Page 3	List settings regarding Code ID
Serial Command 9953	 Page 4	List settings regarding: Readable Symbologies
Serial Command 9954	 Page 5	List settings regarding Symbology Parameters (1/3)
Serial Command 9955	 Page 6	List settings regarding Symbology Parameters (2/3)
Serial Command 9956	 Page 7	List settings regarding Symbology Parameters (3/3)
Serial Command 9957	 Page 8	List settings regarding Editing Format 1
Serial Command 9958	 Page 9	List settings regarding Editing Format 2
Serial Command 9959	 Page 10	List settings regarding Editing Format 3



BLUETOOTH SETTINGS (1166/1266)

1.1 RF AUTO SHUTDOWN (SUSPEND MODE)

- 1) Read this label to specify the time interval before the scanner enters suspend mode.
- 2) Read the “[Decimal Value](#)” label on page 57. For example, read “1” and “5” for the scanner to suspend the connection with 3666 after being idle for 15 minutes.
- 3) Read the “Validate” label on the same page to complete this setting.

Serial Command
0445



RF Auto Shutdown
after ... minutes

1.2 POWER SAVING (SNIFF MODE)

Serial Command
0458



<Enable>

Serial Command
0459



Disable

1.3 TRANSMIT BUFFER SETTING

Serial Command
0386



Enable

Serial Command
0387



<Disable>

1.4 MEMORY MODE

1.4.1 MEMORY MODE

Serial Command
0321



Enable

Serial Command
0320



<Disable>



1.4.2 SEND DATA

Serial Command
9918



Send Data

1.4.3 CLEAR DATA

- 1) Read the “Clear Data” label to clear the flash memory.
- 2) Read the “Confirm” label to confirm the action.

Serial Command
9916



Clear Data

Serial Command
9917



Confirm

1.4.4 MEMORY DATA DELAY

Serial Command
0322



<None>

Serial Command
0323



250 ms

Serial Command
0324



500 ms

Serial Command
0325



1 sec

Serial Command
0326



2 sec

Serial Command
0327



3 sec

Serial Command
0328



5 sec

Serial Command
0329



8 sec



Enter Setup

1.5 SET CONNECTION WITH 3666

- 1) Read this label or the same one at the bottom of the 3666 cradle.
- 2) Read the “Serial Number” label at the bottom of the cradle within 5 seconds.
- 3) Proceed to select a desired output interface.

Serial Command



Set Connection

1.6 SET CONNECTION WITH 3667 OR GENERIC DONGLE

1.6.1 BLUETOOTH SERIAL PORT PARAMETERS

Serial Command
0453



Activate Bluetooth SPP

DEVICE NAME BROADCASTING

Serial Command
0450



<Yes>

Serial Command
0451



No

AUTHENTICATION

Serial Command
0448



Yes

Serial Command
0449



<No>

PIN CODE

- 1) Read this label to specify the PIN code.
- 2) Read the “[Hexadecimal Value](#)” label on page 58 for the desired character string (max. 6 characters are allowed).
- 3) Read the “Validate” label on the same page to complete this setting.

Serial Command
0452



Enter PIN Code ...



Update

1.6.2 BLUETOOTH HID PARAMETERS

- 1) Read this label to activate Bluetooth HID and select a keyboard type.
- 2) Read the “[Decimal Value](#)” label on page 57. Refer to the table below for the number of desired keyboard type.
- 3) Read the “Validate” label on the same page to complete this setting.

Serial Command
0000



Activate & Select
Keyboard Type ...

NO.	KEYBOARD TYPE	NO.	KEYBOARD TYPE
64	PCAT (US)	70	PCAT (UK)
65	PCAT (French)	71	PCAT (Belgium)
66	PCAT (German)	72	PCAT (Spanish)
67	PCAT (Italian)	73	PCAT (Portuguese)
68	PCAT (Swedish)	74	PS55 A01-2 (Japanese)
69	PCAT (Norwegian)		

RESET CONNECTION

Read this label when switching connection from one PC to another and re-connection is required.

Serial Command
9972



Reset Connection

DEVICE NAME BROADCASTING

Serial Command
0450



<Yes>

Serial Command
0451



No

AUTHENTICATION

Serial Command
0448



Yes

Serial Command
0449



<No>



PIN CODE

- 1) Read this label to specify the PIN code.
- 2) Read the “[Hexadecimal Value](#)” label on page 58 for the desired character string (max. 6 characters are allowed).
- 3) Read the “Validate” label on the same page to complete this setting.

Serial Command
0452



Enter PIN Code ...

ALPHABETS LAYOUT

Serial Command
0312



<Default Layout>

Serial Command
0313



AZERTY

Serial Command
0314



QWERTZ

DIGITS LAYOUT

Serial Command
0007



<Default Layout>

Serial Command
0008



Upper Row

Serial Command
0009



Lower Row

CAPITAL LOCK TYPE

Serial Command
0010



<Default>

Serial Command
0011



Shift Lock

Serial Command
0012



Capital Lock



CAPITAL LOCK SETTING

Serial Command
0002



Auto Detection

Serial Command
0003



Capital Lock ON

Serial Command
0004



<Capital Lock OFF>

ALPHABETS TRANSMISSION

Serial Command
0005



Ignore Case

Serial Command
0006



<Case-Sensitive>

DIGITS TRANSMISSION

Serial Command
0013



Numeric Key

Serial Command
0014



<Alphanumeric
Key>

ALT COMPOSING

Serial Command
0335



Yes

Serial Command
0334



<No>



READER SETTINGS

2.1 GOOD READ NOTIFICATION

2.1.1 BUZZER SETTING

Serial Command
0318



<Enable Buzzer>

Serial Command
0319



Disable Buzzer

2.1.2 BUZZER FREQUENCY

Serial Command
0046



8 kHz

Serial Command
0047



<4 kHz>

Serial Command
0048



2 kHz

Serial Command
0049



1 kHz

2.2 READ REDUNDANCY

Serial Command
0201



<No Redundancy>

Serial Command
0202



One Time

Serial Command
0203



Two Times

Serial Command
0204



Three Times

2.3 SCAN MODE

Serial Command
0066



<Auto Off Mode>
(Default for 1000/1090+)

Serial Command
0067



Continuous Mode



Serial Command
0068



Auto Power Off Mode

Serial Command
0070



Momentary Mode

Serial Command
0072



<Laser Mode>
(Default for
1100/1105/1166/1200/1266)

Serial Command
0069



Alternate Mode

Serial Command
0071



Repeat Mode

Serial Command
0073



Test Mode

2.4 AUTO-SENSE MODE (1100 ONLY)

Serial Command
0333



Enable

Serial Command
0332



<Disable>

2.5 SCANNER TIME-OUT

- 1) Read this label to specify the time interval before the scan engine times out in Laser, Auto Off, or Auto Power Off mode.
- 2) Read the "[Decimal Value](#)" label on page 57. For example, read "1" and "0" for the scanner to automatically shut down after being idle for 10 seconds.
- 3) Read the "Validate" label on the same page to complete this setting.

Serial Command
0207



Scanner Time-Out
after ... seconds

2.6 DELAY BETWEEN RE-READ

Serial Command
0336



100 ms

Serial Command
0337



200 ms



Serial Command
0338



<400 ms>

Serial Command
0339



800 ms

Serial Command
0340



1 sec

Serial Command
0341



2 sec

Serial Command
0342



3 sec

Serial Command
0343



5 sec

2.7 NEGATIVE BARCODE SETTING

Serial Command
0199



Enable

Serial Command
0200



<Disable>





OUTPUT INTERFACES

3.1 KEYBOARD WEDGE PARAMETERS

3.1.1 ACTIVATE AND SELECT KEYBOARD TYPE

- 1) Read this label to activate Keyboard Wedge and select a keyboard type.
- 2) Read the “[Decimal Value](#)” label on page 57. Refer to the table below for the number of desired keyboard type.
- 3) Read the “Validate” label on the same page to complete this setting.

Serial Command
0000



Activate & Select
Keyboard Type ...

NO.	KEYBOARD TYPE	NO.	KEYBOARD TYPE
1	PCAT (US)	15	PS55 001-81
2	PCAT (French)	16	PS55 001-2
3	PCAT (German)	17	PS55 001-82
4	PCAT (Italian)	18	PS55 001-3
5	PCAT (Swedish)	19	PS55 001-8A
6	PCAT (Norwegian)	20	PS55 002-1, 003-1
7	PCAT (UK)	21	PS55 002-81, 003-81
8	PCAT (Belgium)	22	PS55 002-2, 003-2
9	PCAT (Spanish)	23	PS55 002-82, 003-82
10	PCAT (Portuguese)	24	PS55 002-3, 003-3
11	PS55 A01-1	25	PS55 002-8A, 003-8A
12	PS55 A01-2 (Japanese)	26	IBM 3477 Type 4 (Japanese)
13	PS55 A01-3	27	PS2-30
14	PS55 001-1	28	IBM 34XX/319X, Memorex Telex 122 Keys



3.1.2 ALPHABETS LAYOUT

Serial Command
0312



<Default Layout>

Serial Command
0314



QWERTZ

Serial Command
0313



AZERTY

3.1.3 DIGITS LAYOUT

Serial Command
0007



<Default Layout>

Serial Command
0009



Lower Row

Serial Command
0008



Upper Row

3.1.4 CAPITAL LOCK TYPE

Serial Command
0010



<Default>

Serial Command
0012



Capital Lock

Serial Command
0011



Shift Lock

3.1.5 CAPITAL LOCK SETTING

Serial Command
0002



Auto Detection

Serial Command
0004



<Capital Lock OFF>

Serial Command
0003



Capital Lock ON



3.1.6 ALPHABETS TRANSMISSION

Serial Command
0005



Ignore Case

Serial Command
0006



<Case-Sensitive>

3.1.7 DIGITS TRANSMISSION

Serial Command
0013



Numeric Key

Serial Command
0014



<Alphanumeric
Key>

3.1.8 ALT COMPOSING

Serial Command
0335



Yes

Serial Command
0334



<No>

3.1.9 INTER-CHARACTER DELAY

- 1) Read this label to specify the inter-character delay.
- 2) Read the “[Decimal Value](#)” label on page 57 for the desired inter-character delay (millisecond).
- 3) Read the “Validate” label on the same page to complete this setting.

Serial Command
0015



Inter-Character
Delay ...

3.1.10 LAPTOP SUPPORT

Serial Command
0389



Enable

Serial Command
0388



<Disable>



3.2 RS-232 PARAMETERS

3.2.1 ACTIVATE RS-232 INTERFACE

Serial Command
0001



Activate RS-232
Interface

3.2.2 BAUD RATE

Serial Command
0023



115200 bps

Serial Command
0016



38400 bps

Serial Command
0017



19200 bps

Serial Command
0018



<9600 bps>

Serial Command
0019



4800 bps

Serial Command
0020



2400 bps

Serial Command
0021



1200 bps

Serial Command
0022



600 bps
(for 1200 only)

3.2.3 PARITY

Serial Command
0028



<No Parity>

Serial Command
0029



Even

Serial Command
0030



Odd



3.2.4 DATA BITS

Serial Command
0034



<8 bits>

Serial Command
0035



7 bits

3.2.5 FLOW CONTROL

Serial Command
0042



<None>

Serial Command
0043



Scanner Ready

Serial Command
0044



Data Ready

Serial Command
0045



Invert Data Ready

3.2.6 INTER-CHARACTER DELAY

- 1) Read this label to specify the inter-character delay.
- 2) Read the “[Decimal Value](#)” label on page 57 for the desired inter-character delay (millisecond).
- 3) Read the “Validate” label on the same page to complete this setting.

Serial Command
0015



Inter-Character
Delay ...



Update

3.3 WAND EMULATION PARAMETERS (1090+/1100/1105/1200)

3.3.1 ACTIVATE WAND EMULATION

Serial Command
0306



Activate Wand
Emulation

3.3.2 NORMAL STATE

Serial Command
0302



High

Serial Command
0303



<Low>

3.3.3 BAR STATE

Serial Command
0304



<High>

Serial Command
0305



Low

3.3.4 MODULE TIME

Serial Command
0362



250 μ s

Serial Command
0363



500 μ s

Serial Command
0364



<1 ms>

Serial Command
0365



1.5 ms

Serial Command
0366



2 ms

Serial Command
0367



3 ms

Serial Command
0368



4 ms

Serial Command
0369



5 ms



3.3.5 MARGIN TIMESerial Command
0370

5 ms

Serial Command
0372

<20 ms>

Serial Command
0374

40 ms

Serial Command
0376

80 ms

Serial Command
0371

10 ms

Serial Command
0373

30 ms

Serial Command
0375

60 ms

Serial Command
0377

100 ms



Update



SYMBOLGY SETTINGS

4.1 SELECT READABLE BARCODES

CODABAR

Serial Command
0086



<Enable>

Serial Command
0087



Disable

CODE 39

Serial Command
0074



<Enable>

Serial Command
0075



Disable

CODE 93

Serial Command
0088



<Enable>

Serial Command
0089



Disable

CODE 128

Serial Command
0090



<Enable>

Serial Command
0091



Disable

EAN-128

Serial Command
0104



Enable

Serial Command
0105



<Disable>

EAN-13

Serial Command
0106



<Enable No Addon>

Serial Command
0107



Disable No Addon



Serial Command
0108



Enable Addon 2

Serial Command
0110



Enable Addon 5

Serial Command
0109



<Disable Addon 2>

Serial Command
0111



<Disable Addon 5>

EAN-8

Serial Command
0098



<Enable No Addon>

Serial Command
0100



Enable Addon 2

Serial Command
0102



Enable Addon 5

Serial Command
0099



Disable No Addon

Serial Command
0101



<Disable Addon 2>

Serial Command
0103



<Disable Addon 5>

FRENCH PHARMACODE

Serial Command
0078



Enable

Serial Command
0079



<Disable>

ITALIAN PHARMACODE

Serial Command
0076



Enable

Serial Command
0077



<Disable>

INDUSTRIAL 25

Serial Command
0080



<Enable>

Serial Command
0081



Disable



INTERLEAVED 25

Serial Command
0082



<Enable>

Serial Command
0083



Disable

MATRIX 25

Serial Command
0084



Enable

Serial Command
0085



<Disable>

MSI

Serial Command
0112



Enable

Serial Command
0113



<Disable>

PLESSEY

Serial Command
0114



Enable

Serial Command
0115



<Disable>

RSS-14 & EXPANDED

Serial Command
0412



Enable RSS-14 & RSS
Expanded

Serial Command
413



<Disable Both>

RSS LIMITED

Serial Command
0414



Enable

Serial Command
0415



<Disable>

TELEPEN

Serial Command
0436



Enable

Serial Command
0437



<Disable>



UPC-A

Serial Command
0291



<Enable No Addon>

Serial Command
0293



Enable Addon 2

Serial Command
0295



Enable Addon 5

Serial Command
0292



Disable No Addon

Serial Command
0294



<Disable Addon 2>

Serial Command
0296



<Disable Addon 5>

UPC-E

Serial Command
0092



<Enable No Addon>

Serial Command
0094



Enable Addon 2

Serial Command
0096



Enable Addon 5

Serial Command
0093



Disable No Addon

Serial Command
0095



<Disable Addon 2>

Serial Command
0097



<Disable Addon 5>



4.2 CODABAR PARAMETERS

Serial Command
0086



<Enable>

Serial Command
0087



Disable

START / STOP CHARACTERS SELECTION

Serial Command
0151



<abcd/abcd>

Serial Command
0152



abcd/tn*e

Serial Command
0153



ABCD/ABCD

Serial Command
0154



ABCD/TN*E

START / STOP TRANSMISSION

Serial Command
0155



Enable

Serial Command
0156



<Disable>

CLSI CONVERSION

Serial Command
0157



Enable

Serial Command
0158



<Disable>



4.3 CODE 25 PARAMETERS

4.3.1 INDUSTRIAL 25

Serial Command
0080



<Enable>

Serial Command
0081



Disable

START / STOP PATTERN SELECTION

Serial Command
0130



<Industrial 25>

Serial Command
0131



Interleaved 25

Serial Command
0132



Matrix 25

CHECKSUM VERIFICATION

Serial Command
0139



Enable

Serial Command
0140



<Disable>

CHECKSUM TRANSMISSION

Serial Command
0141



<Enable>

Serial Command
0142



Disable

CODE LENGTH QUALIFICATION

- 1) Read the label to enable either Max. /Min. length qualification or fixed length qualification.
- 2) Read the labels for Max. /Min or fixed length separately.
- 3) Read the “[Decimal Value](#)” label on page 57 for the desired inter-character delay (millisecond).
- 4) Read the “Validate” label on the same page to complete this setting.

Serial Command
0208



Enable Max./Min. Length ...



Serial Command
0210



Max. Length

Serial Command
0211



Min. Length

Serial Command
0209



Enable Fixed Length ...

Serial Command
0210



Fixed Length 1

Serial Command
0211



Fixed Length 2

4.3.2 INTERLEAVED 25

Serial Command
0082



<Enable>

Serial Command
0083



Disable

START / STOP PATTERN SELECTION

Serial Command
0133



Industrial 25

Serial Command
0134



<Interleaved 25>

Serial Command
0135



Matrix 25

CHECKSUM VERIFICATION

Serial Command
0143



Enable

Serial Command
0144



<Disable>

CHECKSUM TRANSMISSION

Serial Command
0145



<Enable>

Serial Command
0146



Disable



CODE LENGTH QUALIFICATION

- 1) Read the label to enable either Max. /Min. length qualification or fixed length qualification.
- 2) Read the labels for Max. /Min or fixed length separately.
- 3) Read the “[Decimal Value](#)” label on page 57 for the desired inter-character delay (millisecond).
- 4) Read the “Validate” label on the same page to complete this setting.

Serial Command
0212



Enable Max./Min. Length ...

Serial Command
0214



Max. Length

Serial Command
0215



Min. Length

Serial Command
0213



Enable Fixed Length ...

Serial Command
0214



Fixed Length 1

Serial Command
0215



Fixed Length 2

4.3.3 MATRIX 25

Serial Command
0084



Enable

Serial Command
0085



<Disable>

START / STOP PATTERN SELECTION

Serial Command
0136



Industrial 25

Serial Command
0137



Interleaved 25

Serial Command
0138



<Matrix 25>



CHECKSUM VERIFICATION

Serial Command
0147



Enable

Serial Command
0148



<Disable>

CHECKSUM TRANSMISSION

Serial Command
0149



<Enable>

Serial Command
0150



Disable

CODE LENGTH QUALIFICATION

- 1) Read the label to enable either Max. /Min. length qualification or fixed length qualification.
- 2) Read the labels for Max. /Min or fixed length separately.
- 3) Read the “[Decimal Value](#)” label on page 57 for the desired inter-character delay (millisecond).
- 4) Read the “Validate” label on the same page to complete this setting.

Serial Command
0216



Enable Max./Min. Length ...

Serial Command
0218



Max. Length

Serial Command
0219



Min. Length

Serial Command
0217



Enable Fixed Length ...

Serial Command
0218



Fixed Length 1

Serial Command
0219



Fixed Length 2



4.4 CODE 39 PARAMETERS

Serial Command
0074



<Enable>

Serial Command
0075



Disable

START / STOP TRANSMISSION

Serial Command
0116



Enable

Serial Command
0117



<Disable>

CHECKSUM VERIFICATION

Serial Command
0118



Enable

Serial Command
0119



<Disable>

CHECKSUM TRANSMISSION

Serial Command
0120



<Enable>

Serial Command
0121



Disable

STANDARD / FULL ASCII CODE 39

Serial Command
0122



Full ASCII

Serial Command
0123



<Standard>

4.5 CODE 93 PARAMETERS

Serial Command
0088



<Enable>

Serial Command
0089



Disable

4.6 CODE 128 PARAMETERS

Serial Command
0090



<Enable>

Serial Command
0091



Disable



4.7 EAN-8 PARAMETERS

Serial Command
0098



<Enable No Addon>

Serial Command
0100



Enable Addon 2

Serial Command
0102



Enable Addon 5

Serial Command
0099



Disable No Addon

Serial Command
0101



<Disable Addon 2>

Serial Command
0103



<Disable Addon 5>

CONVERT TO EAN-13

Serial Command
0195



Enable

Serial Command
0196



<Disable>

CHECKSUM TRANSMISSION

Serial Command
0187



<Enable>

Serial Command
0188



Disable



4.8 EAN-13 PARAMETERS

Serial Command
0106



<Enable No Addon>

Serial Command
0107



Disable No Addon

Serial Command
0108



Enable Addon 2

Serial Command
0109



<Disable Addon 2>

Serial Command
0110



Enable Addon 5

Serial Command
0111



<Disable Addon 5>

ISBN CONVERSION

Serial Command
0179



Enable

Serial Command
0180



<Disable>

ISSN CONVERSION

Serial Command
0181



Enable

Serial Command
0182



<Disable>

CHECKSUM TRANSMISSION

Serial Command
0189



<Enable>

Serial Command
0190



Disable



4.9 EAN-128 PARAMETERS

Serial Command
0104



Enable

Serial Command
0105



<Disable>

CODE ID TRANSMISSION

Serial Command
0434



Enable

Serial Command
0435



<Disable>

FIELD SEPARATOR

Serial Command
0301



Enable Field Separator ...

- 1) Read this label to enable field separator.
- 2) Read the "[Hexadecimal Value](#)" label on page 58 for the desired character string.
- 3) Read the "Validate" label on the same page to complete this setting.



4.10 MSI PARAMETERS

Serial Command
0112



Enable

Serial Command
0113



<Disable>

CHECKSUM VERIFICATION

Serial Command
0167



<Single Modulo 10>

Serial Command
0168



Double Modulo 10

Serial Command
0169



Modulo 10 & 11

CHECKSUM TRANSMISSION

Serial Command
0170



<Last Digit Not
Transmitted>

Serial Command
0171



Both Digits
Transmitted

Serial Command
0172



Both Digits Not
Transmitted

CODE LENGTH QUALIFICATION

- 1) Read the label to enable either Max. /Min. length qualification or fixed length qualification.
- 2) Read the labels for Max. /Min or fixed length separately.
- 3) Read the [“Decimal Value”](#) label on page 57 for the desired inter-character delay (millisecond).
- 4) Read the [“Validate”](#) label on the same page to complete this setting.

Serial Command
0220



Enable Max./Min. Length ...



Serial Command
0222



Max. Length

Serial Command
0223



Min. Length

Serial Command
0221



Enable Fixed Length ...

Serial Command
0222



Fixed Length 1

Serial Command
0223



Fixed Length 2



4.11 PHARMACODE PARAMETERS

4.11.1 FRENCH PHARMACODE

Serial Command
0078



Enable

Serial Command
0079



<Disable>

CHECKSUM TRANSMISSION

Serial Command
0128



<Enable>

Serial Command
0129



Disable

4.11.2 ITALIAN PHARMACODE

Serial Command
0076



Enable

Serial Command
0077



<Disable>

CHECKSUM TRANSMISSION

Serial Command
0126



<Enable>

Serial Command
0127



Disable



4.12 PLESSEY PARAMETERS

Serial Command
0114



Enable

Serial Command
0115



<Disable>

CONVERT TO UK PLESSEY

Serial Command
0165



Enable

Serial Command
0166



<Disable>

CHECKSUM TRANSMISSION

Serial Command
0163



<Enable>

Serial Command
0164



Disable



4.13 RSS FAMILY PARAMETERS

CODE ID SELECTION

Serial Command
0432



]C1

Serial Command
0433



<]e0>

4.13.1 RSS-14

Serial Command
0412



Enable RSS-14 & RSS
Expanded

Serial Command
413



<Disable Both>

CODE ID TRANSMISSION

Serial Command
0418



<Enable>

Serial Command
0419



Disable

APPLICATION ID TRANSMISSION

Serial Command
0424



<Enable>

Serial Command
0425



Disable

CHECKSUM TRANSMISSION

Serial Command
0428



<Enable>

Serial Command
0429



Disable

4.13.2 RSS LIMITED

Serial Command
0414



Enable

Serial Command
0415



<Disable>



CODE ID TRANSMISSION

Serial Command
0420



<Enable>

Serial Command
0421



Disable

APPLICATION ID TRANSMISSION

Serial Command
0426



<Enable>

Serial Command
0427



Disable

CHECKSUM TRANSMISSION

Serial Command
0430



<Enable>

Serial Command
0431



Disable

4.13.3 RSS EXPANDED

Serial Command
0412



Enable RSS-14 & RSS
Expanded

Serial Command
413



<Disable Both>

CODE ID TRANSMISSION

Serial Command
0422



<Enable>

Serial Command
0423



Disable



4.14 TELEPEN PARAMETERS

Serial Command
0436



Enable

Serial Command
0437



<Disable>

TELEPEN OUTPUT

Serial Command
0440



Original Telepen
(Numeric)

Serial Command
0441



<AIM Telepen>

APPLY ALL 3 EDITING FORMATS

Serial Command
0443



<Apply All to Telepen>

Serial Command
0444



Disable All



4.15 UPC-A PARAMETERS

Serial Command
0291



<Enable No Addon>

Serial Command
0293



Enable Addon 2

Serial Command
0295



Enable Addon 5

Serial Command
0292



Disable No Addon

Serial Command
0294



<Disable Addon 2>

Serial Command
0296



<Disable Addon 5>

CONVERT TO EAN-13

Serial Command
0177



<Enable>

Serial Command
0178



Disable

SYSTEM NUMBER TRANSMISSION

Serial Command
0193



<Enable>

Serial Command
0194



Disable

CHECKSUM TRANSMISSION

Serial Command
0185



<Enable>

Serial Command
0186



Disable



4.16 UPC-E PARAMETERS

Serial Command
0092



<Enable No Addon>

Serial Command
0093



Disable No Addon

Serial Command
0094



Enable Addon 2

Serial Command
0095



<Disable Addon 2>

Serial Command
0096



Enable Addon 5

Serial Command
0097



<Disable Addon 5>

SYSTEM NUMBER SELECTION

Serial Command
0287



System Number 0 & 1

Serial Command
0288



<System Number 0
Only>

CONVERT TO UPC-A

Serial Command
0175



Enable

Serial Command
0176



<Disable>

SYSTEM NUMBER TRANSMISSION

Serial Command
0191



Enable

Serial Command
0192



<Disable>

CHECKSUM TRANSMISSION

Serial Command
0183



<Enable>

Serial Command
0184



Disable



DATA OUTPUT FORMAT

5.1 CHARACTER SUBSTITUTION

- 1) Read the label to enable either character substitution by set.
- 2) Read the “[Hexadecimal Value](#)” label on page 58 for the desired character string. For example, read “3”, “0”, “2” and “D” for the scanner to replace the character [0] with a dash [-].
- 3) Read the “Validate” label on the same page to complete this setting.

Serial Command
0309



Set 1

Serial Command
0310



Set 2

Serial Command
0311



Set 3

5.2 PREFIX/SUFFIX SETTING

- 1) Read the label to apply prefix code or suffix code separately.
- 2) Read the “[Hexadecimal Value](#)” label on page 58 for the desired character string. For example, read “2” and “B” for the scanner to prefix or suffix the character [+].
- 3) Read the “Validate” label on the same page to complete this setting.

Serial Command
0273



Prefix Code

Serial Command
0274



Suffix Code

5.3 CODE ID SETTING

5.3.1 CLEAR CODE ID SETTINGS

Serial Command
9960



Clear All Code ID
Settings



5.3.2 SELECT PRE-DEFINED CODE ID

Serial Command
9961



Code ID Set 1

Serial Command
9963



Code ID Set 3

Serial Command
9965



Code ID Set 5

Serial Command
9962



Code ID Set 2

Serial Command
9964



Code ID Set 4

5.3.3 CHANGE CODE ID

- 1) Read the label of a specific symbology to change its code ID.
- 2) Read the [“Hexadecimal Value”](#) label on page 58 for the desired character string. For example, read “4” and “4” for applying the character [D] for Code ID.
- 3) Read the “Validate” label on the same page to complete this setting.

Serial Command
0262



Codabar

Serial Command
0263



Code 93

Serial Command
0266



EAN-8

Serial Command
0258



French Pharmacode

Serial Command
0259



Industrial 25

Serial Command
0256



Code 39

Serial Command
0264



Code 128

Serial Command
0267



EAN-13

Serial Command
0257



Italian Pharmacode

Serial Command
0260



Interleaved 25



Serial Command
0261



Matrix 25

Serial Command
0268



MSI

Serial Command
0269



Plessey

Serial Command
0442



Telepen

Serial Command
0270



UPC-A

Serial Command
0265



UPC-E

5.4 LENGTH CODE SETTING

CODABAR

Serial Command
0236



Enable Length Code

Serial Command
0237



<Disable Length Code>

CODE 39

Serial Command
0224



Enable Length Code

Serial Command
0225



<Disable Length Code>

CODE 93

Serial Command
0238



Enable Length Code

Serial Command
0239



<Disable Length Code>

CODE 128

Serial Command
0240



Enable Length Code

Serial Command
0241



<Disable Length Code>

EAN-128 & RSS FAMILY

Serial Command
0299



Enable Length Code

Serial Command
0300



<Disable Length Code>



EAN-8

Serial Command
0244



Enable Length Code

Serial Command
0245



<Disable Length Code>

EAN-13

Serial Command
0246



Enable Length Code

Serial Command
0247



<Disable Length Code>

FRENCH PHARMACODE

Serial Command
0228



Enable Length Code

Serial Command
0229



<Disable Length Code>

ITALIAN PHARMACODE

Serial Command
0226



Enable Length Code

Serial Command
0227



<Disable Length Code>

INDUSTRIAL 25

Serial Command
0230



Enable Length Code

Serial Command
0231



<Disable Length Code>

INTERLEAVED 25

Serial Command
0232



Enable Length Code

Serial Command
0233



<Disable Length Code>

MATRIX 25

Serial Command
0234



Enable Length Code

Serial Command
0235



<Disable Length Code>



MSISerial Command
0248

Enable Length Code

Serial Command
0249

<Disable Length Code>

PLESSEYSerial Command
0250

Enable Length Code

Serial Command
0251

<Disable Length Code>

TELEPENSerial Command
0438

Enable Length Code

Serial Command
0439

<Disable Length Code>

UPC-ASerial Command
0289

Enable Length Code

Serial Command
0290

<Disable Length Code>

UPC-ESerial Command
0242

Enable Length Code

Serial Command
0243

<Disable Length Code>



Update



DATA EDITING

6.1 FORMAT SELECTION

6.1.1 ACTIVATE EDITING FORMATS

FORMAT 1

Serial Command
0281



Enable Editing Format 1

Serial Command
0282



<Disable
Editing Format 1>

FORMAT 2

Serial Command
0283



Enable Editing Format 2

Serial Command
0284



<Disable
Editing Format 2>

FORMAT 3

Serial Command
0285



Enable Editing Format 3

Serial Command
0286



<Disable
Editing Format 3>

APPLY ALL 3 EDITING FORMATS TO TELEPEN

Serial Command
0443



<Apply All to Telepen>

Serial Command
0444



Disable All

6.1.2 EXCLUSIVE DATA EDITING

Serial Command
0279



Reject Non-conforming Data

Serial Command
0280



<Normal>



6.2 EDITING FORMAT PARAMETERS

6.2.1 SELECT FORMAT TO CONFIGURE

START FORMAT PROGRAMMING

Serial Command
9981



Configure Format 1

Serial Command
9982



Configure Format 2

Serial Command
9983



Configure Format 3

END FORMAT PROGRAMMING

Serial Command
9980



End Format Programming

6.2.2 RESTORE DEFAULT FORMAT

Serial Command
9990



Restore Default Format

6.2.3 DEFINE DATA CRITERIA

APPLICABLE CODE TYPE

Serial Command
9992



<Apply to All Code Types>

Serial Command
9991



Clear All

Serial Command
0512



Codabar

Serial Command
0500



Code 39

Serial Command
0514



Code 93

Serial Command
0516



Code 128



Serial Command 0524		Serial Command 0526	
	EAN-8 No Addon		EAN-8 Addon 2
Serial Command 0528		Serial Command 0532	
	EAN-8 Addon 5		EAN-13 No Addon
Serial Command 0534		Serial Command 0536	
	EAN-13 Addon 2		EAN-13 Addon 5
Serial Command 0590		Serial Command 0504	
	EAN-128 / RSS		French Pharmacode
Serial Command 0502		Serial Command 0506	
	Italian Pharmacode		Industrial 25
Serial Command 0508		Serial Command 0510	
	Interleaved 25		Matrix 25
Serial Command 0538		Serial Command 0540	
	MSI		Plessey
Serial Command 0584		Serial Command 0586	
	UPC-A No Addon		UPC-A Addon 2
Serial Command 0588		Serial Command 0518	
	UPC-A Addon 5		UPC-E No Addon
Serial Command 0520		Serial Command 0522	
	UPC-E Addon 2		UPC-E Addon 5

DATA LENGTH

I) Read the labels for Max. /Min length separately.



- 2) Read the “[Decimal Value](#)” label on page 57 for the desired length.
- 3) Read the “Validate” label on the same page to complete this setting.

Serial Command
0548



Max. Length

Serial Command
0549



Min. Length

MATCHING STRING

- 1) Read the label to specify a matching string.
- 2) Read the “[Hexadecimal Value](#)” label on page 58 for the desired character string.
- 3) Read the “Validate” label on the same page to complete this setting.

Serial Command
0550



Matching String ...

LOCATION OF MATCHING STRING

- 1) Read the label to specify the location of the matching string.
- 2) Read the “[Decimal Value](#)” label on page 57 for the desired location.
- 3) Read the “Validate” label on the same page to complete this setting.

Serial Command
0551



Location of Matching String ...

6.2.4 DIVIDE DATA INTO FIELDS

TOTAL NUMBER OF FIELDS

Serial Command
0578



<One Field>

Serial Command
0579



Two Fields

Serial Command
0580



Three Fields

Serial Command
0581



Four Fields

Serial Command
0582



Five Fields

Serial Command
0583



Six Fields



FIELD 1 SETTING

- 1) Read the label to divide field by a specified terminating string.
- 2) Read the “[Hexadecimal Value](#)” label on page 58 for the desired character string.
- 3) Read the “Validate” label on the same page to complete this setting.

Serial Command
0555



Select Field Terminating String ...

Serial Command
0552



Include String

Serial Command
0553



Discard String

- 1) Read the label to divide field by field length.
- 2) Read the “[Decimal Value](#)” label on page 57 for the desired field length.
- 3) Read the “Validate” label on the same page to complete this setting.

Serial Command
0554



Divide Field by Field Length ...

FIELD 2 SETTING

- 1) Read the label to divide field by a specified terminating string.
- 2) Read the “[Hexadecimal Value](#)” label on page 58 for the desired character string.
- 3) Read the “Validate” label on the same page to complete this setting.

Serial Command
0559



Select Field Terminating String ...

Serial Command
0556



Include String

Serial Command
0557



Discard String

- 1) Read the label to divide field by field length.
- 2) Read the “[Decimal Value](#)” label on page 57 for the desired field length.
- 3) Read the “Validate” label on the same page to complete this setting.



Serial Command
0558



Divide Field by Field Length ...

FIELD 3 SETTING

- 1) Read the label to divide field by a specified terminating string.
- 2) Read the “[Hexadecimal Value](#)” label on page 58 for the desired character string.
- 3) Read the “Validate” label on the same page to complete this setting.

Serial Command
0563



Select Field Terminating String ...

Serial Command
0560



Include String

Serial Command
0561



Discard String

- 1) Read the label to divide field by field length.
- 2) Read the the “[Decimal Value](#)” label on page 57 for the desired field length.
- 3) Read the “Validate” label on the same page to complete this setting.

Serial Command
0562



Divide Field by Field Length ...

FIELD 4 SETTING

- 1) Read the label to divide field by a specified terminating string.
- 2) Read the “[Hexadecimal Value](#)” label on page 58 for the desired character string.
- 3) Read the “Validate” label on the same page to complete this setting.

Serial Command
0567



Select Field Terminating String ...

Serial Command
0564



Include String

Serial Command
0565



Discard String

- 1) Read the label to divide field by field length.
- 2) Read the “[Decimal Value](#)” label on page 57 for the desired field length.



- 3) Read the “Validate” label on the same page to complete this setting.

Serial Command
0566



Divide Field by Field Length ...

FIELD 5 SETTING

- 1) Read the label to divide field by a specified terminating string.
2) Read the “[Hexadecimal Value](#)” label on page 58 for the desired character string.
3) Read the “Validate” label on the same page to complete this setting.

Serial Command
0571



Select Field Terminating String ...

Serial Command
0568



Include String

Serial Command
0569



Discard String

- 1) Read the label to divide field by field length.
2) Read the “[Decimal Value](#)” label on page 57 for the desired field length.
3) Read the “Validate” label on the same page to complete this setting.

Serial Command
0570



Divide Field by Field Length ...

6.2.5 ADDITIONAL FIELDS

- 1) Read the label to specify an additional field, one at a time.
2) Read the “[Hexadecimal Value](#)” label on page 58 for the desired additional field.
3) Read the “Validate” label on the same page to complete this setting.

Serial Command
0572



Additional Field 1...

Serial Command
0573



Additional Field 2...

Serial Command
0574



Additional Field 3...

Serial Command
0575



Additional Field 4...



Serial Command
0576



Additional Field 5...

6.2.6 FIELD TRANSMISSION SEQUENCE

- 1) Read the “Start” label to begin with programming the field transmission sequence.
- 2) Program the transmission sequence by reading the desired fields as well as additional fields.
- 3) Read the “End” label on the same page to complete this setting.

Serial Command
0577



Start (Programming) ...

Serial Command
9901



Field 1

Serial Command
9902



Field 2

Serial Command
9903



Field 3

Serial Command
9904



Field 4

Serial Command
9905



Field 5

Serial Command
9906



Field 6

Serial Command
9907



Additional Field 1

Serial Command
9908



Additional Field 2

Serial Command
9909



Additional Field 3

Serial Command
9910



Additional Field 4

Serial Command
9911



Additional Field 5

Serial Command
9994



End (Programming)



NUMERAL SYSTEMS

DECIMAL SYSTEM

DECIMAL

Serial Command
9900



0

Serial Command
9902



2

Serial Command
9904



4

Serial Command
9906



6

Serial Command
9908



8

Serial Command
9901



1

Serial Command
9903



3

Serial Command
9905



5

Serial Command
9907



7

Serial Command
9909



9

VALIDATE THE VALUES

Serial Command
9994



Validate



HEXADECIMAL SYSTEM

HEXADECIMAL

Serial Command 9900		Serial Command 9901	
	0		1
Serial Command 9902		Serial Command 9903	
	2		3
Serial Command 9904		Serial Command 9905	
	4		5
Serial Command 9906		Serial Command 9907	
	6		7
Serial Command 9908		Serial Command 9909	
	8		9
Serial Command 9910		Serial Command 9911	
	A		B
Serial Command 9912		Serial Command 9913	
	C		D
Serial Command 9914		Serial Command 9915	
	E		F

VALIDATE THE VALUES

Serial Command 9994	
	Validate



KEYBOARD WEDGE TABLE & ASCII TABLE

KEYBOARD WEDGE TABLE

	0	1	2	3	4	5	6	7	8
0		F2	SP	0	@	P	`	p	⓪
1	INS	F3	!	1	A	Q	a	q	①
2	DLT	F4	"	2	B	R	b	r	②
3	Home	F5	#	3	C	S	c	s	③
4	End	F6	\$	4	D	T	d	t	④
5	Up	F7	%	5	E	U	e	u	⑤
6	Down	F8	&	6	F	V	f	v	⑥
7	Left	F9	'	7	G	W	g	w	⑦
8	BS	F10	(	8	H	X	h	x	⑧
9	HT	F11	)	9	I	Y	i	y	⑨
A	LF	F12	*	:	J	Z	j	z	
B	Right	ESC	+	;	K	[	k	{	
C	PgUp	Exec	,	<	L	\	l	|	
D	CR	CR*	-	=	M	]	m	}	
E	PgDn		.	>	N	^	n	~	
F	FI		/	?	O	_	o	Dly	ENTER*

Note: (1) ⓪~⑨: Digits of numeric keypad.
 (2) CR*/Send/ENTER*: ENTER key on the numeric keypad.

KEY TYPE

Serial Command
9926



<Normal>

Serial Command
9936



Scan Code

Note: If "Keyboard Wedge" is configured for interface, Key Type and Key Status will then become applicable.

KEY STATUS

Serial Command
9930



Add Shift

Serial Command
9932



Add Left Alt

Serial Command
9934



Add Right Alt

Serial Command
9931



Add Left Ctrl

Serial Command
9933



Add Right Ctrl

Note: Decide whether or not to apply Key Status when “Normal Key” is selected for Key Type.

ASCII TABLE

	0	1	2	3	4	5	6	7	
0		DLE	SP	0	@	P	`	p	
1	SOH	DC1	!	1	A	Q	a	q	
2	STX	DC2	"	2	B	R	b	r	
3	ETX	DC3	#	3	C	S	c	s	
4	EOT	DC4	\$	4	D	T	d	t	
5	ENQ	NAK	%	5	E	U	e	u	
6	ACK	SYN	&	6	F	V	f	v	
7	BEL	ETB	'	7	G	W	g	w	
8	BS	CAN	(	8	H	X	h	x	
9	HT	EM	)	9	I	Y	i	y	
A	LF	SUB	*	:	J	Z	j	z	
B	VT	ESC	+	;	K	[	k	{	
C	FF	FS	,	<	L	\	l	|	
D	CR	GS	-	=	M	]	m	}	
E	SO	RS	.	>	N	^	n	~	
F	SI	US	/	?	O	_	o	DEL	

HOST SERIAL COMMANDS

SERIAL COMMANDS

#@nnnn<CR>

Purpose To configure the scanner.

Remarks nnnn – the four digits of command parameters. For example, “9952” is to list the current Code ID settings.



“0x23” + “0x40” + “0x39” + “0x39” + “0x35” + “0x32” + “0x0d”

#@----<CR>

Purpose To halt the scanner.

Remarks “0x23” + “0x40” + “0x2d” + “0x2d” + “0x2d” + “0x2d” + “0x0d”

#@....<CR>

Purpose To resume operation.

Remarks “0x23” + “0x40” + “0x2e” + “0x2e” + “0x2e” + “0x2e” + “0x0d”

#@////<CR>

Purpose To respond with a beep.

Remarks “0x23” + “0x40” + “0x2f” + “0x2f” + “0x2f” + “0x2f” + “0x0d”

EXAMPLE

Send the serial commands via RS-232 interface or Bluetooth SPP. For example, run HyperTerminal on the host computer.

- ▶ For the scanner to change the buzzer frequency to 2 kHz and beep –

```
#@0048<CR>
```

```
#@////<CR>
```

- ▶ For the scanner to change the buzzer frequency to 8 kHz and beep –

```
#@0046<CR>
```

```
#@////<CR>
```

- ▶ For the scanner to change the buzzer frequency to 4 kHz and beep –
#@0047<CR>
#@////<CR>
- ▶ For the scanner to change the buzzer frequency to 1 kHz and beep –
#@0049<CR>
#@////<CR>

UPGRADING FIRMWARE

HOW TO UPGRADE 1166/1266 FIRMWARE

You can only upgrade firmware of one scanner at a time. You must remove the battery of each of the rest scanners when there is more than one scanner connected to your computer, either via (1) the 3666 cradle or (2) the 3667 cradle or any generic Bluetooth dongle.

Note: In case it fails downloading due to low battery, make sure the target scanner is loaded with a fully charged battery.

USING 3666

- 1) Connect the power supply cord from the 3666 cradle to a proper power outlet.
- 2) Connect the serial cable between the 3666 cradle and your computer via the RS-232 port.
- 3) Refer to section 1.5 for the target scanner to set connection with the 3666 cradle.
Read the “Set Connection” label first, and then the “Serial Number” label within 5 seconds.
Both labels can be located at the bottom of the cradle.
- 4) Read the following labels in sequence to configure the scanner to use RS-232 as output interface.



- 5) Read the following labels in sequence for the scanner to enter the download mode.
The scanner will respond with beeps to indicate it is ready for downloading.



- 6) Run the download utility “ProLoad.exe” or “Download.exe” on your computer.

(Download.exe requires version 2.3 or later!)

Open the firmware update “Ix66-xx.shx”, and select the correct COM port.

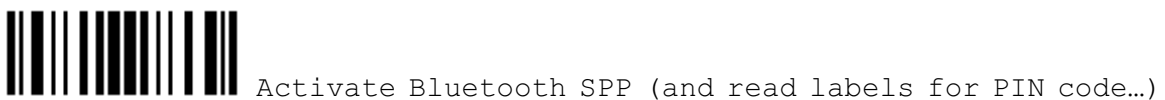
- ▶ Baud rate – 115,200 bps
- ▶ Data bit – 8
- ▶ Parity – None
- ▶ Flow control – None

- 7) The scanner will automatically restart itself when upgrading firmware is completed successfully.

USING 3667 OR GENERIC DONGLE

- 1) Connect the 3667 cradle or any Bluetooth dongle to your computer via the USB port.
- 2) Refer to section 1.6.1 for the target scanner to establish a connection with your computer via the 3667 cradle or a dongle.

Read the following labels in sequence to configure the scanner to use Bluetooth Serial Port as output interface.



- 3) Same as steps 5 ~ 7 above.

HOW TO UPGRADE 3666 FIRMWARE

- 1) Connect the power supply cord from the 3666 cradle to a proper power outlet.
- 2) Connect the serial cable between the 3666 cradle and your computer via the RS-232 port.
- 3) Refer to section 1.5 for a scanner to set connection with the 3666 cradle.
Read the “Set Connection” label first, and then the “Serial Number” label within 5 seconds.
Both labels can be located at the bottom of the cradle.
- 4) Read the following labels in sequence for the 3666 cradle to enter the download mode.
The LED of the cradle will be flashing red and green to indicate it is ready for downloading.



- 5) Run the download utility “ProgLoad.exe” or “Download.exe” on your computer.
(Download.exe requires version 2.3 or later!)
Open the firmware update “3666*.shx”, and select the correct COM port.
 - ▶ Baud rate – 38,400 bps
 - ▶ Data bit – 8
 - ▶ Parity – None
 - ▶ Flow control – None
- 6) The 3666 cradle will automatically restart itself when upgrading firmware is completed successfully.
- 7) Read the “Update” label for the scanner to resume its operation (exit the configuration mode).



FIND OUT FIRMWARE VERSION OF 3666

- 1) Connect the power supply cord from the 3666 cradle to a proper power outlet.
- 2) Connect the serial cable between the 3666 cradle and your computer via the RS-232 port.
- 3) Refer to section 1.5 for a scanner to set connection with the 3666 cradle.
Read the “Set Connection” label first, and then the “Serial Number” label within 5 seconds.
Both labels can be located at the bottom of the cradle.

- 4) If RS-232 is selected for output interface, run “HypterTerminal” and read the following labels in sequence for the scanner to get the firmware version of the 3666 cradle.

If Keyboard Wedge or USB HID is selected for output interface, run “WordPad” instead.



Enter Setup



Version

- 5) The current version information of the 3666 cradle will be displayed. For example,

Version = V1.06 Oct 01 2003

SN: SW3000014

- 6) Read the “Update” label for the scanner to resume its operation (exit the configuration mode).



Update

Regulations

This equipment has been tested and found to comply with the limits for a **Class B** digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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

You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the interference-causing equipment standard entitled "Digital Apparatus," ICES-003 of Industry Canada.

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

Cet appareil numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Classe B prescrites dans la norme sur le matériel brouilleur: "Appareils Numériques," NMB-003 édictée par l'Industrie.

FCC RF Radiation Exposure Statement:

1. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
2. This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

NCC Warning Statement

Article 12

Without permission, any company, firm or user shall not alter the frequency, increase the power, or change the characteristics and functions of the original design of the certified lower power frequency electric machinery.

Article 14

The application of low power frequency electric machineries shall not affect the navigation safety nor interfere a legal communication, if an interference is found, the service will be suspended until improvement is made and the interference no longer exists.