DATALOGIC™

QuickScan® QS2500

Handheld Bar Code Scanner

Product Reference Guide

Disclaimer

Table of Contents

Installation

Complete the following steps for the appropriate interface.

Keyboard Wedge

1. Turn off the terminal or computer.

2. Disconnect the keyboard cable from the back of the terminal or computer.

3. Connect the QS2500 to the terminal or computer using the appropriate interface cable.

4. Turn the terminal or computer back on.

Wand Emulation

1. Turn off the terminal or computer.

2. Connect the appropriate interface cable to the terminal or computer.

3. Turn the terminal or computer on.

RS-232

1. Turn off the terminal or computer.

2. Connect the interface cable and the external power supply (DC adapter) shipped with your QS2500. If a power-off-terminal (POT) cable is shipped, no external power supply is required.

3. Secure the connector to the serial port on the back of the computer or terminal by tightening the two screws.

4. If required, plug the power supply into the power source.

5. Turn the terminal or computer on.

USB

1. Plug the USB cable into the terminal or computer.

> **NOTE**
>
> **If the QS2500 does not operate, turn off the terminal or computer immediately and check all connections. If necessary, go through the above steps again.**
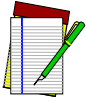
IBM

1. Turn off the terminal or computer.

2. Connect the appropriate interface cable to the terminal or computer.

3. Turn the terminal or computer on.

Programming the QS2500

To program the QS2500, you must scan a series of programming bar codes in the correct order. The inside back cover of this manual contains a table of alphanumeric bar codes needed to program the various options.

To program each option:

1. Scan the Start Program bar code above the list of options (see the table below).

2. Enter the option mode by scanning the Option bar code.

3. Find the alphanumeric entry for the option setting you want, and scan the alphanumeric characters located in Appendix E.

NOTES

Auto-detect - the scanner can automatically detect the interface hardware for all interfaces except Wand Emulation.

IBM interfaces - must be selected individually depending on the port used. Refer to IBM Interface (46XX/USB) on page 13**.**

4. Scan the Store Settings bar code in Appendix E.

5. Scan the Exit bar code.
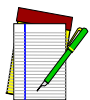
NOTES

A software utility, Configurator Express, is also available for programming and configuring the QS2500. Refer to the Readme file on the QS2500 product CD for additional information.

CAUTION

Disabling the Code 39 symbology will disable the scanner's capability to read the bar code labels in this manual.

Resetting the QS2500

To return all QS2500 option settings to the factory defaults, scan the following two bar codes, in the order shown:

Start Program

Default Value Initialization

Interfaces

The QS2500 supports Keyboard Wedge, RS-232, Wand Emulation, IBM and USB interfaces. The correct interface cable is included for the scanner interface type you ordered.

Keyboard Wedge

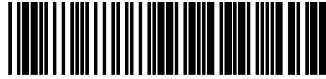As a keyboard interface, the QS2500 supports most popular PCs and IBM terminals. The installation of the wedge is a fairly simple process that doesn't require any changes of software or hardware.

Keyboard Type: Select the keyboard type connector for your host computer.

Keyboard Layout: The Keyboard Layout option supports many languages. For details about keyboard languages, please refer to your operating system manual.

Keyboard Speed: You can change the output speed of the QS2500 to match that of the host computer. Generally, set **00** or **01** for high speed. If output characters of bar codes get lost, you may need to set a slower speed.

||||||||||||||||||||||||||||||||||| **Start Program**

Option Bar Code	Option	Alphanumeric Entry
|||||||||||||||||||||| **Keyboard Type**	IBM AT, PS/2	00*
	Reserved	01 - 06
|||||||||||||||||||||| **Keyboard Layout**	USA	00*
	Belgium	01
	Danish	02
	France	03
	Germany	04
	Italian	05
	Portuguese	06
	Spanish	07
	Swedish	08
	Switzerland	09
	UK	10
	Latin American	11
	Japan	12
|||||||||||||||||||||| **Keyboard Speed**	0–8 (0 = high clock rate; 8 = low clock rate)	00–08 01*

||||||||||||||||||||||||||||||||| **Exit**

Function Key: When this option is enabled, the QS2500 outputs bar code ASCII values from 01_{hex} to $1F_{hex}$ as function-key presses in your application. See the table of ASCII codes In Appendix C on page 66.

Numeric Key: If your application accepts only keypad numeric code, use setting **01** to make the QS2500 output code as numeric-keypad presses when it reads digits. If you use setting **02**, the scanner will send the three digit ACSCII number for all data using the Alt and numeric keypad key-codes. Setting **02** prevents the caps Lock from affecting scanner data.

Caps Lock: By selecting Caps Lock or No Caps Lock, the QS2500 can get Caps Lock status.

Power-On Simulation: All PCs check the keyboard status during the power-on selftest. It is recommended that you enable this function if you are working without a keyboard installation. It simulates keyboard timing and passes the keyboard status to the PC during power-on.

Intercharacter Delay: This delay is inserted after each data character transmitted. If the transmission speed is too high, the system may not be able to receive all characters. You may need to adjust the delay to make the system work properly.

Block Transmission Delay: This is a delay timer between bar code data outputs. The feature is used to transfer continually with shorter bar code data or multifield scanning.

|||||||||||||||||||||||||||||||||| **Start Program**

Option Bar Code	Option	Alphanumeric Entry
|||||||||||||||||| **Function Key**	Disable	00*
	Enable	01
|||||||||||||||||| **Numeric Key**	Alphabetic key	00*
	Numeric keypad only	01
	Alt+Keypad	02
|||||||||||||||||| **Caps Lock**	Caps lock	00
	No caps lock	01*
|||||||||||||||||| **Power-On Simulation**	Disable	00*
	Enable	01
|||||||||||||||||| **Intercharacter Delay**	0–99 (msec.)	00–99 02*
|||||||||||||||||| **Block Transmission Delay**	0–99 (10 msec.)	00–99 10*

|||||||||||||||||||| **Exit**

Wand Emulation

Start Program

Option Bar Code	Option	Alphanumeric Entry
Interface selection	Keyboard Wedge	00*
	Wand Emulation	02
Bar/Space Polarity	Bar high/Space low	00*
	Bar low/Space high	01
Idle Polarity	Idle low	00*
	Idle high	01
Output Speed (pixels per second)	660	00
	1250	01
	2500	02
	5000	03*
	10000	04
	20000	05

Option Bar Code	Option	Alphanumeric Entry
‖‖‖‖‖‖‖‖‖‖‖‖‖ **Margin Delay (pixels)**	**15 (Default)** **00–99 (x 10 pixels)**	15* 00–99
‖‖‖‖‖‖‖‖‖‖‖‖‖ **Transmit Delay** **(Milliseconds)**	**30 (default)** **00–99 (x 10 msec.)**	30* 00–99

‖‖‖‖‖‖‖‖‖‖‖‖‖   **Exit**

RS-232

Option Bar Code	Option	Alphanumeric Entry
Baud Rate	300 Baud	00
	600 Baud	01
	1200 Baud	02
	2400 Baud	03
	4800 Baud	04
	9600 Baud	05*
	19200 Baud	06
	38400 Baud	07
Parity	None	00*
	Odd	01
	Even	02
Data Bit	8 bits	00*
	7 bits	01
Stop Bit	1 bit	00*
	2 bits	01

Exit

CTS = Clear To Send (Hardware Signal)
RTS = Request To Send (Hardware Signal)
Xon = Transmit On (ASCII Code 11_{hex})
Xoff = Transmit Off (ASCII Code 13_{hex})
ACK = Acknowledge (ACSII Code 06_{hex})
NAK = Not Acknowledge (ASCII Code 15_{hex})

RS-232 Advanced Features

Flow Control

None: The communication uses only TxD and RxD signals, without regard for any hardware or software handshaking protocol.

RTS/CTS: If the QS2500 wants to send the bar code data to the host computer, it will issue the RTS signal first, wait for the CTS signal from the host computer, and then perform the normal data communication. If there is no replied CTS signal from the host computer after the timeout (response delay) duration, the QS2500 will issue five warning beeps.

Xon/Xoff: When the host computer is unable to accept data, it sends an Xoff code to inform the QS2500 to suspend data transmission and an Xon to continue.

ACK/NAK: When the ACK/NAK protocol is used, the QS2500 waits for an ACK (acknowledge) or NAK (not acknowledge) from the host computer after data transmission. It then resends the data in response to a NAK.

Datalogic Aux. Port: This configures the QS2500 flow control to connect to the Auxiliary (AUX) port of some Datalogic omni-directional scanners. The QS2500 will assert RTS high to signal the scanner that data will be sent immediately after RTS is asserted. When connecting to a Datalogic scanner aux. port, additional programming is required to enable transmission of code IDs for all symbologies to be scanned.

Mode B: This configures the RS-233 flow control to communicate to some Wincor (SNI) terminals.

Intercharacter Delay
This is the delay time between outputs of data character. It is the same as the intercharacter delay of the keyboard wedge.

Block Transmission Delay
This is the delay time between outputs of bar code data. It is the same as the block transmission delay of the keyboard wedge.

RS-232 Advanced Features — continued

Response Delay
This delay is used for serial communication. It is the amount of time the QS2500 waits for handshaking acknowledgment from the host computer.

Start Program

Option Bar Code	Option	Alphanumeric Entry
Flow Control	**None**	00*
	RTS/CTS	01
	Xon/Xoff	02
	ACK/NAK	03
	Datalogic Aux. Port[a]	04
	Mode B	05
Intercharacter Delay	**0–99 (msec.)**	00–99 00*
Block Transmission Delay	**0–99 (10 msec.)**	00–99 00*
Response Delay	**0–99 (100 msec.)**	00–99 20*

Exit

a. Reading PDF417 through the Aux. Port is host dependent.

IBM Interface (46XX/USB)

The next few pages contain the programming labels for configuring the IBM interface to match your interface configuration and symbology specific requirements.

Start Program

Option Bar Code	Option	Alphanumeric Entry
	IBM 46xx port 17	00
	IBM 46xx port 5B	01
	IBM 46xx port 9B	02

Exit

These bar codes to select the IBM USB interface.

Start Program

Option Bar Code	Option	Alphanumeric Entry
Select IBM Interface	IBM USB	03

Exit

IBM Options

IBM 46xx Code 39 Conversion

This feature enables/disables the scanner's ability to set the symbology identifier for the specified symbology to Code 39 before sending the label data to an IBM host. This applies to: Code 128, Code 93 and Codabar for IBM Port 5B; Code 93 and Codabar for IBM Port 9B.

> **NOTES**
>
> **This feature is for IBM port 5B and IBM port 9B.**

IBM-USB Device Type

The IBM-USB protocol allows for the scanner to be identified as one of two different types of barcode scanners. Depending on what other scanners you may already have connected to a IBM-USB POS, you may need to change this setting to enable all scanners to communicate. Options are:
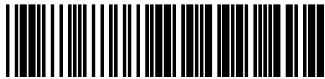
*   Table Top Scanner
*   Handheld Scanner

> **NOTES**
>
> **This feature applies only to the IBM USB interface.**

IBM Maximum Host-Transmitted Message Length

Specifies the maximum number of data characters allowed in messages transmitted to an IBM host.

> **NOTES**
>
> **If this configuration item is set to zero, there is no general length limit imposed on data being transmitted to the host.**

Option Bar Code	Option	Alphanumeric Entry
‖‖‖‖‖‖‖‖‖‖ **IBM 46xx Code 39 Conversion**	Disable	00*
	Enable	01
‖‖‖‖‖‖‖‖‖‖ **IBM USB Device Type**	Table-top	00
	Handheld	01*
‖‖‖‖‖‖‖‖‖‖ **Max. Host Transmit Message Length**	0x00–0xF6	
		00*

‖‖‖‖‖‖‖‖‖‖ **Exit**

IBM Host Commands

Specifies whether the scanner will process or ignore IBM host commands.

‖‖‖‖‖‖‖‖‖‖‖‖ **Start Program**

Option Bar Code	Option	Alphanumeric Entry
‖‖‖‖‖‖‖‖‖‖ **Host Commands**	Process Host Commands	00*
	Ignore Host Commands	01

Exit   ‖‖‖‖‖‖‖‖‖‖

Scanning

Scanning Mode

Good-read off: The trigger button must be pressed to activate scanning. The light source of the QS2500 stops scanning when there is a successful read or no code is decoded after the standby duration has elapsed.

Momentary: The trigger button acts as a switch. Pressing the button activates scanning and releasing the button stops scanning.

Alternate: The trigger button acts as a toggle switch. Pressing the button activates or stops scanning.

Timeout off: The trigger button must be pressed to activate scanning, and the QS2500 stops scanning when no code is decoded after the standby duration has elapsed.

Continue: The QS2500 always keeps reading, and it does not matter whether the trigger button is pressed or the standby duration has elapsed. Select this mode for use in Stand Mode.

Test only: The QS2500 always keeps a constant reading, and same-label reading is allowed without double confirmation. The feature can test the performance of the QS2500 for reading speed and sensitivity.

Standby Duration

A timeout duration of 1 to 99 seconds can be set. It is effective only when the CCD scanning mode is operated in timeout-off mode and good-read off mode.

Same Bar Code Delay Time

If the bar code has been scanned twice, then only the first bar code will be accepted.

Double Confirm

If this option is enabled, the QS2500 will require a several successful decodings to confirm the bar code data. Larger settings will make misreads less likely. If a double confirm is set, the multifield scan function will be disabled.

|||||||||||||||||||||||||| **Start Program**

Option Bar Code	Option	Alphanumeric Entry
||||||||||||||||| **Scanning Mode**	Good-read off	00
	Momentary	01*
	Alternate	02
	Timeout off	03
	Continue/Scan Mode	04
	Test only	05
||||||||||||||||| **Standby Duration**	0–99 (sec.)	01–99 10*
||||||||||||||||| **Same Bar Code Delay Time**	0–99 (10 msec.)	01–99 50*
||||||||||||||||| **Double Confirm**	0–99 (0 = no double confirm)	00–09 00*

|||||||||||||||||| **Exit**

Global Minimum/Maximum Code Length: Global minimum and maximum length can be set to qualify data entry. The length is defined as the actual bar code data length to be sent. Labels with length exceeding these limits will be rejected. Make sure that the minimum-length setting is no greater than the maximum-length setting; otherwise, the labels of the symbology will not be readable. In particular, you can set the same value for both minimum and maximum lengths to force decoding of only fixed-length bar codes. This setting has no effect on certain symbologies of fixed length.

NOTE

Set the minimum/maximum length if you have a special demand for individual bar codes. Include the checksum digits if you want to set global minimum/maximum code length.

Start Program

Option Bar Code	Option	Alphanumeric Entry
Global Minimum Code Length	0–63	00–63 04*
Global Maximum Code Length	0–63	00–63 63*

Exit

Inverted Image Scan: With this option enabled, the QS2500 will scan black/white bar codes with a white/black background.

CTS Trigger: This operation enables an external device to control scanning by applying an external trigger signal to the CTS input. When active, this signal causes scanning to begin as the QS2500's trigger is depressed.

Visible Scan Field Indicator: This function allows a visible indicator to be emitted when the trigger is pulled.

||||||||||||||||||||||||||||| **Start Program**

Option Bar Code	Option	Alphanumeric Entry
Inverted Image Scan	Disable	00*
	Enable	01
CTS Trigger	Disable	00*
	Enable	01
Visible Scan Field Indicator	Disable	00*
	30 second	01
	60 second	02
	90 second	03
	120 second	04
	150 second	05
	180 second	06
	Continuous	07

||||||||||||||||||| **Exit**

Beep/Tone/LED Settings

Power-On Alert: After power-on, the QS2500 will generate an alert signal to indicate a successful self-test.

LED Control: After each successful bar code reading, the LED above the QS2500 will light up.

Beep Control: After each successful bar code reading, the QS2500 will beep.

Beep Loudness/Beep-Tone Frequency/Beep-Tone Duration: You can adjust the loudness, tone, and duration of the good-read beep.

||||||||||||||||||||||| **Start Program**

Option Bar Code	Option	Alphanumeric Entry
|||||||||||||| **Power-On Alert**	Disable	00
	Enable	01*
|||||||||||||| **LED Indication**	Disable	00
	Enable	01*
|||||||||||||| **Beeper Indication**	Disable	00
	Enable	01*
|||||||||||||| **Beep Loudness**	0–07	00–07 03*
|||||||||||||| **Beep-Tone Frequency**	0–99 (100Hz)	00–99 26*
|||||||||||||| **Beep-Tone Duration**	0–99 (10 msec.)	00–99 10*
|||||||||||||| **Beep/Lamp Option 1:** Beep & LED after decode	Disable	00
	Enable	01*
|||||||||||||| **Beep/Lamp Option 2:** Beep & LED after data transmission	Disable	00
	Enable	01
|||||||||||||| **Beep/Lamp Option 3:** Beep & LED after data transmission & CTS active	Disable	00
	Enable	01

|||||||||||||||||| **Exit**

Label Editing (includes Prefix/Suffix)

Prefix Characters: Up to 22 ASCII characters may be sent before data.

Prefix	Data	Suffix

Suffix Characters: Up to 22 ASCII characters may be sent after data.

Preamble/Postamble Characters: These characters are affixed to the data automatically when each bar code is decoded.

Example: Add a prefix/suffix or preamble/postamble for all symbologies. In this example, you can send a '$' symbol as a prefix for all symbologies by completing the following steps:

1. Scan the Start Program and Prefix Characters Setting bar codes below.

2. Use the ASCII code table (see Appendix C - page 66) to find the ASCII value for $(24$_{hex}$).

3. Scan the bar codes for 2 and 4 on the inside back cover of this manual.

4. Scan the Store Settings bar code on the inside back cover.

5. Scan the Exit bar code.

Insert G1/G2/G3/G4 Character Setting: The QS2500 offer four positions and four characters to insert into the symbol data.

Example: Bar code: "1 2 3 4 5 6".
Output: "1 2 A B 3 4 C D 5 6".

1. Scan Start Program and Insert G1 Characters Setting bar code below.

2. Use the ASCII code table (see Appendix C on page 66) to find the ASCII value for A (41) and B (42).

3. Scan the $_{hex}$ digit bar codes for 4, 1 and 4, 2 on the inside back cover of this manual.

4. Scan the Store Settings bar code on the inside back cover.

5. Repeat the same procedure for the G2 characters.

6. Scan the Exit bar code.

7. Insert the data group 1–4 position. (page 24.)

||||||||||||||||||||||||||| **Start Program**

Option Bar Code	Option	Alphanumeric Entry
|||||||||||||||||| **Prefix**	**None**	00*
	1–22 characters	00–ff$_{hex}$ ASCII code
|||||||||||||||||| **Suffix**	**None**	00
	1–22 characters	00–ff$_{hex}$ ASCII code
		<cr>*
|||||||||||||||||| **Preamble**	**None**	00*
	1–22 characters	00–ff$_{hex}$ ASCII code
|||||||||||||||||| **Postamble**	**None**	00*
	1–22 characters	00–ff$_{hex}$ ASCII code
|||||||||||||||||| **Insert G1 Characters Setting**	**None**	00*
	1–22 characters	00–ff$_{hex}$ ASCII code

Option Bar Code	Option	Alphanumeric Entry
||||||||||| |||||| ||| |||| ||| **Insert G2 Characters Setting**	None	00*
	1–22 characters	00–ff$_{hex}$ ASCII code
||||||||||| |||||| ||| |||| ||| **Insert G3 Characters Setting**	None	00*
	1–22 characters	00–ff$_{hex}$ ASCII code
||||||||||| |||||| ||| |||| ||| **Insert G4 Characters Setting**	None	00*
	1–22 characters	00–ff$_{hex}$ ASCII code

||||| | || | ||| | |||| ||||| ||| **Exit**

Preamble Transmission: The preamble will be appended before the code data.

Postamble Transmission: The postamble will be appended after the code data.

Insert Data Group 1–4 Position: The QS2500 offers four positions to insert characters into the bar code data. The position default value of "00" indicate no character insertion.

> **Make sure insertion positions are not greater than the number of bar code characters; otherwise, the data will not be inserted.**
>
> **NOTE**

Code ID Position: The code ID can be placed before or after the code data.

Option Bar Code	Option	Alphanumeric Entry
|||||||||||||||||||||| **Preamble Transmission**	Disable	00*
	Enable	01
|||||||||||||||||||||| **Postamble Transmission**	Disable	00*
	Enable	01
|||||||||||||||||||||| **Insert Data Group 1 Position**	0–63 (0 = no insertion)	00* 00–63
	1–22 characters	00–ff$_{hex}$ ASCII code
|||||||||||||||||||||| **Insert Data Group 2 Position**	0–63 (0 = no insertion)	00* 00–63
|||||||||||||||||||||| **Insert Data Group 3 Position**	0–63 (0 = no insertion)	00* 00–63
|||||||||||||||||||||| **Insert Data Group 4 Position**	0–63 (0 = no insertion)	00* 00–63
|||||||||||||||||||||| **Code ID Position**	Before code data	00*
	After code data	01

Code ID Transmission: Enable this option to transmit the code ID. See page 27.

Code Length Transmission: A number of data digits can be transmitted before the code data. The total length of the bar code is the number of characters of bar code data without truncated leading or ending digits.

Code Name Transmission: This function is used to show unknown bar code symbologies that include all readable symbologies of the QS2500. The code name will be transmitted before the bar code data to identify the symbology.

Case Conversion: You can set the alpha characters to be displayed as either uppercase or lowercase.

Order of transmission precedence:

Prefix	Code Name	Preamble	Code ID	Code Length	Bar Code Data	Code ID	Postamble	Suffix

Insert Groups

or
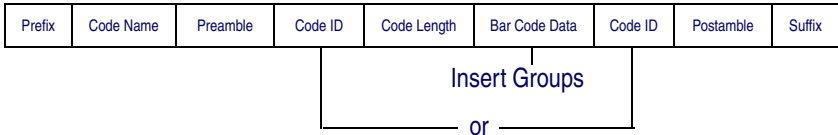
Option Bar Code	Option	Alphanumeric Entry
Code ID Transmission	**Disable**	00*
	Enable	01
Code Length Transmission	**Disable**	00*
	Enable	01
Code Name Transmission	**Disable**	00*
	Enable	01
Case Conversion (for bar code alpha data only)	**Disable**	00*
	Uppercase	01
	Lowercase	02

Exit

Symbology Settings

UPC-A

Read: Format:

Leading Zero	Data Digits (11 Digits)	Check Digit

Checksum Transmission: With this option enabled, the QS2500 will transmit the checksum.

Truncate Leading/Ending: The leading or ending digits of bar code data characters can be truncated. The QS2500 will beep instead of reading anything when the truncate value is more than the bar code data digits or the truncate leading value overlaps the truncate ending value.

Code ID Setting: The code ID represents the bar code type. It is affixed to the beginning or end of the transmitted data if the feature is selected. If you want your application to transmit the code ID, you must set the code ID transmission option to **01** first. See page 26.

Insertion Group Selection: The QS2500 offers one or two insertion groups for a symbology. Set one or two digits to indicate which insertion group you desire. See pages 22–24 for information about insertion groups.

Examples: Group 2 → set 02 or 20
Group 1 and 4 → set 14 or 41

Supplement Digits: Are the supplemental 2 or 5 characters for WPC code. Format:

Leading Zero	Data Digits (11 Digits)	Check Digit	Supplemental Digits (2 or 5)

Truncate Leading Zero: The 13th digit (always a zero) can be truncated.

Examples: Bar code: "0462531256712"
Output: "462531256712"

Expanding to EAN13: Expands a UPC bar code by adding a leading zero and sending it to the host in EAN13 format.

Option Bar Code	Option	Alphanumeric Entry
Read	Disable	00
	Enable	01*
Checksum Verification	Disable	00
	Enable	01*
Checksum Transmission	Disable	00
	Enable	01*
Truncate Leading	0–15	00–15 00*
Truncate Ending	0–15	00–15 00*
Code ID Setting	00–ff$_{hex}$ ASCII code	00–ff$_{hex}$<A>*
Insertion Group Selection	0–44	00–44 00*
Supplement Digits	None	00*
	2 digits	01
	5 digits	02
	UCC/EAN 128	03
	Auto Detection	04
Truncate/Expansion	None	00
	Truncate leading Zero	01*
	Expand to EAN13	02

UPC-E

Read:

Format:

Leading Zero	Data Digits (6 Digits)	Check Digits

Checksum Transmission: When this option is enabled, the QS2500 will transmit the checksum.

Truncate Leading/Ending: Same as UPC-A. See page 27.

Code Id Setting: Same as UPC-A. See page 27.

Insertion Group Selection: Same as UPC-A. See page 27.

Supplement Digits: Format:

Leading Zero	Data Digits (6 Digits)	Check Digit	Supplemental Digits (2 or 5)

Truncate/Expansion:

Truncate Leading Zero: The leading zero of a UPC-E label can be truncated.

Examples: Bar code: "01234565"
                  Output: "1234565"

Expand to EAN13: Expands a UPC bar code and sends it to the host in EAN13 format.

Examples: Bar code: "01234565"
                  Output: "0012345000065"

Expand to UPC-A: Expands a UPC bar code and sends it to the host in UPC-A format.

Examples: Bar code: "01234565"
                  Output: "012345000065"

Option Bar Code	Option	Alphanumeric Entry
Read ||||| ||| ||| ||| |||	Disable	00
	Enable	01*
Checksum Verification ||||| ||| ||| ||| |||	Disable	00
	Enable	01*
Checksum Transmission ||||| ||| ||| ||| |||	Disable	00
	Enable	01*
Truncate Leading ||||| ||| ||| ||| |||	0–15	00–15 00*
Truncate Ending ||||| ||| ||| ||| |||	0–15	00–15 00*
Code ID Setting ||||| ||| ||| ||| |||	00–ffH ASCII code	$00\text{–}ff_{hex}$<E>*
Insertion Group Selection ||||| ||| ||| ||| |||	0–44	00–44 00*
Supplement Digits ||||| ||| ||| ||| |||	None	00*
	2 digits	01
	5 digits	02
	UCC/EAN 128	03
	Auto Detection	04
Truncate Leading Zero ||||| ||| ||| ||| |||	None	00
	Truncate Leading Zero	01*
	Expand to EAN13	02
	Expand to UPC-A	03

EAN-13

Read: Format:

Data Digits (12 Digits)	Check Digits

Checksum Transmission: When this option is enabled, the QS2500 will transmit the checksum.

Truncate Leading/Ending: Same as UPC-A. See page 27.

Code ID Setting: Same as UPC-A. See page 27.

Insertion Group Selection: Same as UPC-A. See page 27.

Supplement Digits: Format:

Data Digits (6 Digits)	Check Digits	Supplement Digits 2 or 5

ISBN/ISSN: The ISBN (International Standard Book Number) and ISSN (International Standard Serial Number) are two kinds of bar code for books and magazines. The ISBN is ten digits, with a leading "978", and the ISSN is eight digits, with a leading "977".

Examples::   Bar code: "9789572222720"
Output: "9572222724"
Bar code: "9771019248004"
Output: "10192484"

Start Program

Option Bar Code	Option	Alphanumeric Entry
Read	Disable	00
	Enable	01*
Checksum Verification	Disable	00
	Enable	01*

Option Bar Code	Option	Alphanumeric Entry
Checksum Transmission	Disable	00
	Enable	01*
Truncate Leading	0–15	00–15 00*
Truncate Ending	0–15	00–15 00*
Code ID Setting	00–ffH ASCII code	00–ff$_{hex}$<F>*
Insertion Group Selection	0–44	00–44 00*
Supplement Digits	None	00*
	2 digits	01
	5 digits	02
	UCC/EAN 128	03
	Auto Detection	04
ISBN/ISSN Conversion	Disable	00*
	Enable	01

Exit

EAN-8

Read: Format:

Data Digits (7 Digits)	Check Digits

Checksum Transmission: When this option is enabled, the QS2500 will transmit the checksum.

Truncate Leading/Ending: Same as UPC-A. See page 27.

Code ID Setting: Same as UPC-A. See page 27.

Insertion Group Selection: Same as UPC-A. See page 27.

Supplement Digits: Format:

Data Digits (7 Digits)	Check Digits	Supplement Digits (2 or 5)

Truncate/Expansion:

Truncate Leading Zero: If the first digit is a zero, it will be truncated.

Examples: Bar code: "01234565"
Output: "1234565"

Expand to EAN13: Expands a UPC bar code and sends it to the host in EAN13 format.

Examples: Bar code: "01234565"
Output: "0000001234565"

Start Program

Option Bar Code	Option	Alphanumeric Entry
Read	Disable	00
	Enable	01*

Option Bar Code	Option	Alphanumeric Entry
Checksum Verification	Disable	00
	Enable	01*
Checksum Transmission	Disable	00
	Enable	01*
Truncate Leading	0–15	00–15 00*
Truncate Ending	0–15	00–15 00*
Code ID Setting	Two characters 00–ff$_{hex}$ ASCII code	00–ff$_{hex}$<FF>*
Insertion Group Selection	0–44	00–44 00*
Supplement Digits	None	00*
	2 digits	01
	5 digits	02
	UCC/EAN 128	03
	Auto Detection	04
Truncation/Expansion	None	00*
	Truncate Leading Zero	01
	Expand to EAN13	02

Exit

Code 39

Read: Format:

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

Checksum Verification: The checksum is optional and presented as the sum mod 43 of the numerical value of the data digits.

Checksum Transmission: When this option is enabled, the QS2500 will transmit the checksum.

Maximum/Minimum Code Length: Each symbology has own maximum and minimum code length, which can be set to qualify data entry. The length is defined as the actual bar code data length to be sent. Labels with lengths below the minimum or above the maximum will be rejected. If the maximum and minimum code lengths for a specific symbology are both set to zero, the global minimum and maximum code length settings are in effect.

NOTE

Make sure that the minimum length setting is not greater than the maximum length setting; otherwise, all the labels of the symbology will be unreadable. You can set the same value for both minimum and maximum length to force decoding of only bar codes of a certain length.

Truncate Leading/Ending: Same as UPC-A. See page 27.

Code ID Setting: Same as UPC-A. See page 27.

Insertion Group Selection: Same as UPC-A. See page 27.

Format: The Full ASCII Code 39, an enhanced set of Code 39, uses a total of 128 characters to represent Full ASCII code. Each Full ASCII Code 39 character is a combination of one of the characters +,%, $ and / with an uppercase alphabetical character (A to Z).

Append: This function allows several symbols to be concatenated and be treated as a single entry. The QS2500 will not transmit the embedded appending code (for Code-39, a space). If the append function is enabled and other symbols are read again with the appended code, then the codes are transmitted without the code ID, preamble, or prefix. When a symbol was decoded without the appended code, the data is transmitted without the code ID and prefix, but the postamble suffix codes are appended. This function is used when the first character of Code 39 data is a space.

Start/End Transmission: The start and end characters of Code 39 are asterisks (*). You can transmit all data digits, including the two asterisks.

Start Program

Option Bar Code	Option	Alphanumeric Entry
Read	Disable	00
	Enable	01*
Checksum Verification	Disable	00*
	Enable	01
Checksum Transmission	Disable	00*
	Enable	01
Maximum Code Length	Use Global Max.	00*
	1–64	01–64
Minimum Code Length	Use Global Min.	00*
	1–64	01–64
Truncate Leading	0–15	00–15 00*
Truncate Ending	0–15	00–15 00*
Code ID Setting	00–ff$_{hex}$ ASCII code	00–ff$_{hex}$<*>

Option Bar Code	Option	Alphanumeric Entry
Insertion Group Selection	**0–44**	00–44 00*
Format	**Standard ASCII**	00*
	Full ASCII	01
Append	**Disable**	00*
	Enable	01
Start/End Transmission	**Disable**	00*
	Enable	01

Exit

Interleaved 2 of 5

Read: Format:

Data Digits (Variable)	Checksum (Optional)

Checksum Verification: The checksum is presented as the sum mod 10 of the numerical values of all data digits.

Checksum Transmission: When this option is enabled, the QS2500 will transmit the checksum.

Maximum/Minimum Code Length: Same as Code 39. See page 35. (Even values only)

Truncate Leading/Ending: Same as UPC-A. See page 27.

Code ID Setting: Same as UPC-A. See page 27.

Insertion Group Selection: Same as UPC-A. See page 27.

Option Bar Code	Option	Alphanumeric Entry
||||| |||| ||||| || |||| ||| **Read**	Disable	00
	Enable	01*
||||| |||| |||	||| ||| **Checksum Verification**	Disable	00
	Enable	01*
||||| |||| ||||| || |||| **Checksum Transmission**	Disable	00*
	Enable	01
||||| |||| ||||| |||	||| **Max.Code Length** (even values only)	Use Global Max.	00*
	2–64	02–64
||||| |||| ||||| ||||	||| **Min. Code Length** (even values only)	Use Global Min.	00*
	2–64	02–64
||||| |||| ||||| |||| ||| ||| **Truncate Leading**	0–15	00–15 00*
||||| |||| ||||| ||| ||| ||| **Truncate Ending**	0–15	00–15 00*
||||| |||| ||||| |||| || |||| **Code ID Setting**	00–ff$_{hex}$ ASCII code	00–ff$_{hex}$<i>*
||||| |||| ||||| |||| |||| ||| **Insertion Group Selection**	0–44	00–44 00*

Industrial 2 of 5

Read: Format:

Data Digits (Variable)	Checksum (Optional)

Maximum/Minimum Code Length: Same as Code 39. See page 35.

Truncate Leading/Ending: Same as UPC-A. See page 27.

Code ID Setting: Same as UPC-A. See page 27.

Insertion Group Selection: Same as UPC-A. See page 27.

Start Program

Option Bar Code	Option	Alphanumeric Entry
Read	Disable	00*
	Enable	01
Max. Code Length	Use Global Max.	00*
	1–64	01–64
Min. Code Length	Use Global Min.	00*
	1–64	01–64
Truncate Leading	0–15	00–15 00*
Truncate Ending	0–15	00–15 00*

Option Bar Code	Option	Alphanumeric Entry
‖‖‖‖‖‖‖‖‖‖‖‖ **Code ID Setting**	00–ff$_{hex}$ ASCII code	00–ff$_{hex}$<i>*
‖‖‖‖‖‖‖‖‖‖‖‖ **Insertion Group Selection**	0–44	00–44 00*

‖‖‖‖‖‖‖‖‖‖‖‖   **Exit**

Matrix 2 of 5

Read: Format:

Data Digits (Variable)	Checksum (Optional)

Checksum Verification: The checksum is presented as the sum mod 10 of the numerical values of all data digits.

Checksum Transmission: When this option is enabled, the QS2500 will transmit the checksum.

Maximum/Minimum Code Length: Same as Code 39. See page 35.

Truncate Leading/Ending: Same as UPC-A. See page 27.

Code ID Setting: Same as UPC-A. See page 27.

Insertion Group Selection: Same as UPC-A. See page 27.

Option Bar Code	Option	Alphanumeric Entry
|||||||| ||| |||| |||| |||| ||| **Read**	Disable	00*
	Enable	01
|||||||| ||| |||| |||| |||| ||| **Checksum Verification**	Disable	00*
	Enable	01
|||||||| ||| |||| |||| |||| ||| **Checksum Transmission**	Disable	00*
	Enable	01
|||||||| ||| |||| |||| |||| ||| **Max. Code Length**	Use Global Max.	00*
	1–64	01–64
|||||||| ||| |||| |||| |||| ||| **Min. Code Length**	Use Global Min.	00*
	1–64	01–64
|||||||| ||| |||| |||| |||| ||| **Truncate Leading**	0–15	00–15 00*
|||||||| ||| |||| |||| |||| ||| **Truncate Ending**	0–15	00–15 00*
|||||||| ||| |||| |||| |||| ||| **Code ID Setting**	00–ff$_{hex}$ ASCII code	00–ff$_{hex}$<B>*
|||||||| ||| |||| |||| |||| ||| **Insertion Group Selection**	0–44	00–44 00*

Codabar

Read: Format:

Start	Data Digits (Variable)	Checksum (Optional)	End

Checksum Verification: The checksum is presented as the sum mod 16 of the numerical values of all data digits.

Checksum Transmission: When this option is enabled, the QS2500 will transmit the checksum.

Maximum/Minimum Code Length: Same as Code 39. See page 35.

Truncate Leading/Ending: Same as UPC-A. See page 27.

Code ID Setting: Same as UPC-A. See page 27.

Insertion Group Selection: Same as UPC-A. See page 27.

Start/End Type: Codabar has four pairs of Start/End patterns. Select one pair to match your application.

Start/End Transmission: Same as Code 39. See page 36.

Start Program

Option Bar Code	Option	Alphanumeric Entry
Read	Disable	00*
	Enable	01
Checksum Verification	Disable	00*
	Enable	01
Checksum Transmission	Disable	00*
	Enable	01

Option Bar Code	Option	Alphanumeric Entry
Max. Code Length	Use Global Max.	00*
	1–64	01–64
Min. Code Length	Use Global Min.	00*
	1–64	01–64
Truncate Leading	0–15	00–15 00*
Truncate Ending	0–15	00–15 00*
Code ID Setting	00–ff$_{hex}$ ASCII code	00–ff$_{hex}$<%>*
Insertion Group Selection	0–44	00–44 00*
Start/End Type	ABCD/ABCD	00*
	abcd/abcd	01
	ABCD/TN*E	02
	abcd/tn*e	03
Start/End Transmission	Disable	00*
	Enable	01

Exit

Code 128

Read: Format:

Data Digits (Variable)	Checksum (Optional)

Checksum Verification: The checksum is presented as the sum mod 103 of all data digits.

Checksum Transmission: When this option is enabled, the QS2500 will transmit the checksum.

Maximum/Minimum Code Length: Same as Code 39. See page 35.

Truncate Leading/Ending: Same as UPC-A. See page 27.

Code ID Setting: Same as UPC-A. See page 27.

Insertion Group Selection: Same as UPC-A. See page 27.

Format: The Code 128 data string can be translated to UCC/EAN-128 format if it starts with "FNC1". The first "FNC1" will be translated to "]C1", and the second "FNC1" to a concatenation code "<GS>($1D_{hex}$)".

]C1	Data	<GS>	Data	Checksum

Append: When the function is enabled, it won't show the data immediately if scanner read the barcode includes FNC2 code. It will show all data until it read a barcode, which doesn't have FNC2 code.

]C2	Data	<GS>	Data	Checksum

Concatenation Code: This feature is only used for UCC/EAN-128. The Concatenation Code is the separator character, default is <GS> ($1D_{hex}$), inserted between characters when label data is concatenated and treated as a single entry.

For example:

- UCC/EAN-128 Structure:
  <start> <FNC1> <Label data 1> <FNC1> <Label data 2> <CK> <stop>

- Append label data with Concatenation Code <GS> (1Dhex):<]C1> <Label data 1> <GS> <Label data 2><Checksum>

||||||||||||||||||||||||| **Start Program**

Option Bar Code	Option	Alphanumeric Entry
Read	Disable	00
	Enable	01*
Checksum Verification	Disable	00
	Enable	01*
Checksum Transmission	Disable	00*
	Enable	01
Max. Code Length	Use Global Max.	00*
	1–64	01–64
Min. Code Length	Use Global Min.	00*
	1–64	01–64
Truncate Leading	0–15	00–15 00*
Truncate Ending	0–15	00–15 00*
Code ID Setting	00–ff$_{hex}$ ASCII code	00–ff$_{hex}$<#>*
Insertion Group Selection	0–44	00–44 00*
Format	Standard	00*
	UCC/EAN-128	01

Option Bar Code	Option	Alphanumeric Entry
‖‖‖‖‖‖ ‖‖‖ ‖‖ ‖‖ ‖‖ **Append**	**Disable**	00*
	Enable	01
‖‖‖‖‖‖ ‖‖‖ ‖‖ ‖‖ ‖‖ **UCC/EAN-128ID Setting**	**00–ff$_{hex}$ ASCII code**	00–ff$_{hex}$<#>*
‖‖‖‖‖‖ ‖‖‖ ‖‖ ‖‖ ‖‖ **Concatenation Code**	**00–ff$_{hex}$ ASCII code**	00–ff$_{hex}$1D$_{hex}$*

‖‖‖‖ ‖ ‖‖ ‖ ‖‖ ‖‖‖ ‖‖‖ ‖‖   **Exit**

Code 93

Read: Format:

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

Checksum Verification: The checksum is presented as the sum mod 47 of the numerical values of all data digits.

Checksum Transmission: When this option is enabled, the QS2500 will transmit the checksum.

Maximum/Minimum Code Length: Same as Code 39. See page 35.

Truncate Leading/Ending: Same as UPC-A. See page 27.

Code ID Setting: Same as UPC-A. See page 27.

Insertion Group Selection: Same as UPC-A. See page 27.

| | **Start Program** |

Option Bar Code	Option	Alphanumeric Entry
Read	Disable	00*
	Enable	01
Checksum Verification	Disable	00
	Enable (two digits)	01*
Checksum Transmission	Disable	00*
	Enable	01
Max. Code Length	Use Global Max.	00*
	1–64	01–64
Min. Code Length	Use Global Min.	00*
	1–64	01–64
Truncate Leading	0–15	00–15 00*
Truncate Ending	0–15	00–15 00*
Code ID Setting	00–ff$_{hex}$ ASCII code	00–ff$_{hex}$<&>*
Insertion Group Selection	0–44	00–44 00*

| | **Exit** |

Code 11

Read: Format:

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

Checksum Verification: The checksum is presented as the sum mod 11 of all data digits.

Checksum Transmission: When this option is enabled, the QS2500 will transmit one-digit or two-digit checksums, depending upon the setting for checksum verification.

Maximum/Minimum Code Length: Same as Code 39. See page 35.

Truncate Leading/Ending: Same as UPC-A. See page 27.

Code ID Setting: Same as UPC-A. See page 27.

Insertion Group Selection: Same as UPC-A. See page 27.

Start Program

Option Bar Code	Option	Alphanumeric Entry
Read	Disable	00*
	Enable	01
Checksum Verification	Disable	00
	One digit	01*
	Two digit	02
Checksum Transmission	Disable	00*
	Enable	01
Max. Code Length	Use Global Max.	00*
	1–64	01–64

Option Bar Code	Option	Alphanumeric Entry
Min. Code Length	Use Global Min.	00*
	1–64	01–64
Truncate Leading	0–15	00–15 00*
Truncate Ending	0–15	00–15 00*
Code ID Setting	00–ff$_{hex}$ ASCII code	00–ff$_{hex}$<O>*
Insertion Group Selection	0–44	00–44 00*

Exit

MSI/Plessey

Read: Format:

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

Checksum Verification: The MSI/Plessey code has one or two optional checksum digits. The checksums are calculated as the sum mod 10 or 11 of the data digits.

Checksum Transmission: When this option is enabled, the QS2500 will transmit one-digit or two-digit checksums, depending upon the setting for checksum verification.

Maximum/Minimum Code Length: Same as Code 39. See page 35.

Truncate Leading/Ending: Same as UPC-A. See page 27.

Code ID Setting: Same as UPC-A. See page 27.

Insertion Group Selection: Same as UPC-A. See page 27.

Start Program

Option Bar Code	Option	Alphanumeric Entry
Read	Disable	00*
	Enable	01
Checksum Verification	**Disable**	00*
	Mod 10	01
	Mod 10/10	02
	Mod 11/10	03
Checksum Transmission	**Disable**	00*
	Enable	01
Max. Code Length	**Use Global Max.**	00*
	1–64	01–64
Mini. Code Length	**Use Global Min.**	00*
	1–64	01–64
Truncate Leading	**0–15**	00–15 00*
Truncate Ending	**0–15**	00–15 00*

Option Bar Code	Option	Alphanumeric Entry
|||‖|‖||‖|‖‖‖|‖|‖|‖|‖‖|‖‖‖ **Code ID Setting**	00–ff$_{hex}$ ASCII code	00–ff$_{hex}$<@>*
|||‖|‖||‖|‖‖‖|‖|‖|‖|‖‖|‖‖‖ **Insertion Group Selection**	0–44	00–44 00*

|‖|‖|‖||‖|‖||‖||‖|‖‖|‖‖ **Exit**

UK/Plessey

Read: Format:

Data Digits (Variable)	Checksum1+2 (Optional)

Checksum Verification: The UK/Plessey code has one or two optional checksum digits. The checksums are calculated as the sum mod 10 or 11 of the data digits.

Checksum Transmission: When this option is enabled, the QS2500 will transmit the checksum.

Maximum/Minimum Code Length: Same as Code 39. See page 35.

Truncate Leading/Ending: Same as UPC-A. See page 27.

Code ID Setting: Same as UPC-A. See page 27.

Insertion Group Selection: Same as UPC-A. See page 27.

||||||||||||||||||||||| **Start Program**

Option Bar Code	Option	Alphanumeric Entry
|||||||||||||| **Read**	Disable	00*
	Enable	01
|||||||||||||| **Checksum Verification**	Disable	00
	Enable	01*
|||||||||||||| **Checksum Transmission**	Disable	00*
	Enable	01
|||||||||||||| **Max. Code Length**	Use Global Max.	00*
	1–64	01–64
|||||||||||||| **Min. Code Length**	Use Global Min.	00*
	1–64	01–64
|||||||||||||| **Truncate Leading**	0–15	00–15 00*
|||||||||||||| **Truncate Ending**	0–15	00–15 00*
|||||||||||||| **Code ID Setting**	00–ff$_{hex}$ ASCII code	00–ff$_{hex}$<@>*
|||||||||||||| **Insertion Group Selection**	0–44	00–44 00*

||||||||||||||||||| **Exit**

Telepen

Read: Format:

Data Digits	Checksum1 (Optional)

Checksum Verification: The checksum is presented as the sum mod 10 or 11 of the data digits.

Checksum Transmission: When this option is enabled, the QS2500 will transmit the checksum.

Maximum/Minimum Code Length: Same as Code 39. See page 35.

Truncate Leading/Ending: Same as UPC-A. See page 27.

Code ID Setting: Same as UPC-A. See page 27.

Insertion Group Selection: Same as UPC-A. See page 27.

Format: Numeric data only. Full ASCII data.

Start Program

Option Bar Code	Option	Alphanumeric Entry
Read	Disable	00*
	Enable	01
Checksum Verification	Disable	00*
	Enable	01
Checksum Transmission	Disable	00*
	Enable	01
Max. Code Length	Use Global Max.	00*
	1–64	01–64

Option Bar Code	Option	Alphanumeric Entry
Min. Code Length	Use Global Min.	00*
	1–64	01–64
Truncate Leading	0–15	00–15 00*
Truncate Ending	0–15	00–15 00*
Code ID Setting	00–ff$_{hex}$ ASCII code	00–ff$_{hex}$<S>*
Insertion Group Selection	0–44	00–44 00*
Format	Numeric only	00*
	Full ASCII only	01

Exit

Standard 2 of 5

Read: Format

Data Digits (Variable)	Checksum1 (Optional)

Maximum/Minimum Code Length: Same as Code 39. See page 35.

Truncate Leading/Ending: Same as UPC-A. See page 27.

Code ID Setting: Same as UPC-A. See page 27.

Insertion Group Selection: Same as UPC-A. See page 27.

	Start Program

Option Bar Code	Option	Alphanumeric Entry
Read	**Disable**	00*
	Enable	01
Max. Code Length	**Use Global Max.**	00*
	1–64	01–64
Min. Code Length	**Use Global Min.**	00*
	1–64	01–64
Truncate Leading	**0–15**	00–15 00*
Truncate Ending	**0–15**	00–15 00*
Code ID Setting	**00–ff$_{hex}$ ASCII code**	00–ff$_{hex}$<i>
Insertion Group Selection	**0–44**	00–44 00*

	Exit

Code 16K

Truncate Leading/Ending: Same as UPC-A. See page 27.

Code ID Setting: Same as UPC-A. See page 27.

Insertion Group Selection: Same as UPC-A. See page 27.

|||||||||||||||||||||||||| **Start Program**

Option Bar Code	Option	Alphanumeric Entry
|||||||||||||||||| **Read**	Disable	00*
	Enable	01
|||||||||||||||||| **Truncate Leading**	0–15	00–15 00*
|||||||||||||||||| **Truncate Ending**	0–15	00–15 00*
|||||||||||||||||| **Code ID Setting**	00–ff$_{hex}$ ASCII code	00–ff$_{hex}$<>
|||||||||||||||||| **Insertion Group Selection**	0–44	00–44 00*

|||||||||||||||||||||||||| **Exit**

PDF417

Truncate leading/ending: Same as UPC-A. See page 27.

Code ID Setting: Same as UPC-A. See page 27.

Insertion Group Selection: Same as UPC-A. See page 27.

|||||||||||||||||||||||||| Start Program

Option Bar Code	Option	Alphanumeric Entry
Read	**Disable**	00
	Enable	01*
Truncate Leading	0–15	00–15 00*
Truncate Ending	0–15	00–15 00*
Code ID Setting	00–ff$_{hex}$ ASCII code	00–ff$_{hex}$<>
Insertion Group Selection	0–44	00–44 00*

||||||||||||||||||||| Exit

Italian PharmaCode

 Start Program

Option Bar Code	Option	Alphanumeric Entry
Read	Disable	00*
	Enable	01
Truncate Leading	0–15	00–15 00*
Truncate Ending	0–15	00–15 00*
Code ID Setting	00–ff$_{hex}$ ASCII code	00–ff$_{hex}$<p>
Insertion Group Selection	0–44	00–44 00*
Leading "A"	Disable	00*
	Enable	01

 Exit

RSS Expanded

	Start Program

Option Bar Code	Option	Alphanumeric Entry
Read	**Disable**	00*
	Enable	01
Max. Code Length	**Use Global Max.**	00*
	1–64	01–64
Min. Code Length	**Use Global Min.**	00*
	1–64	01–64
Truncate Leading	**0–15**	00–15 00*
Truncate Ending	**0–15**	00–15 00*
Code ID Setting	**00–ff$_{hex}$ ASCII code**	00–ff$_{hex}$<RX>
Insertion Group Selection	**0–44**	00–44 00*
UCC/EAN 128 Emulation	**Disable**	00*
	Enable	01

	Exit

RSS Limited

| | Start Program |

Start Program

Option Bar Code	Option	Alphanumeric Entry
Read	Disable	00*
	Enable	01S
Max. Code Length	Use Global Max.	00*
	1–64	01–64
Min. Code Length	Use Global Min.	00*
	1–64	01–64
Truncate Leading	0–15	00–15 00*
Truncate Ending	0–15	00–15 00*
Code ID Setting	00–ff$_{hex}$ ASCII code	00–ff$_{hex}$<RL>
Insertion Group Selection	0–44	00–44 00*
UCC/EAN 128 Emulation	Disable	00*
	Enable	01

Exit

RSS-14

||||||||||||||||||||||||||| **Start Program**

Option Bar Code	Option	Alphanumeric Entry
Read	Disable	00*
	Enable	01
Truncate Leading	0–15	00–15 00*
Truncate Ending	0–15	00–15 00*
Code ID Setting	00–ff$_{hex}$ ASCII code	00–ff$_{hex}$<R4>
Insertion Group Selection	0–44	00–44 00*
UCC/EAN 128 Emulation	Disable	00*
	Enable	01

||||||||||||||||||| **Exit**

Appendix - Default Settings

Code Type	Read Enable	Checksum Verification Enable	Checksum Transmission Enable	Code ID
UPC-A	✓	✓	✓	A
UPC-E	✓	✓	✓	E
EAN-13	✓	✓	✓	F
EAN-8	✓	✓	✓	FF
Code 39	✓			*
Interleaved 2 of 5	✓	✓		i
Industrial 2 of 5				i
Matrix 2 of 5				B
Codabar				%
Code 128	✓	✓		#
Code 93	✓	✓		&
Code 11		One digit		O
MSI/Plessey		One digit		@
UK/Plessey		✓		@
Telepen				S
Standard 2 of 5		-		i
Code 16K		-		
PDF417	✓	-		
Italian Pharma-Code				p
RSS Expanded				RX
RSS Limited				RL
RSS-14				R4

Appendix B - Bar Code Samples

UPC-A

1   23456 78901   2

UPC-E

0   123456   5

EAN-13

1   234567   890128

EAN-8

1234   5670

Code 39

*   1   2   3   4   5   6   7   *

Interleaved 2 of 5

0 1 2 3 4 5 6 7

Industrial 2 of 5

0   1   2   4   3   4   5

Matrix 2 of 5

456353663

Codabar

A 1 1 2 + B

Code 128

A 1 2 3 4 5 B c d

Code 93

B 6 7 8 9 0 B c d

Code 11

654215

MSI/Plessey

6 7 8 9 0 1 2 3

UK/Plessey

80523

Standard 2 of 5

6 7 8 9 0 1 2 3
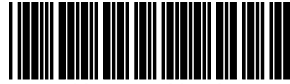
Code 16K

12345678901

PDF417

549875623

Italian PharmaCode

0　H　8　X　L　9

RSS Expanded

0100123456789050

RSS Limited

0112345678901231

RSS-14

0100123456789050

Appendix C - ASCII Codes

Example: ASCII "CR" = "0D"

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

Example: ASCII "A" = "41"

L \ H	2	3	4	5	6	7
0	SP	0	@	P	`	p
1	!	1	A	Q	a	q
2	"	2	B	R	b	r
3	#	3	C	S	c	s
4	$	4	D	T	d	t
5	%	5	E	U	e	u
6	&	6	F	V	f	v
7	'	7	G	W	g	w
8	(	8	H	X	h	x
9	)	9	I	Y	i	y
A		:	J	Z	j	z
B	+	;	K	[	k	
C		<	L		l	
D	-	=	M	]	m	
E	.	>	N	^	n	
F	/	?	O	_	o	DEL

Appendix D - Parameter Setting List

Start Program

Standard Parameter Setting List

If you wish to display the current configuration of your QS2500 over the host terminal/computer, scan the Bar Code standard parameter setting list bar code.
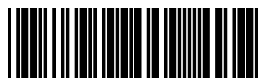
System Parameter Setting List

If you wish to display the product information and revision number for your QS2500 over the host terminal/computer, scan the System parameter setting list bar code.
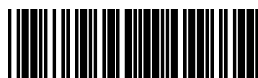
String Setting List

If you wish to display the current configuration of your QS2500 over the host terminal/computer, scan the Bar Code standard parameter setting list bar code.

Unique Parameter List

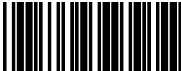If you wish to display the unique parameter setting list, scan the Unique parameter list bar code.

Firmware Version List

If you wish to display the firmware version, scan the Firmware version list.

Exit

Appendix E - Alphanumeric Characters

||||||||| **0** ||||||||| **A**

||||||||| **1** ||||||||| **B**

||||||||| **2** ||||||||| **C**

||||||||| **3** ||||||||| **D**

||||||||| **4** ||||||||| **E**

||||||||| **5** ||||||||| **F**

||||||||| **6**

||||||||| **7**

||||||||| **8** ||||||||| **Store Settings**

||||||||| **9** ||||||||| **Exit**

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