



User Manual

(Version 1.2.3)

FOR 830A/ 860/870



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1 Getting Started

1.1 About This Guide

This guide provides programming instructions for the QUIO 2D Barcoder Readers: RT830A, RT860 RT870. Users can configure the QUIO 2D Barcoder Reader by scanning the programming barcodes included in this manual. With the button in the top of the scanner, we can do some quick setup to switch to scanner among: Normal Scan (read print code, cell phone screen code, 1d /2d), 1D fast scan (optimized for 1d quick scanning), Disable scan; please refer to the Quick Start Guide which included in the scanner package.

1.2 Barcode Scanning

QUIO 2D Barcoder Reader outstanding in fast scanning and decoding accuracy. Barcodes rotated at any angle can still be read with ease. When scanning a barcode, simply make the bar code face to the scanning window and the scanner will automatically detect and read the code quickly.

1.3 Factory Defaults

Scanning the following barcode can restore the scanner to the factory defaults.

Note: Use this feature with discretion.



0D0100.

Restore All Factory Defaults

2 Communication Interfaces

2.1 USB COM Port Emulation

With USB interface, scan the USB COM Port Emulation setting code allows the Host to receive data in the way as a serial port does. A driver is required for this feature.



Default serial communication parameters are listed below. Make sure all parameters match the host requirements.

Parameter	Factory Default
Baud Rate	9600
Parity Check	None
Data Bits	8
Stop Bits	1
Hardware Flow Control	None

2.2 Baud Rate

Baud rate is the number of bits of data transmitted per second. Set the baud rate to match the Host requirements.



2.3 Data Bit & Parity Check & Stop Bit

Note: some products only allows default configuration (None Parity/8 Data Bits/1 Stop Bit), configuration command: 0607032;
If products do not support multiple configurations, scanning the bar code of non-default configuration would error beep.



0607032.

None Parity /8 Data Bits/1 Stop Bit (Default)



0607030.

None Parity /7 Data Bits/1 Stop Bit



0607031.

None Parity /7 Data Bits/2 Stop Bits



0607035.

Even Parity /8 Data Bits/1 Stop Bit



0607033.

Even Parity /7 Data Bits/1 Stop Bit



0607034.

Even Parity /7 Data Bits/2 Stop Bits



0607038.

Odd Parity /8 Data Bits/1 Stop Bit



0607036.

Odd Parity /7 Data Bits/1 Stop Bit



0607037.

Odd Parity /7 Data Bits/2 Stop Bit

2.4 USB HID-KBW

When you connect the scanner to the Host via a USB connection, you can enable the **USB HID-KBW** feature by scanning the barcode below. Then scanner's transmission will be simulated as USB keyboard input. The Host receives keystrokes on the virtual keyboard. It works on a Plug and Play basis and no driver is required.



2.5 USB Country Keyboard Types

Keyboard layouts vary from country to country. The default setting is 1-U.S. keyboard.





060E005.
7 - Italy



060E0027.
6 - Turkey_F



060E009.
8 - Norway



060E0035.
9 - Albania



060E001.
10 - Belgium



060E0033.
11 - Bosnia



060E0016.
12 - Brazil



060E0032.
13 - Croatia



060E0015.
14 - Czech



060E0011.
15 - Dutch



060E004.
17 – Germany



060E0019.
19 – Hungary



060E0042.
21 – Latvia



060E0034.
23 – Macedonia



060E0020.
25 – Poland



060E0041.
16 – Estonia



060E0017.
18 – Greek



060E0073.
20 – Irish



060E0044.
22 – Lithuania



060E0010.
24 – Spain



060E0025.
27 - Romania



060E0013.
26 - Portugal



060E0026.
28 - Russia



060E0028.
29 - Japan

2.6 Convert Case

Scan the appropriate barcode below to convert barcode data to your desired case.



060D020.

No Case Conversion (Default)



060D021.

Convert All To Upper Case



060D022.

Convert All To Lower Case

Example: When the **Convert All to Lower Case** feature is enabled, barcode data “AbC” is transmitted as “abc”.

2.7 RS232 Interface

If you use the scanner with USB cable firstly, and you want to change it with RS232 cable, please scan below setting code firstly, then connect the RS232 cable again.

For all of Default serial communication parameters and baud rate setting, same with above for “USB COM Port Emulation”



0606000.

RS232 interface

3 General Configuration

3.1 Inverse color



3.2 Illumination

Illumination setting



Illumination OFF

3.3 Good Read Beeper



0502101.
ON (Default)



0502100.
OFF

3.4 Good Read Beeper Volume



05021D1.
Low



05021D2.
Middle



05021D3.
High (Default)

3.5 Good Read Beeper Duration



0502160.
Normal (Default)



0502161.
Short

3.6 Good Read Beeper Tone



05020D1680.
Low Frequency



05020D2790.
Medium Frequency (Default)



05020D3280.
Medium High Frequency



05020D4290.
High Frequency

3.7 Presentation Mode Reread Delay



080B06500.
Delay 500 MS (Default)



080B06750.

Delay 750 MS



080B061000.

Delay 1000 MS

4 Data Formatting

4.1 General Configuration



090200.

Add CR



090202.
Add LF



090300.
Add CRLF



090201.
Add TAB

4.2 Add Prefix



080400.
Set Custom Prefix



0D0400.
Save



To set a customer prefix, scan the **Set Custom Prefix** barcode and the numeric barcodes which representing the hexadecimal values of a desired prefix, and then scan the **Save** barcode. Refer to [Appendix 2: ASCII Table](#) for hexadecimal values of characters.

Example: Set the custom Prefix to "ODE"

1. Check the hex values of "ODE" in the ASCII Table. ("ODE": 4F, 44, 45)
2. Scan the **Set Custom Prefix** barcode.
3. Scan the numeric barcodes "9", "9", "4", "F", "4", "4", "4" and "5" in [Appendix 3](#).
4. Scan the **Save** barcode.

4.3 Add Suffix



080500.

Set Custom Suffix



0D0400.

Save



0D0500.

Not Save

To set a customer suffix, scan the **Set Custom Suffix** barcode and the numeric barcodes which representing the hexadecimal values of a desired suffix, and then scan the **Save** barcode. Refer to [Appendix 2: ASCII Table](#) for hexadecimal values of characters.

Example: Set the custom Suffix to "ODE"

1. Check the hex values of "ODE" in the ASCII Table. ("ODE": 4F, 44, 45)
2. Scan the **Set Custom Suffix** barcode.
3. Scan the numeric barcodes "9", "9", "4", "F", "4", "4", "4" and "5" in [Appendix 3](#).
4. Scan the **Save** barcode.

4.4 Clear All Prefix and Suffix



080404.

Clear All Prefix And Suffix (Default)

5 Symbologies

5.1 General Setting

5.1.1 Restore Symbology Default Setting



Symbologies Enable:
Code 128, Code 39, UPC, EAN, Interleaved 2 of 5, Code 93, Coda Bar, GS1-128, Data Matrix, PDF417, QR, Maxi Code, Aztec.

5.1.2 Optimize Performance for Retail Use Case

Make for optimize scan performance in most retail barcode scan use case.

Symbologies Enable:
UPC, EAN, Code128, QR, PDF417.



5.1.3 Enable/Disable All Symbologies

If the **Disable All Symbologies** feature is enabled, the scanner will not be able to read any non-programming barcodes except the programming barcodes.



5.2 1D Symbologies

5.2.1 Code 128

Enable/Disable Code 128



Message Length

Message length can be set to the maximum value or minimum value. The value between the maximum and the minimum is valid.

The maximum value and minimum value can be set using "Programming Command". Please check the programming command guide for the detail.

Code 128 max length command: 020A03. The parameter of this command can be set from min to 90.

Code 128 min length command: 020A02. The parameter of this command can be set from 0 to max.

Example: Set the Barcode Message length of the minimum value is 10; the maximum value is 25.

Programming command: Max: 020A0325 ; Min: 020A0210.

5.2.2 EAN-8

Enable/Disable EAN-8



Transmit Check Digit

EAN-8 is 8 digits in length with the last one as its check digit used to verify the accuracy of the data.



Add-On Code

An EAN-8 barcode can be augmented with a two-digit or five-digit add-on code to form a new one. In the examples below, the part surrounded by blue dotted line is an EAN-8 barcode while the part circled by red dotted line is add-on code.





0214030.

Disable 2-Digit Add-On Code (Default)



0214041.

Enable 5-Digit Add-On Code



0214040.

Disable 5-Digit Add-On Code (Default)

Add-On Code Required



0214051.

EAN-8 Add-On Code Required



0214050.

EAN-8 Add-On Code Not Required (Default)

ENA/JAN-8 Addenda Separator

When this feature is enabled, there is a space between barcode and addenda. When this feature is disabled, there is no space.



0214061.

Enable ENA/JAN-8 Addenda Separator (Default)



0214060.

Disable ENA/JAN-8 Addenda Separator UPC

5.2.3 EAN-13

Enable/Disable EAN-13



Transmit Check Digit



Add-On Code



Add-On Code Required



ENA/JAN-13 Addenda Separator

When this feature is enabled, there is a space between barcode and addenda. When this feature is disabled, there is no space.



ISBN Translate

When enable this feature and is scanned, ENA-13 Book land symbols are translated into their equivalent ISBN number format.



5.2.4 UPC-E

Enable/Disable UPC-E0/E1



UPC-E0 Check Digit



UPC-E0 Expand

UPC-E0 expand expands the UPC-E code to the 12 digits, UPC-A format.



UPC-E0 Addenda Required

When required is scanned, the scanner will only read UPC-E barcodes that have addenda.



UPC-E0 Addenda Separator



UPC-E0 Number System

The number system digit of UPC symbol is normally transmitted at the beginning of the scanned data, but the unit can be programmed so it will be not transmitted.



0212051.

Enable UPC-E0 Number System (Default)



0212050.

Disable UPC-E0 Number System

UPC-E0 Addenda



0212061.

Enable 2 Digit Addenda



0212060.

Disable 2 Digit Addenda (Default)



0212071.

Enable 5 Digit Addenda



0212070.

Disable 5 Digit Addenda (Default)

5.2.5 UPC-A

Enable/Disable UPC-A



UPC-A Check Digit



UPC-A Addenda Required

When required is scanned, the scanner will only read UPC-E barcodes that have addenda.



UPC-A Addenda Separator



0211071.

Enable UPC-A Separator (Default)



0211070.

Disable UPC-A Separator

UPC-A: Number System

The number system digit of UPC symbol is normally transmitted at the beginning of the scanned data, but the unit can be programmed so it will be not transmitted.



0211031.

Enable UPC-A Number System (Default)



0211030.

Disable UPC-A Number System

UPC-A: Addenda



0211041.
Enable 2 Digit Addenda



0211040.
Disable 2 Digit Addenda (Default)



0211051.
Enable 5 Digit Addenda



0211050.
Disable 5 Digit (Default)

5.2.6 Interleaved 2 Of 5

Enable/Disable Interleaved 2 Of 5



Message Length

Message length can be set to the maximum value, minimum value. The data between the maximum and the minimum is valid.

The maximum value and minimum value can be set using Programming Command. Please check the programming command guide for the detail.

Interleaved 2 of 5 max length command: 020404. The parameter of this command can be set from min to 80.

Interleaved 2 of 5 min length command: 020403. The parameter of this command can be set from 2 to max.

Example: Set the Barcode Message length of the minimum value is 10; the maximum value is 25.

Programming command: Max: 02040425 ; Min: 02040310.

Interleaved 2 Of 5 Check Digit



5.2.7 Matrix 2 Of 5

Enable/Disable Matrix 2 Of 5



Message Length

Message length can be set to the maximum value, minimum value. The value is valid between the maximum and the minimum.

The maximum value and minimum value can be set using Programming command. Please check the programming command guide for the detail.

Matrix 2 of 5 max length command: 020803. The parameter of this command can be set from min to 80.

Matrix 2 of 5 min length command: 020802. The parameter of this command can be set from 1 to max.

Example: Set the Barcode Message length of the minimum value is 10; the maximum value is 25.

Programming command: Max: 02080325 ; Min: 02080210.

5.2.8 Industrial 2 Of 5

Enable/Disable Industrial 2 Of 5



Message Length

Message length can be set to the maximum value, minimum value. The value is valid between the maximum and the minimum.

The maximum value and minimum value can be set using Programming command. Please check the programming command guide for the detail.

Industrial 2 of 5 max length command: 020603. The parameter of this command can be set from min to 48.

Industrial 2 of 5 min length command: 020602. The parameter of this command can be set from 1 to max.

Example: Set the Barcode Message length of the minimum value is 10; the maximum value is 25.

Programming command: Max: 02060325 ; Min: 02060210.

5.2.9 Code 39

Enable/Disable Code 39



Transmit Start/Stop Character



Code 39 Check Character



Code 39 Append

This function allows the scanner to append several Code 39 barcode data together before transmitting to host. When the scanner encounters a Code 39 barcode with append character (ex. Space character), it buffers the data until it reads a Code 39 barcode which does not have append character. Then the data is transmitted in the order that the barcodes were read.



Code 39 Full ASCII



Message Length

Message length can be set to the maximum value, minimum value. The value is valid between the maximum and the minimum.

The maximum value and minimum value can be set using Programming command. Please check the programming command guide for the detail.

Code 39 max length command: 020308. The parameter of this command can be set from min to 48.

Code 39 min length command: 020307. The parameter of this command can be set from 0 to max.

Example: Set the Barcode Message length of the minimum value is 10; the maximum value is 25.

Programming command: Max: 02030825 ; Min: 02030710.

5.2.10 Coda Bar

Enable/Disable Coda Bar



Message Length

Message length can be set to the maximum value, minimum value. The data between the maximum and the minimum is valid.

The maximum value and minimum value can be set using Programming command. Please check the programming command guide for the detail.

Coda bar max length command: 020206. The parameter of this command can be set from min to 60.

Coda bar min length command: 020205. The parameter of this command can be set from 2 to max.

Example: Set the Barcode Message length of the minimum value is 10; the maximum value is 25.

Programming command: Max: 02020625 ; Min: 02020510.

Transmit Start/Stop Character



Coda bar Check Character



5.2.11 Code 93

Enable/Disable Code 93



020D011.

Enable Code 93 (Default)



020D010.

Disable Code 93

Message Length

Message length can be set to the maximum value, minimum value. The data between the maximum and the minimum is valid.

The maximum value and minimum value can be set using Programming command. Please check the programming command guide for the detail.

Code 93 max length command: 020D03. The parameter of this command can be set from min to 80.

Code 93 min length command: 020D02. The parameter of this command can be set from 0 to max.

Example: Set the Barcode Message length of the minimum value is 10; the maximum value is 25.

Programming command: Max: 020D0325 ; Min: 020D0210.

Code 93 Append

This function allows the scanner to append several Code 93 barcode data together before transmitting to host. When the scanner encounters a Code 93 barcode with append character (ex. Space character), it buffers the data until it reads a Code 93 barcode which does not have append character. Then the data is transmitted in the order that the barcodes were read.



020D051.

Enable Code 93 Append



020D050.

Disable Code 93 Append (Default)

5.2.12 GS1-128

Enable/Disable GS1-128



020B001.
Enable GS1-128 (Default)



020B000.
Disable GS1-128

Message Length

Message length can be set to the maximum value, minimum value. The data between the maximum and the minimum is valid.

The maximum value and minimum value can be set using Programming command. Please check the programming command guide for the detail.

GS1-128 max length command: 020B03. The parameter of this command can be set from min to 80.

GS1-128 min length command: 020B02. The parameter of this command can be set from 0 to max.

Example: Set the Barcode Message length of the minimum value is 10; the maximum value is 25.

Programming command: Max: 020B0325 ; Min: 020B0210.

5.2.13 MSI

Enable/Disable MSI



Message Length

Message length can be set to the maximum value, minimum value. The data is valid between the maximum and the minimum.

The maximum value and minimum value can be set using Programming command. Please check the programming command guide for the detail.

MSI max length command: 020E04. The parameter of this command can be set from min to 48.

MSI min length command: 020E03. The parameter of this command can be set from 4 to max.

Example: Set the Barcode Message length of the minimum value is 10; the maximum value is 25.

Programming command: Max: 020E0425 ; Min: 020E0310.

MSI Check Character



020E021.
Validate Type10 Transmit



020E020.
Validate 2 Type10 No Transmit (Default)



020E024.
Validate Type10 Then Type11 Char NO Transmit



020E025.
Validate Type10 Then Type11 Char Transmit



020E023.
Validate 2 Type10 Char Transmit



020E022.
Validate 2 Type10 Char No Transmit



020E026.
Disable MSI Check

5.2.14 Code 11

Enable/Disable Code 11



Code11 Check Digit(s)



5.3 2D Symbologies

5.3.1 PDF 417

Enable/Disable PDF 417



Enable/Disable Micro PDF 417



Message Length

Message length can be set to the maximum value, minimum value. The data is valid between the maximum and the minimum.

The maximum value and minimum value can be set using Programming command. Please check the programming command guide for the detail.

PDF417 max length command: 021F06. The parameter of this command can be set from min to 2750.

PDF417 min length command: 021F05. The parameter of this command can be set from 1 to max. Example: Set the Barcode Message length of the minimum value is 10; the maximum value is 25.

Programming command: Max: 021F0625 ; Min: 021F0510.

5.3.2 QR Code

Enable/Disable QR Code



Message Length

Message length can be set to the maximum value, minimum value. The data is valid between the maximum and the minimum is valid.

The maximum value and minimum value can be set using Programming command. Please check the programming command guide for the detail.

QR max length command: 023703. The parameter of this command can be set from min to 7089.

QR min length command: 023702. The parameter of this command can be set from 1 to max.

Example: Set the Barcode Message length of the minimum value is 10; the maximum value is 25.

Programming command: Max: 02370325 ; Min: 02370210.

QR Code Append

This function allows the scanner to append several QR barcode data together before transmitting to host. When the scanner encounters a QR barcode with append character (ex. Space character), it buffers the data until it reads a QR barcode which does not have append character. Then the data is transmitted in the order that the barcodes were read.



5.3.3 Data Matrix

Enable/Disable Data Matrix



Message Length

Message length can be set to the maximum value, minimum value. The data is valid between the maximum and the minimum.

The maximum value and minimum value can be set using Programming command. Please check the programming command guide for the detail.

Data Matrix max length command: 023603. The parameter of this command can be set from min to 3116.

Data Matrix min length command: 023602. The parameter of this command can be set from 1 to max.

Example: Set the Barcode Message length of the minimum value is 10; the maximum value is 25.

Programming command: Max: 02360325 ; Min: 02360210.

5.3.4 Maxi code

Enable/Disable Maxi code



Message Length

Message length can be set to the maximum value, minimum value. The data is valid between the maximum and the minimum.

The maximum value and minimum value can be set using Programming command. Please check the programming command guide for the detail.

Maxi Code max length command: 023403. The parameter of this command can be set from min to 150.

Maxi Code min length command: 023402. The parameter of this command can be set from 1 to max.

Example: Set the Barcode Message length of the minimum value is 10; the maximum value is 25.

Programming command: Max: 02340325 ; Min: 02340210.

5.3.5 Aztec

Enable/Disable Aztec



Message Length

Message length can be set to the maximum value, minimum value. The data is valid between the maximum and the minimum.

The maximum value and minimum value can be set using Programming command. Please check the programming command guide for the detail.

Aztec max length command: 023306. The parameter of this command can be set from min to 3832.

Aztec min length command: 023305. The parameter of this command can be set from 1 to max.

Example: Set the Barcode Message length of the minimum value is 10; the maximum value is 25.

Programming command: Max: 02330625 ; Min: 02330510.

Aztec Append



5.3.6 Hanxin

Enable/Disable Hanxin



Message Length

Message length can be set to the maximum value, minimum value. The data is valid between the maximum and the minimum.

The maximum value and minimum value can be set using Programming command. Please check the programming command guide for the detail.

Hanxin max length command: 023803. The parameter of this command can be set from min to 7833.

Hanxin min length command: 023802. The parameter of this command can be set from 1 to max.

Example: Set the Barcode Message length of the minimum value is 10; the maximum value is 25.

Programming command: Max: 02380325 ; Min: 02380210.

5.4 Postal Symbologies

5.4.1 China Postal Code

Enable/Disable China Postal Code









5.4.2 Telepen

Enable/Disable Telepen









6 Q&A







6.1 How to scan Japanese in QR codes?

Application environment	QR coding rule	
	UTF8\GB2312	Shift-JIS
word documents	 091842.	 091840.
Excel or notepad system languages:JP	 091846.	 091845.
Sample Code	 こんにちは	 123 あいうえ ABC かきくけこ 456

6.2 How to scan Korean in QR codes?

application environment	QR coding rule	
	UTF8	CP949
word documents	 091842.	 091844.
Excel or notepad system languages:Korean	 09184B.	 09184A.
Sample Code	 안녕하세요	 123 바깥쪽크기 | 트.채TT

6.3 How to scan Thai in QR codes?

Application environment	QR coding rule	
	UTF8	CP874
word documents	 <p>091842.</p>	 <p>091843.</p>
Excel or notepad system languages:Thai	 <p>09184D.</p>	 <p>09184C.</p>
Sample Code	 <p>แบบทดสอบภาษาไทยบาร์โค้ด</p>	 <p>12345678 ห ฟ ด ดาสกหฟรา แสส KTB CO.,LTD</p>

7 Appendix

7.1 Appendix 1: AIM ID Table

Symbology	AIM ID	Remark
EAN-13	JE0	Standard EAN-13
	JE3	EAN-13 + 2/5-Digit Add-On Code
EAN-8	JE4	Standard EAN-8
	JE4...JE1...	EAN-8 + 2-Digit Add-On Code
	JE4...JE2...	EAN-8 + 5-Digit Add-On Code
UPC-E	JE0	Standard UPC-E
	JE3	UPC-E + 2/5-Digit Add-On Code
UPC-A	JE0	Standard UPC-A
	JE3	UPC-A + 2/5-Digit Add-On Code
Code 128	JC0	Standard Code 128
GS1-128 (UCC/EAN-128)	JC1	FNC1 is the character right after the start character
AIM-128	JC2	FNC1 is the 2nd character after the start character
ISBT-128	JC4	
Interleaved 2 of 5	JI0	No parity check
	JI1	Transmit check digit after parity check
	JI3	Do not transmit check digit after parity check
ITF-6	JI1	Transmit check digit
	JI3	Do not transmit check digit
ITF-14	JI1	Transmit check digit
	JI3	Do not transmit check digit
Industrial 2 of 5	JS0	Not specified
Standard 2 of 5	JR0	No parity check
	JR8	One check digit, MOD10; do not transmit check digit
	JR9	One check digit, MOD10; transmit check digit
Code 39	JA0	Transmit barcodes as is; Full ASCII disabled; no parity check
	JA1	One check digit, MOD43; transmit check digit
	JA3	One check digit, MOD43; do not transmit check digit
	JA4	Full ASCII enabled; no parity check
	JA5	Full ASCII enabled; transmit check digit
	JA7	Full ASCII enabled; do not transmit check digit
Codebar	JF0	Standard Codebar
	JF2	Transmit check digit after parity check
	JF4	Do not transmit check digit after parity check
Code 93	JG0	Standard Code 93
Code 11	JH0	One check digit MOD11; transmit check digit
	JH1	Two check digits, MOD11/MOD11; transmit check digit
	JH3	Do not transmit check digit after parity check
	JH9	No parity check
GS1-DataBar (RSS)	Je0	Standard GS1-DataBar
Plessey	JP0	Standard Plessey
MSI-Plessey	JM0	One check digit, MOD10; transmit check digit
	JM1	One check digit, MOD10; do not transmit check digit
	JM8	Two check digits
	JM9	No parity check

Matrix 2 of 5	]X0	Specified by the manufacturer
	]X1	No parity check
	]X2	One check digit, MOD10; transmit check digit
	]X3	One check digit, MOD11; do not transmit check digit
ISBN	]X4	Standard ISBN
ISSN	]X5	Standard ISSN
PDF417	]L0	Comply with 1994 PDF417 specifications
Data Matrix	]d0	ECC000 - ECC140
	]d1	ECC200
	]d2	ECC200, FNC1 is the 1st or 5th character after the start character
	]d3	ECC200, FNC1 is the 2nd or 6th character after the start character
	]d4	ECC200, ECI included
	]d5	ECC200, FNC1 is the 1st or 5th character after the start character, ECI included
	]d6	ECC200, FNC1 is the 2nd or 6th character after the start character, ECI included
QR Code	]Q0	QR1
	]Q1	2005 version, ECI excluded
	]Q2	2005 version, ECI included
	]Q3	QR Code 2005, ECI excluded, FNC1 is the 1st character after the start character
	]Q4	QR Code 2005, ECI included, FNC1 is the 1st character after the start character
	]Q5	QR Code 2005, ECI excluded, FNC1 is the 2nd character after the start character
	]Q6	QR Code 2005, ECI included, FNC1 is the 2nd character after the start character

Reference: ISO/IEC 15424:2008 Information technology – Automatic identification and data capture techniques – Data Carrier

Identifiers (including Symbology Identifiers).

7.2 Appendix 2: ASCII Table

Hex	Dec	Char
00	0	NUL (Null char.)
01	1	SOH (Start of Header)
02	2	STX (Start of Text)
03	3	ETX (End of Text)
04	4	EOT (End of Transmission)
05	5	ENQ (Enquiry)
06	6	ACK (Acknowledgment)
07	7	BEL (Bell)
08	8	BS (Backspace)
09	9	HT (Horizontal Tab)
0a	10	LF (Line Feed)
0b	11	VT (Vertical Tab)
0c	12	FF (Form Feed)
0d	13	CR (Carriage Return)
0e	14	SO (Shift Out)
0f	15	SI (Shift In)
10	16	DLE (Data Link Escape)
11	17	DC1 (XON) (Device Control 1)
12	18	DC2 (Device Control 2)
13	19	DC3 (XOFF) (Device Control 3)
14	20	DC4 (Device Control 4)
15	21	NAK (Negative Acknowledgment)
16	22	SYN (Synchronous Idle)
17	23	ETB (End of Trans. Block)
18	24	CAN (Cancel)
19	25	EM (End of Medium)
1a	26	SUB (Substitute)
1b	27	ESC (Escape)
1c	28	FS (File Separator)
1d	29	GS (Group Separator)
1e	30	RS (Request to Send)
1f	31	US (Unit Separator)
20	32	SP (Space)
21	33	! (Exclamation Mark)
Hex	Dec	Char
22	34	" (Double Quote)
23	35	# (Number Sign)
24	36	\$ (Dollar Sign)
25	37	% (Percent)
26	38	& (Ampersand)
27	39	` (Single Quote)
28	40	((Right / Closing Parenthesis)
29	41	) (Right / Closing Parenthesis)
2a	42	* (Asterisk)
2b	43	+ (Plus)
2c	44	, (Comma)
2d	45	- (Minus / Dash)

2e	46	.	(Dot)
2f	47	/	(Forward Slash)
30	48	0	
31	49	1	
32	50	2	
33	51	3	
34	52	4	
35	53	5	
36	54	6	
37	55	7	
38	56	8	
39	57	9	
3a	58	:	(Colon)
3b	59	;	(Semi-colon)
3c	60	<	(Less Than)
3d	61	=	(Equal Sign)
3e	62	>	(Greater Than)
3f	63	?	(Question Mark)
40	64	@	(AT Symbol)
41	65	A	
42	66	B	
43	67	C	
44	68	D	
45	69	E	
Hex	Dec	Char	
46	70	F	
47	71	G	
48	72	H	
49	73	I	
4a	74	J	
4b	75	K	
4c	76	L	
4d	77	M	
4e	78	N	
4f	79	O	
50	80	P	
51	81	Q	
52	82	R	
53	83	S	
54	84	T	
55	85	U	
56	86	V	
57	87	W	
58	88	X	
59	89	Y	
5a	90	Z	
5b	91	[	(Left / Opening Bracket)
5c	92	\	(Back Slash)
5d	93	]	(Right / Closing Bracket)
5e	94	^	(Caret / Circumflex)
5f	95	_	(Underscore)
60	96	'	(Grave Accent)

61	97	a
62	98	b
63	99	c
64	100	d
65	101	e
66	102	f
67	103	g
68	104	h
69	105	i
Hex	Dec	Char
6a	106	j
6b	107	k
6c	108	l
6d	109	m
6e	110	n
6f	111	o
70	112	p
71	113	q
72	114	r
73	115	s
74	116	t
75	117	u
76	118	v
77	119	w
78	120	x
79	121	y
7a	122	z
7b	123	{ (Left/ Opening Brace)
7c	124	| (Vertical Bar)
7d	125	} (Right/Closing Brace)
7e	126	~ (Tilde)
7f	127	DEL (Delete)

7.3 Appendix 3: Digit Barcodes





Y0Y



Y1Y



Y2Y



Y3Y

4

5

6

7



Y4Y



Y5Y



Y6Y



Y7Y

8

9

A

B



Y8Y



Y9Y



YAY



YBY

C

D

E

F



YCY



YDY



YEY



YFY