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# QS200

*Handheld Scanner*



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## Programming Manual

v 2.1

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## TABLE OF CONTENTS

Introduction	
Flow Chart	1
Interfaces	2
On/Off Symbologies	3
Code 39	7
Codabar/NW7	8
Interleaved 2/5	9
Standard 2/5	11
Matrix 2/5	12
EAN-13/EAN-8	13
UPC-A/UPC-E	14
CHINESE POSTAL 2/5	15
Reading Modes	16
General Parameters	17
Keyboard Parameters	20
Terminal Type	21
Function Key Setting	23
Function Key Table	24
Function Key Labels	25
Languages	27

RS232 Parameters	28
CCD Wand Emulation	31
OCIA Types	32
Magnetic Setting	33
Code Mark	34
Truncate Digits	36
ASCII Table	38
Hexadecimal Labels	39
Pinout Assignments	40

Notes:

1. Options marked by { } are only available for some models.
2. Factory default values are indicated by < >.
3. All references to numbers in this menu are in Decimal, but you MUST input it as Hexadecimal.

## INTRODUCTION

Bar Code devices provide an accurate, easy, and fast method of data entry and data storage for computerized information systems.

The products we are offering now can be integrated into any host computer system by the following ways:

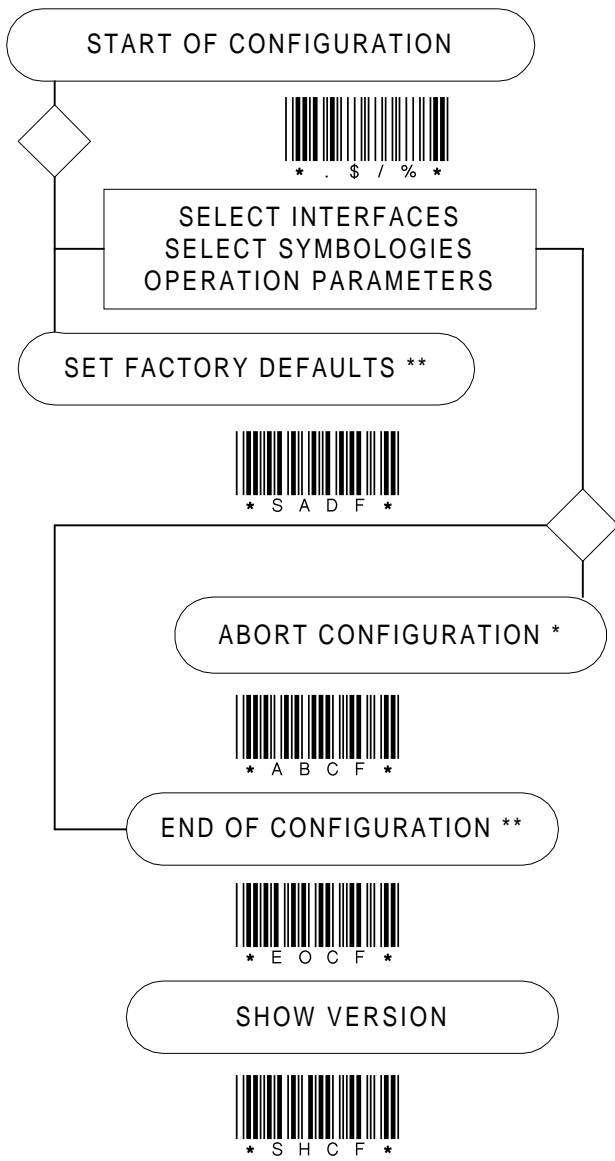
- Keyboard emulation
- Wand emulation
- RS-232C serial asynchronous
- Dual RS-232C
- RS-422
- RS-485
- Parallel
- OCIA
- OTHERS

All the operating parameters are programmed by bar code programming menu and stored in non-volatile RAM which can retain the settings after power is turned off.

For the functions which are not listed in this menu, please consult your supplier for more details.

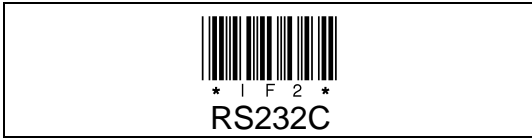
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# -1- FLOW CHART



- \* Reject new settings & end.
- \*\* Accept new settings & end.

## INTERFACES - 2 -




To choose an Interface,

e.g. KEYBOARD:

1. Scan **START OF CONFIGURATION**
2. Scan **KEYBOARD**
3. Scan **END OF CONFIGURATION**


- 3 - SYMBOLOGIES

CODE 39



\* S D 1 \*

OFF



\* S E 1 \*

<ON>

INTERLEAVED 2 OF 5



\* S D 2 \*

<OFF>



\* S E 2 \*

ON

STANDARD 2 OF 5



\* S D 3 \*

<OFF>



\* S E 3 \*

ON

MATRIX 2 OF 5



\* S D 4 \*


<OFF>



\* S E 4 \*


ON

CODABAR



\* S D 5 \*

OFF



\* S E 5 \*

<ON>



SYMBOLOLOGIES - 4 -

EAN-8



\* S D 7 \*

OFF



\* S E 7 \*

<ON>

EAN-13/UPC-A



\* S D 6 \*


OFF



\* S E 6 \*

<ON>

UPC-E



\* S D 8 \*

OFF



\* S E 8 \*

<ON>

ISBN/ISSN



\* S D F \*


<OFF>



\* S E F \*


ON

EAN/UPC ADDON 2/5



\* S D 9 \*

<OFF>



\* S E 9 \*

ON

- 5 - SYMBOLOGIES

CODE 128



\* S D A \*

OFF



\* S E A \*

<ON>

CODE 93



\* S D B \*

<OFF>



\* S E B \*

ON

CHINESE 2 OF 5



\* S D E \*

<OFF>



\* S E E \*

ON

{MSI/PLESSEY}



\* S D C \*

<OFF>



\* S E C \*

ON

{CODE 11}



\* S D D \*

<OFF>




\* S E D \*

ON


SYMBOLOGIES- 6 -

{PHARMACEUTICAL CODE}



\* A A 9 \*

<OFF>



\* A A A \*

ON

{CODE IV}



\* S D G \*

<OFF>



\* S E G \*

ON

{CODE49}



\* S D H \*

<OFF>



\* S E H \*

ON

Italian PharmaCode



\* A A D \*

<OFF>


"A"



\* A A C \*


ON

EAN-8 TO EAN-13



\* A H 6 \*

<OFF>




\* A H 5 \*

ON


In order to enable Italian PharmaCode, PHARMACEUTICAL CODE should also be enabled.

TYPE



\* A A 1 \*


STANDARD



\* A A 2 \*


<FULL ASCII>

TRANSMIT START/STOP CHAR



\* A A 3 \*


<OFF>



\* A A 4 \*


ON

VERIFY CHECKSUM



\* A A 5 \*


<OFF>



\* A A 6 \*


ON

TRANSMIT CHECK CHAR



\* A A 7 \*

<OFF>



\* A A 8 \*

ON

CODE39 LABEL ID



\* A A E \*


<OFF>




\* A A F \*

ON

TRANSMIT START/STOP

  
\* A E 1 \*

<OFF>

  
\* A E 2 \*  
ON

TYPE OF START/STOP

  
\* A E 3 \*

ABCD/ABCD


  
\* A E 4 \*  
ABCD/TN\*E

  
\* A E 5 \*


<abcd/abcd>

  
\* A E 6 \*  
abcd/tn\*e

TRANSMIT CHECK DIGIT

  
\* A E 7 \*

<OFF>

  
\* A E 8 \*  
ON

VERIFY CHECK DIGIT

  
\* A E 9 \*

<OFF>

  
\* A E A \*  
ON

BAR CODE LENGTH



MINI. TO MAXI. = ? <6-32>  
( MINI.=2. MAXI.=32 )



CUSTOM DEFINE  
( 3 SETS AVAILABLE )

TRANSMIT CHECK DIGIT



<OFF>



ON

VERIFY CHECK DIGIT



<OFF>



ON

## INTERLEAVED 2 OF 5- 10 -

To choose BAR CODE LENGTH, e.g.  
10 - 20, (0A,14 in Hex):

1. Scan **START OF CONFIGURATION**
2. Scan **BAR CODE LENGTH**
3. Scan **0 A 1 4 SET**
4. Scan **END OF CONFIGURATION**

CUSTOM DEFINE, user may choose  
1 to 3 individual lengths,  
excluding the range between,  
e.g. user wants lengths of 12,  
16 and 20: (0C, 10 and 14 in Hex)

Use above example except:

- No. 2. Scan **CUSTOM DEFINE**
- No. 3. Scan **0 C 1 0 1 4 SET**

BAR CODE LENGTH



MINI. TO MAXI. = ? <6-32>  
( MINI.=2. MAXI.=32 )



CUSTOM DEFINE  
( 3 SETS AVAILABLE )

TRANSMIT CHECK DIGIT



<OFF>



ON

VERIFY CHECK DIGIT



<OFF>



ON

See example on page 10



BAR CODE LENGTH



MINI. TO MAXI. = ? <6-32>  
( MINI.=2. MAXI.=32 )



CUSTOM DEFINE  
( 3 SETS AVAILABLE )

TRANSMIT CHECK DIGIT



<OFF>



ON

VERIFY CHECK DIGIT



<OFF>




ON

See example on page 10



### EAN-13

TRUNCATE LEADING DIGIT (S)



= ? <0>


TRANSMIT CHECK DIGIT



<YES> NO


### EAN-8

TRUNCATE LEADING DIGIT (S)



= ? <0>

TRANSMIT CHECK DIGIT




<YES> NO

Example: user wants to truncate 1  
(the first leading digit):

1. Scan **START OF CONFIGURATION**
2. Scan **TRUNCATE LEADING DIGIT**
3. Scan **0** | **1** | **SET**
4. Scan **END OF CONFIGURATION**


UPC-A

TRUNCATE LEADING DIGIT (S)




= ? <0>

TRANSMIT CHECK DIGIT




<YES>



NO


UPC-E

TRUNCATE LEADING DIGIT (S)



= ? <0>

TRANSMIT CHECK DIGIT




<YES>




NO

UPC-E TO UPC-A



YES



<NO>

See example on page 13

BAR CODE LENGTH



MINI. TO MAXI. = ? <6-32>  
( MINI.=2. MAXI.=32 )



CUSTOM DEFINE  
( 3 SETS AVAILABLE )

TRANSMIT CHECK DIGIT



<OFF>



ON

VERIFY CHECK DIGIT



<OFF>



ON

See example on page 10

TRIGGER ON/OFF



< TRIGGER ON/



GOOD READ OFF >

CONTINUOUS/  
TRIGGER OFF



CONTINUOUS/  
LED ALWAYS ON



TESTING



TRIGGER ON/  
GOOD READ OFF/  
DELAY TIME = ?



CONTINUOUS/  
GOOD READ OFF/  
DELAY TIME = ?



CONTINUOUS/  
NO TRIGGER



TERMINATOR



NONE



CR <KB>



LF



CR/LF <RS232>



SPACE



TAB



ESC



CTRL-C



EXEC



STX..ETX



EOT

LED INDICATOR




OFF




<ON>

TERMINATOR  
DELAY = ?  
<4> KEYBOARD  
<0> RS232




\* A R F \*

BUZZER  
PITCH = ? <18>



\* A T 1 \*

BUZZER <5>  
DURATION = ?



\* A T 2 \*

TIME(S) OF DATA COMPARISON



\* A Z 5 \*


TWO



\* A Z 6 \*


<ONE>

POWER UP BEEPING



\* A Z 3 \*


<YES>



\* A Z 4 \*


NO

DATA FORMAT



\* A Z 1 \*


<PREAMBLE/DATA/  
POSTAMBLE/ TERMINATOR >



\* A Z 2 \*


PREAMBLE/DATA/  
TERMINATOR/ POSTAMBLE

CHARACTER  
DELAY = ?  
<4> KEYBOARD  
<0> RS232




\* A O 1 \*

INTERFIELD  
DELAY = ?  
<20>



\* A O 4 \*

SENDING NUMBER OF DIGITS



\* A Z 7 \*

<OFF>



\* A Z 9 \*


ON



KEYBOARD PARAMETERS - 20 -


  
\* A Q 2 \*

<LOWER CASE>


  
\* A Q 3 \*

UPPER CASE

NUMBER KEYS


  
\* A Q 6 \*

<ALPHANUM>


  
\* A Q 7 \*

NUMLOCK PAD

KEYBOARD SPEED


  
\* A Q 4 \*

<NORMAL>


  
\* A Q 5 \*

TURBO

PREAMBLE  
= ?


  
\* A O 2 \*

POSTAMBLE  
= ?

  
\* A O 3 \*

\* 10 Bytes each

CANCEL Preamble/postamble

  
\* H L Z \*

\* Please read PREAMBLE or  
POSTAMBLE label *first*

- 21 -TERMINAL TYPE

<PC/AT,  
PS/2 30-80>



PC/XT



PS/2 25,30  
IBM5541



IBM PS/55 ST  
IBM 3472,3477  
IBM 5530-SC



IBM PS/55 MP  
IBM 5295



IBM 5530-ZC



NEC 9801



NEC 5262/N8VS2



CT 500/700



TERMINAL TYPE- 22 -

{Mac II,SE}



{WYSE}



{ACER D7300}



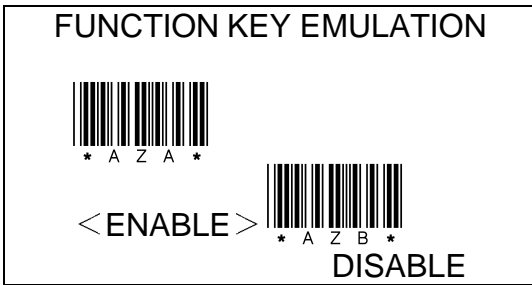
{WANG}



{THINK PAD}  
( IBM )



## - 23 -FUNCTION KEY



Scanner can read Function keys and other special keys, please refer to FUNCTION KEY LABELS. When doing this, Code 39 FULL ASCII must be on.

To concatenate a Function Key or other special keys with input data, e.g. F1:

1. Scan **START OF CONFIGURATION**
2. Scan keyboard **PREAMBLE**
3. Scan **0 1 SET**
4. Scan **END OF CONFIGURATION**

FUNCTION KEY TABLE -24-

L \ H	0	1
0		BkSp
1	F1	Home
2	F2	PgUp
3	F3	PgDn
4	F4	END
5	F5	↑
6	F6	↓
7	F7	←
8	F8	→
9	F9	Ins
A	F10	Del
B	F11	Pad
C	F12	
D	Etr	
E	ESC	
F	TAB	

# -25- FUNCTION KEY LABELS



F1



F2



F3



F4



F5



F6



F7



F8



F9



F10



F11



F12



Enter



ESC



TAB



BkSp



Home



PgUp

FUNCTION KEY LABELS -26-



PgDn



End



Ins



Del



Pad

- 27 - LANGUAGES



BELGIAN



DANISH



FRENCH



GERMANY



ITALIAN



PORTUGUESE



SPANISH



SWEDISH



SWISS



UK



<US>



WYSIWYG



### BAUD RATE



\* A L 1 \*

300



\* A L 2 \*

600



\* A L 3 \*

1200



\* A L 4 \*

2400



\* A L 5 \*

4800



\* A L 6 \*

<9600>



\* A L 7 \*

19200



\* A L 8 \*

38400

### DATA BIT



\* A M 1 \*

7



\* A M 2 \*

<8>

### STOP BIT



\* A M 3 \*

<1>



\* A M 4 \*

2

PARITY



\* A N 1 \*

<NONE>



\* A N 2 \*

ODD



\* A N 3 \*

SPACE



\* A N 4 \*

EVEN



\* A N 5 \*

MARK

HAND SHAKING



\* A S 1 \*

<NONE>



\* A S 4 \*

ACK/NAK



\* A S 2 \*

XON/XOFF



\* A S 5 \*

RTS/CTS

SCANNER READY



\* A S 3 \*

RTS/CTS

DATA READY

ACK/NAK Response Time  
CTS Observation Time



\* B A 1 \*

300 msec



\* B A 2 \*

< 500 msec >



\* B A 3 \*

1 sec



\* B A 4 \*

2 sec



\* B A 5 \*

3 sec



\* B A 6 \*

5sec



\* B A A \*

∞

PREAMBLE

= ?



\* A O 2 \*

POSTAMBLE

= ?



\* A O 3 \*

\* 10 Bytes each

CANCEL PREAMBLE/POSTAMBLE



\* H L Z \*

\* Please read PREAMBLE or  
POSTAMBLE table *first*

- 31 -CCD WAND EMULATION



SCAN SPEED	
SLOWEST (28cm/sec)	 * A V 3 *
SLOW (36cm/sec)	 * A V 4 *
< NORMAL > (49cm/sec)	 * A V 5 *
HIGH (80cm/sec)	 * A V 6 *
HIGHEST (208cm/sec)	 * A V 7 *

BASE ON 0.125 mm BAR CODE

OCIA MACHINES



\* A P D \*

<CASIO>



\* A P E \*

SIEMENS



\* A P F \*

NIXDORF



\* A P G \*

NCR-S



\* A P H \*

NCR-F








\* A P D \*

TEC

- 33 - MAGNETIC SETTING

**TRACK DELIMITER**

 * B D 1 *	
NONE	 * B D 2 * <CR>
 * B D 3 *	
LF	 * B D 4 * CR/LF
 * B D 5 *	
SPACE	

**TRACK SELECTION**

 * B E 1 *	
TRACK 1	 * B E 2 * <TRACK 2>
 * B E 3 *	
TRACK 3	 * B E 4 * TRACK 1&2
 * B E 5 *	
TRACK 2&3	 * B E 6 * {TRACK 1,2&3}

CODE MARK- 34 -



\* A U 1 \*

CODE 39 = ?



\* A U 2 \*

ITF 2/5 = ?



\* A U 3 \*

STD 2/5 = ?



\* A U 4 \*

MTX 2/5 = ?



\* A U 5 \*

CODABAR = ?



\* A U 6 \*

EAN-13 = ?



\* A U 7 \*

UPC-A = ?



\* A U 8 \*

EAN-8 = ?



\* A U 9 \*

UPC-E = ?



\* A U A \*

{CODE 11 = ?}



\* A U B \*

CODE 93 = ?



\* A U C \*

CHINESE 2/5 = ?



\* A U D \*

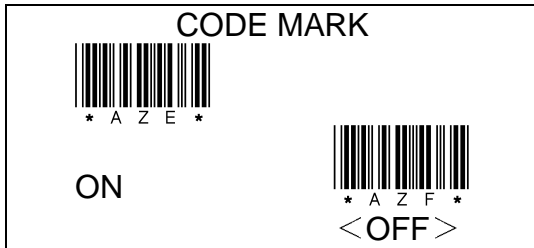
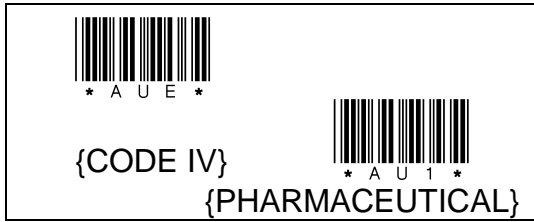
CODE 128 = ?



\* A U F \*










{MSI = ?}

- 35 - CODE MARK

















## TRUNCATE LEADING DIGIT - 36 -

CODE 39	 * B B 3 *
CODABAR	 * B B 4 *
MATRIX 2/5	 * B B 5 *
STANDARD 2/5	 * B B 6 *
INTERLEAVED 2/5	 * B B 7 *
CODE 128	 * B B 8 *
CODE 93	 * B B 9 *
PHARMACEUTICAL	 * B B 3 *
CODE IV	 * B B F *

User can choose only 1 symbology at a time to truncate leading or ending digits.

At the same time, the TRUNCATE functions of EAN and UPC codes can also be operating.

- 37 - TRUNCATE ENDING DIGIT

CODE 39	 * B C 3 *
CODABAR	 * B C 4 *
MATRIX 2/5	 * B C 5 *
STANDARD 2/5	 * B C 6 *
INTERLEAVED 2/5	 * B C 7 *
CODE 128	 * B C 8 *
CODE 93	 * B C 9 *
PHARMACEUTICAL	 * B C 3 *
CODE IV	 * B C F *
EAN-13	 * B C Q *
EAN-8	 * B C 1 *
UPC-E	 * B C 2 *
UPC-A	 * B C G *

ASCII TABLE - 38 -

START  
CONFIGURATION



\* . \$ / % \*

ABORT  
CONFIGURATION



\* A B C F \*

END  
CONFIGURATION



\* E O C F \*

ASCII TABLE

H L	0	1	2	3	4	5	6	7
0	NUL	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

- 39 - HEXADECIMAL LABELS



0



1



2



3



4



5



6



7



8



9



A



B



C



D



E



F



SET

## PIN ASSIGNMENTS - 40 -

### TTL Signal Output

COLOR	FUNCTION	9 PIN DSUB/AMP (F)	5 PIN DIN (M)	6 PIN DIN (M)	6 PIN MINI DIN (M)
BROW	START OF SCAN	1	-	6	6
YELLO	SIGANLDATA	2	2	2	4
GREEN	LED INDICATOR	3	-	-	-
RED	TRIGGER	5	5	5	1
BLUE	POWER ENABLE	6	4	4	2
BLACK	GND	7	3	3	5
PURPLE	GND SHIELD	8	3	3	5
ORANGE	Vcc +5V	9	1	1	3

### CCD Wand Emulation Signal Output

COLOR	FUNCTION	9 PIN DSUB/AMP (F)	5 PIN DIN (M)	6 PIN DIN (M)
BLUE	SIGNAL DATA	2	2	2
BROW	GND	8	3	3
PURPLE	Vcc +5V	9	1	1

NOTE: The pin number for the 5 and 6 pin connectors are viewed internally.  
F stands for a female connector while M stands for a male connector.

- 41 - PIN ASSIGNMENTS

RS232 SIGNAL OUTPUT

COLOR	FUNCTION	9 PIN DSUB/AMP (F)	25 PIN DSUB (F)
BROW	GND	5	7
YELLO	CTS	8	4
GREEN	RTS	7	5
ORANGE	RX	2	2
BLUE	TX	3	3
PURPLE	Vcc +5V	9	25,16

## PIN ASSIGNMENTS - 42 -

### RS232/Keyboard Signal Output

COLOR	FUNCTION	9 PIN DSUB/AMP (F)	25 PIN DSUB (F)
BROW	GND	5	7
BLUE	TX	3	3
PURPLE	Vcc +5V	9	25,16
ORANGE	RX	2	2

NOTE: RS232 CABLE WITH DC POWER SOCKET FOR DC POWER 5V

### OCIA Signal Output

COLOR	FUNCTION	8 PIN DIN (M)	9 PIN DB-(F)	10 PIN
RED	CLOCK RETURN	4	1	3
ORANGE	CLOCK	3	2	9
GREEN	DATA RETURN	1	3	5
BLUE	DATA	2	4	7
WHITE	VCC	5	7	10
BROW	GND	7	8	1

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