

ZBX98070101
P/N : MUL-53215-01

USER'S MANUAL

ZB- 800 SERIES

**The manual can be used as
keyboard emulation, RS- 232C
serial interface, and CMOS serial
interface.**

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1. INTRODUCTION

The series Bar Code Wand scanners can be configured by scanning a series of programming bar code labels. This allows decoding options and interface protocols to be tailored to a specific application. The configuration is stored in non-volatile memory and will not be lost by removing power from the scanner.

The scanner must be properly powered before programming. For RS-232C type scanners, an external power adaptor must be used to supply DC power to the scanner. If a keyboard emulation type scanner is used with a IBM PC/XT/AT, PS/2 or any fully compatible computers, power will be drawn from the keyboard port. No external power adaptor is required. If keyboard emulation type scanner is used with any other non IBM PC compatible computers, an external power adaptor may be needed.

During the programming mode, the scanner will acknowledge a good and valid reading with a short beep. It will give long beeps for either an invalid or bad reading.

2. PROGRAMMING OPTIONS

Programmable options are divided into four groups. The first group includes the options that show the general behavior of the scanner. The second group of options governs the operation of RS-232C type serial ports. The third group selects the keyboard type that the keyboard emulation type will be emulated. The last group sets the decoding parameters for each bar code symbology.

3. DEFAULT PARAMETERS

This table gives the default settings of all the programmable parameters. The default settings will be restored whenever the "Reset" programming label is scanned and the scanner is in programming mode.

DEFAULT VALUES OF OPERATING PARAMETERS

Function	Default Values
Header and trailer	None
Inter-Message delay	Normal
Inter-Character delay	Normal
Message/Block mode selection	Message
Send command in block mode communication	Disable
Good read beeper tone selection	2KHz/120 mSec
Code identifier transmitting	Disable
Code 39 bar code identifier code	M
ITF 2 of 5 bar code identifier code	I
SLZ 2 of 5 bar code identifier code	H
UPC-E bar code identifier code	E
UPC-A bar code identifier code	E
EAN-13 bar code identifier code	F
EAN-8 bar code identifier code	FF
Codabar bar code identifier code	N
Code 128 bar code identifier code	K
Code 93 bar code identifier code	L
MSI bar code identifier code	P

DEFAULT VALUES OF KEYBOARD EMULATION PARAMETERS SETTING

Function	Default Values
Keyboard type selection	IBM PC/AT USA
Message terminator	Enter/ Carriage Return

DEFAULT VALUES OF RS-232C SERIAL COMMUNICATION PARAMETERS

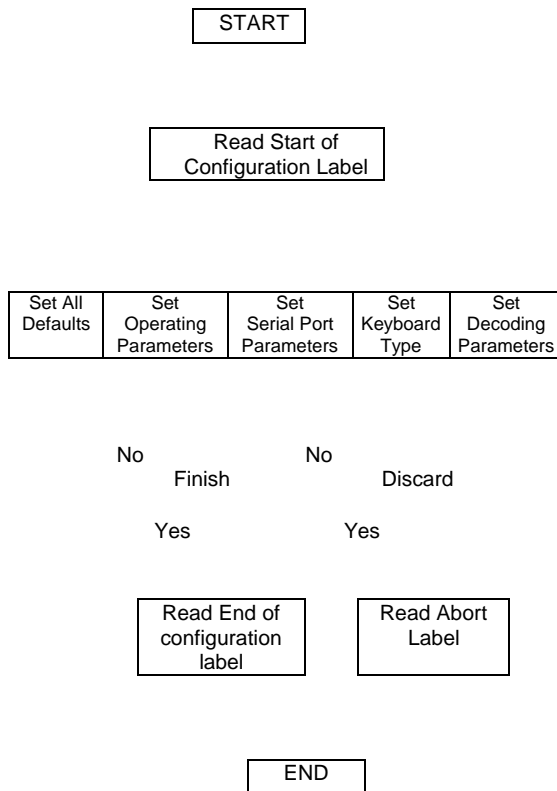
Function	Default Values
Handshaking protocol	None
ACK/NAK response time setting	300 msec
Baud rate	9600
Data bit	8
Stop bit	1
Parity	Mark (None)
Message terminator selection	CR/LF

DEFAULT VALUES OF DECODING PARAMETERS

Function		Default Value
Reading Codes Selection	Code 39	Enable
	ITF 2 of 5	Enable
	SLZ 2 of 5	Disable
	UPC/EAN/JAN	Enable
	Codabar	Enable
	* MSI	Disable
	Code 128	Enable
	Code 93	Enable
	* ITAT	Disable
Code 39	Codes	Standard
	Start/stop characters	Not transmitting
	Check digit	Disable
Interleaved 2 of 5	Length	10 digits Fixed
	Check Digit	Disable
SLZ 2 of 5	Length	Variable
	Check Digit	Disable
UPC/EAN/JAN	Format	All
	Addendum	Disable
	UPC-E=UPC-A	Disable
	UPC-A= EAN-13	Disable
	UPC-A Leading Digit	Transmit
	UPC-A Check Digit	Transmit
	UPC-E Leading Digit	Transmit
	UPC-E Check Digit	Transmit
	EAN-13 Check Digit	Transmit
EAN-8 Check Digit	Transmit	
Codabar	Type	Standard
	Start/ Stop Characters	A,B,C,D
Code 128	FNC 2 Append	Disable
	Check Digit	Calculate but not Transmit
MSI	Length	Variable
	Check digit	Transmit
Italian Pharmac	Transmit "A" Character	Not transmitting

Note: The configuration of the items with asterisk (*) is optional.

4. PROGRAM PROCEDURE USING BAR CODE MENUS





Start of Configuration

- The reading of the "RESET " label turns all the parameters back to default values.
- When you intend to turn your scanner back to default parameter, please scan the "Start of configuration" label first, then scan "RESET" label and finally scan the "End of configuration" label.



RESET

- The reading of the "ABORT" label discards all the parameters read prior to the "End of configuration".



ABORT

- The table below must be read to enter into serial interface for **ZB- 800R** or **ZB- 800C** when the wand is configured the first time.



RS-232C

- The table below must be read to enter into serial interface for **ZB- 800K** when the wand is configured the first time.



PC/ AT

HEADER AND TRAILER



Header



Trailer



Set

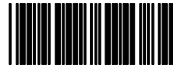
INTER-MESSAGE DELAY



None



100 mSec



500 mSec

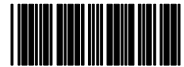


1 Second

INTER-CHARACTER DELAY



None



10 mSec



20 mSec



50 mSec



End of Configuration



Start of Configuration

MESSAGE/BLOCK MODE SELECTION



Message

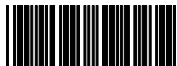


Block

SEND COMMAND IN BLOCK MODE COMMUNICATION



Enable



Disable



Store



Set

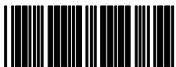
GOOD READ BEEPER TONE SELECTION



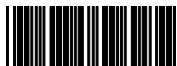
2KHz/ 120 mSec



1 KHz/ 120 mSec



2 KHz/ 200 mSec



1 KHz/ 200 mSec



Disable

BAR CODE IDENTIFIER CODE SELECTION

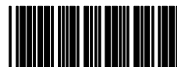


Enable



Disable

BAR CODE IDENTIFIER CODE SETTING



UPC- E



UPC- A



EAN- 13



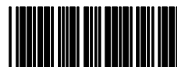
EAN- 8



SLZ 2 OF 5



ITF 2 OF 5



Codabar



Code 39

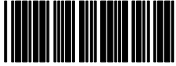


End of Configuration



Start of Configuration

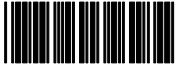
BAR CODE IDENTIFIER CODE SETTING (Cont'd)



Code 128



MSI



Code 93



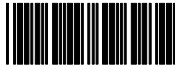
Set

**RS-232C SERIAL COMMUNICATION
PARAMETERS SETTING**

HANDSHAKING PROTOCOL



None



RTS/CTS



ACK/NAK



Xon/ Xoff

ACK/NAK RESPONSE TIME SETTING



300 mSec



2 Sec



500 mSec



3 Sec



1 Sec



5 Sec

BAUD RATE



19200



9600



4800



2400



1200



600

DATA BIT



7



8

End of Configuration



Start of Configuration

STOP BIT



1



2

PARITY



Even



Odd



Mark (None)



Space

MESSAGE TERMINATOR (FOR RS-232C TYPE ONLY)



None



CR/LF



CR



LF



Hor. Tab



STX/ ETX



EOT

KEYBOARD EMULATION PARAMETERS SETTING

KEYBOARD TYPE SELECTION



IBM AT



PS/2 55



IBM 5550



IBM 5295 Terminal



IBM XT



IBM 3477/ 3472 Terminal



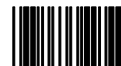
IBM 5530-SC



IBM 5530-ZC



NEC 9801

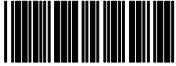


End of Configuration



Start of Configuration

KEYBOARD TYPE SELECTION (Cont' d) ^



IBM 3196 Terminal



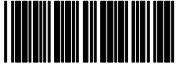
APPLE MAC II (;)



PS2/30

Note: The configuration of the items with asterisk (;) is optional.

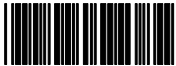
KEYBOARD LANGUAGE SELECTION



USA



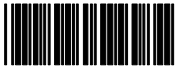
UK



Germany



French



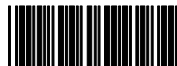
Spanish



Italian



Swiss



Swedish

MESSAGE TERMINATOR (FOR KEYBOARD WEDGE USE)



None



Return



Hor. TAB

READING CODE SELECTION



Code 39 Enable



Code 39 Disable



Codabar Enable



Codabar Disable



UPC/ EAN/ JAN Enable



UPC/ EAN/ JAN Disable



End of Configuration

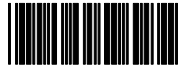


Start of Configuration

READING CODE SELECTION (Cont' d)



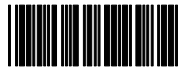
ITF 2 of 5 Enable



ITF 2 of 5 Disable



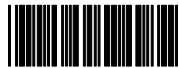
SLZ 2 of 5 Enable



SLZ 2 of 5 Disable



Code 128 Enable



Code 128 Disable



MSI Enable



MSI Disable



Code 93 Enable



Code 93 Disable



IATA Enable



IATA Disable



Italian Pharmac Enable



Italian Pharmac Disable

CODE 39 PARAMETERS SETTING

CHARACTER SET

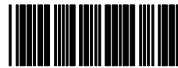


Standard Code 39



Full ASCII Code 39

START/STOP CHARACTER TRANSMISSION



Yes



No

CHECK DIGIT



Calculate and Transmit



Calculate but not Transmit



No



End of Configuration



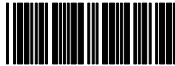
Start of Configuration

INTERLEAVED 2 OF 5 PARAMETERS SETTING

LENGTH



Variable



Fixed



Set

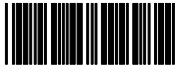
CHECK DIGIT



No



Calculate and Transmit



Calculate but not Transmit

SLZ 2 OF 5 PARAMETERS SETTING

LENGTH



Variable



Fixed



Set

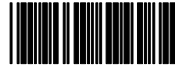
CHECK DIGIT



No



Calculate and Transmit



Calculate but not Transmit

UPC/ EAN/ JAN PARAMETERS SETTING

FORMAT



All



EAN-8 and EAN-13



UPC-A and EAN-13



UPC-A and UPC-E



UPC-A



UPC-E



EAN-13



EAN-8



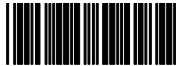
End of Configuration



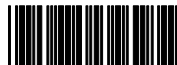
Start of Configuration

UPC/ EAN/ JAN PARAMETERS SETTING(Cont' d)

ADDENDUM



No



5 Characters



2 Characters



2 or 5 Characters

FORCE UPC-E TO UPC-A FORMAT



Yes



No

FORCE UPC-A TO EAN-13 FORMAT



Yes



No

TRANSMIT UPC-A LEADING CHARACTER



Yes



No

TRANSMIT UPC-A CHECK DIGIT



Yes



No

TRANSMIT UPC-E LEADING CHARACTER



Yes



No

TRANSMIT UPC-E CHECK DIGIT



Yes



No



End of Configuration



Start of Configuration

UPC/ EAN/ JAN PARAMETERS SETTING Cont'd)

TRANSMIT EAN-13 CHECK DIGIT

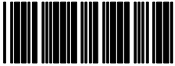


Yes

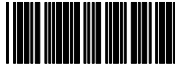


No

TRANSMIT EAN-8 CHECK DIGIT



Yes



No

CODABAR/ MONARCH PARAMETERS SETTING

START/ STOP CHARACTER TRANSMISSION



No



A, B, C, D



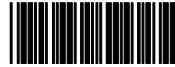
DC1 ~DC4



a/ t, b/ n, c/ *, d/ e

CODE 128 PARAMETERS SETTING

FNC 2 CONCATENATION



Enable



Disable

CHECK DIGIT



No



Calculate and Transmit



Calculate but not Transmitt

ISBN/ ISSN CONVERSION



ACTIVE ISBN/ ISSN



INACTIVE ISBN/ ISSN



End of Configuration

APPENDIX A

CODE 39 FULL ASCII CODE TABLE

ASCII	CODE 39	VALEUR HEXA.	ASCII	CODE 39	VALEUR HEXA.
NUL	%U	00	%	/E	25
SOH	\$A	01	&	/F	26
STX	\$B	02	'	/G	27
ETX	\$C	03	(	/H	28
EOT	\$D	04	)	/I	29
ENQ	\$E	05	*	/J	2A
ACK	\$F	06	+	/K	2B
BEL	\$G	07	,	/L	2C
BS	\$H	08	-	-	2D
HT	\$I	09	.	.	2E
LF	\$J	0A	/	/	2F
VT	\$K	0B	0	0	30
FF	\$L	0C	1	1	31
CR	\$M	0D	2	2	32
SO	\$N	0E	3	3	33
SI	\$O	0F	4	4	34
DLE	\$P	10	5	5	35
DC1	\$Q	11	6	6	36
DC2	\$R	12	7	7	37
DC3	\$S	13	8	8	38
DC4	\$T	14	9	9	39
NAK	\$U	15	:	/Z	3A
SYN	\$V	16	;	%F	3B
ETB	\$W	17	<	%G	3C
CAN	\$X	18	=	%H	3D
EM	\$Y	19	>	%I	3E
SUB	\$Z	1A	?	%J	3F
ESC	%A	1B	@	%V	40
FS	%B	1C	A	A	41
GS	%C	1D	B	B	42
RS	%D	1E	C	C	43
US	%E	1F	D	D	44
SP	SP	20	E	E	45
!	/A	21	F	F	46
"	/B	22	G	G	47
#	/C	23	H	H	48
\$	/D	24	I	I	49

















APPENDIX A

CODE 39 FULL ASCII CODE TABLE

ASCII	CODE 39	VALEUR HEXA.	ASCII	CODE 39	VALEUR HEXA.
J	J	4A	e	+E	65
K	K	4B	f	+F	66
L	L	4C	g	+G	67
M	M	4D	h	+H	68
N	N	4E	i	+I	69
O	O	4F	j	+J	6A
P	P	50	k	+K	6B
Q	Q	51	l	+L	6C
R	R	52	m	+M	6D
S	S	53	n	+N	6E
T	T	54	o	+O	6F
U	U	55	p	+P	70
V	V	56	q	+Q	71
W	W	57	r	+R	72
X	X	58	s	+S	73
Y	Y	59	t	+T	74
Z	Z	5A	u	+U	75
[	%K	5B	v	+V	76
\	%L	5C	w	+W	77
]	%M	5D	x	+X	78
^	%N	5E	y	+Y	79
_	%O	5F	z	+Z	7A
`	%W	60	{	%P	7B
a	+A	61	|	%Q	7C
b	+B	62	}	%R	7D
c	+C	63	~	%S	7E
d	+D	64	DEL	%T	7F







APPENDIX B

CODE 39 FULL ASCII BAR CODE TABLE

		
Start of Configuration		
		
NUL		LF
		
ENQ		
		
SOH		VT
		
ACK		
		
STX		FF
		
BEL		
		
ETX		CR
		
BS		
		
EOT		SO
		
HT		















APPENDIX B

CODE 39 FULL ASCII BAR CODE TABLE

		
SI		EM
		
	DC4	
		
DLE		SUB
		
	NAK	
		
DC1		ESC
		
	SYN	
		
DC2		FS
		
	ETB	
		
DC3		GS
		
	CAN	
<hr/>		
		
		End of Configuration

















APPENDIX B

CODE 39 FULL ASCII BAR CODE TABLE

		
Start of Configuration		
		
RS		(
		
#)
		
US		\$
		
SP		%
		
!		+
		
&		=
		
,		

















APPENDIX B

CODE 39 FULL ASCII BAR CODE TABLE

		
-		7
		
.	2	8
		
/	3	9
		
0	4	:
		
1	5	;
		
	6	
<hr/>		
		
		End of Configuration

















APPENDIX B

CODE 39 FULL ASCII BAR CODE TABLE

		
Start of Configuration		
		
<	A	F
		
=	B	G
		
>	C	H
		
?	D	I
		
@	E	J

APPENDIX B

CODE 39 FULL ASCII BAR CODE TABLE

		
K	P	U
		
L	Q	V
		
M	R	W
		
N	S	X
		
O	T	Y
<hr/>		
		
End of Configuration		

APPENDIX B

CODE 39 FULL ASCII BAR CODE TABLE

Start of Configuration		
Z		d
[	-	e
\	`	f
a	b	g
j	c	h
A		

APPENDIX B

CODE 39 FULL ASCII BAR CODE TABLE

i	s
n	t
o	u
k	v
p	w
l	
q	
m	
r	
End of Configuration	

APPENDIX B

CODE 39 FULL ASCII BAR CODE TABLE



Start of Configuration



x



{



~



y



|



DEL



z



}



End of Configuration