



ION Linear Wireless

Barcode Scanner

User's Guide

Table of Contents

Chapter 1 System Information

1.1 About this manual	4
1.2 How to set up the parameter	4

Chapter 2 System Setup

2.1 Terminator	6
2.2 String Options (Prefix & Suffix)	7
2.3 Setup Insertion	8

Chapter 3 BarCode parameters setting

3.1 UPC-A	12
3.2 UPC-E	15
3.3 EAN-13	18
3.4 EAN-8	20
3.5 Code39	22
3.6 Codabar	25
3.7 Code93	29
3.8 Code128	31
3.9 Interleaved2 of 5	34
3.10 Industrial 2of 5	36
3.11 Matrix 2 of 5	38
3.12 China Postage	40
3.13 MSI/Plessey	42
3.14 Code 32	44
3.15 Code 11	46
3.16 Telepen	48
3.17 GS1 DataBar	50
Appendix	52

Chapter 1 - System Information

1.1 About this manual

This User's Guide provides detailed programming instructions. Barcode scanners are factory programmed for the most common communication settings. If you need to change these settings, programming is accomplished by scanning the bar codes in this guide.

1.2 How to set up the parameter -I

- (1) Scan Start Configuration
- (2) Scan all necessary barcodes.
- (3) Scan End Configuration to end the programming



Start configuration



End configuration



Default setting



Check Version

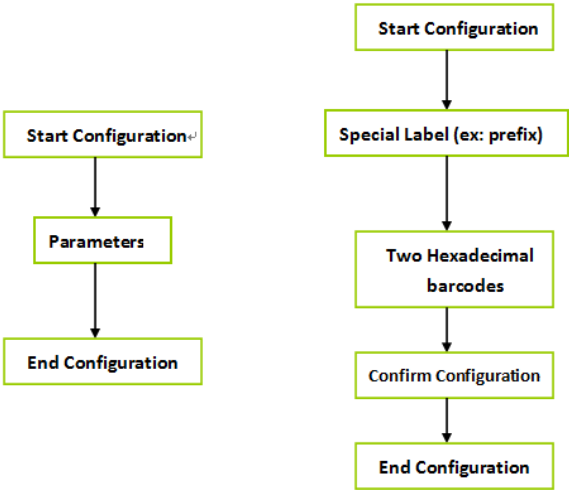
An asterisk (*) next to an option indicate the default setting.

1.2 How to set up the parameter - II

Generally, you will only need to scan one barcode for most parameters. You will hear two beeps when you successfully set the new values. In some cases, when using special parameters you may need to read more than one barcode. For example:

- ◆ Hexadecimal barcodes, such as, prefix or suffix
- ◆ Numeric barcode, such as, inter-character delay or min/max length.

To complete the change, you will need to scan the "Confirm" barcode after you scan the parameter barcode.



Chapter 2 - System setup








Start configuration



End configuration

2.1 Terminator

ITEM	OPTION
Output Characters	 None
	 *CR+LF
	 CR
	 LF
	 Tab

2.2 String Options (Prefix & Suffix)

This section describes the alterations which can be made to the format of the transmitted data string. A prefix and suffix, 10 characters maximum, may be included in front of or at the end of a scanned barcode.

Format

{Prefix} {Code ID} {Bar Code} {Suffix}

How to set up a prefix?

To configure “##” as prefix

- (1) Scan Start Configuration barcode
- (2) Scan Preamble bar code
- (3) Scan “#” twice from FULL ASCII table
- (4) Scan Confirm configuration barcode
- (5) Scan End Configuration barcode.

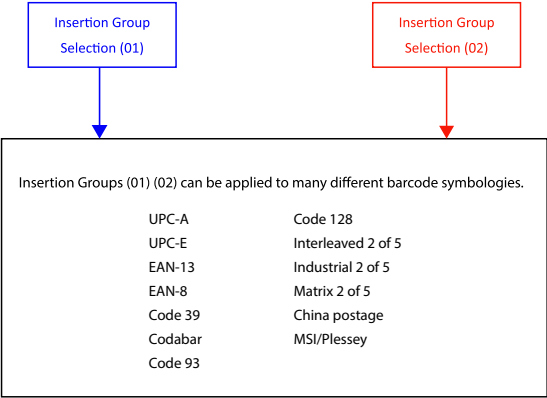
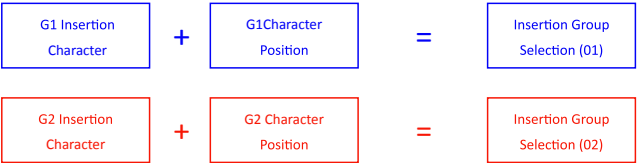
How to set up a suffix?

To configure “\$\$” as suffix

- (1) Start configuration barcode
- (2) Scan Postamble barcode
- (3) Scan “\$” twice from FULL ASCII table
- (4) Scan Confirm configuration barcode
- (5) Scan End configuration barcode.

2.3 Setup Insertion

This section describes how to setup the insertion of output.



NOTE :

- Max. 10 charters can be inserted each time
- Max. Insertion group is two
- Insertion Group (01) or (02) can be used on different barcode symbologies at the same time.

Example:

To insert character "A" before the third digit(3)

Final Output will be: 12A3456789

How to set up a character you want to insert

- (1) Scan Start Configuration barcode
- (2) Scan "G1 Insertion character"
- (3) Scan "4" and "1" from FULL ASCII Table
- (4) Scan Confirm configuration barcode
- (5) Scan End configuration barcode

How to set up position you wish to place the character

- (6) Scan Start Configuration barcode
- (7) Scan "G1 Character Position"
- (8) Scan "0" and "3" from FULL ASCII Table (which represents the position)
- (9) Scan Confirm configuration barcode
- (10) Scan End configuration barcode

How to set up insertion for code 39

Go to chapter 3.5 (code 39)

- (11) Scan Start Configuration barcode
- (12) Scan "Insert group selection" bar code
- (13) scan "0" and "1" from FULL ASCII Table
(which presents the group- 01 you just set up previously)
- (14) Scan Confirm configuration bar code
- (15) Scan End configuration barcode









Start configuration



End configuration



Confirm configuration

ITEM	OPTION
Preamble (Default : 00)	 Ref: Appendix
Postamble (Default : 00)	 Ref: Appendix
G1 Insertion character (Default : 00)	 Ref: Appendix
G2 Insertion character (Default : 00)	 Ref: Appendix
G1 Character Position to be inserted (Default : 00)	 Ref: Appendix
G2 Character Position to be inserted (Default : 00)	 Ref: Appendix



Start configuration



End configuration

ITEM

OPTION

Bar Code ID



*Disable



Enable

Accuracy



* Read 1 Time



Read 2 Times

Positive and negative bar codes



Negative bar codes



*Positive bar codes

Code Type	ID	Code Type	ID
UPC-A	F	Interleaved 25	N
UPC-E	G	Industrial 25	O
EAN-13	H	Matrix 25	P
EAN-8	I	China Postal Code	Q
Code 39	J	MSI/Plessey	R
Codabar	K	Code 32	S
Code 93	L	Code 11	T
Code 128	M	Telepen	V

Chapter 3 - BarCode parameters setting

How to set up a Code ID?

- (1) Scan Start configuration bar code
- (2) Go to the ASCII Table and scan the barcodes that represent the characters you want inserted.
- (3) Scan Confirm configuration bar code
- (4) Scan End configuration bar code.



Start configuration






End configuration



Confirm configuration

3.1 UPC-A

ITEM	OPTION
Read	
	Disable
	
	* Enable
Code ID Setting (Default : F)	
	Ref: Appendix (20-7EH)



Start configuration



End configuration






ITEM	OPTION
UPC-A Expand to EAN-13	
	* Disable
Check Digit Send	Enable
	Disable
Truncate Leading Zero	
	* Disable
Truncate Leading (Default:00)	Enable
	Ref: Appendix (00-0DH)
Truncate Ending (Default:00)	
	Ref: Appendix (00-0DH)
Insert group selection	
	Ref: Appendix (00—02H)



Start configuration



End configuration

ITEM	OPTION
Supplement digits	
	* NONE
	
	2 digits
	
	5 digits
	
	2 or 5 digits
	
	Auto-discriminate Supplement




3.2 UPC-E



Start configuration



End configuration

ITEM	OPTION
Read	
	Disable
	
	* Enable
Code ID setting (Default : G)	
	Ref: Appendix (20-7EH)



Start configuration



End configuration








ITEM	OPTION
UPC-E Expand to UPC-A	
	* Disable
Check Digit Send	Enable
	Disable
Truncate Leading (Default:00)	
	* Enable
Truncate Ending (Default:00)	Ref: Appendix (00-08H)
	Ref: Appendix (00-08H)
Insert group selection (Default:00)	
	Ref: Appendix (00-02H)
	Ref: Appendix (00-02H)












Start configuration



End configuration

ITEM	OPTION
Truncate Leading Zero	
	*Disable
	
Supplement digits	Enable
	
	* None
	
	2 digits
	
	5 digits
	
	2 or 5 digits
	
	Auto-discriminate Supplement

3.3 EAN-13









	
Start configuration	End configuration
<hr/>	
ITEM	OPTION
<hr/>	
Read	
	Disable
	<hr/>
	
	* Enable
<hr/>	
Code ID setting (Default : H)	
	Ref: Appendix (20-7EH)
<hr/>	
Check Digit Send	
	Disable
	<hr/>
	
	* Enable
<hr/>	
Truncate Leading (Default : 00)	
	Ref: Appendix (00-0DH)
<hr/>	
Truncate Ending (Default : 00)	
	Ref: Appendix (00-0DH)
<hr/>	



Start configuration



End configuration

ITEM	OPTION
Supplement digits	
	* None
	
	2 digits
	
	5 digits
ISBN/ISSN Conversion	
	2 or 5 digits
	
Insert group selection (Default : 00)	Auto-discriminate Supplement
	
	* Disable
Ref: Appendix (00-02H)	
	Enable
	



3.4 EAN-8



Start configuration



End configuration

ITEM	OPTION
Read	
	Disable
	
	* Enable
Code ID setting (Default : I)	
	Ref: Appendix (20-7EH)
Check Digit Send	
	Disable
	
	* Enable
Truncate Leading (Default : 00)	
	Ref: Appendix (00-08H)



Start configuration



End configuration

ITEM	OPTION
Truncate Ending (Default : 00)	 Ref: Appendix (00-08H)
Supplement digits	 * None
	 2 digits
	 5 digits
	 2 or 5 digits
	 Auto-discriminate Supplement
Insert group selection (Default : 00)	 Ref: Appendix (00-02H)


3.5 Code39



Start configuration



End configuration







ITEM	OPTION
Read	
	Disable
	
	* Enable
Code ID setting (Default : J)	
	Ref: Appendix (20-7EH)
Check-sum verification	
	* Disable
	
	Enable
Check-sum transmission	
	Disable
	
	* Enable



Start configuration



End configuration






ITEM	OPTION
Append	
	* Disable
	
Min. code length (Default: 00)	Enable
	
	Ref: Appendix (00-32H)
Max. code length (Default: 32H)	
	Ref: Appendix (00-32H)
Format	
	* Standard Code39
	
	Code 39 Full ASCII



Start configuration



End configuration

ITEM	OPTION
Transmit Start/End Character	
	* Disable
	
Truncate Leading (Default: 00)	Enable
	 Ref: Appendix (00-32H)
Truncate Ending (Default: 00)	
	Ref: Appendix (00-32H)
Insert group selection (Default: 00)	
	Ref: Appendix (00-02H)




3.6 Codabar



Start configuration



End configuration








ITEM	OPTION
Read	
	Disable
	
	* Enable
Code ID setting (Default : K)	
	Ref: Appendix (20-7EH)



Start configuration



End configuration








ITEM	OPTION
Check-sum verification	
	Disable
	
Check-sum transmission	* Enable
	
	* Disable
Append	
	Enable
	
Truncate Leading (Default:00)	* Disable
	
	Enable
	
Ref: Appendix (00-7EH)	



Start configuration



End configuration


ITEM	OPTION
Truncate Ending (Default:00)	 Ref: Appendix (00-7EH)
Start/End type	 * ABCD/ABCD
	 abcd/abcd
	 abcd/tn*e
Start/End transmission	 * Disable
	 Enable
Min. code length (Default: 05)	 Ref: Appendix (00-3CH)



Start configuration



End configuration

ITEM	OPTION
Max. code length (Default: 3CH)	 Ref: Appendix (00-3CH)
Insert group selection (Default: 00)	 Ref: Appendix (00-02H)





3.7 Code93



Start configuration



End configuration








ITEM	OPTION
Read	
	Disable
	
	* Enable
Code ID setting (Default : L)	
	Ref: Appendix (20-7EH)
Check-sum verification	
	Disable
	
	* Enable



Start configuration



End configuration

ITEM	OPTION
Check-sum transmission	
	* Disable
	
	Enable
Min. code length (Default: 00)	 Ref: Appendix (0-50H)
Max. code length (Default: 50H)	 Ref: Appendix (0-50H)
Truncate Leading (Default: 00)	 Ref: Appendix (00-7EH)
Truncate Ending (Default: 00)	 Ref: Appendix (00-7EH)
Insert group selection	 Ref: Appendix (00-02H)






3.8 Code 128



Start configuration



End configuration


ITEM	OPTION
Read	
	Disable
	
	* Enable
Code ID setting (Default : M)	
	Ref: Appendix (20-7EH)
Check-sum verification	
	Disable
	
	* Enable



Start configuration



End configuration







ITEM	OPTION
Check-sum transmission	
	* Disable
	Enable
FNC2 Append	
	* Disable
	Enable
UCC/EAN128	
	* Disable
	Enable
FNC1 transmission	
	* Disable
	Enable



Start configuration



End configuration

ITEM	OPTION
FIELD SEPARATOR DEFINED (GS CHARACTER)	 Enable Field Separator Ref: Appendix
Truncate Leading (Default: 00)	 Ref: Appendix (00-7FH)
Truncate Ending (Default: 00)	 Ref: Appendix (00-7FH)
Min. code length (Default: 00)	 Ref: Appendix (00-7FH)
Max. code length (Default: 7FH)	 Ref: Appendix (00-7FH)
Insert group selection (Default: 00)	 Ref: Appendix (00-02H)








3.9 Interleaved 2 of 5



Start configuration



End configuration






ITEM	OPTION
Read	
	* Disable
	
	Enable
Code ID setting (Default : N)	 Ref: Appendix (20-7EH)
Check-sum verification	
	Disable
	
	* Enable
Check-sum transmission	
	Disable
	
	* Enable



Start configuration



End configuration

ITEM	OPTION
Truncate Leading (Default : 00)	 Ref: Appendix (00-7EH)
Truncate Ending (Default : 00)	 Ref: Appendix (00-7EH)
Min. code length (Default : 04)	 Ref: Appendix (04-7FH)
Max. code length (Default : 7FH)	 Ref: Appendix (00-7FH)
Insert group selection (Default : 00)	 Ref: Appendix (00-02H)

3.10 Industrial 2 of 5



Start configuration



End configuration








ITEM	OPTICON
Read	
	* Disable
Enable	
Code ID setting (Default : 0)	 Ref: Appendix (20-7EH)
Min. code length (Default : 00)	 Ref: Appendix (00-32H)
Max. code length (Default : 32H)	 Ref: Appendix (00-32H)



Start configuration



End configuration

ITEM	OPTION
Truncate Leading (Default : 00)	 Ref: Appendix (00-32H)
Truncate Ending (Default : 00)	 Ref: Appendix (00-32H)
Check-sum verification	 * Disable <hr/>  Enable
Check-sum transmission	 Disable <hr/>  * Enable
Insert group selection (Default : 00)	 Ref: Appendix (00-02H)

3.11 Matrix 2 of 5



Start configuration



End configuration








ITEM	OPTION
Read	
	* Disable
Enable	
Code ID setting (Default : P)	
	Ref: Appendix (20-7EH)
Check-sum verification	
	* Disable
Enable	



Start configuration



End configuration

ITEM	OPTION
Check-sum transmission	
	Disable
	
	* Enable
Truncate Leading (Default : 00)	 Ref: Appendix (00-50H)
Truncate Ending (Default : 00)	 Ref: Appendix (00-50H)
Min. code length (Default : 0B)	 Ref: Appendix (00-50H)
Max. code length (Default : 50H)	 Ref: Appendix (00-50H)
Insert group selection (Default : 00)	 Ref: Appendix (00-02H)

3.12 CHINA POSTAL CODE



Start configuration



End configuration





ITEM	OPTION
Read	
	* Disable
Enable	
Code ID setting (Default : Q)	
	Ref: Appendix (20-7EH)
Check-sum verification	
	* Disable
Enable	
Check-sum transmission	
	Disable
* Enable	



Start configuration



End configuration

ITEM	OPTION
Truncate Leading (Default : 00)	 Ref: Appendix (00-50H)
Truncate Ending (Default : 00)	 Ref: Appendix (00-50H)
Min.code length (Default : 00)	 Ref: Appendix (00-50H)
Max.code length (Default : 50H)	 Ref: Appendix (00-50H)
Insert group selection (Default : 00)	 Ref: Appendix (00-02H)

3.13 MSI/Plessey



Start configuration



End configuration

ITEM	OPTION
Read	
	* Disable
	
	Enable
Code ID setting (Default : R)	
	Ref: Appendix (20-7EH)
Check-sum verification	
	* Disable
	
	MOD 10
	
	MOD 10/10
	
	MOD 11/10



Start configuration



End configuration

ITEM	OPTION
Check-sum transmission	
	Disable
Truncate Leading (Default : 00)	
	Ref: Appendix (00-3CH)
Truncate Ending (Default : 00)	
	Ref: Appendix (00-3CH)
Min. code length (Default : 00)	
	Ref: Appendix (00-3CH)
Max. code length (Default : 3CH)	
	Ref: Appendix (00-3CH)
Insert group selection (Default : 00)	
	Ref: Appendix (00-02H)

3.14 CODE 32



Start configuration



End configuration




ITEM	OPTION
Read	
	* Disable
Code ID Setting (Default:S)	
	Ref: Appendix (20-7EH)
Check-sum verification	Disable
	* Enable
Check-sum transmission	
	Disable
	* Enable



Start configuration



End configuration

ITEM	OPTION
Truncate Leading (Default : 00)	 Ref: Appendix (00-0AH)
Truncate Ending (Default : 00)	 Ref: Appendix (00-0AH)
Insert group selection (Default : 00)	 Ref: Appendix (00-02H)

3.15 CODE 11



Start configuration



End configuration








ITEM	OPTION
Read	
	* Disable
Enable	
Code ID setting (Default:T)	
	Ref: Appendix (20-7EH)
Check-sum verification	
	Disable
* Enable	



Start configuration



End configuration

ITEM	OPTION
Check-sum transmission	
	* Disable
	
	Enable
Truncate Leading (Default : 00)	 Ref: Appendix (00-50H)
Truncate Ending (Default : 00)	 Ref: Appendix (00-50H)
Min. code length (Default : 00)	 Ref: Appendix (00-50H)
Max. code length (Default : 50H)	 Ref: Appendix (00-50H)
Insert group selection (Default : 00)	 Ref: Appendix (00-02H)

3.16 Telepen



Start configuration



End configuration








ITEM	OPTION
Read	
	* Disable
Code ID setting (Default:V)	Enable
Check-sum verification	Ref: Appendix (20-7EH)
	Disable
Data Format	* Enable
	Only Numnic
	*Full ASCII



Start configuration



End configuration

ITEM	OPTION
Check-sum transmission	
	* Disable
	
	Enable
Truncate Leading (Default : 00)	
	Ref: Appendix (00-40H)
Truncate Ending (Default : 00)	
	Ref: Appendix (00-40H)
Min. code length (Default : 00)	
	Ref: Appendix (00-40H)
Max. code length (Default : 40H)	
	Ref: Appendix (00-40H)
Insert group selection (Default : 00)	
	Ref: Appendix (00-02H)

3.17 GS1 Data Bar (RSS)

	
Start configuration	End configuration
ITEM	OPTION
RSS-14	
	Enable
	
RSS-14 LIMITED	
	Enable
	
RSS-14 EXPANDED	
	Enable
	
RSS TO UPC/EAN	
	Enable
	



Start configuration



End configuration

ITEM

OPTION

APPLICATION ID TRANSMISSION



*Enable



Disable

CHECKSUM TRANSMISSION



*Enable



Disable

Appendix A –

KBD Wedge Character Table

	0		1		2	3	4	5	6	7
	Type 1	Type 2	Type 1	Type 2						
0			DLE		SP	0	@	P	`	p
1	SOH	Insert	DC1	F1	!	1	A	Q	a	q
2	STX	Delete	DC2	F2	"	2	B	R	b	r
3	ETX	Home	DC3	F3	#	3	C	S	c	s
4	ETO	End	DC4	F4	\$	4	D	T	d	t
5	EAQ	Up	NAK	F5	%	5	E	U	e	u
6	ACK	Down	SYN	F6	&	6	F	V	f	v
7	BEL	Left	ETB	F7	'	7	G	W	g	w
8	BS	Backspace	CAN	F8	(	8	H	X	h	x
9	HT	TAB	EM	F9	)	9	I	Y	i	y
A	LF	LF	SUB	F10	*	:	J	Z	j	z
B	VT	Right	ESC	F11	+	;	K	[	k	{
C	FF	PageUp	FS	F12	,	<	L	\	l	|
D	CR	Enter	GS	ESC	-	=	M	]	m	}
E	SO	PageDown	RS	Right ALT	.	>	N	^	n	~
F	SI		US	Enter key on Num keypad	/	?	O	_	o	DEL

Note 1: Scan the barcode below for Type 1, in Blue.



Type 1

Note 2: Scan the barcode below for Type 2, in Red.



Type 2

Dec	Hex	Char.	Dec	Hex	Char.
0	00	NUL	32	20	SP
1	01	SOH	33	21	!
2	02	STX	34	22	"
3	03	ETX	35	23	#
4	04	EOT	36	24	\$
5	05	ENQ	37	25	%
6	06	ACK	38	26	&
7	07	BEL	39	27	'
8	08	BS	40	28	(
9	09	HT	41	29)
10	0A	LF	42	2A	*
11	0B	VT	43	2B	+
12	0C	FF	44	2C	,
13	0D	CR	45	2D	-
14	0E	SO	46	2E	.
15	0F	SI	47	2F	/
16	10	DLE	48	30	0
17	11	DC1	49	31	1
18	12	DC2	50	32	2
19	13	DC3	51	33	3
20	14	DC4	52	34	4
21	15	NAK	53	35	5
22	16	SYN	54	36	6
23	17	ETB	55	37	7
24	18	CAN	56	38	8
25	19	EM	57	39	9
26	1A	SUB	58	3A	:
27	1B	ESC	59	3B	;
28	1C	FS	60	3C	<
29	1D	GS	61	3D	=
30	1E	RS	62	3E	>
31	1F	US	63	3F	?

Dec	Hex	Char.	Dec	Hex	Char.
64	40	@	96	60	'
65	41	A	97	61	a
66	42	B	98	62	b
67	43	C	99	63	c
68	44	D	100	64	d
69	45	E	101	65	e
70	46	F	102	66	f
71	47	G	103	67	G
72	48	H	104	68	h
73	49	I	105	69	i
74	4A	J	106	6A	j
75	4B	K	107	6B	k
76	4C	L	108	6C	l
77	4D	M	109	6D	m
78	4E	N	110	6E	n
79	4F	O	111	6F	o
80	50	P	112	70	P
81	51	Q	113	71	q
82	52	R	114	72	r
83	53	S	115	73	s
84	54	T	116	74	t
85	55	U	117	75	u
86	56	V	118	76	v
87	57	W	119	77	w
88	58	X	120	78	x
89	59	Y	121	79	y
90	5A	Z	122	7A	z
91	5B	[	123	7B	{
92	5C	\	124	7C	|
93	5D	}	125	7D	}
94	5E	^	126	7E	~
95	5F	_	127	7F	DEL

Table-Hexadecimal



1



2



3



4



5



6



7



8



9



0



A



B



C



D



E



F



Confirm configuration



End Configuration

POSX



DEFAULT



CHECK VERSION