



HANDHELD Barcode Scanner



User's **MANUAL**



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INSTALLATION

1. *Getting started*

☑ Installing a Keyboard Wedge Scanner

Make sure that the scanner has the correct cable for your system.

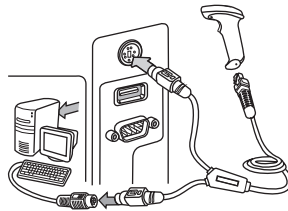
Turn off the power of the system. (or PC)

Unplug the keyboard from the system.

Connect Y cable to the system and keyboard.

Turn on the power of the system.

If the indicator LED lights up, Buzzor sounds, the scanner is ready for reading



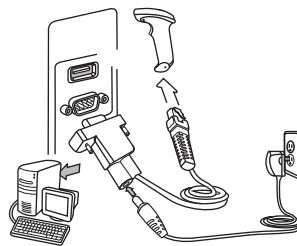
Keyboard Wedge

☑ Installing an RS - 232C interface scanner

Make sure that there is a power supply to the scanner. (If necessary)

Connect the cable to the RS-232C port of the device.

Make sure the host device should have communication program (Xcom, procomm, Hyperterminal) before transmitting data.



RS-232C Interface

PROGRAMMING

2. Setup procedure

The general procedure to program is as follows.

Scan the command symbol "Program".
Scan one or more parameters.
Scan the command symbol "End" to close procedure.

Example 1. To set the RS 232 parameters to 9600,N,8,1 (Page 7~9)

Scan the barcode "Program".
Scan "9600" "N" "8" "1".
Scan "End".

Example 2. To set additional digit for UPC/EAN.
(Page 28)

Scan "Program".
Scan "Addenda 5 digit Enable".
Scan "End".

PROGRAMMING



PROGRAM

3. Default setting

(*) denotes default setting



DEFAULT

4. Interface Selection



Keyboard
Wedge & USB*



RS-232C



Wand Emulation



Reserved1



Reserved2



Reserved3



Reserved4

PROGRAMMING



END

5. Keyboard Interface

5 - 1. Device selection



IBM PC/XT



IBM PC/AT*



IBM PC/PS2



LAPTOP

5 - 2. Function code selection



Function
key On*



Function
key Off



Lower Case*



Upper Case



Num-Lock Off*



Num-Lock On

PROGRAMMING



PROGRAM

5 - 3. Language



US*



GERMAN



FRENCH



UK



SWISS



SWEDISH



JAPANESE



SPANISH



NORWEGIAN



ITALIAN



UNIVERSAL

PROGRAMMING

5 - 4. Scancode delay



END



AT Delay



XT Delay

Ex) If scanner needs 15ms of delay, scan
"Program" "AT Delay" "1" "5" "AT Delay" "End".



Keycode Fast
Transmission*



Keycode Slow
Transmission

6. RS-232C setting

6 - 1. Baud rate



300 (600)



1200



2400



4800



9600*



19200



38400

PROGRAMMING



PROGRAM

6 - 2. Parity



Even



Odd



None*

6 - 3. Data bits



7Bits



8Bits*

6 - 4. Stop bit



1Bit*



2Bits

PROGRAMMING



END

6 - 5. Hand shaking



ACK/NAK On



ACK/NAK Off*



RTS/CTS On



RTS/CTS Off*



Wait Timeout

Ex) If delay time of 30ms is required, scan "Program"
"Wait timeout" "3" "0" "Wait timeout" "End".

PROGRAMMING



PROGRAM

7. Wand emulation

7 - 1. Output level



Transmit Wand
Emulation as
Code 39*

7 - 2. Output polarity



White High



Black High*

7 - 3. Scan speed



Low(2ms)



Medium(1ms)



High(0.5ms)*

7 - 4. Check digit



Check digit On



Check digit Off*

PROGRAMMING



END

8. Data Format

8 - 1. Terminator



TAB(CR/LF)



Enter(CR)*



Return(LF)



None

8 - 2. Code ID



None*



User Defined



Default

Ex) If barcode ID for code39 (standard) is defined as "U", scan "Program" "User Defined" "Define Code ID" "Code39(standard)" "U" "Code39(standard)" "Define Code ID" "End".

PROGRAMMING



PROGRAM

8 - 3. Code ID Setting



Define
Code ID



Code 39(M)
(Full ASCII)



Code 39(M)
(Standard)



EAN-13 (F)



UPC-A (A)



EAN-8 (F)



UPC-E (E)



Code 93 (L)

PROGRAMMING



END



Codabar(N)



Code 128 (K)



I 2 of 5 (I)



S 2 of 5 (H)



D 2 of 5 (H)



M 2 of 5 (H)



China
postage(C)



Code 3 of 5 (P)



MSI/Plessey (O)



Code 11 (J)

PROGRAMMING



PROGRAM

8 - 4. Custom editing



Single edit
mode



Select from
left



Select from
right



Custom mode
Enable

Ex) If 5 digits from left are required, scan
"Program" "Single edit mode" "Select from left"
"0" "5" "Select from left" "Single edit mode"
"Custom mode enable" "End".



Custom mode
Disable*



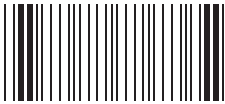
Full data
editing Disable



Full data
editing Enable

Ex) If 5 digits from the second position are required
scan as below,
"Program" "Full editing Enable" "0" "2" " " "0" "5"
"Full editing Enable" "Custom mode Disable" "End".

PROGRAMMING



END

8 - 5. Data length



Exclude*



Include

8 - 6. Preamble / Postamble



Preamble



Postamble

Ex) If preamble "SN" before data is required, Scan
"Program" "Preamble" "S" "N" "Preamble" "End".



Reserved1



Reserved2



Reserved3

PROGRAMMING



PROGRAM

9. Barcode setting

9-1. Code 39



Code 39 Enable*



Code 39 Disable



Full ASCII Code 39*



Standard Code 39



Code 32 Enable



Code 32 Disable*



Verify Check &
Transmit



Verify Check &
Not Transmit



Not Verify Check*

PROGRAMMING



END

9-2. Interleaved 2 of 5



I 2 of 5 Enable*



I 2 of 5 Disable



Fix Length On



Fix Length Off*



1 st Dig. Suppress



Last Dig. Suppress



No Suppress*

Ex) If barcode length needs to be fix, scan "Program"
"Fix Length On" "End" and scan barcode that you
apply twice

PROGRAMMING



PROGRAM



I 2 of 5
Verify Check &
Transmit



I 2 of 5
Verify Check &
Not Transmit



I 2 of 5
Not Verify Check *



Code 3 of 5
Enable



Code 3 of 5
Disable*



Code 3 of 5
Transmit Check










Code 3 of 5 Not
Transmit Check*

PROGRAMMING



9-3. Standard 2 of 5

	S 2 of 5 Enable
	S 2 of 5 Disable*
	Fix Length On
	Fix Length Off*
	Verify Check & Transmit
	Verify Check & Not Transmit
	Not Verify Check *

PROGRAMMING



PROGRAM

9-4. Industrial 2 of 5



D 2 of 5 Enable



D 2 of 5 Disable*



Fix Length On



Fix Length Off*



Verify Check &
Transmit

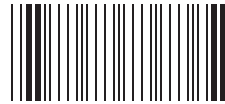


Verify Check &
Not Transmit



Not Verify Check *

PROGRAMMING



END

9-5. Matrix 2 of 5



M 2 of 5
Enable



M 2 of 5
Disable*



Fix Length
On



Fix Length
Off*



Verify Check
& Transmit



Verify Check
& Not Transmit



Not Verify
Check *

PROGRAMMING



PROGRAM

9-6. China postage



China postage
Enable



China postage
Disable*



Fix Length
On



Fix Length
Off*



Verify Check
& Transmit



Verify Check
& Not Transmit



Not Verify
Check *

PROGRAMMING



END

9-7. Code 128



Code 128 Enable*



Code 128 Disable



EAN-128 Enable



EAN-128 Disable*



EAN-128
Separator set



Check Digit
Enable*



Check Digit
Disable

9-8. Code 93



Code 93
Enable*



Code 93
Disable

PROGRAMMING



PROGRAM

9-9. UPC-A



UPC-A
Enable*



UPC-A
Disable



Leading Digit
On*



Leading Digit
Off



Add Leading
Zero On



Add Leading
Zero Off*



Transmit
Check Digit*



Not Transmit
Check Digit

PROGRAMMING



END

9-10. UPC-E



UPC-E Enable*



UPC-E Disable



Leading Digit On*



Leading Digit Off



Transmit Check
Digit*



Not Transmit
Check Digit



Zero Expansion
On



Zero expansion
Off*

PROGRAMMING



PROGRAM

9-11. EAN-8



EAN-8
Enable*



EAN-8
Disable



Leading Digit
On*



Leading Digit
Off



Transmit
Check Digit*



Not Transmit
Check Digit

PROGRAMMING



END

9-12. EAN-13



EAN-13 Enable*



EAN-13 Disable



Leading Digit
On*



Leading Digit
Off



Transmit
Check Digit*



Not Transmit
Check Digit



ISBN Enable



ISBN Disable*

PROGRAMMING



PROGRAM

9–13. UPC / EAN Supplements



Addenda 2
Digit Enable



Addenda 2
Digit Disable*



Addenda 5
Digit Enable



Addenda 5
Digit Disable*



ISBN Addenda
Enable



ISBN Addenda
Disable*



Space
Separator
Enable



Space
Separator
Disable*



Transmit if
Present



Must Present

PROGRAMMING



END

9–14. Codabar



Codabar
Enable*



Codabar
Disable



Not Transmit
Start & Stop



Transmit
Start & Stop
ABCD*



Transmit
Start & Stop
TN*E



Verify check &
Transmit



Verify check &
Not Transmit



Not Verify check*

PROGRAMMING



PROGRAM

9–15. MSI / Plessey



Code
MSI Enable*



Code
MSI Disable



Code
Plessey
Enable*



Code
Plessey
Disable



Transmit
Check Digit



Not Transmit
Check Digit*



MSI Check Digit
MOD 10*



MSI Check Digit
MOD 11



MSI Check Digit
MOD 1010



MSI Check Digit
MOD 1110

PROGRAMMING



END

10. Reading mode



Trigger On / Off*



Nomal Auto-
Trigger



Light Toggle-
Auto Trigger



Object Detection-
Auto Trigger



Light flashing-
Auto Trigger



Twice checking-
Auto Trigger



Testing

11. Redundancy



None*



2 times



3 times



4 times

PROGRAMMING



PROGRAM

12. Beep tones



None



Low



Medium



High*



Beep duration
Short



Beep duration
Medium



Beep duration
Long*



Beep tone
adjust

Ex) If beep tone of 230us is required, Scan "Program"
"Beep" tone adjust" "2" "3" "Beep tone adjust" "End".



Power on beep
Enable*



Power on beep
Disable

PROGRAMMING



END

13. Intercharacter delay



None*



1ms



5ms



10ms



20ms



50ms



100ms

PROGRAMMING



PROGRAM

14. Intermessage delay



None*



50ms



200ms



500ms



1sec



2sec

PROGRAMMING



END

15. Set max . & min . Length



Set Max & Min



Code 39
(1~64)



Code 128
(4~64)



Code 93
(4~64)



Codabar
(4~64)



I 2 of 5
(4~64)



S 2 of 5 (4~64)



D 2 of 5 (4~64)

Ex) If max. Length of code 39 is to be set 15 digits
Scan "Program" "Set Max & Min" "Code39(1~64)" "Max"
"1" "5" "Max" "Set Max & Min" "End".

PROGRAMMING



PROGRAM



M 2 of 5 (4~64)



Code 3 of 5
(6~7)



MSI/Plessey
(4~64)



Code 11 (4~64)



China postage
(6~64)



Max



Min

PROGRAMMING



END

16. Barcode space setting



6X*



8X



10X



12X



14X



15X

PROGRAMMING



PROGRAM

17. Minimum bar numbers



5



10



15*



20



25



30

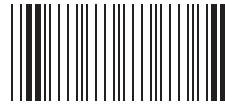


40



50

PROGRAMMING



END

18. Show status



Display the edition
information

(If want to display the edition information,
please scan "Program" "Display the edition
information" "End".)



Reserved1



Reserved2



Reserved3



Reserved4



Reserved5



Reserved6



Reserved7

PROGRAMMING

19. Wireless Scanner



PROGRAM



END

19-1. Station mode selection



*RF



MEMORY

19-2. Power Shut down time out



NONE



1 minute



2 minutes



5 minutes



*10 minutes



30 minutes



1 hour



2 hours

19-3. Uploading memory data



Upload

19-4. Pairing RF



Pairing

APPENDIX

20. Appendix

20 - 1. Pin assignment

TTL Signal Output

PIN	D-SUB / AMP 9P Female	
	Color	Function
1		Start of Scan
2		Barcode Image Data Output
3		Good Read LED Indicator
5		Trigger signal Output
6		Power Enable
7		Supply Ground
9		+5Vdc Power Supply

Wand Emulation Signal Output

PIN	D-SUB / AMP 9P Female	
	Color	Function
2		Barcode Image Data Output
7		Supply Ground
9		+5Vdc Power Supply

RS-232C Output

PIN	D-SUB / AMP 9P Female	
	Color	Function
2		Transmit Data
3		Receive Data
5		Signal Ground
7		Clear to Send
8		Request to Send

Note : JACK connector for external power
(Regulated +5Vdc / 300mA)



APPENDIX

Keyboard Wedge Signal output

IBM PC XT/AT

PIN	DIN 5P Male / Female	
	Color	Function
1		Keyboard Clock
2		Keyboard Data
3		–
4		Supply Ground
5		+5Vdc Power supply

IBM PC PS–2

PIN	MINIDIN 6P Male / Female	
	Color	Function
1		Keyboard Clock
2		–
3		Supply Ground
4		Power supply
5		Keyboard Clock
6		–

USB

PIN	SERIES "A" PLUG	
	Color	Function
1		VBUS
2		D–
3		D+
4		GND

APPENDIX

20 - 2. ASCII TABLE

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

APPENDIX

ASCII	HEX	DEC	ASCII	HEX	DEC
@	40	64	`	60	96
A	41	65	a	61	97
B	42	66	b	62	98
C	43	67	c	63	99
D	44	68	d	64	100
E	45	69	e	65	101
F	46	70	f	66	102
G	47	71	g	67	103
H	48	72	h	68	104
I	49	73	i	69	105
J	4A	74	j	6A	106
K	4B	75	k	6B	107
L	4C	76	l	6C	108
M	4D	77	m	6D	109
N	4E	78	n	6E	110
O	4F	79	o	6F	111
P	50	80	p	70	112
Q	51	81	q	71	113
R	52	82	r	72	114
S	53	83	s	73	115
T	54	84	t	74	116
U	55	85	u	75	117
V	56	86	v	76	118
W	57	87	w	77	119
X	58	88	x	78	120
Y	59	89	y	79	121
Z	5A	90	z	7A	122
[5B	91	{	7B	123
\	5C	92		7C	124
]	5D	93	}	7D	125
^	5E	94	~	7E	126
-	5F	95	DEL	7F	127

APPENDIX

20 - 3. FULL ASCII TABLE



!



)



"



*



#



+



\$



,



%



-



&



.



/



/



(

APPENDIX



0



1



2



3



4



5



6



7



8



9



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;



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>



?

APPENDIX



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B



C



D



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APPENDIX



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APPENDIX



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m



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APPENDIX



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q



r



s



t



u



v



w



x



y



z



{



|



}



~



DEL

APPENDIX



NUL



SOH



STX



ETX



EOT



ENQ



ACK



BEL



BS



HT



LF



VT



FF



CR



SO



SI

APPENDIX



DLE



DC1



DC2



DC3



DC4



NAK



SYN



ETB



CAN



EM



SUB



ESC



FS



GS



RS



US

APPENDIX



SP



F1(@A)



F2(@B)



F3(@C)



F4(@D)



F5(@E)



F6(@F)



F7(@G)



F8(@H)



F9(@I)



F10(@J)



F11(@K)



F12(@L)



HOME(&A)



END(&B)



Cursor Right(&C)

APPENDIX



Cursor Left(&D)



Cursor Up(&E)



Cursor Down(&F)



PgUp(&G)



PgDn(&H)



TAB(&I)



Back TAB(&J)



ESC(&K)



ENTER(&L)



Return(&O)



CTRL ON(&P)



CTRL OFF(&Q)



ALT ON(&R)



ALT OFF(&S)



SHIFT ON(&T)



SHIFT OFF(&U)

APPENDIX

Sample bar codes

Code 39



SN00010130007

Codabar



\$-: +. / 1018009

Interleaved 2 of 5



99078006500123456789012345

MSI/Plessey



12345678901237

UPC-A with 5



080123456781612345

EAN-13 with 5



880123456789367890