

# User's Manual



VER 5.0A

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## INSTALLATION

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### 1. Getting started

#### ☑ Installing a Keyboard Wedge Scanner

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

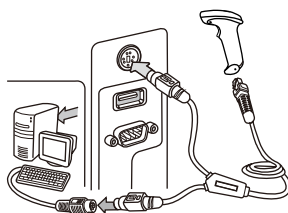
Turn off the power of the system. ( or PC )

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



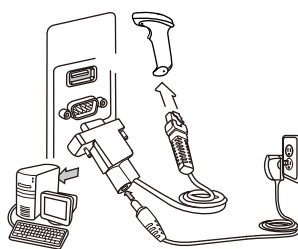
Keyboard Wedge

#### ☑ 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".

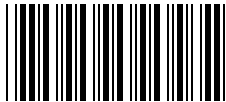
### *3. Default setting*

( \* ) denotes default setting



DEFAULT

PROGRAMMING



PROGRAM

4. Interface Selection



Keyboard  
Wedge & USB\*



RS-232C



Wand Emulation



Reserved1



Reserved2



Reserved3



Reserved4

5. Keyboard Interface

5 - 1. Device selection



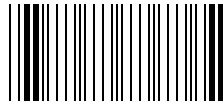
IBM PC/XT



IBM PC/AT\*

## PROGRAMMING

---



END



IBM PC/PS2



LAPTOP

### 5 - 2. Function code selection



Function  
key On\*



Function  
key Off



Lower Case\*



Upper Case



Shift

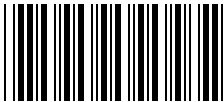


Num-Lock Off\*



Num-Lock On

PROGRAMMING



PROGRAM

5 - 3. Language



US\*



GERMAN



FRENCH



UK



SWISS



SWEDISH



JAPANESE



SPANISH



NORWEGIAN



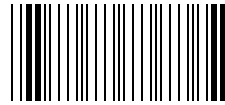
ITALIAN



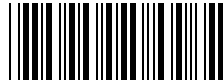
UNIVERSAL

## 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

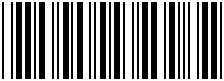


7Bits



8Bits\*

6 - 4. Stop bit



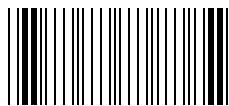
1Bit\*



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



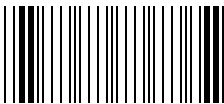
Check digit On



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

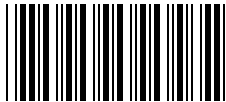


Default

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)



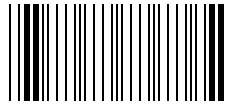
UPC-E (E)



Code 93 (L)

## PROGRAMMING

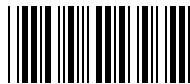
---



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

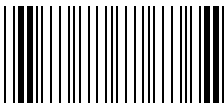


Full data  
editing Enable

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



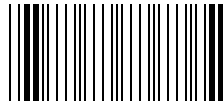
Verify Check &  
Not Transmit



Not Verify Check\*

## PROGRAMMING

---



END

### 9-2. Interleaved 2 of 5



I 2 of 5 Enable\*



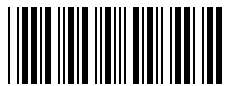
I 2 of 5 Disable



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\*



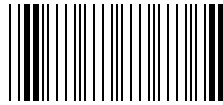
Code 3 of 5  
Transmit Check



Code 3 of 5 Not  
Transmit Check\*

## PROGRAMMING

---



END

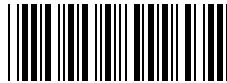
### 9-3. Standard 2 of 5



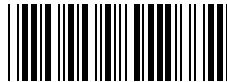
S 2 of 5  
Enable



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



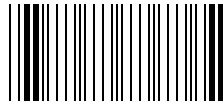
Verify Check &  
Not Transmit



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



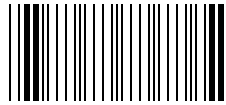
Verify Check  
& Not Transmit



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\*



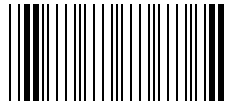
Transmit  
Check Digit\*



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



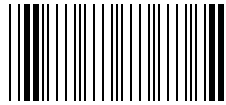
Transmit  
Check Digit\*



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\*



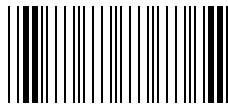
Transmit if  
Present



Must Present

**PROGRAMMING**

---



END

**9–14. Codabar**



Codabar  
Enable\*



Codabar  
Disable



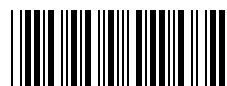
Not Transmit  
Start & Stop



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



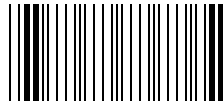
MSI Check Digit  
MOD 1010



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".



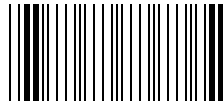
Power on beep  
Enable\*



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



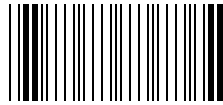
1sec



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)



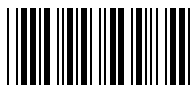
D 2 of 5 (4~64)

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)



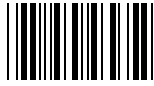
Code 11 (4~64)



China postage  
(6~64)



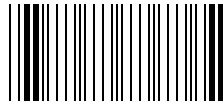
Max



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



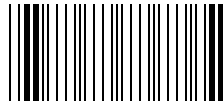
40



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



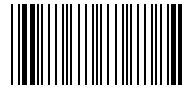
## PROGRAMMING

---

### *19. Wireless Scanner*

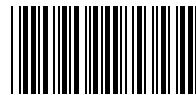


PROGRAM



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

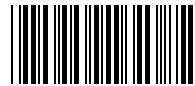


1 hour



2 hours

#### 19-3. Uploading memory data



Upload

#### 19-4. Pairing RF



Pairing

## APPENDIX

### 20. Appendix

20 - 1. Pin assignment

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 Data
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

### 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

20 - 2. ASCII TABLE

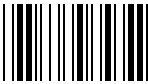
ASCII	HEX	DEC	ASCII	HEX	DEC
NUL	00	0	SP	20	32
SOH	01	1	!	21	33
STX	02	2	"	22	34
ETX	03	3	#	23	35
EOT	04	4	\$	24	36
ENQ	05	5	%	25	37
ACK	06	6	&	26	38
BEL	07	7	'	27	39
BS	08	8	(	28	40
HT	09	9	)	29	41
LF	0A	10	*	2A	42
VT	0B	11	+	2B	43
FF	0C	12	,	2C	44
CR	0D	13	-	2D	45
SO	0E	14	.	2E	46
SI	0F	15	/	2F	47
DLE	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

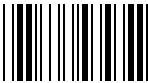
ASCII	HEX	DEC	ASCII	HEX	DEC
@	40	64	`	60	96
A	41	65	a	61	97
B	42	66	b	62	98
C	43	67	c	63	99
D	44	68	d	64	100
E	45	69	e	65	101
F	46	70	f	66	102
G	47	71	g	67	103
H	48	72	h	68	104
I	49	73	i	69	105
J	4A	74	j	6A	106
K	4B	75	k	6B	107
L	4C	76	l	6C	108
M	4D	77	m	6D	109
N	4E	78	n	6E	110
O	4F	79	o	6F	111
P	50	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



!



"



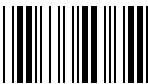
#



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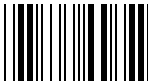
,



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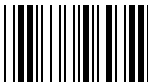
)



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## APPENDIX

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APPENDIX



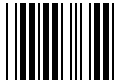
@



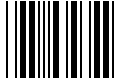
A



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## APPENDIX

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DEL

## APPENDIX

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NUL



SOH



STX



ETX



EOT



ENQ



ACK



BEL



BS



HT



LF



VT



FF



CR



SO



SI

## APPENDIX

---



DLE



DC1



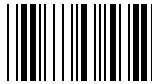
DC2



DC3



DC4



NAK



SYN



ETB



CAN



EM



SUB



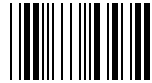
ESC



FS



GS



RS



US

## APPENDIX

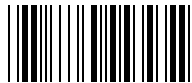
---



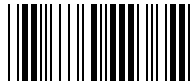
SP



F1(@A)



F2(@B)



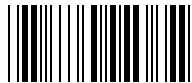
F3(@C)



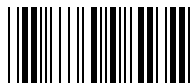
F4(@D)



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)

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## APPENDIX

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### *Sample bar codes*

#### Code 39



#### Codabar



#### Interleaved 2 of 5



#### MSI/Plessey



#### UPC-A with 5



#### EAN-13 with 5





## APPENDIX

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### Expand EAN-8 to EAN-13



Expand EAN-8 to EAN-13 ON



Expand EAN-8 to EAN-13 OFF\*