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USB Barcode Scanner BC-01 VulTech® rev. 2.2

MANUALE DI ISTRUZIONI VERSIONE INTEGRALE

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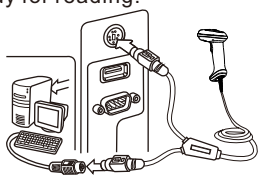
INDICE

1. Getting Started

Installing keyboard wedge scanner

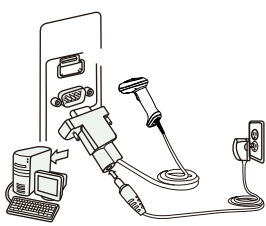
1.Make sure that the scanner has the correct cable for your system.
2.Turn off the power of the system.(or PC)
3.Unplug the keyboard from the system.
4.Connect Y cable to the system and keyboard.
5.Turn on the power of the system.
6.If the indicator LED lights up, buzzer sounds, the scanner is ready for reading.



Keyboard interface

Installing the RS-232 interface scanner

1.Make sure there is power supply for the scanner.
2.Connect the cable to the RS-232C port of the device.
3.Make sure the host device have communication program (Xcom,progam,Hyperterminal) before transmitting data.



RS-232 interface

Installing an USB interface scanner (connect two ends, the windows will detect automatically)

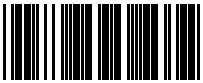
2. Setup Procedure

The general procedure to program is as follows.
1. Scan the command barcode “Start”.
2. Scan one or more parameters.
3. Scan the command barcode “End” to finish procedure.

Example 1. To set the RS232 parameters to 9600,8,0,1.
1.Scan the barcode “Start”.
2.Scan ”9600” ”8” ”0” ”1”.
3.Scan the barcode “End”.

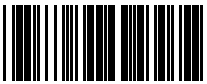
Example 2. To set additional digit for UPC/EAN
1.Scan the barcode “Start”.
2.Scan “Addenda 5 digit Enable”
3.Scan the barcode “End”.

Remark: 1.“Reserved” is reserved for firmware customization use.
2. This manual is subjected to change without notice.



Start

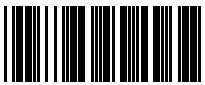
3. Default Setting



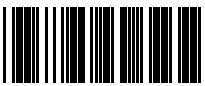
Default

"*"denotes default setting

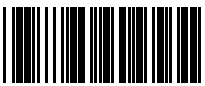
4. Interface Selection



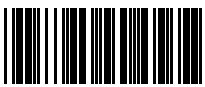
AUTO



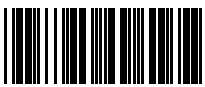
*KB/USB-HID



RS232/ USB Virtual serial port
（driver is needed for virtual serial port）



Reserved 1

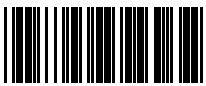


Reserved 2

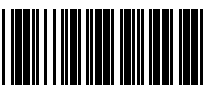
End

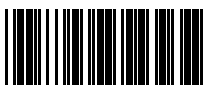
5. Keyboard Interface

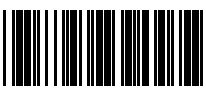
5-1. Funtion code selection

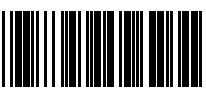

*Funtion keyboard on


Funtion keyboard off


Number lock on


*Number lock off


Capslock ignore on


*Capslock ignore off

Start

5-2. Language

*US

French

German

English

Turkey-Q

Danish

Japanese

Spanish (International)

Italian

Universal language

End

5-3. KB clock

*10K

20K

30K

6. RS-232 Interface

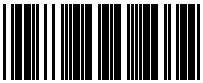
6-1. Baud Rate

1200

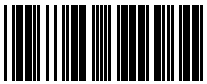
2400

4800

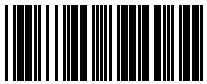
*9600



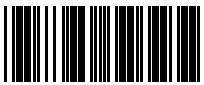
Start



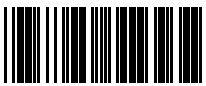
14400



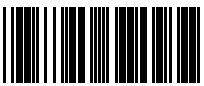
19200



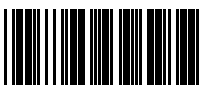
28800



38400

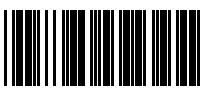


57600

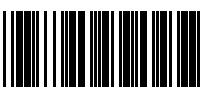


115200

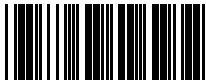
6-2. Data bits



7bit

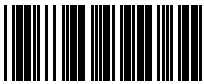


*8bit

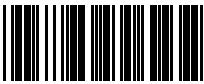


End

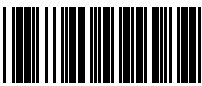
6-3. Parity



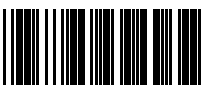
*None



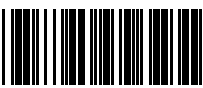
Odd



Even



Reserved 1

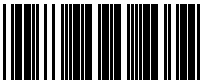


Reserved 2

6-4. Stop bits

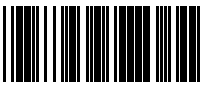
*1bit

2bit

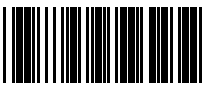


Start

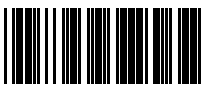
6-5. Hand shaking



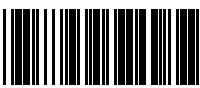
NAK ON



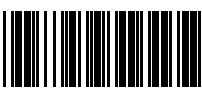
*NAK OFF



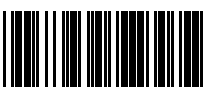
CTS/RTS ON



*CTS/RTS OFF



XON/XOFF ON



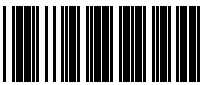
*XON/XOFF OFF

Repeat scan delay (1~255)

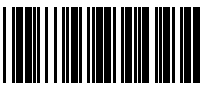
Example: If scanner needs 150ms of delay
Delay time T = N*10
150ms = N * 10
N = 15
So scan: “Start” “Repeat scan delay” “0” “1” “5” “END”.

End

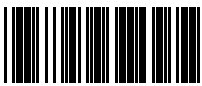
6-6. COM port switch configuration



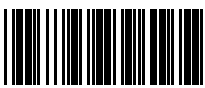
*COM control master switch ON



COM control master switch OFF

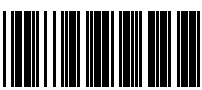


*COM trigger ON

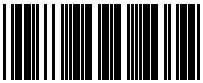


COM trigger OFF

COM beep ON



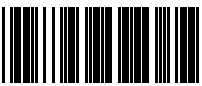
*COM beep OFF



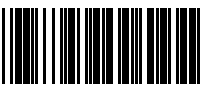
Start

7. Data Format

7-1. Code ID

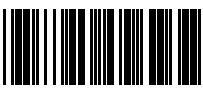


ON

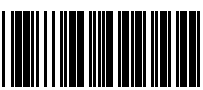


*OFF

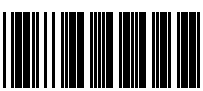
7-2. Terminator



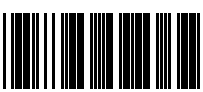
None



Tab(0X0D+0X0A)



*Enter(0X0D)



Space(0X20)

Return(0X0A)

End

7-3. Febraban transfer function

Febraban on

*Febraban off

7-4. Data interception

*Not intercept

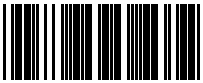
Intercept from left to right

Intercept from right to left

Data interception starting digit

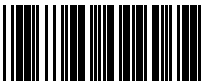
Data interception ending digit

Example: barcode “0123456”, need to intercept “234”.
Scan “Start” “Data interception starting digit” “3” “Data interception ending digit” “5” “Intercept from left to right” “End”.

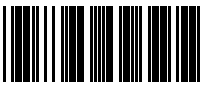


Start

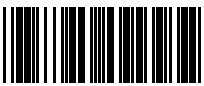
7-5. Caps lock



*Original data



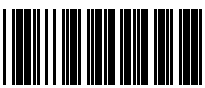
Upper case compulsive



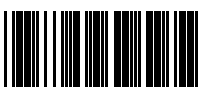
Lower case compulsive

Upper and lower case convert compulsive

7-6. Barcode data inversion



ON



*OFF

7-7. Set the barcode length as prefix (2 digits)

ON

*OFF

End

7-8. Prefix and Suffix for all codes

Prefix for all codes

Suffix for all codes

Example: add “SN” prefix to all codes.
Scan “Start” “Prefix for all codes” “S” “N” “Prefix for all codes” “End”.

7-9. Reading length setting for all codes

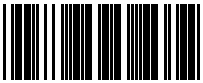
Minimun length for all codes

Maximum length for all codes

Reading length setting for all codes is used to limit the barcode length that can be read (is subjected to the data length).

For example: set the reading length as 5-10 digit.

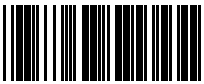
Scan “Start” “Minimun length for all codes” “0” “0” “5” “Maximun length for all codes” “0” “1” “0” “End”.
After that, any barcodes shorter than 5 digits or longer than “10” digits can not be read successfully.



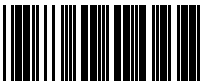
Start

8. Barcode Setting

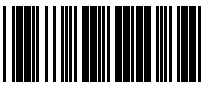
8-1. Industrial 2 of 5



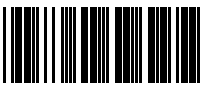
Industrial 2 of 5 enable



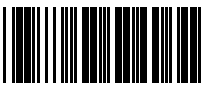
*Industrial 2 of 5 disable



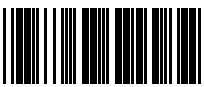
Verify check



*Not verify check



Verify check transmit



*Verify check not transmit

End

8-2. Standard 2 of 5

Standard 2 of 5 enable

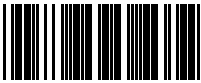
*Standard 2 of 5 disable

Verify check

*Not verify check

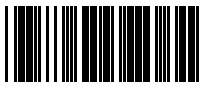
Verify check transmit

*Verify check not transmit

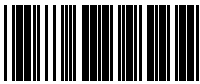


Start

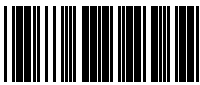
8-3. Chinese postal 2 of 5



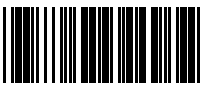
Chinese postal 2 of 5 enable



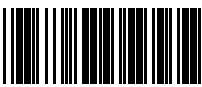
*Chinese postal 2 of 5 disable



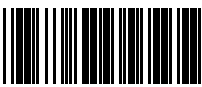
Verify check



*Not verify check



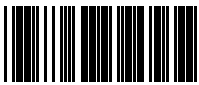
Verify check transmit

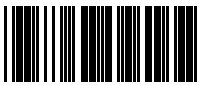


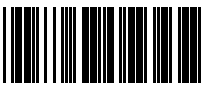
*Verify check not transmit

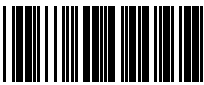
End

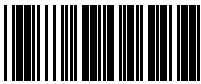
8-4. Interleaved 2 of 5

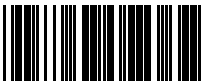

*Interleaved 2 of 5 enable

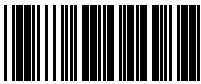

Interleaved 2 of 5 disable

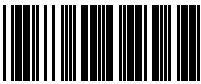

Verify check

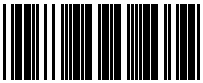

*Not verify check


Verify check transmit


*Verify check not transmit

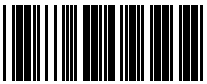

*Transmit the first “0”


Not transmit the first “0”

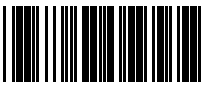


Start

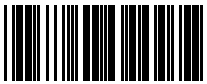
8-5. Matrix 2 of 5



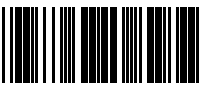
Matrix 2 of 5 enable



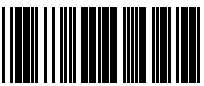
*Matrix 2 of 5 disable



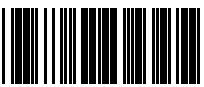
Verify check



*Not verify check



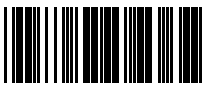
Verify check transmit

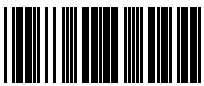


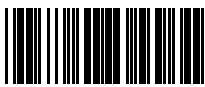
*Verify check not transmit

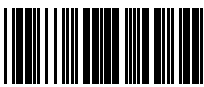
End

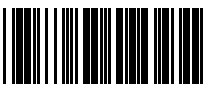
8-6. Codabar

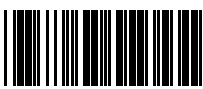

Codabar enable

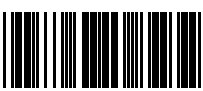

*Codabar Disable

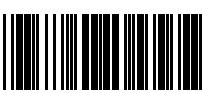

Verify check

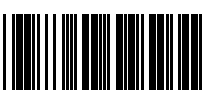

*Not verify check

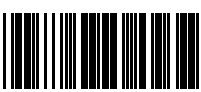

Verify check transmit

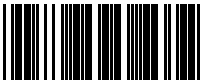

*Verify check not transmit


Transmit start & stop digit


*Not transmit start & stop digit

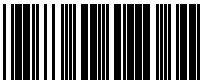

*Transmit start & stop
ABCD/ABCD


Transmit start & stop
ABCD/TN*E

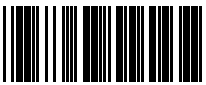


Start

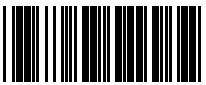
8-7. Code MSI



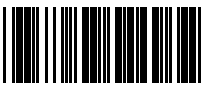
Code MSI enable



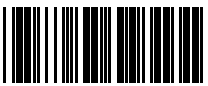
*Code MSI disable



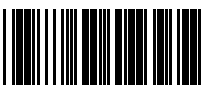
Verify check



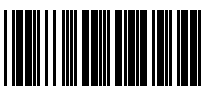
*Not verify check



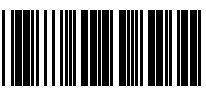
*Verify the second check digit



Not verify the second check digit



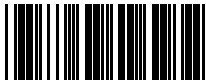
Verify the first check digit MOD11



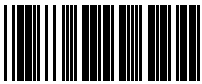
*Verify the first check digit MOD10

Verify the second check digit MOD11

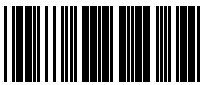
*Verify the second check digit MOD10



End

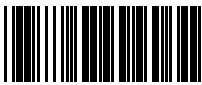


Verify check transmit

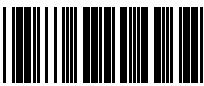


*Verify check not transmit

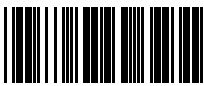
8-8. UK/Plessey



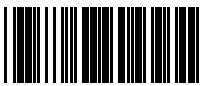
*Code UK enable



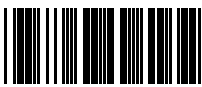
Code UK disable



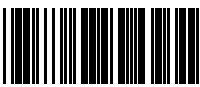
*Verify check



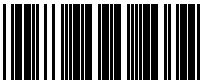
Not verify check



Verify check transmit

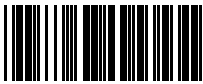


*Verify check not transmit

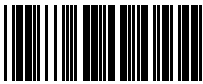


Start

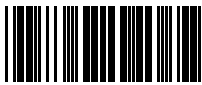
8-9. Code 11



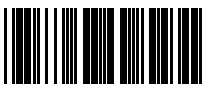
Code 11 enable



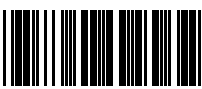
*Code 11 disable



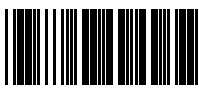
Verify check



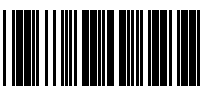
*Not verify check



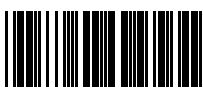
*Verify the second check digit



Not verify the second check digit

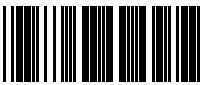


Verify the first check digit MOD09

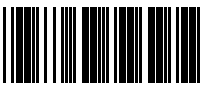


*Verify the first check digit MOD10

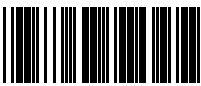
End



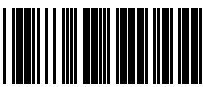
Verify the second check digit MOD09



*Verify the second check digit MOD10

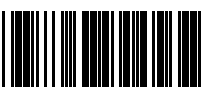


Verify check transmit

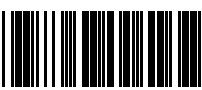


*Verify check not transmit

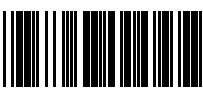
8-10. Code 93



*Code 93 enable

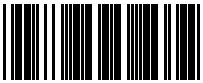


Code 93 disable



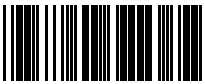
Verify check

*Not verify check

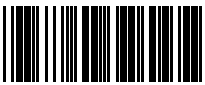


Start

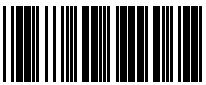
8-11. Code 39



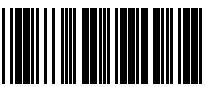
*Code 39 enable



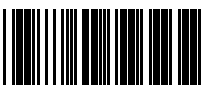
Code 39 disable



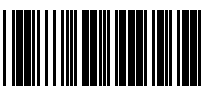
Verify check



*Not verify check

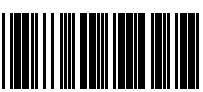


*Full ASCII 39



Standard 39

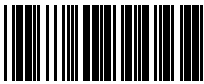
Verify check



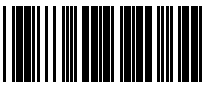
*Not verify check

Transmit start & stop*

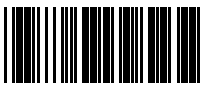
End



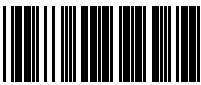
Not transmit start & stop*



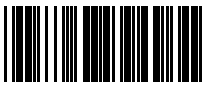
Code 32 enable



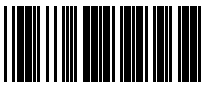
*Code 32 disable



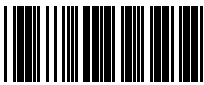
Transmit code 32 prefix A



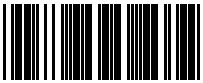
*Not transmit code 32 prefix A



Transmit code 32
checking digit

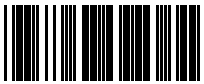


*Not transmit code 32
checking digit

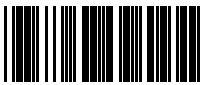


Start

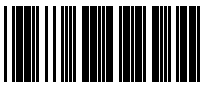
8-12. Supplements +2/+5



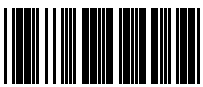
Addenda 2 digit enable



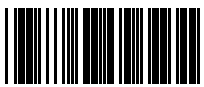
*Addenda 2 digit disable



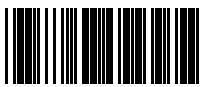
Addenda 5 digit enable



*Addenda 5 digit disable



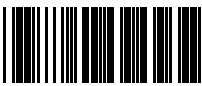
Space Separator enable

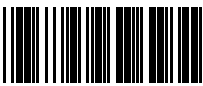


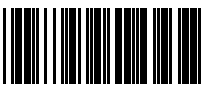
*Space Separator disable

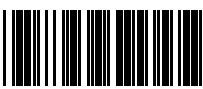
End

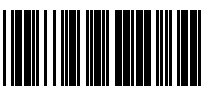
8-13. UPC-A

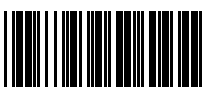

*UPC-A enable


UPC-A disable

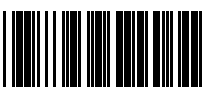

*Transmit leading digit

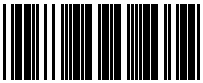

Not transmit leading digit


Convert to EAN-13


*Not convert to EAN-13


*Transmit checking digit


Not transmit checking digit

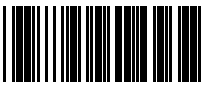


Start

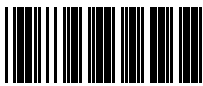
8-14. UPC-E

*UPC-E enable

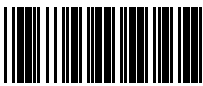
UPC-E disable



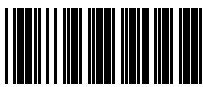
*Transmit leading digit “0”



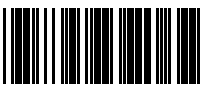
Not transmit leading digit “0”



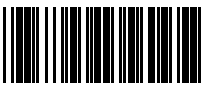
Convert to UPC-A



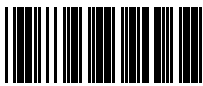
*Not convert to UPC-A



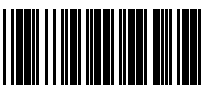
Convert to EAN-13



*Not convert to EAN-13



*Transmit checking digit



Not transmit checking digit

End

8-15. EAN-13

*EAN-13 enable

EAN-13 disable

*Transmit leading digit

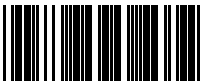
Not transmit leading digit

*Transmit second digit

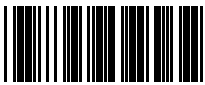
Not transmit second digit

ISBN enable

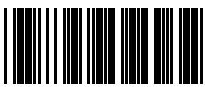
ISBN disable



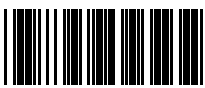
Start



ISSN enable

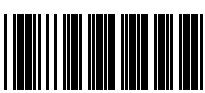


*ISSN disable



Addendum mandatory
for 378_379

*Not addendum mandatory
for 378_379



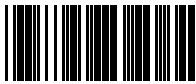
Addendum mandatory
for 978_977

*Not addendum mandatory
for 978_977

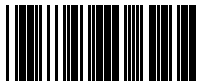
Addendum mandatory
for 434_439

*Not addendum mandatory
for 434_439

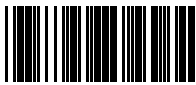
End



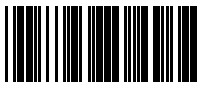
Addendum mandatory for 419_414



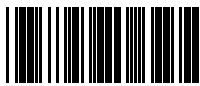
*Not addendum mandatory for 419_414



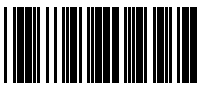
Addendum mandatory for 491



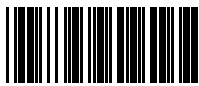
*Not addendum mandatory for 491



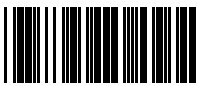
Addendum mandatory for 978_192



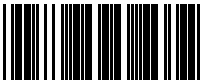
*Not addendum mandatory for 978_192



*Transmit checking digit

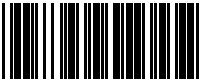


Not transmit checking digit

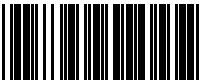


Start

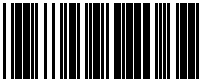
8-16. EAN-8



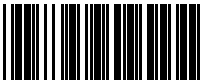
*EAN-8 enable



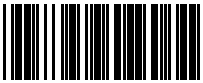
EAN-8 disable



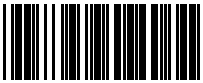
Transmit leading digit ”0”



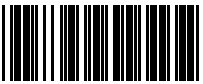
*Not transmit leading digit “0”



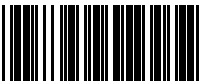
Convert to UPC-A



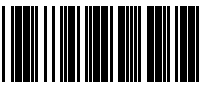
*Not convert to UPC-A



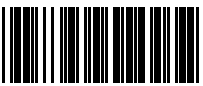
Convert to EAN-13



*Not convert to EAN-13



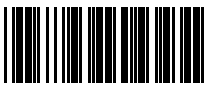
*Transmit checking digit

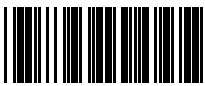


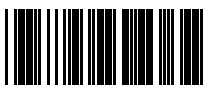
Not transmit checking digit

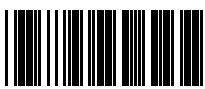
End

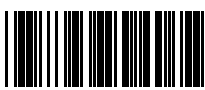
8-17. Code 128


*Code 128 enable

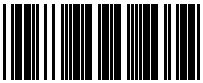

Code 128 disable


UCC 128 enable


*UCC 128 disable

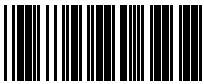

Transmit checking digit


*Not transmit checking digit

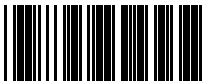


Start

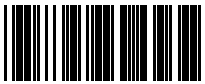
8-18. GS1



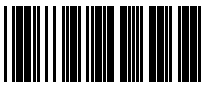
*GS1 enable



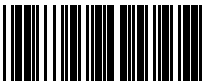
GS1 disable



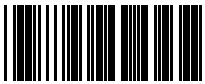
*RSS14 enable



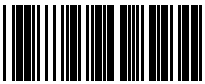
RSS14 disable



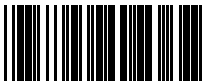
AI_RSS14 enable



*AI_RSS14 disable



Transmit RSS14 checking digit



*Not transmit RSS14 checking digit

End

*RSS Limited enable

RSS Limited disable

AI Limited enable

*AI Limited disable

Transmit RSS Limited checking digit

*Not transmit RSS Limited checking digit

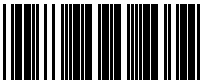
*RSS expanded enable

RSS expanded disable

8-19. Black and White Inverse Code

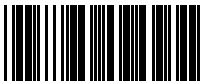
Inverse code reading on
(Row type codes can not be read)

*Inverse code reading off

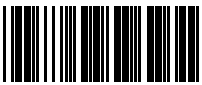


Start

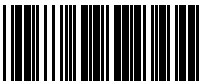
9. Scan Mode



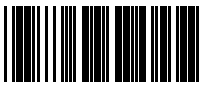
Testing



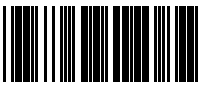
*Manual mode



Continuous scanning
(Chang Liang)

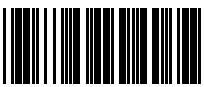


Continuous scanning
(flashing)



Reserved 1

Reserved 2



Repeat scan delay (1~255)

Example: If scanner needs 300ms of repeat scan delay.
Delay time T = N*10
300ms = N * 10
N = 30.
So scan: “Start” “Hand Delay” “0” “3” “0” “End”.

End

10. Redundancy

*None

2 times

3 times

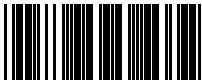
4 times

11. Automatic induction

ON

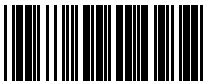
*OFF

Sensitivity setting（1~255）

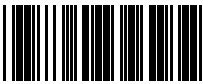


Start

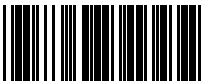
12. Beep Tones



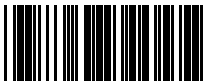
None



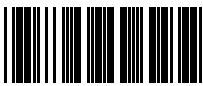
Beep duration short



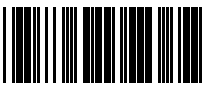
*Beep duration medium



Beep duration long



Set as customized duration



Customize duration (0.01~2.55S)

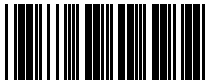
Example: If scanner needs 200ms of customized duration.

duration time T = N*10

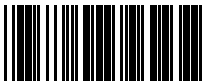
200ms = N * 10

N =20.

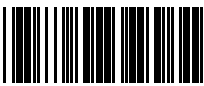
So scan: “Start” “Customize duration” “0” “2” “0” “Set as customized duration” “End”.



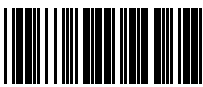
End



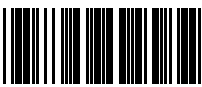
Low



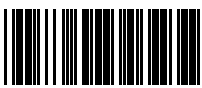
*Medium



High

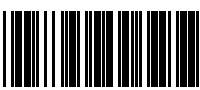


Set as customized tone



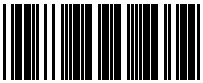
Customized tone (100-2550 HZ)

Example: If scanner needs 200HZ of customized tone.
Customized Tone = N*10
200HZ = N * 10
N =20.
So scan: “Start” “Customized tone” “0” “2” “0” “Set as customized tone” “End”.



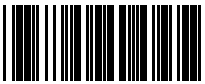
*Starting sound on

Starting sound off

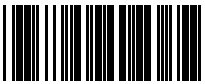


Start

13. Data Delay

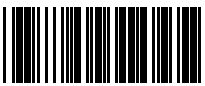


Delay between characters (T=N)

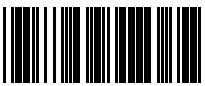


Barcode delay(T=10*N)

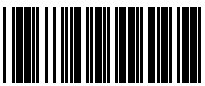
14. Reading Length for Each Kind of Code



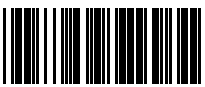
Industrial 2 of 5
minimum length



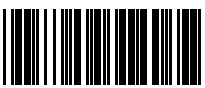
Industrial 2 of 5
maximum length



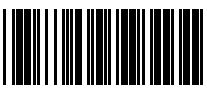
Standard 2 of 5
minimum length



Standard 2 of 5
maximum length

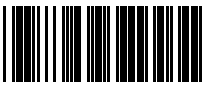


Matrix 2 of 5
minimum length

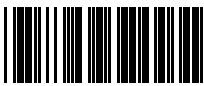


Matrix 2 of 5
maximum length

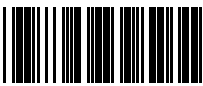
End



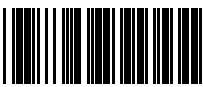
Chinese postal 2 of 5
minimum length



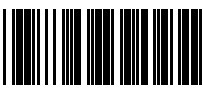
Chinese postal 2 of 5
maximum length



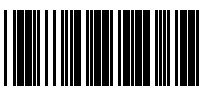
Interleaved 2 of 5
minimum length



Interleaved 2 of 5
maximum length



Code 11 minimum length



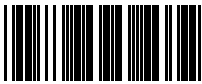
Code 11 maximum length

Codabar minimum length

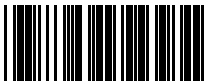
Codabar maximum length

Code MSI minimum length

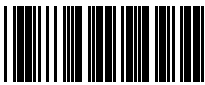
Code MSI maximum length



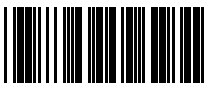
Start



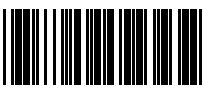
Code UK minimum length



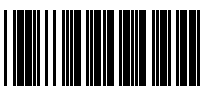
Code UK maximum length



Code 39 minimum length



Code 39 maximum length



Code 93 minimum length

Code 93maximum length

Code 128 minimum length

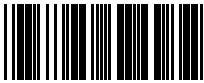
Code 128 maximum length

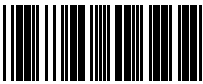
Expanded minimum length

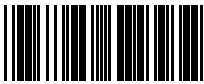
Expanded maximum length

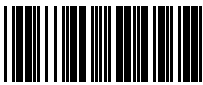
End

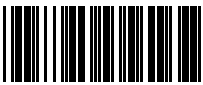
15. Prefix / Suffix for Each Kind of Code

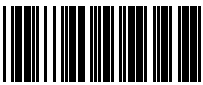

Industrial 2 of 5 prefix

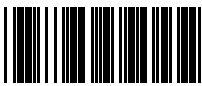

Industrial 2 of 5 suffix

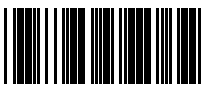

Standard 2 of 5 prefix

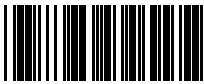

Standard 2 of 5 suffix

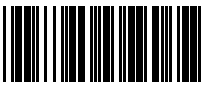

Matrix 2 of 5 prefix

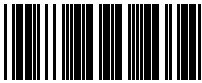

Matrix 2 of 5 suffix


Chinese postal 2 of 5 prefix

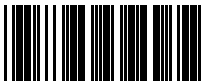

Chinese postal 2 of 5 suffix


Interleaved 2 of 5 prefix

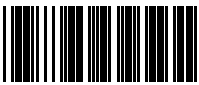

Interleaved 2 of 5 suffix



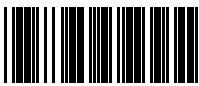
Start



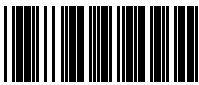
Code 11 prefix



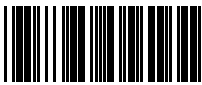
Code 11suffix



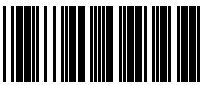
Codabar prefix



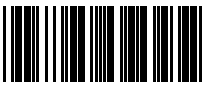
Codabar suffix



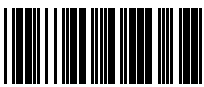
Code MSI prefix



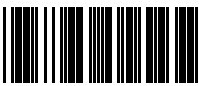
Code MSI suffix



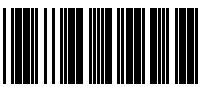
Code UK prefix



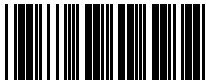
Code UK suffix



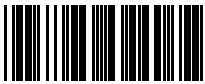
Code 39 prefix



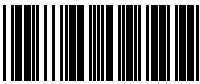
Code 39 suffix



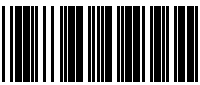
End



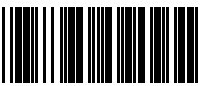
Code 93 prefix



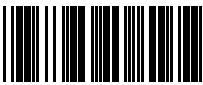
Code 93 suffix



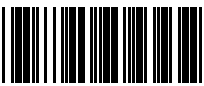
Code 128 prefix



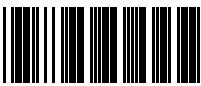
Code 128 suffix



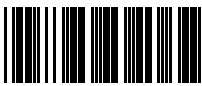
RSS Expaned prefix



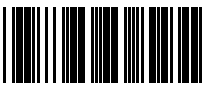
RSS Expanded suffix



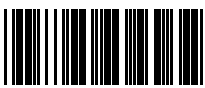
Code 32 prefix



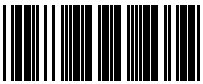
Code 32 suffix



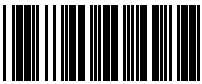
UPC−A prefix



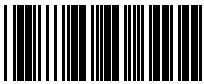
UPC−A suffix



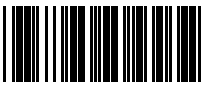
Start



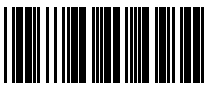
UPC-E prefix



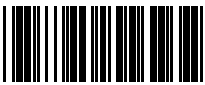
UPC-E suffix



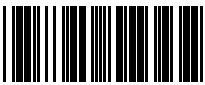
EAN-13 prefix



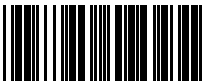
EAN-13 suffix



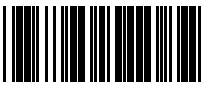
EAN-8 prefix



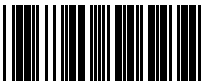
EAN-8 suffix



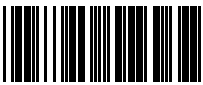
RSS14 prefix



RSS14 suffix



RSS Limited prefix



RSS Limited suffix

End

16. Version

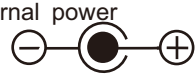
Version

17. Appendix

17-1. Pin assignment

PIN	Function
1	TXD
2	RXD
3	RTS
4	GND
5	PC_DATA/D+
6	PC_CLK/D-
7	VCC_5V
8	KB_CLK
9	KB_DATA
10	CTS

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



17-2. 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

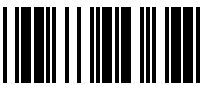
ASCII	HEX	DEC	ASCII	HEX	DEC
@	40	64	`	60	96
A	41	65	a	61	97
B	42	66	b	62	98
C	43	67	c	63	99
D	44	68	d	64	100
E	45	69	e	65	101
F	46	70	f	66	102
G	47	71	g	67	103
H	48	72	h	68	104
I	49	73	i	69	105
J	4A	74	j	6A	106
K	4B	75	k	6B	107
L	4C	76	l	6C	108
M	4D	77	m	6D	109
N	4E	78	n	6E	110
O	4F	79	o	6F	111
P	50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

SOH

STX

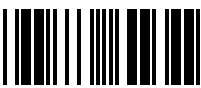
ETX

EOT

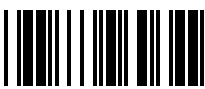


ENQ

ACK



BEL



BS

HT

LF

VT

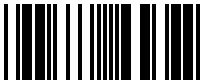
FF

CR

SO

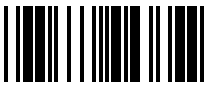
SI

DLE



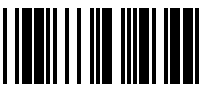
DC1

DC2



DC3

DC4



NAK

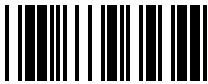
SYN

ETB

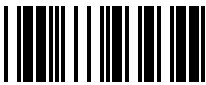
CAN

EM

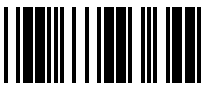
SUB



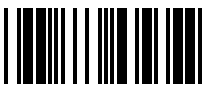
ESC



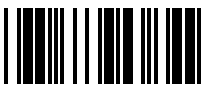
FS



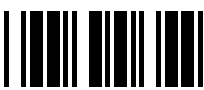
GS



RS



US



SPACE

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F1(@A)

F2(@B)

F3(@C)

F4(@D)

F5(@E)

F6(@F)

F7(@G)

F8(@H)

F9(@I)

F10(@J)

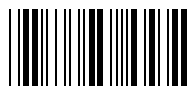
F11(@K)

F12(@L)

HOME(&A)

END(&B)

Cursor Right(&C)



Cursor Left(&D)

Cursor Up(&E)

Cursor Down(&F)

PgUp(&G)

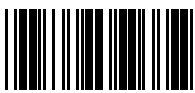
PgDn(&H)

TAB(&I)

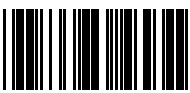
Back TAB(&J)

ESC(&K)

ENTER(&L)



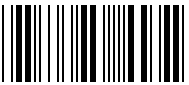
Insert(&M)



Delet(&N)

Return(&O)

CTRL ON(&P)



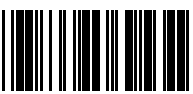
CTRL OFF(&Q)

ALT ON(&R)

ALT OFF(&S)

SHIFT ON(&T)

SHIFT OFF(&U)



WIN (&V)

HOME (&W)

END (&X)

Sample bar codes

Code 39

SN0001013000 7

Codabar

$- : +. / 1018009

Interleaved 2 of 5

99078006500123456789012345

MSI/Plessey

12345678901237

UPC−A with 5

EAN−13 with 5