IDAutomation SC4USB

Scanner Programming Manual

www.idautomation.com

IDAutomation.com provides barcode fonts, components, label printing software and barcode readers, such as scanners and wands. To obtain support for this product, please visit www.idautomation.com/support/

CONTENTS

Getting Started

Installing Keyboard Wedge Scanner

To install a keyboard wedge scanner, follow the steps listed below:

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

Installing a RS-232 Interface Scanner

To install a RS-232 interface scanner, the host device should have a RS-232 port to receive data from the scanner, follow the steps listed below:

1) Make sure that the scanner has the right connector for the RS-232 port of the host device
2) Make sure that there is a power supply to the scanner (if necessary)
3) Connect the cable to the RS-232 port of the device
4) If the indicator LED lights up and the buzzer sounds, the scanner is ready for reading

Setup Procedures

1) Locate a group that contains the parameters to be changed.
2) Scan the “Enter Group #” label. The scanner will sound beeps indicate that setup is in progress
3) Scan the label representing the parameter to be changed
4) Scan the “Exit” to end the group currently selected, the scanner will sound beeps.
5) Repeat the procedure for other groups including the parameters to be changed

Example 1:

Set the operating mode to “Continuous mode”

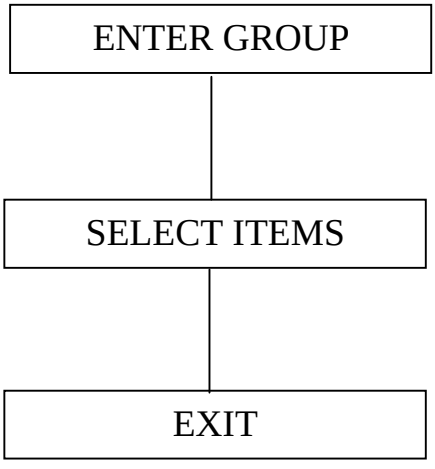
1) Scan “Enter Group 5”
2) Scan “Continuous/Trigger off”
3) Scan “Exit”

Example 2

Assign Preamble string as “#”, and postamble string as “END”

1) Scan “Enter Group 6”
2) Scan Preamble”
3) Scan “#” from “Full ASCII Table and Table-Hex.”
4) Scan “Confirm” Label in Table-Hex
5) Scan “Postamble”
6) Scan “E”, “N”, “D” from “Full ASCII Table and Table Hex” consecutively
7) Scan “Confirm” Label in Table-Hex.
8) Scan Exit

Setup Flow Chart



Set All Defaults

Show Version

Group 0: Interface Selection

ENTER GROUP

EXIT

KEYBOARD

RS-232

WAND

OCIA

RS-232

Reserved 2

DTMF

Reserved 4

Group 1: Device Selection for Keyboard Interface

ENTER GROUP

EXIT

PC/AT, PS/2 50,60,70,80(*)

PC/XT

PS/2 25, 30

(NEC 9801)

(IBM 5550)

(PS 55)

(NEC N5520)

(ACER 7300)

(KW1050D/CT-700A/WANG 5120)

(WANG 5425)

(MAC_SE)

(LC-6533)

Group 1: Device Selection for Keyboard Interface

ENTER GROUP

EXIT

(IBM3196,3197,3476,3477)

Reserved Q

Reserved R

Reserved T

IBM3197

IBM 3476

IBM3477

RESERVED 5

Reserved 6

RESERVED 7

Reserved 8

RESERVED 9

Group 2: Intercharacter Delay

ENTER GROUP

EXIT

Start Keyboard Setting

Scan Enter Group 2 Label -- >
Scan Start Keyboard (or RS-232) Setting Label -->
Scan two digits labels in "Table-Hex" -->
Scan Exit Label

Start RS-232 Setting

Keyboard Default Value: 05
RS-232 Default Value : 00

Group 3: Language for Keyboard Interface

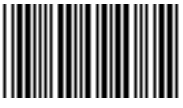
ENTER GROUP

EXIT

U.S. (*)

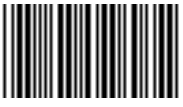
ENGLAND

FRANCE



GERMANY

ITALY

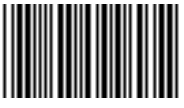


BELGIUM

SWEDEN/FINLAND

SPANISH

DENMARK



PORTUGAL

SWISS

NORWAY

Group 3: Language for Keyboard Interface

ENTER GROUP

EXIT

CANADA

HOLLAND

POLAND

LATIN

JAPAN

RESERVED 1

RESERVED 2

RESERVED 3

(IBM THINK-PAD FOR JAPAN)

(PANASONIC CF-II FOR JAPAN)

Group 4: Terminator

ENTER GROUP

EXIT

KEYBOARD

NONE

CR

SPACE

TAB

ESC

CTRL-C

ESC

Group 4: Terminator

ENTER GROUP

EXIT

RS-232

NONE

CR

CR/LF

LF

SPACE

TAB

ESC

CTRL-C

STX..ETX

XON.. XOFF

EOT

Group 5: Scan Mode

ENTER GROUP

EXIT

1: Trigger On/Off

2: Trigger On/Good Read Off (*)

3: Trigger On/Good Read Off/
Delay Timeout = ?

4: Continuous/Trigger Off

5: Continuous/LED Always on

6: Continuous/No Trigger

7: Continuous/Testing

8: Continuous/Trigger Off/
Delay Timeout = ?

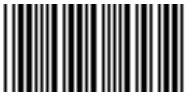
Group 5: Scan Mode

ENTER GROUP

EXIT

FLASH OFF(*)

FLASH ON



SHORT ZONE

LONG ZONE

LASER DELAY

For Laser Scanner Mode

Default Laser Delay Timeout = 60 sec.

Scan Enter Group 5 Label

Scan Laser Delay -->

Refer to the Table-Hex at page 41 and select a value -->

Scan Confirm in Table Hex.

Scan Exit Label

LAG-960TR - Auto Trigger mode

AUTO TRIGGER

Scan Enter Group 5 Label -->

Scan 8: Continuous/Trigger off/Delay timeout=? (Page 13) -->

Scan two digit label and "confirm" label in Page 43 -->

Scan Above "Auto Trigger Label)

Switch on the LAG-960 bottom switch

Note: Scan mode setting is only available for CCD/Laser type scanner.

Group 6: Preamble and Postamble

ENTER GROUP

EXIT

Preamble

Postamble

Preamble & Postamble Setting:
Scan Enter Group 6 Label -->
Scan Preamble or Postamble Label -->
Refer to ASCII Table(page 44), scan two digits in Table-Hex (Page 43)
Representing one character, maximum 10 characters can be accepted. -->
Scan Confirm Label in Table-Hex (Page 43)
Scan Exit Label

Clear

Clear Preamble & Postamble :
Scan Enter Group 6 Label -->
Scan Preamble or Postamble Label -->
Scan "Clear" Label-->
Scan "Exit" Label

Group 8: RS-232 Parameters

ENTER GROUP

EXIT

Baud Rate

300

600

1200

2400

4800

9600(*)

19200

38400

Data Bit

BIT 7

BIT 8

Group 8: RS-232 Parameters

ENTER GROUP

EXIT

Parity :

NONE (*)

ODD

EVEN

Handshaking:

NONE (*)

XON/OFF

Scanner Ready

Data Ready

ACK/NAK

Group 8: RS-232 Parameters

ENTER GROUP

EXIT

(CK/NAK Response Time
CTS Observation Time:)

100 ms

300 ms

500 ms

1 sec.

3 sec (*)

5 sec.

10 sec.

00

Group 9: CODE 39 / (CODE 32)

ENTER GROUP

EXIT

Enable (*)

Disable

Standard (*)

Full ASCII

Transmit Start/End Character

Disable (*)

Enable

Transmit Check Character

Enable (*)

Disable

Verify Checksum

Enable

Disable (*)

Enable CODE 32

Group 9: CODE 39 / (CODE 32)

ENTER GROUP

EXIT

Verify Normal (*)

Verify Strick

Group 10-1: Interleaved 2 OF 5

ENTER GROUP

EXIT

Disable (*)

Enable

Transmit Check Character

Disable

Enable (*)

Verify Checksum

Disable

Enable

Barcode Length Setting

Length Define

Min: 4

Max: 48

Scan Enter Group 10-1 Label -->
Scan Length Define Label -->
Scan Four Digit Labels in Table Hex (Page 43) -->
Scan Confirm Label in Table-Hex -->
Scan Exit Label

User Define

3 Sets Available

User Define Length Setting:
Scan Enter Group 10-1 Label
Scan User Define Label-->
Scan Six Digit Labels in Table Hex (Only 3 sets of length can be defined)
Scan Confirm Label in Table Hex -->
Scan Exit Label

Group 10-2: Industrial 2 OF 5 / IATA

ENTER GROUP

EXIT

Disable (*)

Enable

Transmit Check Character

Enable (*)

Disable

Verify Checksum

Disable

Enable

Barcode Length Setting

Length Define

Min: 2

Max: 24

Scan Enter Group 10-2 Label -->
Scan Length Define Label -->
Scan Four Digit Labels in Table Hex (Page 43) -->
Scan Confirm Label in Table-Hex -->
Scan Exit Label

User Define

3 Sets Available

User Define Length Setting:
Scan Enter Group 10-2 Label
Scan User Define Label-->
Scan Six Digit Labels in Table Hex (Only 3 sets of length can be defined)
Scan Confirm Label in Table Hex -->
Scan Exit Label

Enable

Disable (*)

Group 10-3: Matrix 2 of 5

ENTER GROUP

EXIT

Disable (*)

Enable

Transmit Check Character

Disable

Enable (*)

Verify Checksum

Disable (*)

Enable

Barcode Length Setting

Length Define

Min: 2

Max: 40

Scan Enter Group 10-3 Label -->
Scan Length Define Label -->
Scan Four Digit Labels in Table Hex (Page 43) -->
Scan Confirm Label in Table-Hex -->
Scan Exit Label

User Define
3 Sets Available

User Define Length Setting:
Scan Enter Group 10-3 Label
Scan User Define Label-->
Scan Six Digit Labels in Table Hex (Only 3 sets of length can be defined)
Scan Confirm Label in Table Hex -->
Scan Exit Label

Group 10-4: CHINA POSTAGE

ENTER GROUP

EXIT

Disable (*)

Enable

Transmit Check Character

Disable

Enable (*)

Verify Checksum

Disable (*)

Enable

Barcode Length Setting

Length Define

Min: 2

Max: 40

Scan Enter Group 10-3 Label -->
Scan Length Define Label -->
Scan Four Digit Labels in Table Hex (Page 43) -->
Scan Confirm Label in Table-Hex -->
Scan Exit Label

User Define Length Setting:

User Define

3 Sets Available

Scan Enter Group 10-3 Label
Scan User Define Label-->
Scan Six Digit Labels in Table Hex (Only 3 sets of length can be defined)
Scan Confirm Label in Table Hex -->
Scan Exit Label

Group 11: CODE 128/(CODE 93)/(CODE 11)/(MSI-PLESSEY)

ENTER GROUP

EXIT

CODE 128

Enable (*)

Disable

CODE 93

Enable

Disable (*)

Concatenation

Enable

Disable (*)

Note: Options marked by ( ) are only available upon request

Group 11: CODE 128/(CODE 93)/(CODE 11)/(MSI-PLESSEY)

ENTER GROUP

EXIT

Enable(*)

Disable

Number of Check Character

One

Two (*)

Transmit Check Character

Enable

Disable (*)

MSI/PLESSEY

Enable (*)

Disable

Note: Options marked by ( ) are only available upon request

Group 12: (ISBN/ISSN)

ENTER GROUP

EXIT

Disable (*)

Enable

Note: Options marked by ( ) are only available upon request

Group 13: CODABAR / NW7

ENTER GROUP

EXIT

Enable(*)

Disable

Transmit Start/End Character

Disable (*)

Enable

Start/End Transmit Type

ABCD/ABCD

ABCD/TN*E

abcd/abcd (*)

abcd/tn*e

Group 14: (Code 4)

ENTER GROUP

EXIT

Enable

Disable (*)

Note: Options marked by ( ) are only available upon request

Group 15-1: EAN-13/JAN-13

ENTER GROUP

EXIT

Enable (*)

Disable

ADD-ON 2/5

Disable (*)

Enable (*)

Transmit Check Character

Disable

Enable (*)

Truncate Leading Digit

Disable (*)

Enable

Truncate Leading Zero

Disable (*)

Enable

Check-Digit On (*)

Check-Digit Off

Group 15-2: UPC-A

ENTER GROUP

EXIT

Enable (*)

Disable

ADD-ON 2/5

Disable (*)

Enable (*)

Transmit Check Character

Disable

Enable (*)

Truncate Leading Digit

Disable (*)

Enable

Truncate Leading Zero

Disable (*)

Enable

Group 15-3: EAN-8/JAN-8

ENTER GROUP

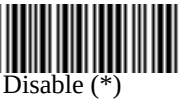
EXIT

Enable (*)

Disable

ADD-ON 2/5

Enable (*)



Disable (*)

Transmit Check Character

Enable (*)

Disable

Truncate Leading

Enable

Disable (*)

EAN Convert to EAN-13

Disable (*)

Enable

Group 15-4: UPC-E / UCC EAN/128

ENTER GROUP

EXIT

Enable (*)

Disable

ADD-ON 2/5

Enable (*)

Disable (*)

Transmit Check Character

Enable (*)

Disable

Truncate Leading Digit

Enable

Disable (*)

UCC/EAN/128

Enable

Disable (*)

UPC-E Convert to UPC-A

Enable

Disable

Group 16: General Parameters

ENTER GROUP

EXIT

Upper Case

Lower Case

Universal

ALT Mode

Buzzer Pitch
(Default : 16)

Buzzer Duration
(Default: 04)

Buzzer Pitch & Buzzer Duration Setting:
Scan Enter Group 16 Label -->
Scan Buzzer Pitch or Buzzer Duration Label -->
Scan Two Digit Labels in Table-Hex -->
Scan Confirm Label in Table-Hex -->
Scan Exit Label

Power Up Beeping

Disable

Enable (*)

Turbo (*)

Normal

Group 17: Code ID Setting

ENTER GROUP

EXIT

CODE 39

INTERLEAVED 2 OF 5

INDUSTRIAL 2 OF 5

MATRIX 2 OF 5

CHINA POSTAGE

CODE 128

CODE 93

CODE 11

MSI/PLESSEY

CODABAR/NW7

EAN-13/UPC-A

EAN-8

UPC-E

UPC-A

Note: Refer to ASCII Table, scan two hexadecimal labels in Table Hex to represent one character

Group 18: WAND Type Parameters

ENTER GROUP

EXIT

BAR=LOW

BAR=HIGH(*)

Scan Speed

Lowest

Low (*)

High

Highest

Data Format

Transmit in Normal Format (*)

Transmit in Code 39 Format

Transmit in Code 128 Format

Group 19-1: (Magnetic Parameters)

ENTER GROUP

EXIT

Disable

Enable (*)

Track Order

Track 1/2/3 (*)

Track 1/3/2

Track 2/1/3

Track 2/3/1

Track 3/2/1

Track 3/1/2

Note: Options marked by ( ) are only available upon request

Group 19-1: (Magnetic Parameters)

ENTER GROUP

EXIT

Track Selection

Track 1&2&3 any (*)

Track 1 only

Track 2 only

Track 3 only

Track 1 and 2

Track 2 and 3

Track 1 and 2 and 3

ISO (*)

(JIS-2)

Note: Options marked by ( ) are only available upon request

Group 19-2: (Magnetic Parameters)

ENTER GROUP

EXIT

Start Sentinel:

(SS)

Tk1 Default : %

Tk2 Default

Tk3 Default: ; ?

End Sentinel:

(ES)

Tk1&2&3 Default: ?

DLE:

Tk1 Default : Null

Tk2 Default: Null

Tk3 Default: Null

STX:

Tk1&2&3 Default: Null

Magnetic Output Data Format:
STX - Tk1 Start Sentinel - Tk1 Data - End Sentinel - Tk1 - DLE
STX - Tk2 Start Sentinel - Tk2 Data - End Sentinel - Tk2 - DLE
STX - Tk3 Start Sentinel - Tk3 Data - End Sentinel - Tk3 - DLE

Note: Options marked by ( ) are only available upon request

Group 20: (Function Key Emulation)

ENTER GROUP

EXIT

Enable

Disable (*)

Enable Function Key Emulation:
Scan Enter Group 20 Label -->
Scan Enable Label -->
Scan Exit Label

1:
To concatenate a function key with input data, please refer to Function Key Table for its hexadecimal representation.
For Example:

Preamble data with F1
Scan Enter Group 6 Label -->
Scan Preamble Label -->
Scan Label 0 and 1 respectively in Table-Hex (Page 43) -->
Scan Confrim Label in Table-Hex (page 43) -->
Scan Exit Label

Function Key Table (Full Code 39 Table			
F1:01	F2:02	F3:04	F4:04
F5:05	F6:06	F7:07	F8:08
F9:09	F10:0A	F11:0B	F12:0C
Enter:0D	Tab:0E	BS:0F	Up:10
Down:11	Left:12	Home:14	End:15
PgUp:16	PgDn:17	Ins:18	Del:19
Esc:1B	Right:13	S-Tab:1C	

2:
To scan a function key barcode label, full CODE 39 must be enabled. Please refer to Full CODE 39 Table to produce the function key barcode label.

Full CODE 39 Enable

Function Code for PC XT/AT


F1 ($A)


F2 ($B)


F3 ($C)


F4 ($D)


F5 ($F)


F6 ($F)


F7 ($G)


F8 ($H)


F9 ($I)


F10($J)


F11 ($K)


F12 ($L)

Function Code for PC XT/AT

Enter ($M)

Tab ($N)

BS ($O)

Up ($P)

Down ($Q)

Left ($R)

Right ($S)

End ($U) ($B)

PgUp ($V)

PgDn ($W)

Ins ($X)

Del ($Y)

Esc (%A)

Home ($T)

Table-Hex : HEXADECIMAL

0

1

2

3

4

5

6

7

8

9

A

B

C

D

E

F

Confirm

ASCII TABLE

L /H	0	1	2	3	4	5	6	7
0	NULL	DLE	SP	0	@	P		p
1	SOH DC1	DC1	!	1	A	Q	a	q
2	STX	DC2	"	1	A	Q	a	q
3	ETX	DC3	#	3	C	S	c	s
4	EOT	DC4	$	3	C	S	c	s
5	ENQ	NAK	%	5	E	U	e	u
6	ACK	SYN	&	6	F	V	f	v
7	BEL	ETB		7	G	W	g	w
8	BS	CAN	(	8	H	X	h	x
9	HT	EM	)	9	I	Y	I	y
A	LF	SUB	*	:	J	Z	j	z
B	VT	ESC	+	;	K	[	k	{
C	FF	FS	,	<	L	\	1	|
D	CR	GS	-	_	M	]	m	}
E	SO	RS	.	>	N	^	n	~
F	SI	US	/	?	O	-	o	DEL

Hexadecimal-Decimal Conversion Table

HU	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
2	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
3	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
4	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
5	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
6	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
7	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
8	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143
9	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159
A	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175
B	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191
C	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207
D	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223
E	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239
F	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255

For Example:

Hexadecimal	Decimal
56 -> H:5 L:3	83
D5-> H:D L:5	213

PIN ASSIGNMENTS

COLOR	Function	9 Pin DSUB/AMP (F)	25 PIN DIN(M)	6 PIN DIN (M)	6 PIN MINI DIN (M)
Yellow	Start of Scan	1	---	6	6
Orange	Signal Data	2	2	2	4
White	Led Indicator	3	---	---	---
Blue	Trigger	5	5	5	1
Green	Power Enable	6	4	4	2
Black	GND	7	3	3	5
Red	VCC+5V	9	1	1	3

Wand Emulation Signal Output

COLOR	Function	9 PIN DSUB/AMP (F)	5 PIN DIN (M)	6 PIN DIN (M)
Orange	Signal Data	2	2	2
Black	GND	7	3	3
Red	VCC+5V	9	1	1

Note : The pin numbers for the 5 or 6 pin connectors are viewed internally.

"F" stands for a female connector while "M" stands for a male connector.

PIN ASSIGNMENTS

RS-232 Signal Output

COLOR	FUNCTION	9 PIN DSUB/AMP(F)	25PIN DSUB(F)
Black	GND	5	7
Brown	CTS	7	4
Grey	RTS	8	5
Violet	RX	3	2
Green	TX	2	3
Red	VCC+5V	9	25

Note : For PC applications , a cable with DC power jack is required to accept external power input.

Keyboard Signal Output

COLOR	FUNCTION	5 PIN DIN (F)	5 PIN DIN (M)
Black	GND	4	4
White	PC_Data	---	2
Orange	PC_CLK	---	1
Red	Vcc+5V	5	5
Blue	KB_CLK	1	---
Yellow	KB_Data	2	---