

# **FUZZYSCAN FAMILY**

Quick Start Guide II

**FUZZYSCAN**  
**BARCODE SCANNER**

**cino**

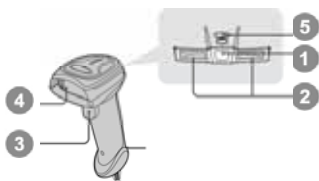
# Getting Familiar with Your FuzzyScan

Thank you for choosing Cino FuzzyScan Bar Code Scanner. All FuzzyScan scanners deliver world-class performance for a broad range of applications to unleash your productivity with ease.

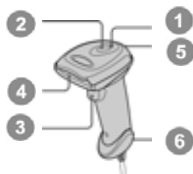
FuzzyScan family includes **A** series area imager, **F** series linear imager and **L** series laser imager. The **Antimicrobial** models are available for A770, L780 and F780 series scanners which are equipped with Disinfectant-ready Housing and Vibrator. More over, the option of **Vibrator** is available for all other series upon request. For more details, please visit our web site or contact your supplier.

This document provides an easy reference for installation and operation purpose. The complete documentation is available at [www.cino.com.tw](http://www.cino.com.tw).

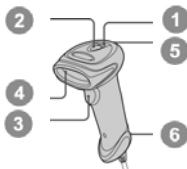
## A770 Series



## F790/F780/L780 Series



## F680/L680 Series



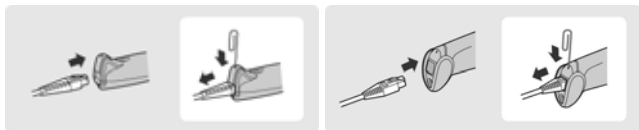
## F560 Series



- |                    |                      |
|--------------------|----------------------|
| 1 Power Indicator  | 4 Scan Window        |
| 2 Status Indicator | 5 Beeper Hole        |
| 3 Trigger Switch   | 6 Cable Release Hole |

# Connecting to Your Host

FuzzyScan scanners support USB, PS/2(DOS/V) Keyboard Wedge and RS-232 Serial interfaces. Please choose your desired interface cable, then plug it into the interface port of scanner and connect it to the desired port of your host. If you would like to remove the cable, please straighten one end of a paper clip then insert it into the cable release hole to pull out the cable.



## RS232 Serial



## PS/2 Keyboard Wedge



## USB HID & USB COM



- **USB HID (Human Interface Device)**  
The scanner works as a generic USB keyboard.
- **USB COM Port Emulation**  
The scanner works as a legacy RS232 serial device. Please note that you have to install the USB Virtual COM software driver before using.

# Using SmartStand

SmartStand is specifically designed for **hand-free** applications to maximize user's comfort and productivity. You can adjust the scanner holder to desired position for optimized scanning.



Thanks to the **Auto-sense** design, the scanner is capable of switching between presentation scanning and hand-held scanning automatically while working with SmartStand. But please note that this function is not available for **F560** series scanners.

In presentation mode, the bar code may not be detected by the scanner in an environment with very dim ambient lighting. You can select higher sensitivity level through the setting of **Presentation Sensitivity** to increase scanner's detection sensitivity.



For **A series** area imager, you can enable or disable the presentation background lighting of scanner according to the ambient light condition in presentation mode. When the ambient light is dim or dark, you can enable this function to turn on the scanner's LED illumination at a dim level. This is helpful for scanner to detect the motion of scene.



## Operation Modes **A** area imager

FuzzyScan family **A series** array imager supports various operation modes, including trigger, presentation, alternative, level, force, toggle, diagnostic, low power and multiple read modes. The details of each operation mode are listed below for reference.

**A**



Trigger Mode

When trigger mode is selected, the scanner goes into standby state after scanning the bar code. You must press the trigger switch to turn on the light source of the scanner before scanning the bar code.

**A**



Presentation Mode

When presentation mode is selected, the scanner is preset to turn on the background lighting to detect the bar codes. Once the scanner detects an image similar to a bar code, it will try to decode the bar code immediately.

**A**



Alternative Mode

When alternative mode is selected, the scanner keeps the light source on till the preset "**light source on time**" is up. After turning off the light source, you must press the trigger switch to turn on the light source again. After each good read, the timer counter of light source on time is reset. You do not have to press the trigger switch frequently. It is very useful for multiple scanning.

**A**



Level Mode

When level mode is selected, the scanner continues to turn on the light source till a bar code is decoded or preset "**light source on time**" is up. When a bar code is decoded successfully, the scanner turns off the light source immediately. After the scanner turns off the light source, you have to press the trigger switch to turn on the light source again. If there is no scanning operation performed during the preset "light source on time", the scanner will turn off the light source after the preset light source on time is up.

**A****Force Mode**

When force mode is selected, the light source of the scanner is forced on for continued operation without having to press the trigger switch. This mode is convenient for high speed bar code reading.

**A****Toggle Mode**

When toggle mode is selected, you must press the trigger switch to turn on the light source of the scanner to start scanning operation. The scanner keeps the light source on until you press the trigger switch again. This mode is very similar to alternative mode but without the preset light source on time concern.

**A****Diagnostic Mode**

When diagnostic mode is selected, the light source of the scanner is forced on without regard for other programmable parameters, such as reread delay, redundancy, and so on.

**A****Low Power Mode**

When low power mode is selected, the scanner goes into idle state after scanning the bar code. You must press the trigger switch to wake up the scanner for operation.

**A****Multiple Read Mode**

When multiple read mode is selected, the scanner is allowed to decode multiple bar codes with a single pull of the trigger. When you press and hold the trigger to aim at a series of bar codes, the scanner will decode each bar code and beep for each good read. For more precise bar code decoding, you are recommended to enable **Center Alignment** function while multiple read mode is selected. You also can enable **Unique Bar Code Reporting** function to report only unique bar code when the scanner trigger is pressed. For the setting of Center Alignment and Unique Bar Code Reporting, please refer to Programming Manual for details.

## Operation Modes **FL** linear & laser imager

Both **F series** linear imager and **L series** laser imager of FuzzyScan family support various operation modes, including trigger, presentation, alternative, level, flash, force, toggle, diagnostic and low power modes. But please note that the **laser aiming line** of L series is not performed under force, flash, toggle or diagnostic mode to ensure the longer working life of laser imager.

**FL**



**Trigger Mode**

When trigger mode is selected, the scanner goes into standby state after scanning the bar code. You must press the trigger switch to turn on the light source of the scanner before scanning the bar code.

**FL**



**Presentation Mode**

When presentation mode is selected, the scanner will turn on the light source and start scanning operation automatically if it detects an image similar to a bar code. In case the scanner can't detect a bar code, it will turn off the light source when the preset light source on time is up.

**FL**



**Alternative Mode**

When alternative mode is selected, the scanner keeps the light source on till the preset "**light source on time**" is up. After turning off the light source, you must press the trigger switch to turn on the light source again. After each good read, the timer counter of light source on time is reset. You do not have to press the trigger switch frequently. It is very useful for multiple scanning.

**FL**



**Level Mode**

When level mode is selected, the scanner continues to turn on the light source till a bar code is decoded or preset "**light source on time**" is up. When a bar code is decoded successfully, the scanner turns off the light source immediately. After the scanner turns off the light source, you must press the trigger switch to turn on the light source again. If there is no scanning operation performed during the preset "light source on time", the scanner will turn off the light source after the preset light source on time is up.

**FL****Flash Mode**

When flash mode is selected, the scanner flashes the light source without having to press the trigger switch. If the scanner detects an image which is similar to a bar code, it forces on the light source automatically and scans the bar code.

**FL****Force Mode**

When force mode is selected, the light source of the scanner is forced on for continued operation without having to press the trigger switch. This mode is convenient for high speed bar code reading.

**FL****Toggle Mode**

When toggle mode is selected, you must press the trigger switch to turn on the light source of the scanner to start scanning operation. The scanner keeps the light source on until you press the trigger switch again. This mode is very similar to alternative mode but without the preset light source on time concern.

**FL****Diagnostic Mode**

When diagnostic mode is selected, the light source of the scanner is forced on without regard for other programmable parameters, such as reread delay, redundancy, and so on.

**FL****Low Power Mode**

When low power mode is selected, the scanner goes into idle state after scanning the bar code. You must press the trigger switch to wake up the scanner for operation.



# Keyboard Interface Quick Set

## - Record Suffix -



None



RETURN



TAB



SPACE



ENTER

## - Keyboard Layout -



USA



France



Germany



United Kingdom-UK



Canadian French



Spain (Spanish)



Spain (Latin America)



Netherlands



Japan



Sweden/Finland

# Serial Interface Quick Set

## - Record Suffix -



None



LF



TAB



CR



CRLF



SPACE

## - Baud Rate -



115.2K BPS



19.2K BPS



4800 BPS



57.6K BPS



9600 BPS



2400 BPS



38.4 BPS



1200 BPS

## - Data Frame -



8, None, 1



8, None, 2



7, None, 2



8, Odd, 1



7, Odd, 2



8, Even, 1



7, Odd, 1



7, Even, 2



8, Space, 1



7, Even, 1



7, Space, 2



8, Mark, 1



7, Space, 1



7, Mark, 2



7, Mark, 1

# System Commands



System Information



PowerTool Host Link



Factory Default



Master Default



User Default



Save User Default

# Host Interface Quick Set



RS232 Serial



PS/2 (DOS/V) KBW Standard Mode



USB HID Standard Mode



USB Com Port Emulation



Keyboard Replacement



PS/2 (DOS/V) KBW Turbo Mode



USB HID Turbo Mode

# System Commands



## Option Codes



0



1



2



3



4



5



6



7



8



9



A



B



C



D















E











F



# Keyboard Interface Control

Command	Parameter Selection		Option Code	
<b>Keyboard Layout</b> 	USA France Germany United Kingdom-UK Canadian French Spain Sweden/Finland Portugal Norway	Latin America Italy Netherlands Denmark Belgium Switzerland-Germany Iceland Japan Czech	00 01 02 03 04 05 06 07 08	09 10 11 12 13 14 15 16 17
<b>Record Suffix</b> 	None RETURN TAB SPACE	ENTER User define character	0 1 2 3	4 5
<b>Preamble</b> 	None 1-15 characters		FIN [00-7F], [FIN]	
<b>Postamble</b> 	None 1-15 characters		FIN [00-7F], [FIN]	
<b>Intermessage Delay</b> 	None 1-99 (x5) msec.		FIN (2 digits)	
<b>Intercharacter Delay</b> 	None 1-99 (x5) msec.		FIN (2 digits)	
<b>Interfunction Delay</b> 	None 1-99 (x5) msec.		FIN (2 digits)	
<b>Caps Lock Control</b> 	*Caps Lock Off* State *Caps Lock On* State Auto Detect		0 1 2	
<b>Caps Lock Release Control</b> 	*Caps Lock On, Caps Off* *Caps Lock On, Shift Off*		0 1	
<b>Function Key Emulation</b> 	Enable ASCII 00-31 as KB function code output Enable ASCII 00-31 as Ctrl-xx output		0 1	
<b>Key Pad Emulation</b> 	Disable key pad emulation Enable numeric output as key pad output		0 1	
<b>Upper/Lower Case</b> 	Normal case Inverse case Upper case Lower case		0 1 2 3	

# Serial Interface Control

Command	Parameter Selection		Option Code	
<b>STX/ETX Control</b> 	Disable STX/ETX transmission Enable STX/ETX transmission		0 1	
<b>Record Suffix</b> 	None CR LF CRLF	TAB SPACE User define character	0 1 2 3	4 5 6
<b>Preamble</b> 	None 1-15 characters		FIN [00-7F], [FIN]	
<b>Postamble</b> 	None 1-15 characters		FIN [00-7F], [FIN]	
<b>Handshaking Protocol</b> 	None RTS/CTS ACK/ NAK Xon/Xoff		0 1 2 3	
<b>Intermessage Delay</b> 	None 1-99 (x5) msec.		FIN (2 digits)	
<b>Intercharacter Delay</b> 	None 1-99 (x5) msec.		FIN (2 digits)	
<b>Interfunction Delay</b> 	None 1-99 (x5) msec.		FIN (2 digits)	
<b>Serial Response Time-out</b> 	None 200 msec. 500 msec. 800 msec. 1 sec. 2 sec.	3 sec. 4 sec. 5 sec. 8 sec. 10 sec. 15 sec.	0 1 2 3 4 5	6 7 8 9 A B
<b>NAK Retry Count</b> 	3 times 0-255 times		FIN (3 digits)	

## Message String Breakdown

### Keyboard interface output (PS/2, DOS/V, USB HID)


Preamble	Data Length	Prefix ID	Scanned Data	Suffix ID	Postamble	Record Suffix
1-15 char.	2-4 digits	1 or 3 char.	Variable	1 or 3 char.	1-15 char.	1 char.

### Serial interface output (RS-232, USB COM Port Emulation)

STX	Preamble	Data Length	Prefix ID	Scanned Data	Suffix ID	Postamble	ETX	Record Suffix
1 char.	1-15 char.	2-4 digits	1 or 3 char.	Variable	1 or 3 char.	1-15 char.	1 char.	1 char.

# Keyboard Function Code Table

No.	ANSI	ASCII	Key Function	Ctrl Output	No.	ANSI	ASCII	Key Function	Ctrl Output
00	NUL	00H	RESERVED	Ctrl + @	16	DLE	10H	F7	Ctrl + P
01	SOH	01H	CTRL (Left)	Ctrl + A	17	DC1	11H	F8	Ctrl + Q
02	STX	02H	ALT (Left)	Ctrl + B	18	DC2	12H	F9	Ctrl + R
03	ETX	03H	SHIFT	Ctrl + C	19	DC3	13H	F10	Ctrl + S
04	EOT	04H	CAPS LOCK	Ctrl + D	20	DC4	14H	F11	Ctrl + T
05	ENQ	05H	NUM LOCK	Ctrl + E	21	NAK	15H	F12	Ctrl + U
06	ACK	06H	ESC	Ctrl + F	22	SYN	16H	INS (Insert) (Edit)	Ctrl + V
07	BEL	07H	F1	Ctrl + G	23	ETB	17H	DEL (Delete) (Edit)	Ctrl + W
08	BS	08H	BACK SPACE	Ctrl + H	24	CAN	18H	HOME (Edit)	Ctrl + X
09	HT	09H	TAB	Ctrl + I	25	EM	19H	END (Edit)	Ctrl + Y
10	LF	0AH	F2	Ctrl + J	26	SUB	1AH	PAGE UP (Edit)	Ctrl + Z
11	VT	0BH	F3	Ctrl + K	27	ESC	1BH	PAGE DOWN (Edit)	Ctrl + [
12	FF	0CH	F4	Ctrl + L	28	FS	1CH	UP (Edit)	Ctrl + \
13	CR	0DH	ENTER (CR)	Ctrl + M	29	GS	1DH	DOWN (Edit)	Ctrl + ]
14	SO	0EH	F5	Ctrl + N	30	RS	1EH	LEFT (Edit)	Ctrl + 6
15	SI	0FH	F6	Ctrl + O	31	US	1FH	RIGHT (Edit)	* see note

 The last character in the Ctrl Output column is varied for different countries.

# HEX/ASCII Reference Table

H \ L	0	1	2	3	4	5	6	7
0	NUL	DLE	SPACE	0	@	P	`	p
1	SOH	DC1	!	1	A	Q	a	q
2	STX	DC2	"	2	B	R	b	r
3	ETX	DC3	#	3	C	S	c	s
4	EOT	DC4	\$	4	D	T	d	t
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	\	l	
D	CR	GS	-	=	M	]	m	}
E	SO	RS	.	>	N	^	n	~
F	SI	US	/	?	O	_	o	DEL

 Example: ASCII "A" HEX "41"; ASCII "a" "61"

 : High Byte of HEX Value  : Low Byte of HEX Value

FuzzyScan Barcode Scanner Quick Start Guide  
International Edition, Rev. C1



P/N: YMAUB00010040R0

## Disclaimer

Cino makes no warranty of any kind with regard to this publication, including, but not limited to, the implied warranty of merchantability and fitness for any particular purpose. Cino shall not be liable for errors contained herein or for incidental consequential damages in connection with the furnishing, performance, or use of this publication. This publication contains proprietary information that is protected by copyright. All rights are reserved. No part of this publication may be photocopied, reproduced or translated into any language, in any forms, in an electronic retrieval system or otherwise, without prior written permission of Cino. All product information and specifications shown in this document may be changed without prior notice.

© COPYRIGHT CINO GROUP • PC WORTH INT'L CO., LTD. ALL RIGHT RESERVED.

## Warranty

Cino warrants its products against defects in workmanship and materials from the date of shipment, provided that the product is operated under normal and proper conditions. The warranty provisions and durations are furnished by different warranty programs. The above warranty does not apply to any product which has been (i) misused; (ii) damaged by accident or negligence; (iii) modified or altered by the purchaser or other party; (iv) repaired or tampered by unauthorized representatives; (v) operated or stored beyond the specified operational and environmental parameters; (vi) applied software, accessories or parts are not supplied by Cino; (vii) damaged by circumstances out of Cino's control, such as, but not limited to, lightning or fluctuation in electrical power. Any defective product must follow the warranty program and RMA procedures to return Cino for inspection.

## Regulatory



Part 15 Subpart B



CNS13438



EN55022, EN55024  
EN61000-3-2, EN61000-3-3, EN60950-1  
EN61000-6-3, EN61000-6-2



AS/NZS CISPR 22:2009 Class B



KN22, KN24 (KN61000-2,-3, -4,-5, -6,-8,-11)

**LED Eye Safety** IEC62471 Exempt group

**Laser Eye Safety** IEC60825-1 Class 1



V-3/2011.04, TECHNICAL REQUIREMENTS,  
Class B ITE