SPECIFICATION

Customer :

Customer's Model No. :

Model No. : **MICA M-9080i** Area Imager Barcode Scanner

Date :

Sample Serial No. :

Spec. Version & Revision Date: V00 2013.07.20

Received/Approved by

CHAMPTEK
阿丹電子企業股份有限公司

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Revision History

Version	Date	Context
V00	2013.07.20	Golden release

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A. General Description

The MICA M-9080i is a high performance, omni-directional area imager bar code scanner. It uses digital imaging technology to provide intuitive and fast reading of 1D and 2D bar codes as well as supporting more advanced features like image capture deactivation. It is designed for various built-in and OEM solutions, such as self-service kiosks, POS (Point-of-Sales) terminals, price checkers, healthcare solutions etc. Besides, a stand option can be ordered to facilitate on-counter reading options.

It supports up to 500mm reading depth of 1D and 2D barcode, its scan rate is up to 120 scans per second in linear emulation and 60 images per second in 2D area mode. Based on CMOS technology for optimal image sensitivity and dynamic range, the M-9080i features scanning speeds two times faster than traditional 2D imagers.

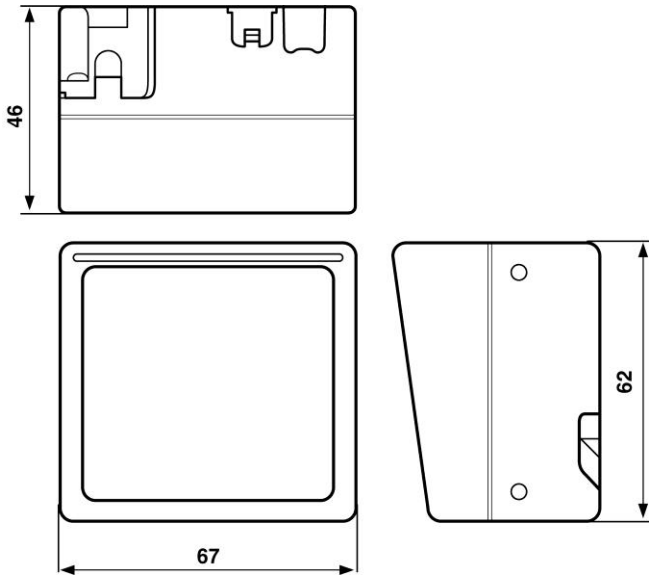
MICA M-9080i is a high performance area imager scanner, provides customers with the most cost-effective solution in the market and perfectly suitable and definitely the best choice for any retail and logistic environment.

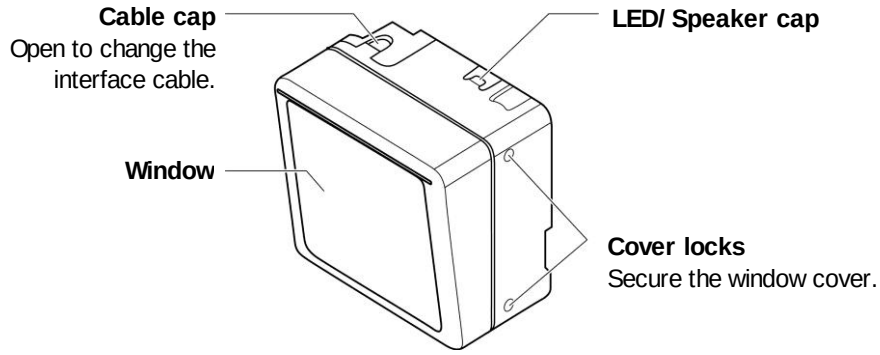
B. Physical Characteristics

Weight	
Body weight	Approx.120g
RS232 Cable weight	Approx.123g
USB Cable weight	Approx. 67g
AC adaptor	Approx.109g
Material	ABS Plastic
Connector	RJ 45C 10 Pin
Dimension(WxDxH)	67 mm x 46 mm x 62 mm
Color Available	Black

Body Dimension

Unit: mm

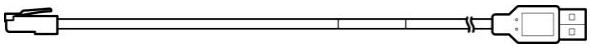




C. Connecting

Interface Selection

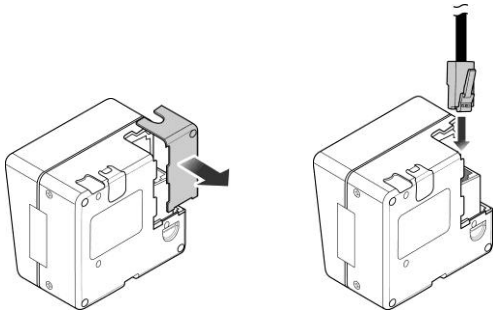
MICA M-9080i allows you to connect your host system using two different interface cables, RS232 or USB.
On powering up, the scanner determines the type of the interface used and switches to the appropriate protocol.

Interface Cable	Connector type
RS232 (Product Number: 0114-SM01121)	Sub-D 9-pin
	
USB (Product Number: 0114-SM04121)	USB connector
	

Getting connected

To connect Mica to your host system, follow the steps below:

1. Open the cable cap of Mica.
2. Connect the desired interface cable to Mica.



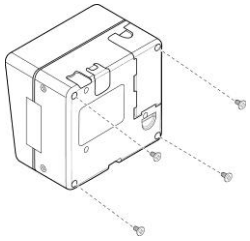
3. Close the cable cap.
4. Connect the interface cable to your host system.

D. Mounting

To mount Mica, follow the steps below:

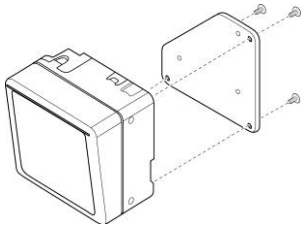
Standard package

1. Place Mica on the inside of your host system and mark the places for the mounting holes. See Appendix for Mica's dimensions.
2. Drill the mounting holes in your host system.
3. Fix Mica on the inside of your host system with screws.



Optional package (with the fit plate)

1. Fix the fit plate to Mica with screws.

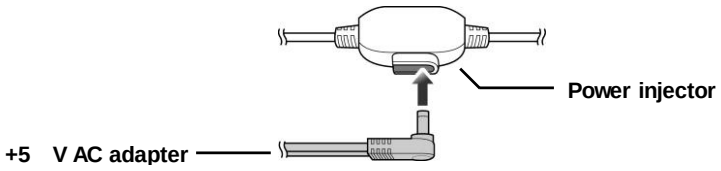


2. Attach Mica to the scanner stand of your host system.

E. Powering

Mica M-9080i is designed to use a single cable for both data transmission and power supply. This requires that your host system can provide sufficient power on its data port (RS232, or USB).

Power injector
Some applicable Mica interface cables have a power injector to connect an external power supply in case the host system cannot supply sufficient power for the scanner.



Cable	Power injector
RS232	√
Powered USB, USB	×

NOTE

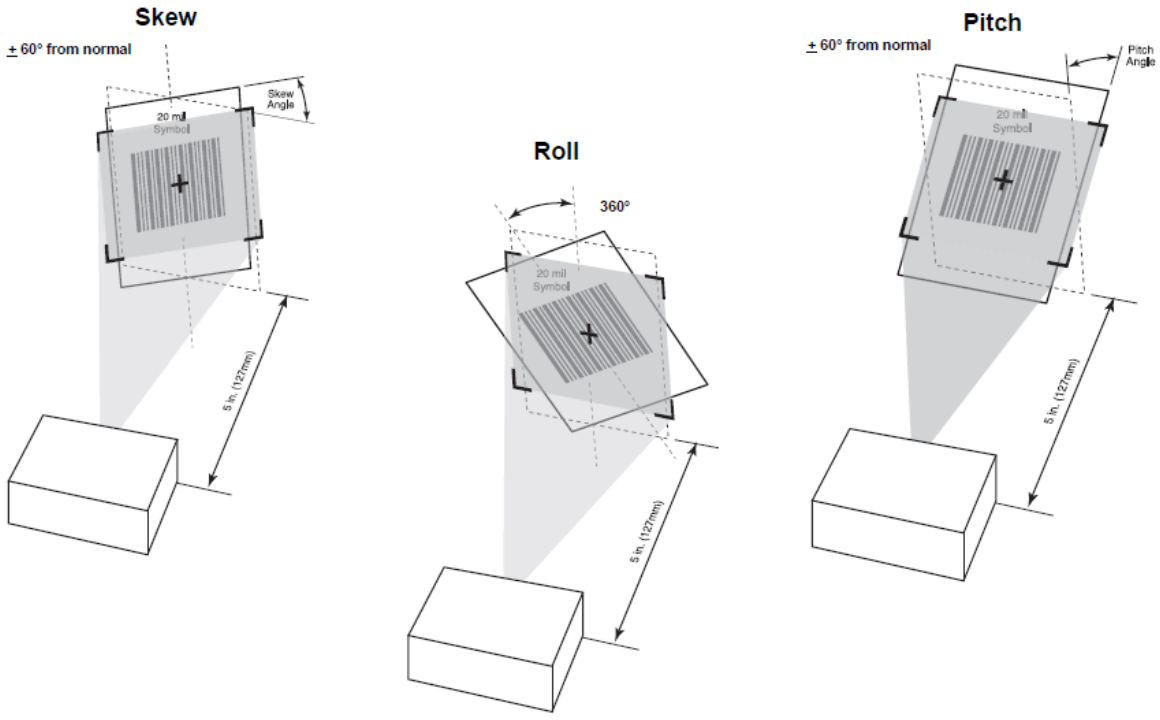
- Though some cables have a power injector, this does not mean that you must use a power supply.
- For safety reasons, an automatic switch will disconnect the power provided by the host system, as soon as a separate power adapter is connected to the power injector.

F. Electrical Characteristics

Interface	RS232	USB
Supply Voltage	DC Adaptor +5V ±5%	USB Power
Stand-by (Typ.)	250 mA	250 mA
Operation (Typ.)	280 mA	270 mA

G. Performance

Light source	Visible red light 625nm LED
View of filed	Horizontal – 40°, Vertical – 25°
Depth of field	Refer to “Reading Range” Session
Resolution	752 (H) x 480 (V) pixels 4.0 mil (Code 39), 5.0 mil (PDF417), 7.5 mil (Data Matrix)
Scan speed	up to 120 scans per second in linear emulation and 60 images per second in 2D area mode
Pitch	±60°(from front to back)
Skew	±60°(from plane parallel to symbol(side- to-side))
Roll	±180°
Interface	RS-232 or USB
Indicators	Beep and LED (Standy Red, Good read Green)



H. Environmental

Operating Temp.	0°Cto 50°C(32℉ to 122℉)
Storage Temp.	-40°Cto 70℃ (-40°F to 158℉)
Relative Humidity	20% to 95% (Non-condensing
Ambient light	100,000 Lux Max. (Sunlight)

I. Reading Range

The following table summarizes the reading distance for the specified codes with both the wide area field and the high density field enabled and active for decoding.

Focus Range	Near	Far
5.0 mil Code 39	1.9 in./4.7 cm	7.7 in./19.4 cm
20 mil Code 39	Field of view limited	24.0 in./60.9 cm
6.67 mil PDF417	2.7 in./6.8 cm	7.0in./17.9 cm
15 mil PDF417	Field of view limited	13.2 in./33.5 cm
10 mil Datamatrix	Field of view limited	8.3 in./21.0 cm
13 mil 100% UPC	2.8 in./7.2 cm	16.8 in./42.4 cm

Code Type	Density	Bar Code Description	Range	Typical		Guaranteed	
				Inch	cm	Inch	cm
Code 39	3 mil	STI3025	Near	2.5	6.5	2.9	7.4
			Far	4.9	12.5	4.3	10.9
	4 mil	STI4026	Near	1.9	4.9	2.3	5.7
			Far	7.2	18.3	6.9	17.5
	5 mil	ABCDEFGH	Near	1.5	3.8	1.9	4.7
			Far	8.2	20.8	7.7	19.4
	7.5 mil	ABCDEF	Near	Note 1			
			Far	11.3	28.6	10.9	27.6
	10 mil	ABCDE	Near	Note 1			
			Far	14.3	36.3	13.2	33.6
	20 mil	123	Near	Note 1			
			Far	25.8	65.6	24.0	60.9
60% UPC	7.8 mil	12345678905	Near	1.1	2.9	1.5	3.8
			Far	10.5	26.6	9.5	24.2
80% UPC	10.4 mil	12345678905	Near	1.5	3.8	2.2	5.7
			Far	13.3	33.8	12.3	31.1
100% UPC	13 mil	12345678905	Near	1.9	4.9	2.8	7.2
			Far	17.5	44.4	16.8	42.6

Note 1: Near distance is Field of View (FOV) limited.

Code Type	Density	Bar Code Description	Range	Typical		Guaranteed	
				Inch	cm	Inch	cm
Code 128	5 mil	C128 MOT	Near	2.1	5.3	2.4	6.1
			Far	6.2	15.7	5.7	14.4
	20 mil	20MIL C128	Near	Note 1			
			Far	23.3	59.1	21.2	54.0
I 2 of 5	10 mil	1234567897	Near	Note 1			
			Far	14.3	36.4	13.7	34.9
PDF417	5 mil	x.005y.0150	Near	3.1	7.8	3.5	8.9
			Far	5.5	13.9	5.0	12.8
	6.67 mil	x.0066y.0200	Near	2.2	5.5	2.7	6.8
			Far	7.5	19.1	7.0	17.9
	10 mil	x.0100y.0300	Near	Note 1			
			Far	10.3	26.1	9.8	25.0
	15 mil	x.0150y.0450	Near	Note 1			
			Far	14.4	36.6	13.2	33.5
Datamatrix	5 mil	1234567890 (6 times)	Near	3.4	8.6	3.7	9.5
			Far	4.3	10.9	3.5	8.8
	7.5 mil	1234567890 (6 times)	Near	2.4	6.1	2.9	7.4
			Far	6.8	17.3	6.2	15.8
	10 mil	1234567890 (6 times)	Near	Note 1			
			Far	8.9	22.7	8.3	21.0
	15 mil	1234567890 (6 times)	Near	Note 1			
			Far	12.1	30.6	11.5	29.3
QR Code	10 mil	1234567890 (6 times)	Near	Note 1			
			Far	7.4	18.8	6.9	17.7

Note 1: Near distance is Field of View (FOV) limited.

J. Readable Symbologies

1D Symbologies	Readable	Default Enable
EAN/UPC	V	V
UCC/EAN128	V	V
ISBN	V	
ISBT	V	
Code 11	V	
Code 39	V	V
Code 93/93i	V	
Code 128	V	V
Interleaved	V	
Matrix	V	V
Instustrial	V	
Standard 2 of 5	V	
Codabar	V	
MSI	V	
Plessey	V	
Telepen	V	
Postal codes	V	
GS1 DataBar	V	V

2D Symbologies	Readable	Default Enable
Data Matrix	V	V
Data Matrix Inverse	V	
PDF 417	V	V
Micro PDF 417	V	
Maxicode	V	
QR code	V	V
QR code Inverse	V	
Aztec (& Inverse)	V	V
EAN.UCC composite	V	
MicroQR code	V	V

K. Reliability

Life Time	
MTBF(Calculated)	80,000 hours
Thermal Shock	
High Temp.	50℃ (122℉)
Low Temp.	-20℃ (-4℉)
Cycle time	30 minutes for high temp. , 30 minutes for low temp.
Cycles	24 cycles
Cable Bending Test	25,000 times minimum (30 times/min @ 500g/90°)
Drop resistance	59.05 inches(150cm) drop on concrete surface