


User's Manual for
ZM-1x0B Series
Magnetic Stripe Reader



MUL-53210-01

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PRINTED IN AUGUST, 2002

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1. INTRODUCTION

This manual describes functions and usage of the ZM-1x0B series magnetic stripe reader, including both keyboard wedge and RS-232 interface options.

The ZM-1x0B is a bi-directional magnetic stripe reader, which meets the ISO requirements. It is intended for use with credit authorization terminals, point-of-sale terminals, personal computers and banking terminals.

The model ZM-1x0BK is designed to be used with IBM XT/AT and PS/2 computers, entering data as if it were being generated through the keyboard. No software modification, nor programming of input/output devices, nor additional power supply is needed.

Model ZM-1x0BR operates as an on-line card reader that communicates with any computer via an RS-232 interface. The ZM-1x0BR requires +5VDC that is easily get from connecting via a keyboard adaptor.

2. FEATURES

- ◆ Perform a self-check function when power-up.
- ◆ Support bi-directional magnetic stripe card reading capability
- ◆ Buzzer sounds when reading card successfully
- ◆ PC/AT PS/2 keyboard emulation
- ◆ Dip switch selectable RS-232 communication protocol
- ◆ Easy connection and operation

3. SPECIFICATION

- ◆ Standard: ISO7810, 7811-1, 2, 3, 4, 5
- ◆ Decoding: F2F (FM)
- ◆ Swipe speed: 10 ~ 120 cm/s
- ◆ Life for the magnetic head: 500,000 times
- ◆ Voltage: + 5VDC
- ◆ Power Consumption: 50mA
- ◆ Environment:
 - (a) Operating Temperature: 0 ~ 40
(non-condensing of dew)
 - (b) Storage Temperature: -20 ~ 60
(Non-condensing of dew)

4. HOW TO INSTALL

4.1 INSTALLING THE ZM-1x0BK – THE KEYBOARD EMULATION TYPE

- A. Make sure your PC is powered off before any installation.
- B. Locate your model ZM-1x0BK and set the dipswitch accordingly. Refer to Chapter 5.1 for parameter set-up.
- C. Unplug the PC keyboard cable from the computer and connect to the DIN (or mini DIN) of the model ZM-1x0BK cable. Plug the other DIN (or mini DIN) into the keyboard port of your computer. Use the connector to convert cable from DIN to mini DIN or from mini DIN to DIN if necessary.
- D. Note: when connecting the cable, please make sure to connect it in the direction specified. Cable cannot be forced into connection or pulling out to prevent from pin damage.
- E. Turn on your computer. The computer should boot up normally. ZM-1x0BK will “beep” to indicate that it is ready for operation.

4.2 INSTALLING THE ZM-1x0BR – THE RS-232 INTERFACE

- A. Turn off your computer to avoid any accidental damage to the card reader and your computer.
- B. Refer to Chapter 5.2 for parameter set-up.
- C. Connect the ZM-1x0BR to the main host; plug the 9-pin female connector to the open male connector of the same type in your computer. Attach the DIN or mini DIN connector to your keyboard and keyboard port to get the +5V power supply.
- D. Turn on your computer. It should boot up normally. The card reader should activate with a “beep” indicating a successful installation.

5. DIP SWITCH SETTING

5.1 DIP SWITCH SETTING FOR KEYBOARD EMULATION TYPE

		SETTING	FUNCTION			
SW1		ON	NO USE			
		OFF	SELECT FOR KEYBOARD EMULATION TYPE			
SW2		ON	DISABLE			
		OFF	ENABLE FOR CARRIGE RETURN			
SW3		ON	DISABLE			
		OFF	ENABLE FOR TRACK HEADER & TRAILER SELECTION			
SW4		ON	XT – TYPE OF KEYBOARD EMULATION			
		OFF	AT – TYPE OF KEYBOARD EMULATION			
<u>LANGUAGE</u>		UK	US	French	Germany	
SW5		ON	OFF	ON	OFF	
SW6		ON	OFF	OFF	ON	
<u>TIME DELAY</u>		50ms	20ms	10ms	0ms	
SW7		OFF	OFF	ON	ON	
SW8		OFF	ON	OFF	ON	

For more information, please visit at www.zebex.com.tw

5.2 DIP SWITCH SETTING FOR RS-232 INTERFACE

	SETTING	FUNCTION			
SW1	ON	SELECTION FOR RS-232 INTERFACE			
	OFF	NO USE			
SW2	ON	CARRIGE RETURN DISABLE			
	OFF	CARRIGE RETURN ENABLE			
SW3	ON	TRACK HEADER & TRAILER SELECTION DISABLE			
	OFF	TRACK HEADER & TRAILER SELECTION ENABLE			
SW4	ON	DATA BITS – 7 DIGITS			
	OFF	DATA BITS – 8 DIGITS			
<u>PARITY</u>		ODD	EVEN	NONE	NONE
SW5		ON	OFF	OFF	ON
SW6		OFF	ON	OFF	ON
<u>BAUD RATE</u>		19200	9600	2400	1200
SW7		OFF	OFF	ON	ON
SW8		OFF	ON	OFF	ON

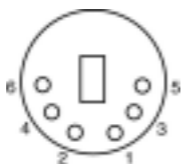
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6. CABLE

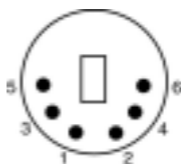
1. PIN-OUT CONFIGURATION FOR KEYBOARD EMULATION TYPE

The pin-out configuration of the 6-PIN PS/2 function as:

PIN	1	2	3	4	5	6
FUNCTION.	DATA	NC	GND	VCC	CLK	NC



6 pin PS/2
female connector



6 pin PS/2
male connector

2. PIN-OUT CONFIGURATION OF DB-9 (female)

PIN	1	2	3	4	5	6	7	8	9
FUNCTION.	+5V	TXD	RXD		GND				

7. OPERATION

1. Indication

- (a) When power on and successfully self-checked, the buzzer beeps 3 times, and the green LED flashes 3 times.
- (b) When reading card and up load successfully, the green LED puts out.

2. Swipe Card

- (a) Swipe the card through the slot in an even speed by hand.
- (b) If the buzzer sounds once after swiping card, the card is successfully read. If the buzzer sounds in three short sounds, the card reading failed.
- (c) When swiping card through, the card must be swiped from the start to the end through the magnetic head in a complete and continues action. The card can be read by swiping through from either direction of the slot.

8. IMPORTANT NOTICE

- ◆ The dip switch is designed for setting up the functions and important settings, it must only allow the technical engineer in specific or well trained personal to change any of the settings of the switch.
- ◆ Use the cleaning card and swipe closely to the magnetic head in the slot for 5 to 10 times before using the reader for cleaning.