

User's Manual

MAGNETIC STRIPE CARD READER

Decoded MSR Series



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1. INTRODUCTION

Welcome to use the Magnetic Stripe Card Reader. The card reader is designed with keyboard emulator output or RS-232 serial interface. This user's manual provides detailed information about the card reader, include: key features, installation procedure, specifications, dip-switch settings, and output data format, etc.

2. FEATURES

- Read data encoded on magnetic stripe cards that meet ISO standards.
- Bi-directional card swipe and read capability.
- Software and hardware modification is not required.
- Single, dual and triple tracks decoding available.
- Switch selectable carriage return, sending start/end byte, and track-2 account number.
- Keyboard types and languages are selectable by DIP-Switchs in Keyboard Wedge Reader. RS-232 parameters are also selectable in Serial Reader.
- Power is supplied by the computer to operate the Keyboard Wedge Reader, one power-retrieve cable is bundled to the Serial Reader.
- Power up diagnostics.
- Good read confirmation by beep sounds.
- Full one year limited warranty.
- Magnetic Head Life: 300,000 passes minimum, 1,000,000 passes version is available upon request.

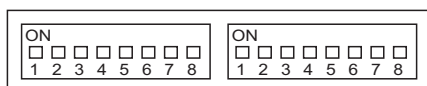
3. SPECIFICATIONS

- Decoding Method: Two-frequency coherent phase (F2F) compatible with ISO standard.
- Swipe Speed: 5 to 60 inch/sec.
- Power consumption: 80 mA(max.) at 5V-DC.
- Operating Temperature: 0~50°C.
- Humidity: 10%~90% relative.
- Magnetic Head Life: 300,000 passes minimum.
- Dimensions: 158mm(L) x 43mm(W) x 44mm(H).
- Weight: 170g.
- Cable length: 1.5 meters
- Interface: keyboard, RS-232 or USB.

4. LED INDICATORS

- 1) **Green LED:** Power on indicator.
- 2) **Red LED:** Good read indicator.

5. SWITCH SETTINGS



Left-SW Block

Right-SW Block

A. Default Settings:

ON : 1 OFF : 0

Switch Models	Left-SW Block								Right-SW Block							
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
MSR-KB/USB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MSR-RS-232	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0

* After altering the switch setting, you should turn on the power again.

B. Left-SW Block:

1.) Track Data Output Selection:

	Track Any	Track 1	Track 2	Track 3	Track 1&2	Track 2&3	Track 1&2&3
SW-1	OFF	ON	OFF	ON	OFF	ON	OFF
SW-2	OFF	OFF	ON	ON	OFF	OFF	ON
SW-3	OFF	OFF	OFF	OFF	ON	ON	ON

2.) Language and JIS-2 & ALT Mode setting:

	U.S.	Germany	Spanish	France	Italy	Swedish	JIS-2	ALT
SW-4	OFF	ON	OFF	ON	OFF	ON	OFF	ON
SW-5	OFF	OFF	ON	ON	OFF	OFF	ON	ON
SW-6	OFF	OFF	OFF	OFF	ON	ON	ON	ON

3.) Keyboard/USB Type "Carriage Return" Selection:

	CR Enable	CR Disable
SW-7	OFF	ON

4.) Sending SS/ES Selection for KB/USB and RS-232:

	Send	Non-Send
SW-8	OFF	ON

C. Right-SW Block:

1.) KB/USB and RS-232 Wedge Device Selection:

	KB	RS-232
SW-1	OFF	ON

2.) RS-232 Baud Rate Selection:

	1200	2400	4800	9600
SW-2	OFF	ON	OFF	ON
SW-3	OFF	OFF	ON	ON

3.) RS-232 Data-bit and Parity Selection:

	Data bit: 7 Parity: Odd	Data bit: 7 Parity: Even	Data bit: 8 Parity: Even	Data bit: 8 Parity: None
SW-4	OFF	ON	OFF	ON
SW-5	OFF	OFF	ON	ON

4.) RS-232 Send CR/LF:

	Send CR	Send CR/LF
SW-6	ON	OFF

5.) Track 2 Account number Only:

If selected, the reader will send out the message before the first separator Character (" = ") and discard the following message.

	Enable	Disable
SW-7	ON	OFF

6.) Inter-character Delay for MSR-KB Series and Special Output Data Format for MSR-RS-232 Series

a. For MSR-KB/USB Series:

	10 ms	3 ms
SW-8	ON	OFF

b. For MSR-RS-232 Series:

	Special	Normal
SW-8	ON	OFF

Special Output Data Format:

* Single Track:

STX	Data	Checksum of Data	ETX
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* Dual Track:

STX	Track 1 or Track 3 Data	Checksum of Data	DLE
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STX	Track 2 Data	Checksum of Data	ETX
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* Triple Track:

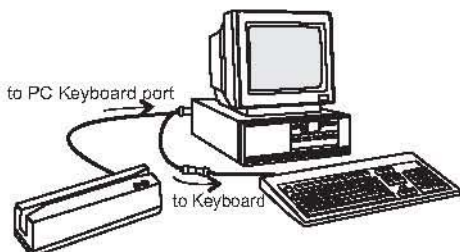
STX	Track 1 Data	Checksum of Data	DLE
STX	Track 2 Data	Checksum of Data	DLE
STX	Track 3 Data	Checksum of Data	ETX

Note : *STX: Start Text (02)hex
ETX: End Text (03)hex
DLE: Data Link Escape (10)hex
Data = <SS><Card Data><ES>
Please check <SS>and<ES>in Normal Output Data
Format section

6. INSTALLATION STEPS

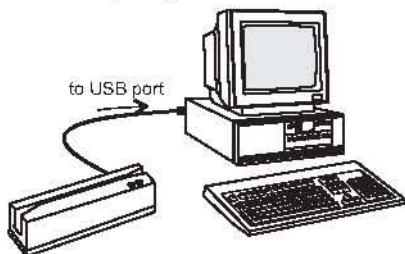
1. For Keyboard Wedge Reader

- Step 1 Turn the computer system power off, and unplug the keyboard cable.
- Step 2 Connect the keyboard cable into the short-cable of the Reader.
- Step 3 Connect the long-cable of the Reader into the keyboard input socket on the computer system.
- Step 4 Turn the computer system power on, then you can hear a beep sound for confirming the reader's self-test, and Green LED will be lit to indicate that the Reader is ready for reading.



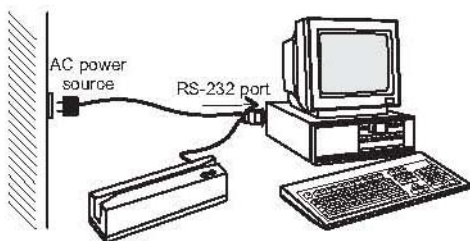
2. For USB Reader

- Step 1 To make sure the Windows USB utility is available in your computer.
- Step 2 Connect the MSR's USB cable to the USB port on the computer, the Green LED will be lit to indicate the MSR is ready for operation.



3. For RS-232 Serial Reader

- Step 1 Turn the computer system power off.
- Step 2 Connect the Reader's cable to the RS-232 port on the computer system.
- Step 3 Connect the DC power adapter to the power-jack on the cable-end of the Reader, then plug the adapter into AC socket. You can hear a beep sound for confirming the Reader's self-test, and Green LED will be lit to indicate that the Reader is ready for reading.
- Step 4 Turn the system power on, and run your application software, include one driver utility, to get the data from the serial port which connects with the Reader.



• **5V-DC power-jack (on the RS-232 cable-end):**



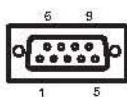
To be connected with 5V-DC power adapter.
(Inner pin is positive)

Note: 9V-DC power input model should request to supplier.

• **RS-232 connector:**

D-Sub 9 pin Female

Pin	2	3	5	9
Wire	Red	White	Yellow	Black
Function	TX		GND	VCC



7. NORMAL OUTPUT DATA FORMAT

1. **Single Track:**

SS	Card Data	ES	←
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2. **Dual Track:**

SS	Track 1 or 3 Data	ES	
SS	Track 2 Data	ES	←

3. **Triple Track:**

SS	Track 1 Data	ES	
SS	Track 2 Data	ES	
SS	Track 3 Data	ES	←

Notes: 1) SS (Start Sentinel):

% for Track 1

; for Track 2 or 3

2) ES(End Sentinel):

? for Track 1, 2 or 3

3) ← (Carriage Return):

Carriage Return can be set by Left-SW-7

4) Selectable setting for SS, ES and ←