

MINIMAGTM Magnetic Stripe Reader

USB/RS-232 Interface Quickstart Manual



IDTECH[®]
Value through Innovation

ID TECH
10721 Walker Street
Cypress, California 90630
(714) 761-6368
www.id-tech.net

80030501-013

Rev. A R02/05

#461

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DATA EDITING

The MiniMag has a data editing feature incorporated into its firmware. This feature allows the data read from the magnetic stripe to be sent to the host in the exact format expected by the host software, eliminating the need for modifications to the application software.

Full data editing instructions are contained in the ID TECH MiniMag RS-232 User's Manual (P/N: 80030501-004). In addition, USB/RS-232 drivers (P/N: 80035802-002) are necessary. The manual and the drivers are available without cost on the ID TECH website (www.id-tech.net), or by returning the coupon below:

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10721 Walker Street
Cypress, CA 90630

Please send a copy of the following:
MiniMag RS-232 User's Manual (P/N: 80030501-004)
MiniMag USB/RS-232 Drivers (P/N: 80035802-002)

Name: _____

Company: _____

Address: _____

City: _____

State: _____

Zip: _____

There is no charge for a single copy of each. There will be a charge of \$10.00 for each additional set.

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TROUBLESHOOTING

The MiniMag reader is easy to install and use. Most problems encountered can be attributed to:

- Incorrect Interface Cabling
- Incorrect Configuration Setup
- Bad Magnetic Stripe Quality

GENERAL PROCEDURES

The troubleshooting process can be simplified by following these simple diagnostic procedures.

1. The unit should emit one long beep when power is first applied. If it does not, then the unit is not receiving power.
2. Once it has been confirmed that the unit is correctly powered, try swiping a credit card. The LED will go off while decoding, then light green to indicate a “good read,” or red to indicate a “bad read.”
3. Once the unit has indicated a “good read,” then proceed to check the interface cabling connections.

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AGENCY APPROVED

Specifications for subpart B of part 15 of FCC rule for a Class A computing device.

LIMITED WARRANTY

ID TECH warrants this product to be in good working order for a period of two years from the date of purchase. If this product is not in good working order as warranted above, or should this product fail to be in good working order at any time during the warranty period, repair or replacement shall be provided by ID TECH.

This warranty does not cover incidental or consequential damages incurred by consumer misuse, or modification of said product. For limited warranty service during the warranty period, please contact ID TECH to obtain an RMA number and instructions for returning the product.

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SPECIFICATIONS

Power Requirements:	Low-power CMOS power supplied by the host computer via the USB port.
Operating Current:	About 70mA for decoded magnetic stripe (three tracks).
Temperature:	32° F to 131° F (0° C to 55° C).
Storage Temperature:	-22° F to 158° F (-30° C to 70° C).
Relative Humidity:	Maximum 95% non-condensing.
Magnetic Head Life:	1,000,000 passes minimum.
Rail and Cover Life:	1,000,000 passes minimum.
Magnetic Stripe Recording Method:	Two-frequency coherent phase (F2F) compatible with ISO 7811, ANSI, AAMVA, and California DMV.
Maximum Number of Tracks:	3 tracks.
Read Rate:	Less than one error in 100,000 bits on cards conforming to ISO 7811 1-5 (not induced by operator error).
Swipe Speed:	3 to 60 inches per second, bidirectional.
Card Thickness:	.01 to .045 inches.
Slot Width:	.050 inches.
Dimensions:	Length: 3.54 inches (90mm). Width: 1.34 inches (34mm). Height: 1.10 inches (28mm).
Weight:	4.6 oz.
Cable Length:	6-foot straight cable.

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where:	SS1(start sentinel track 1) = % SS2(start sentinel track 2) = ; SS3(start sentinel track 3) = ; for ISO, ! for CDL, % for AAMVA ES(end sentinel all tracks) = ? CR = Carriage Return
Baud Rate:	9600 bps
Data Bits:	8
Parity:	None
Handshaking:	x-On/x-Off
Stop Bits(s):	1
x-On:	DC1 (Hex 11)
x-Off:	DC3 (Hex 13)

DEFINITIONS

Start or End Sentinel: Characters in encoding format which come before the first data character (start) and after the last data character (end), indicating the beginning and end, respectively, of data.

Track Separator: A designated character which separates data tracks.

Terminator: A designated character which comes at the end of the last track of data, to separate card reads.

LRC: Check character, following end sentinel.

CDL: Old California Drivers License format.

**Note: The <CR> commands shown above for Tracks 1 & 2 and Tracks 2 & 3 denote the default character for this position, the Track Separator position. The <CRLF> command shown for Track 3 denotes the default character for this position, the Terminator position.*

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OPERATION

The MiniMag magnetic stripe reader is easy to operate. Just follow these simple steps:

1. Make sure the reader is properly cabled and is receiving sufficient power. (See Troubleshooting if there is a cabling or power problem.)
2. To read a card, slide the card, in either direction, through the reader slot, with the magnetic stripe facing the magnetic head (LED side).
3. While swiping the card through the reader, the LED will go off.
4. Once the entire magnetic stripe has been read, the LED indicator will light up as green to signal a “good read.” If a good read is not obtained, the LED indicator will light up as red.
5. A beep will also sound to indicate a good read on each track. If all three tracks have been read successfully, the reader will beep three times.

DEFAULT SETTINGS TABLE

The MiniMag reader is shipped from the factory with the following default settings already programmed:

Magnetic Track Basic Data Format

Track 1: <SS1><T₁ Data><ES><CR>*

Track 2: <SS2><T₂ Data><ES><CR>*

Track 3: <SS3><T₃ Data><ES><CRLF>*

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DESCRIPTION

The MiniMag™ compact magnetic stripe reader can read 1, 2, or 3 tracks of magnetic stripe information. In addition, it has full data editing capabilities.

When connected to the host computer via the USB input port, the MiniMag is completely compatible with the host’s software. The decoded data appears to the host as if it were entered manually by the operator through the keyboard.

This unit is fully programmable through the keyboard using the USB/RS-232 drivers available from the ID TECH website. The data can be formatted with preamble/postamble and terminator characters to match the format expected by the host.

Power, when the reader is connected via the USB input port, is obtained from the host. No separate power supply is required.

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HOST CONNECTIONS

The MiniMag reader is connected to the host computer via a USB input port. It converts serial RS-232 output to USB (RS-232 buffer) input. It is fully functional on a USB-equipped IBM PC or PC-compatible running Windows 98, Me, 2000, or XP, or on an Apple computer running Mac OS 8.1 and above.

Since USB devices are designed to be “plug and play,” the host will search for a driver when the reader is first connected. If one cannot be found, it will prompt you to make a selection. The wizard will require that you install two drivers; both are available from the ID TECH website at www.id-tech.net.

Go to START → SETTINGS → CONTROL PANEL → SYSTEM → DEVICE MANAGER → PORTS (COM & LPT). There should be one item: USB SERIAL PORT (COMX). The “X” can be a number between 1 and 127. You may change the port to a number your software can support (like COM3) by highlighting USB SERIAL PORT (COMX) and clicking on PROPERTIES. Click on PORT SETTINGS, then ADVANCED, then COM PORT NUMBER and use the down arrow to scroll to the number you desire. Close out by clicking OK in all the windows.

The two ID TECH drivers will appear to the system as an extra Virtual Com Port. Application software accesses the USB device in the same way it would access a standard Windows Com Port, using the Windows VCOMM API calls or by using a Com Port Library. Old DOS-based applications might need to be changed in order to access the Virtual Com Port.

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Open HyperTerminal or any similar communications program. (Remember to have the properties set to the proper COM PORT NUMBER and all the communication parameters set to match those of the reader.) Input data will display on the HyperTerminal screen, and output data will be sent to the reader.

CONFIGURATION

The MiniMag can be configured to your application. Configuration settings enable the reader to work with the host system. These settings are programmed into the reader through the keyboard, using the ID TECH USB/RS-232 drivers. Once programmed, these configuration settings are stored in the reader’s non-volatile memory (so they will not be affected by the cycling of power).

The MiniMag is shipped from the factory with the default settings already programmed. For a table of default settings, see the Default Settings Table. Instructions necessary to program the unit with custom settings are contained in the ID TECH MiniMag RS-232 User’s Manual (P/N: 80030501-004). This manual is available via the company’s Internet website.

Note: If you want to send setup commands to the MiniMag, you must make sure the communication parameters are always 9600, None, 8, 1. Before you make any settings, or try to get data to the host, check the connection cable, port, power and communication parameters.

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