

NEW MINIMAG™ Magnetic Stripe Reader

RS-232 INTERFACE

Quickstart Manual



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80066507-001

Rev. C R04/06

#417

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

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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><Enter>*

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)

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> characters (shown above) between tracks 1 & 2 and 2 & 3 denote the default character for this position, the Track Separator position. The <CR> shown for track 3 denotes the default character for this position, the Terminator position.*

RUNNING THE UTILITY

The reader is shipped from the factory with the “default configuration” programmed. The default configuration has the least restrictive settings, thus making it able to read all data of a standard encoded magnetic stripe card. See the default settings table for details.

The configuration software can be downloaded from the ID TECH website. From the website, download the Configuration Utility ZIP file into a temporary file folder on your local hard drive. Double click the downloaded self extracting file and follow the screen prompts to expand the Zip file and run the SETUP.EXE application.

The install wizard creates two new folders on the C: Drive. The new folder “IDTECH” and a sub-folder “MagSwipe Configuration Utility” are created in the “Program Files” folder.

At the finish of the installation process, an “MagSwipe Configuration Utility” menu is installed in the programs folder of the Start menu. Connect the reader to the host computer and ensure it is getting power. Point to the “MagSwipe Configuration Utility” menu and click on the IDT icon.

The utility will start at the Home Page with a menu on the left border. Point and click on the menu items as needed. For information on using the utility, point and click the HELP menu selection.

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SPECIFICATIONS

Power Requirements:	5 VDC +/-10% (50mV ripple maximum). Ground 0 VDC (GND).Chassis ground connected to GND and magnetic head case.
Operating Current:	About 40mA for decoded magnetic stripe (three tracks).
External Power Supply:	5 VDC/350mA
Operating 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.
Swipe Speed:	3 to 60 inches per second, bidirectional.
Card Thickness:	.015 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.

MAGSWIPE™ CONFIGURATION UTILITY

The magnetically encoded data on the magnetic stripe can be decoded (read) by magnetic card readers. The stripe data has a fixed format defined by the ISO standards. The ISO fixed format is not always convenient or useful for card reading applications. The solution is for the card reader to decode the stripe data and then arrange the data into useful format and content. The reader-formatted data is transmitted from an intelligent communication interface.

The MiniMag is an intelligent magnetic stripe reader, which provides extensive formatting capability. In addition, characters can be added to the formatted data. To support the formatting capability, ID TECH provides an easy to use Configuration Utility software application. New file saving capabilities allow configurations to be saved and used again without having to repeat the full configuration process with each reader.

The Configuration Utility supports all reader interfaces. The operating systems supported are Windows 98, Windows 2000, and Windows XP.

TROUBLE SHOTTING PROCEDURES

The troubleshooting process can be simplified by reviewing these reader operations.

The unit should emit one long beep when power is first applied. If it does not, then the unit is not receiving power. Check the power supply connections.

Once it has been confirmed that the unit is correctly powered, swipe 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.”

Once the unit has indicated a “good read,” then proceed to check the interface configuration.

Installation of the reader is generally trouble free, but there are some considerations if problems occur.

Does the baud rate , data bits number & parity match between reader and host?

Is the host set-up for card reader operation - Is the card reader application running?

Does the reader configuration match the host application requirements?

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.

The unit is fully programmable. The data can be formatted with preamble/postamble and terminator characters to match the format expected by the host.

The MiniMag can be connected to a host computer via an RS-232 input port. When the reader is connected as an RS-232 device, a separate power supply must be used.

HOST CONNECTIONS

The MiniMag reader is connected to the host computer's RS-232 communications port. The cable has a DB-9 connector at one end, and is connected to the reader at the other end. (An adapter can be used to connect to a DB-25 RS-232 port.)

Data is transmitted to the host in an ASCII data format. The reader's output can be formatted with terminating characters and special preamble and/or postamble character strings to match the data format expected by the application.

The terminal must be configured to accept the data and to perform the appropriate processing. Care must be taken to ensure that the RS-232 parameters (baud rate, data bits, Start/Stop characters, parity, and handshaking method) match those expected by the terminal.

Use the MagSwipe Configuration Utility Application to program the reader, and a communication program (such as Procomm or Hyperterminal) to display the data.

There is insufficient power available on a standard RS-232 serial port to power the MiniMag, so an external wall-mounted power module must be used. Connect the power cable from this unit to the power receptacle located on the DB-9 connector. Care must be taken to ensure the power module operates at less than +5 volts.

CONFIGURATION

The MiniMag must be appropriately configured to your application. Configuration settings enable the reader to work with the host system. These settings are programmed into the reader using the Configuration Utility Program. Once programmed, these configuration settings are stored in the reader's non-volatile memory.

The MiniMag is shipped from the factory with the default settings already programmed. For a table of the default settings, see the Default Settings Table. Use the configuration utility to change reader configuration. See Page 6.

OPERATION

The MiniMag magnetic stripe reader is easy to operate. Just follow these 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.
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 for 1/2 second.
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.