

NEW MINIMAG™ Magnetic Stripe Reader

USB/HID INTERFACE

Quickstart Manual



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HID REPORT

Magstripe data is provided as a USB HID report. The ID TECH data report structure has the following format:

ID TECH Reader Data Structure

<u>Offset</u>	<u>Usage Name</u>
0	T1 decode status
1	T2 decode status
2	T3 decode status
3	T1 data length
4	T2 data length
5	T3 data length
6	Card encode type
7,8	Total Output Length
9-508	Output Data

This approach allows the reader to support the ID TECH data editing features like pre-amble, post-amble, etc. The report is always 500 bytes; the “Total Output Length” field indicates the valid data length. Other data report formats are allowed for emulations of other reader brands. See the HID Demo Software Guide for additional information.

DEFAULT SETTINGS TABLE

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

Magnetic Track Basic Data Format in HID Report

Track 1: <SS1><T₁ Data><ES><CR>*

Track 2: <SS2><T₂ Data><ES><CR>*

Track 3: <SS3><T₃ Data><ES><CR>*

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) = ?

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.

CR: Carriage Return.

**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> characters shown for track 3 denotes the default character for this position, the Terminator position.*

Pre-amble (if any) -- before T1.

Post-amble (if any) -- after Terminator.

AGENCY APPROVED

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

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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.

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 “MagSwipe 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 utility supports all reader interfaces. The operating systems supported are Windows 98, Windows 2000, and Windows XP.

SPECIFICATIONS

Power Requirements:	Power supplied by the host computer via the USB port.
Operating Current:	40 mA maximum for decoded magnetic stripe (3 tracks) with USB/HID interface.
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 (35mm). Height: 1.10 inches (28mm).
Weight:	4.6 oz.
Cable Length:	6-foot straight cable.

DESCRIPTION

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

The MiniMag reader is connected to a host computer USB communications port. The cable has a standard USB plug for connection to the host and is permanently attached to the reader. The MiniMag can be configured for compatibility with the host's software. See the Configuration Utility section. The reader behaves like a Vendor defined Human Interface Device (HID) class device, Version 2.0 and is USB Version 2.0 compatible.

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

Power is obtained from the host. No separate power supply is required.

HOST CONNECTIONS & DRIVERS

The MiniMag reader is connected to the host computer via a USB input port. Since USB devices are designed to be "plug and play," the computer will search for a Human Interface Device (HID) driver when the MiniMag is first connected. If one cannot be found, the computer will prompt you to make a selection. The Windows CD may be needed to complete the installation.

The magnetic stripe data is transmitted and is available to the host as standard windows API calls through the Microsoft USB HID Driver. Software applications are conveniently developed using this standard Microsoft driver interface. The reader USB operation is full speed and may be too fast for operation with the host. A polling interval value can be changed to slow the data transfer rate. The USB Specification and other information can be downloaded free from the USB organization website (www.usb.org).

If the host computer's application software is expecting the magstripe data in a particular order and format, the reader's output can be configured to output the data stream by re-arranging data blocks, adding terminating characters, and special preamble and/or postamble character strings to the decoded card data.

OPERATION

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

1. Make sure the reader is properly connected and is receiving sufficient power.
2. To read a card, slide the card, in either direction, through the reader slot, with the magnetic stripe facing the magnetic head opposite 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.