# ID TECH
## Value through Innovation

# USER MANUAL

# BT Mag

## Bluetooth Magnetic Stripe Reader

**80125501-001-53**
**4/20/2012**

# BT Mag User Manual

**Revision History**

| Rev | Date | Description of Changes | By |
|-----|------|------------------------|-----|
| 50 | 3/19/2012 | Initial release | JW |
| 51 | 4/10/2012 | Minor revision | JW |
| 52 | 4/19/2012 | Minor revision | JW |
| 53 | 4/20/2012 | Minor revision | JW |

**Table of Contents**

# 1 Introduction

The BT Mag is a handheld MagStripe reader that works with mobile devices or PCs with Bluetooth connectivity. It transfers card data via Bluetooth to POS applications in the host devices.

# 2 Applicable Documents

| | |
|---|---|
| 80125401-001 Rev.A | BT Mag Requirement Spec |
| ISO 7810 | Identification cards -- Physical characteristics |
| ISO 7811 - 1 through 6 | Identification Cards - Track 1 through 3 |
| ISO 4909 | Magnetic stripe content for track 3 |
| ISO 7812 | Identification Cards – Identification for issuers Part 1 & 2 |
| ISO 7813 | Identification Cards – Financial Transaction Cards |
| AAMVA Specifications | Drivers License Standards - Most recent available |
| 80101502-001 Rev.F | SPI Securehead manual |

# 3 Features and Benefits

- Connects to any mobile device with Bluetooth capability
- Keychain holes for convenience
- Reads up to 3 tracks of card data
- Supports TDES and AES encryption using DUKPT Key Management
- Wireless range up to 30 feet
- Battery life: 4 hours active, 8 hours standby
- Micro-USB port for battery charging

# 4   Specifications

- Interface
    - Class 2 Bluetooth
    - Can also be a standalone USB device for key injection when a Micro-B to A USB cable is connected
    - Bluetooth is disabled during key injection or DFU communication

- Magnetic stripe reader
    - Meets ISO 7811 specification
    - Supports AAMVA formats
    - Support single, dual or triple tracks card
    - Bi-directional swipe
    - TDES, & AES Encryption
    - Media Densities: 75 bpi through 210 bpi on all tracks, F2F Encoding Format
    - Media Speed: 5 to 45 IPS
    - Low Amplitude reading: >30 % @210 bpi, >40% @75 bpi

- Batteries
    - Rechargeable battery
    - Battery life:
        - Up to 8 hours in standby mode
        - Up to 4 hours in active mode
        - Active mode is defined as 10+ swipes per hour
    - Charging through MicroUSB interface external charger
    - The unit is functional if Bluetooth connection is on while charging

- LED
    - One Dual-color Led to indicate Bluetooth/Charging status
        - blue indicates Bluetooth connection status
        - Red indicates Charging
    - Another Dual-color LED to indicate power/MSR read status
        - Red indicates bad read
        - Green on twice indicates good read
        - Green blinking indicates power on/standby

- Reliability
    - Magnetic Head Life: 300,000 passes minimum
    - Rail and Cover Life:  100,000 passes minimum
    - MTBF: 300,000 POH

- Electro-Static Discharges (ESD)
    - 6kV contact, and 12kV air discharge

- Environmental

Temperature range
  - Operating         0 to 55° C        (32 to 131° F) [non-condensing]
  - Storage           -30 to 70° C    (-22 to 158° F) [non-condensing]
  - Relative humidity: maximum 95% (non-condensing)

# 5  LED Operation

| Event | BI-COLOR | | BI-COLOR | | Description |
| --- | --- | --- | --- | --- | --- |
| | **GREEN** | **RED** | **BLUE** | **RED** | |
| Power on | Flash 3 times ON (200ms) OFF (200ms) | OFF | OFF | X | Only applied when user power on the system or USB plug in. |
| Power off | | | | | Only applied when user shutdown the system or system detect low battery signal. |
| Power Standby/Sleep | ON(30ms) OFF(4970ms) | OFF | ON(30ms) OFF(4970ms) | X | 1.The reader will enter this mode when BT not in Pairing or Connected status |
| BTM Standby/Sleep | | | | | 2. Short press the tact SW will force BT to search and build the Link again |
| MSR - Standby/Sleep | | | | | |
| Pairing | ON(30ms) OFF(4970ms) | OFF | ON(500ms) OFF(500ms) | X | After the reader is power on, that will into the pairing mode. |
| BTM Connected | | | ON(30ms) OFF(2970ms) | | This mode indicates the MSR is connected with application software and waiting to accept the card swiping |
| Charging | X | X | X | ON | N/A |
| Charging Complete | | X | | OFF | N/A |
| Low Battery | | ON(30ms) OFF(2970ms) | | X | The LED is blinking when Battery voltage is lower than 3.3V. |
| | | | | | The reader will shutdown automatically when the battery voltage is lower than 3.2V |
| MSR - good read | Flash 2 times ON(500ms) OFF(500ms) | OFF | ON(30ms) OFF(2970ms) | X | Green indicates good read |

| MSR - bad read | OFF | Flash 1 time | | | |
|---|---|---|---|---|---|
| | | ON(500ms) | ON(30ms) | | |
| | | OFF(500ms) | OFF(2970ms) | X | Red indicates bad read |

X: Not applicable

# 6 Outline Drawing
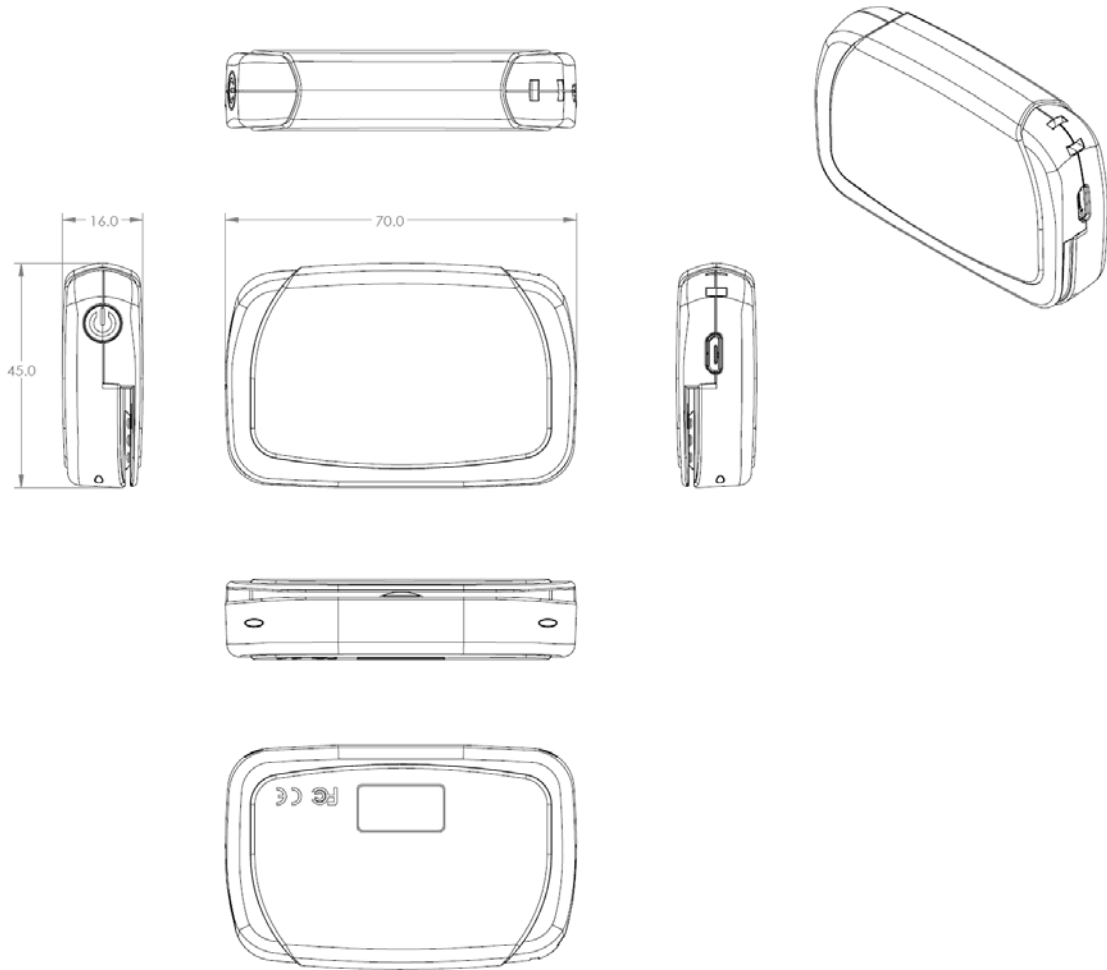
**Notice**
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.

**For P15B equipment**
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
-Reorient or relocate the receiving antenna.
-Increase the separation between the equipment and receiver.
-Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-Consult the dealer or an experienced radio/TV technician for help.

**For portable devices**
*FCC RF Radiation Exposure Statement:*
1. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
2. This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This device was tested for typical hand held operations with the device contacted directly to the human body to the sides of the device. To maintain compliance with FCC RF exposure compliance requirements, avoid direct contact to the transmitting antenna during transmitting.