

IPAD

INSTALLATION AND OPERATION MANUAL



PART NUMBER: 99875382-4

May 2014

MAGTEK[®]

REGISTERED TO ISO 9001:2008

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REVISIONS

| Rev Number | Date | Notes |
|------------|-------------------|--|
| 1.01 | 13 August 2008 | Initial Release |
| 1.02 | 20 October 2008 | Formal Release |
| 2.01 | 24 June 2009 | Updated Warranty and Agency Information, added screenshots |
| 3.01 | 4 May 2011 | Removed altitude specification; changed the storage relative humidity from 100% to 90%; clarified number of PIN and account number digits that can be entered; included Amount information |
| 4.01 | 16 September 2011 | Added summary of status codes |
| 4.02 | 15 November 2012 | Changed Battery Shelf life to 18 months |
| 4.03 | | Added stop sign emblem |
| 4.04 | 27 May 2014 | Added to mounting: The maximum thread depth should not exceed .15". The torque is 4.75 in lbs ± 20%. |



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This equipment has been tested and was found to comply with the limits for a Class A digital device pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference with radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

FCC COMPLIANCE STATEMENT

This device complies with Part 15 of the FCC Rules. Operation of this device 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.

CANADIAN DOC STATEMENT

This digital apparatus does not exceed the Class A limits for radio noise from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

CE STANDARDS

Testing for compliance with CE requirements was performed by an independent laboratory. The unit under test was found compliant with standards established for Class A devices.

UL/CSA

This product is recognized per Underwriter Laboratories and Canadian Underwriter Laboratories 1950.

RoHS STATEMENT

When ordered as RoHS compliant, this product meets the Electrical and Electronic Equipment (EEE) Reduction of Hazardous Substances (RoHS) European Directive 2002/95/EC. The marking is clearly recognizable, either as written words like "Pb-free", "lead-free", or as another clear symbol (Ⓟ).

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SECTION 1: INTRODUCTION AND SPECIFICATIONS

PRODUCT DESCRIPTION

The IPAD is a secure PIN entry device combined with MagTek's 3-Track MagneSafe™ secure card reader. IPAD provides the most comprehensive end-to-end security solution to prevent personal cardholder data breaches while bringing convenience and speed to Retail and Financial transactions.

DESIGN OBJECTIVES

Securing Personal Cardholder Data

The IPAD immediately encrypts data at the point of swipe to safeguard personal information encoded on the magnetic stripe. The encryption takes place within an encapsulated magnetic read head as the card is swiped, eliminating the chance of intercepting clear text data. The data is not in the clear for even a few milliseconds. The IPAD's data encryption scheme uses the industry standard 3DES algorithm, which offers merchants, processors, issuers, and acquirers the flexibility to manage decryption services themselves or to outsource, thereby avoiding the risk imposed by unproven, proprietary encryption algorithms.

Protection for all Points within the Payment Infrastructure

In addition to meeting the requirements established by PCI PED v2.0, the IPAD has MagnePrint®, a proven embedded security feature that authenticates the debit, credit, or gift card and its encoded track data, rendering counterfeit or cloned cards useless. So even if cardholder data is acquired for the purpose of manufacturing counterfeit cards, such cards can be detected, the transaction can be declined, and the criminal can be prosecuted. This feature provides a valuable defense to protect the merchant, the acquirer, the processor, the card issuer, and ultimately the consumer.

Security and Ease of Integration by Design

In addition to securing clear text card data, the IPAD uses a 32-bit secure processor, and has flexible data formatting and masking capabilities for compatibility with existing software and payment applications, eliminating the need for recertification.

The IPAD supports Device Authentication so the retailer, processor, and acquirer have the confidence of knowing that a rogue reader was not substituted and provides transparency to the processor, acquirer, or ISO if the device is changed. Furthermore, it supports Mutual Authentication through a secure challenge/response sequence, which eliminates both the potential of being redirected to an illegitimate site and the ability to substitute a compromised PINpad terminal.

Greater Flexibility Reduces Total Cost of Ownership

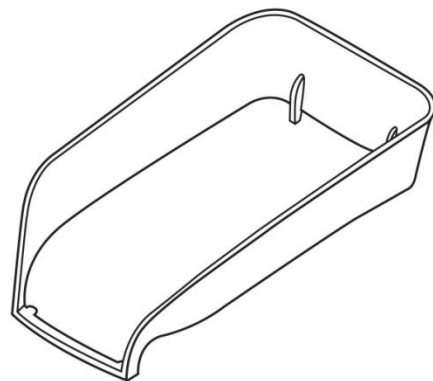
The IPAD supports secure remote key injection, eliminating the need to return the unit in the event a new key is required.

DESIGN FEATURES

- PCI PED v2.0 Certified
- 3DES Encryption
- DUKPT Key Management
- Remote Key Injection
- Card and Data Authentication
- Device Authentication
- Mutual Authentication
- Flexible Data Formats
- Flexible Data Masking
- Real-time electronic signature capture (in some models)
- USB HID Device
- USB Bus Powered
- Optional Privacy Shield
- Backlit LCD graphics



IPAD with USB Cable



Privacy Shield (optional)

Figure 1-1. IPAD with Optional Privacy Shield

MAJOR COMPONENTS

The major components of the IPAD are shown in Figures 1-2 and 1-3.

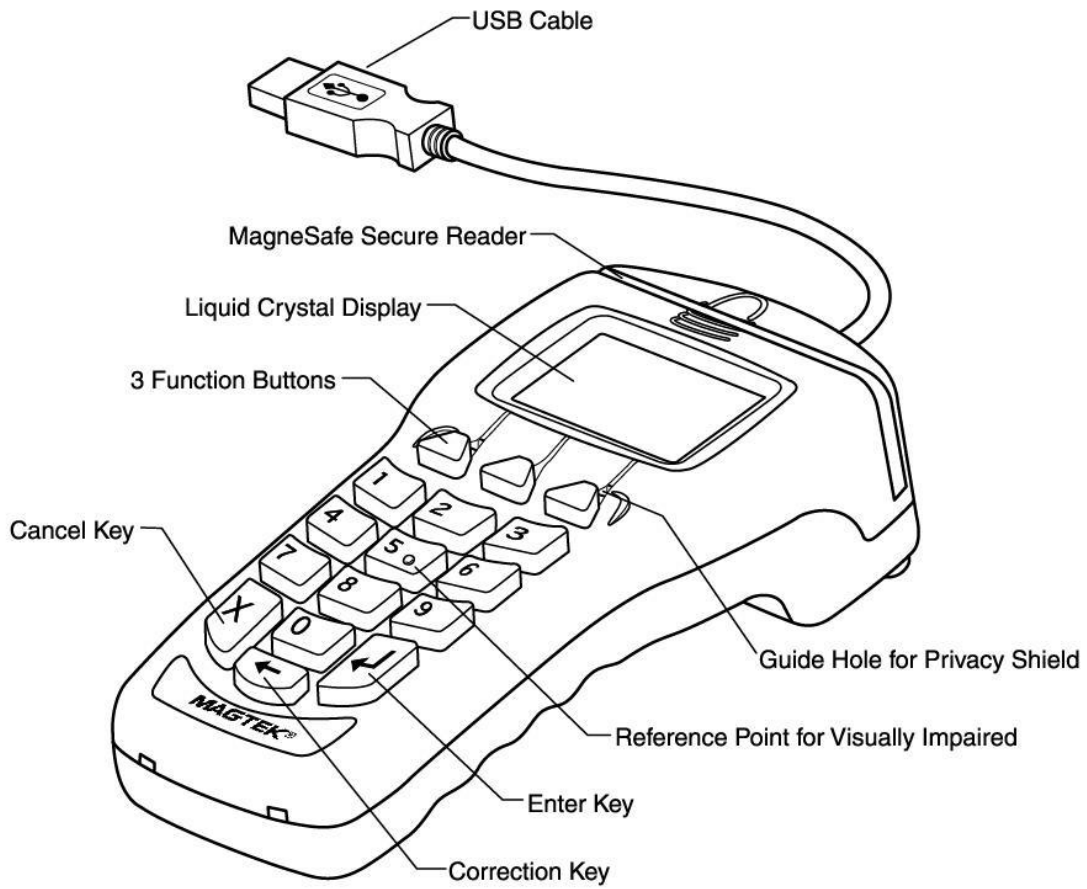


Figure 1-2. Major Components (front)

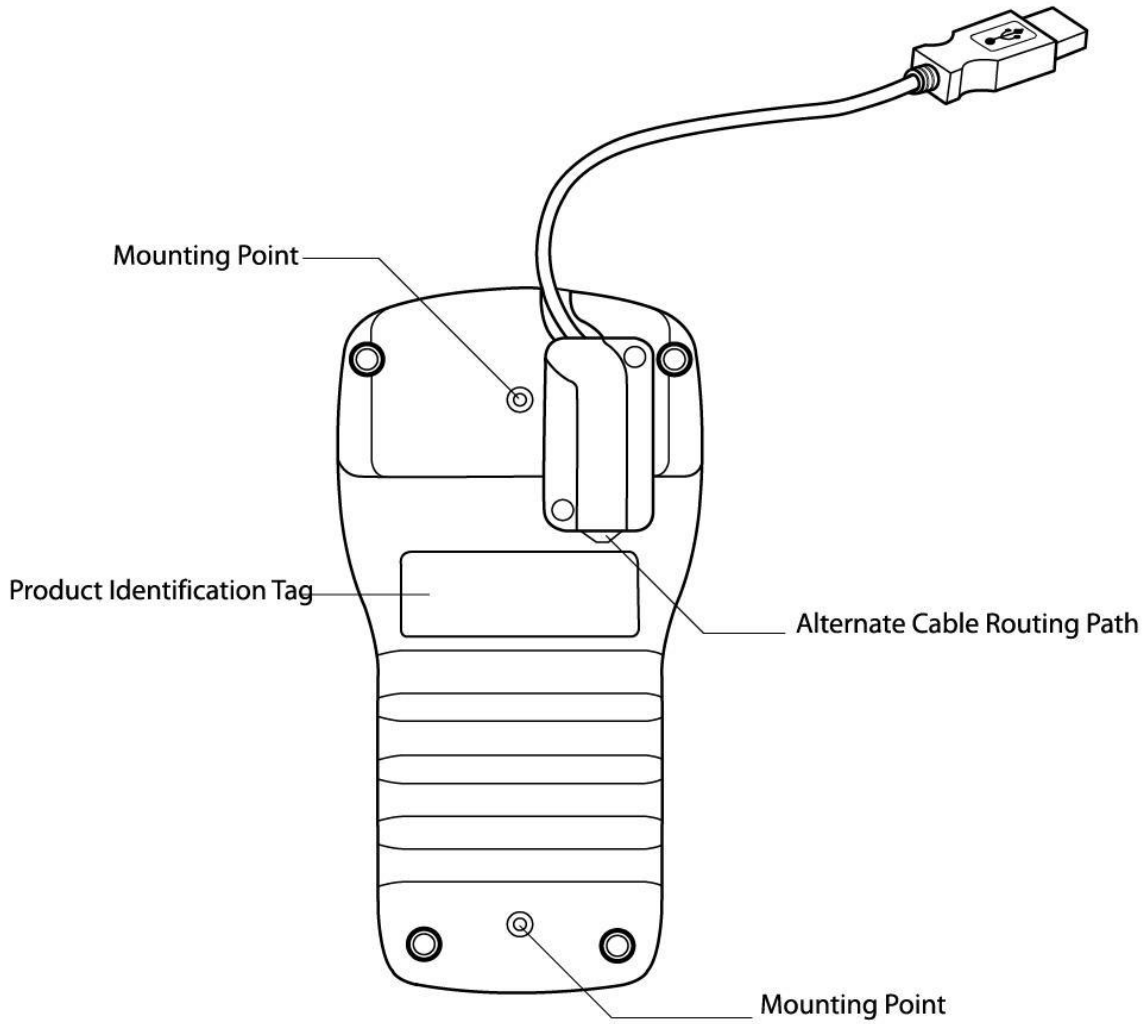


Figure 1-3. Major Components (back)

SPECIFICATIONS

| | |
|----------------------|---------------------------------------|
| Electrical | |
| Power Input: | USB Bus Powered |
| Voltage: | 5VDC |
| Current: | 100ma (500ma maximum) |
| Interfaces: | USB 2.0 (USB 1.1 compatible) |
| Display Type: | Backlit, liquid crystal display (LCD) |
| Display Resolution: | 128 x 64 dpi |
| Flash Memory: | 256KB |
| Internal RAM memory: | 128KB |
| Battery type: | Lithium |

| | |
|--------------------------|---|
| Mechanical | |
| Dimensions (L x W x H): | 7.5in x 3.5in x 1.5in (190.5mm x 88.9mm x 38.1mm) |
| Weight: | 1 lb |
| Keypad: | 16-key, includes 3 soft function keys associated with LCD |
| Cable Length (standard): | 6 ft (1.8 m) |
| Card Reader: | 3 track encrypting IntelliHead reader with MagnePrint |
| Connector Type: | RJ12 (or RJ25) modular jack |

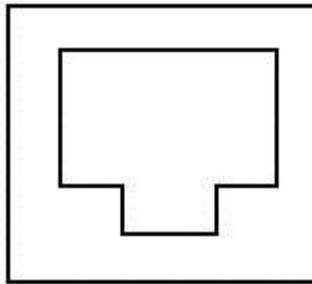
| | |
|----------------------|------------------------------------|
| Environmental | |
| Temperature: | |
| Operating: | 32 °F to 113 °F (0 °C to 45 °C) |
| Storage: | 14 °F to 140 °F (-10 °C to 60 °C) |
| Relative Humidity: | |
| Operating: | 10% to 90% non-condensing at 23 °C |
| Storage: | Up to 90% non-condensing |

| | |
|-----------------------|--|
| Reliability | |
| Expected Life (unit): | 1,000,000 card swipes (equivalent to 5 years of operation) |
| Battery Life: | 18 month shelf life |

PINOUT ON RJ-12 (OR RJ-25) 6-PIN CONNECTOR

| RJ12 or RJ25 Connector | Signal |
|------------------------|--------|
| 1 | VBUS |
| 2 | USB_DM |
| 3 | USB_DP |
| 4 | GND |
| 5 | NC |
| 6 | CGND |

Pin 1



RJ-12 6 pin

Figure 1-4. RJ12 (or RJ25) 6-Pin Connector

SECTION 2: SYSTEM REQUIREMENTS & DEVICE FEATURES

SYSTEM REQUIREMENTS

- Windows XP or later (32-bit or 64-bit)
- Microsoft .NET Framework version 2.0 (Not required but suggested)
- USB port

Upon installation, Windows will automatically recognize and install the USB drivers for the device.

DEVICE FEATURES

Physical and Electronic Security

The IPAD enclosure and its associated electronics have been designed to form a Tamper Resistant Security Module (TRSM). The covers are securely attached and incorporate sensing circuits to detect if any attempt is made to open the unit. Internal spaces within the IPAD have been minimized to reduce the possibility of unauthorized modifications.

In addition, any attempt to penetrate or modify the IPAD electronically will cause the unit to permanently erase its stored encryption keys, after which the IPAD will cease to function.

Sleep Mode

When the Windows operating system shuts down or is suspended the IPAD will enter into a “sleep mode”.

Liquid Crystal Display

The Liquid Crystal Display (LCD) is a monochrome graphics display capable of displaying static or animated messages.

Function Buttons (Soft Keys)

The three function buttons or “soft keys” are located below the LCD screen. These buttons are programmable for use with display-based prompts.

10-Digit Numeric Pad

During normal operation the numeric keypad is for PIN entries only. An audio tone will provide feedback when selecting or entering the card PIN number. There are three additional keys that may be used during a transaction: an ENTER button (green), a CLEAR button (yellow), and a CANCEL button (red).

Card Reading

The IPAD contains a MagneSafe card reader that encrypts card data at the point of swipe to protect the cardholder's personal information. The reader incorporates MagTek's 3-track encrypting IntelliHead, a magnetic read head which has encapsulated and securely potted electronics that reads, decodes, and encrypts card data within the head. This technology secures the magnetic stripe data at the earliest point in the transaction chain—the initial swipe.

In addition, as a card is swiped through the reader, it can be authenticated immediately, either by Magensa.net or by another system, to determine whether the card is counterfeit or has been altered.

The card reader is capable of reading any ISO or AAMVA encoded magnetic stripe data.

SECTION 3: INSTALLATION

HARDWARE INSTALLATION

To connect the IPAD to a computer, connect its USB cable to the USB port on the computer as shown in Figure 3-1. Note: the standard USB cable P/N 30019317 is six feet long.

Warning

Connecting or disconnecting the USB cable from the back side of the IPAD when the computer is ON may clear the encryption keys.

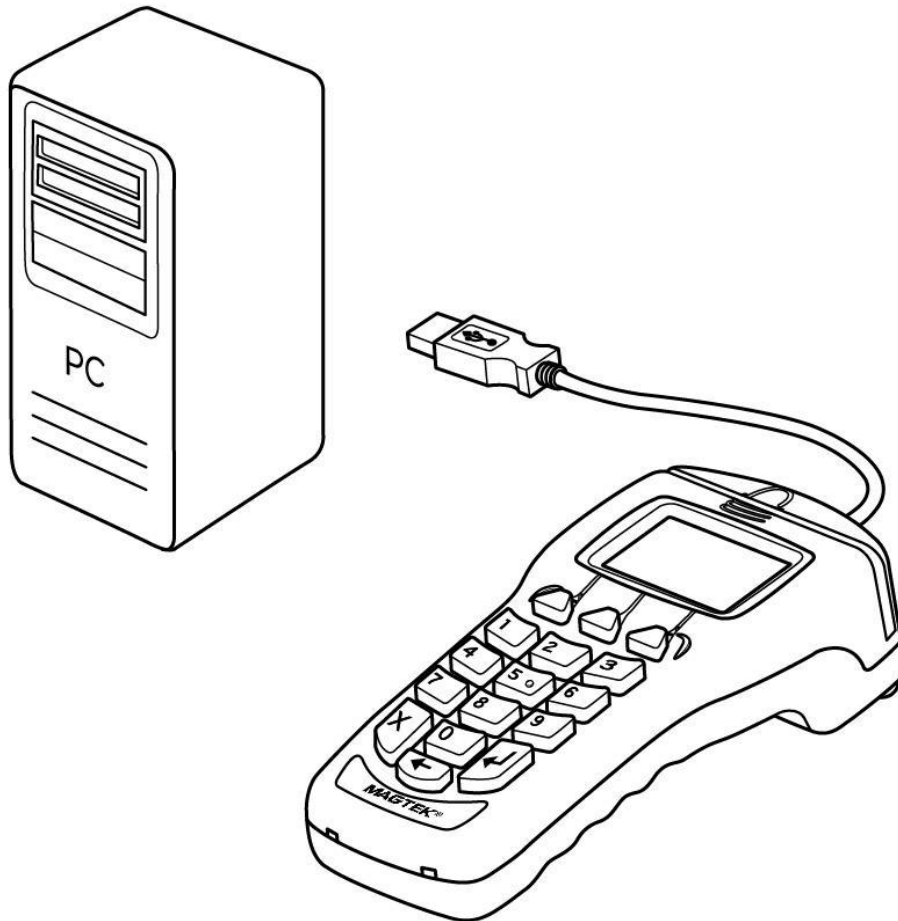


Figure 3-1. USB Interface

PRIVACY SHIELD INSTALLATION

To install the Privacy Shield shown in Figure 1-1, follow the steps below.

1. Place the inserts of the curved side of the Privacy Shield into the opening located on the front surface of the IPAD as shown in Figure 3-2.
2. Align the two remaining tabs of the Privacy Shield with the Guide Holes on top of the IPAD and press downward.



Figure 3-2. Installing the Privacy Shield

PRIVACY SHIELD REMOVAL

To remove the Privacy Shield shown in Figure 1-1, follow the steps below.

1. Grasp the Privacy Shield as shown in Figure 3-3 and slowly lift the edge closest to the LCD.
2. When the top guide pins are free of the IPAD surface as in Figure 3-2, lift the Privacy Shield away from the IPAD at a forty-five degree angle.

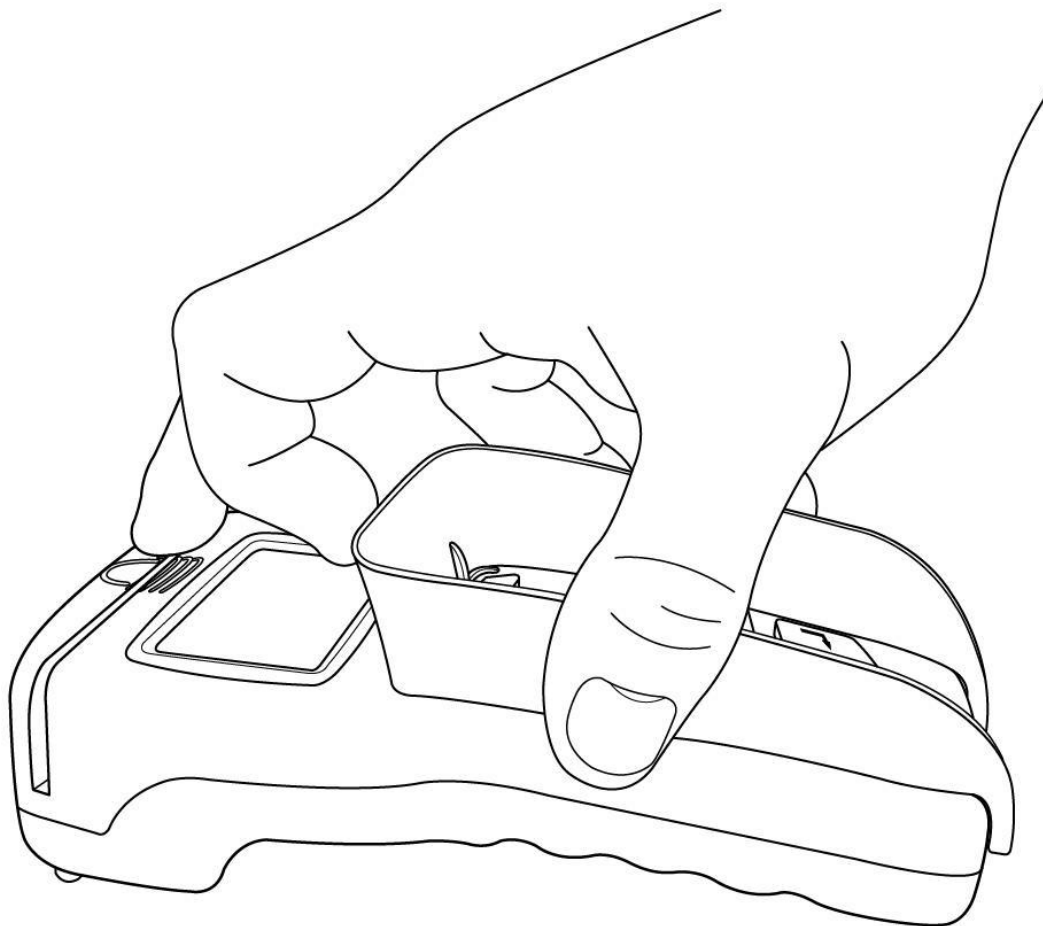
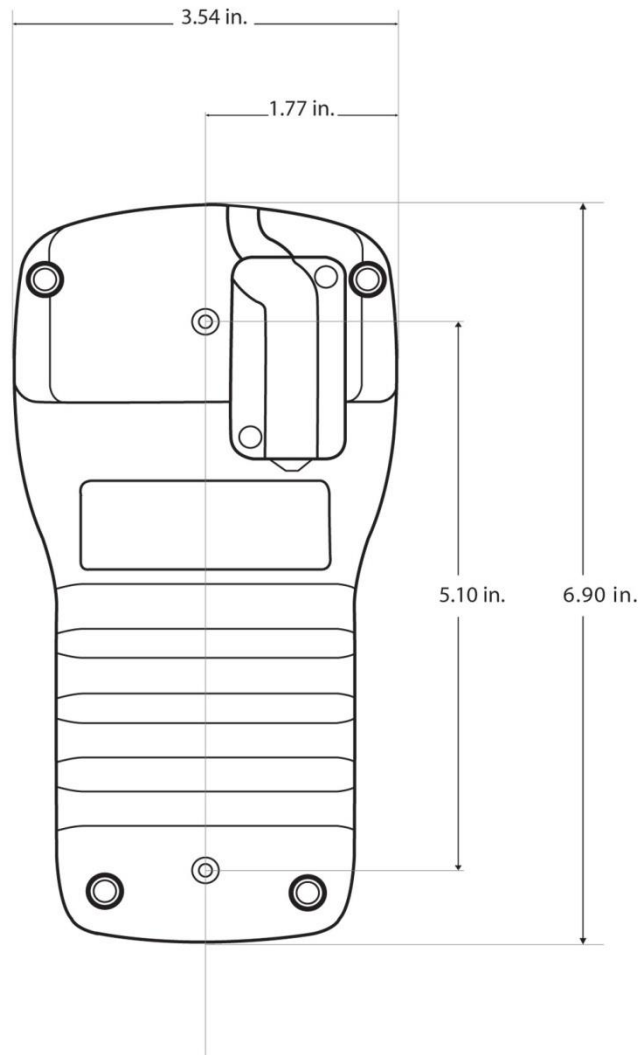


Figure 3-3. Removing the Privacy Shield

MOUNTING DIMENSIONS

The overall dimensions of the unit and the mounting hole locations are shown in Figure 3-4. This drawing is not to scale and dimensions are given in inches. In addition, mounting the IPAD to a surface will require size # 4-40 screws. The maximum thread depth should not exceed 0.15". The torque is 4.75 in lbs \pm 20%.



Notes: All dimensions are XX= +/- 0.02 in inches.

Figure 3-4. Mounting Dimensions and Cable Access Hole

SECTION 4: OPERATION

OVERVIEW

During normal operation, the operator will select the type of transaction from the PC application controlling the IPAD and the cardholder will enter data on the IPAD's keypad in response to prompts on its LCD. Transactions may include new accounts, teller window applications, checking, savings, mortgages, retail transactions, or any other option where there is interaction between the cardholder and the operator.

Note

Messages shown on the IPAD are customized by the application programmer; therefore, the sequence of prompts on the LCD and their contents will vary depending on the requirements of the institution and may not correspond to the example messages contained herein. Refer to appropriate personnel if there are any questions about the prompts or any part of the operation.

The IPAD will display "Welcome" on its LCD (see figure 4-1 for an example) to indicate that it is ready to enter a new transaction.



Figure 4-1. Example of Welcome Screen (Ready for a New Transaction)

Typically, the cardholder is prompted to swipe his or her card through the IPAD's MSR to initiate a transaction. If the card swipe failed to read the card data, the application may request the user to reswipe the card or may ask the user to enter the card data manually. The application may also need to prompt the user to identify the card type (e.g. Debit or Credit). If a PIN is required (e.g. for a Banking or Debit card transaction), the application will prompt the cardholder to enter his or her PIN. If your IPAD has signature capture capability, the application will prompt the user to enter his or her signature on the touch screen. For a more detailed discussion, see the sections below on Card Reading, Manual Card Entry, PIN Entry, and Signature Capture.

CARD READING

When the appropriate prompt appears (see Figure 4-2 for an example), swipe the card with the magnetic stripe down and facing toward the keypad of the IPAD as indicated in Figure 4-3 below. If the magnetic stripe data could not be read, the application may prompt the user to swipe the card again.



Figure 4-2. Example of Swipe Card Screen



Figure 4-3. Swiping a Card Through the IPAD

MANUAL CARD ENTRY

If the swiped card's magnetic stripe is damaged or unreadable, the application controlling the IPAD may prompt the cardholder to enter information from his or her card manually, as shown in the following example:

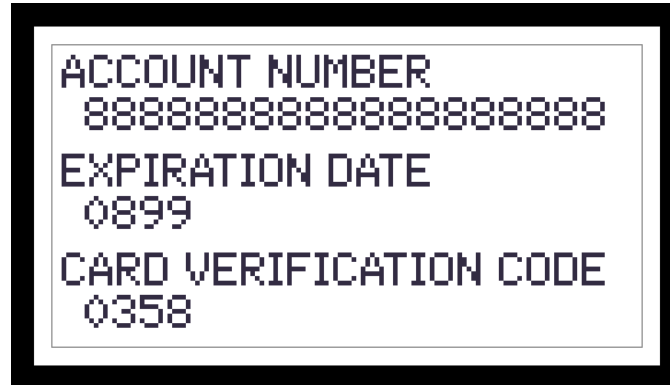


Figure 4-4. Example of User Screen to Manually Enter Card Data

The account number field has a minimum of 16 and a maximum of 19 digits. Expiration date consists of 4 digits. The card verification code can be 3-4 digits in length.

SELECTING THE CARD TYPE

In a retail setting, the transaction might require the user to select the card type (e.g. "Debit or Credit"). In the following example, the application prompts the user to press the Left function key if the card is a Credit card or to press the Right function key if the card is a Debit card:

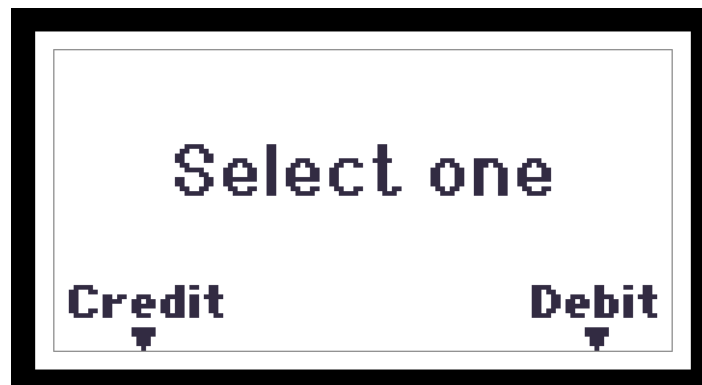


Figure 4-5. Example of User Screen to Select Card Type

PIN ENTRY

When PIN entry is required, the LCD will prompt the cardholder to enter his or her PIN (the PIN field has a minimum of 4 and a maximum of 12 digits for PIN entry) as required by the financial institution (see figure 4-6 for a sample LCD display). After the cardholder has entered a PIN, the ENTER key must be pressed.



Figure 4-6. Example of User Screen to Enter PIN

If the double PIN entry option is enabled, the LCD will prompt the cardholder to reenter his or her PIN for confirmation. The user must repeat the above process and enter the correct PIN a second time, followed by the ENTER key.

AMOUNT VERIFY

In a retail setting when the customer selects “Credit” they are then prompted to verify the amount of the transaction. The customer can select “Yes” or “No” as shown in the following example:



Figure 4-7. Example of User Screen to Verify Amount

SIGNATURE CAPTURE

If your IPAD has signature capture capability, the LCD will prompt the cardholder to enter a signature to complete the transaction (see figure 4-7 for a sample LCD display). After the cardholder has entered his or her signature, the ENTER key must be pressed.



Figure 4-8. Example of User Screen to Enter Signature

STATUS CODES

The *Device Offline* screen indicates that the device is not ready for normal operation. There is also a code in the lower right corner that can help explain the cause of the *offline* state. Codes that start with H, S, C, or K indicate a problem with the unit that will require the device to be returned to the supplier for service or replacement.

| Code Type | Description |
|-----------|--|
| A | An offline code beginning with "A" indicates the device is awaiting authentication. This is a normal condition when a unit configured to require authentication (security level 4). Authentication by the host application is required to return it to the "Welcome" screen. |
| C | An offline code beginning with "C" indicates the device is missing a certificate. It is recommended that the device should be repaired or replaced. |
| H | An offline code beginning with "H" indicates there is a hardware problem with the device. Should any H code be presented, it is recommended that the IPAD be repaired or replaced. |
| K | An offline code beginning with "K" indicates a problem with either the MSR or PIN key. If it is a new device, it is likely due to the PIN Key not being loaded. A new device showing this code should be returned to the supplier for Key loading. If the code appears after being deployed and used for a long period of time, this code would be presented if one or both DUKPT keys have been exhausted. If this is the case it is recommended that you contact the supplier for a replacement. |
| S | An offline code beginning with "S" indicates a security element failure. This code can be triggered through severe handling of the device or strong interference by a nearby EMF source. If you move the device away from any suspected EMF source and the error continues, the device should be repaired or replaced. |

SECTION 5: MAINTENANCE

CLEANING

Periodic cleaning of the IPAD's exterior may be required. To clean the outside of the IPAD, wipe down the unit with a soft, damp cloth and then wipe with a dry cloth.

Caution

To avoid damaging the read head, do not touch the inside of the card path with a wet cloth.

CALIBRATING THE TOUCH SCREEN

If you purchased an IPAD with signature capture capability, use this procedure to calibrate the touch screen. Press the Left function key, followed by "225" (corresponding to the letters "CAL"), followed by the Right function key. The LCD will display the following screen:



Figure 5-1. Calibrating the IPAD's Touch Screen

A dot will appear to the left of the instruction "Press dot with Stylus". Use the enclosed stylus to press the dot. After pressing the dot with the stylus, the dot will move to a position above the instruction. Press that dot with the stylus, after which the dot will move to the right of the instruction. Press that dot with the stylus, after which the dot will move below the instruction. Finally, press the fourth and final dot to complete the touch screen calibration.

ADJUSTING THE LCD

If it becomes necessary to adjust the LCD brightness or contrast, press the Left function key, followed by “523” (corresponding to the letters “LCD”), followed by the Right function key. The LCD will display the following screen:



Figure 5-2. Adjusting the IPAD's LCD

Once the above screen has displayed, press 1 to decrease, or 3 to increase, the brightness. Press 4 to decrease, or 6 to increase, the contrast.