# UX300 Manual Card Reader

## Installation Guide

UX300 Manual Card Reader Installation Guide
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**Comments?** Please e-mail all comments on this document to your local VeriFone Support Team.

This guide is the primary source of information for setting up and installing the UX300 Manual Card Reader unit.

**Audience**

This guide describes the card reader's features, and provides the basic information for its installation and configuration.

**Organization**

This guide is organized as follows:

Chapter 1, Device Overview. Provides an overview of the device.

Chapter 2, Setup. Explains setup and installation of the device, selecting a location, and establishing connections with other devices.

Chapter 3, Specifications. Discusses the power requirements and dimensions of the device.

Chapter 4, Maintenance and Cleaning. Explains maintenance of the device.

Chapter 5, Service and Support. Provides information on contacting your VeriFone service provider and information on how to order accessories or documentations from VeriFone.

Chapter 6, Troubleshooting Guidelines. Provides troubleshooting guidelines should you encounter a problem with unit installation and configuration.

## Related Documentation

To learn more about the card reader and controller device, refer to the following set of documents and their associated VeriFone Part Numbers (VPNs).

| | |
|---|---|
| UX1XX PIN Pad Series Certifications and Regulations Sheet | VPN - DOC159-001-EN-A |
| UX1XX PIN Pad Series Quick Installation Guide | VPN - DOC159-002-EN-A |
| UX1XX PIN Pad Series Installation Guide | VPN - DOC159-003-EN-A |
| UX1XX PIN Pad Series Reference Guide | VPN - DOC159-004-EN-A |
| UX200 Media Display Certifications and Regulations Sheet | VPN - DOC159-011-EN-A |
| UX200 Media Display Quick Installation Guide | VPN - DOC159-012-EN-A |
| UX200 Media Display Installation Guide | VPN - DOC159-013-EN-A |
| UX200 Media Display Reference Guide | VPN - DOC159-014-EN-A |
| UX300 Manual Card Reader Certifications and Regulations Sheet | VPN - DOC159-021-EN-A |
| UX300 Manual Card Reader Quick Installation Guide | VPN - DOC159-022-EN-A |
| UX300 Manual Card Reader Reference Guide | VPN - DOC159-024-EN-A |
| UX400 CTLS Reader Certifications and Regulations Guide | VPN - DOC159-031-EN-A |
| UX400 CTLS Reader Quick Installation Guide | VPN - DOC159-032-EN-A |
| UX400 CTLS Reader Installation Guide | VPN - DOC159-033-EN-A |
| UX400 CTLS Reader Reference Guide | VPN - DOC159-034-EN-A |

## Conventions and Acronyms

This section describes the conventions and acronyms used in this guide.

**Document Conventions**

Various conventions are used to help you quickly identify special formatting. Table 1 describes these conventions and provides examples of their use.

**Table 1**        **Document Conventions**

| Convention | Meaning | Example |
|---|---|---|
| Blue | Text in blue indicates terms that are cross referenced. | See Conventions and Acronyms. |
| NOTE  | The pencil icon is used to highlight important information. | If exchanging cables, use a VeriFone-approved cable. |
| CAUTION  | The caution symbol indicates possible hardware or software failure, or loss of data. | Using an incorrectly rated power supply can damage the unit or cause it to malfunction. |
| WARNING  | The lightning symbol is used as a warning when bodily injury might occur. | For safety, do not string cables or cords across a walkway. |

**Acronym Definitions**  Various acronyms are used in place of the full definition. Table 2 presents acronyms and their definitions.

**Table 2**          **Acronym Definitions**

| Acronym | Definitions |
|---------|-------------|
| COM | Communications port |
| CTLS | Contactless |
| CTS | Clear to Send |
| DDRAM | Double Data Release Random Access Memory |
| ETH | Ethernet |
| HW | Hardware |
| ISDN | Integrated Services Digital Network |
| LCD | Liquid Crystal Display |
| LED | Light Emitting Diodes |
| MDB | Multi-Drop Bus |
| MRA | Merchandise Return Authorization |
| MSR | Magnetic Stripe Card Reader |
| NAND-flash | A non-volatile storage technology |
| PCI | Payment Card Industry |
| PIN | Personal Identification Number |
| POS | Point-Of-Sale |
| PSTN | Public Switched Telephone Network |
| PTS | PIN Transaction Security |
| RF | Radio Frequency |
| RJ-45 | Registered Jack 45 modular connector |
| RS-232 | Recommended Standard 232 (EIA standard for transmitting serial data) |
| RTS | Request to Send |
| SAM | Secure Access Module |
| SMA | SubMiniature version A connector. A semi-precision coaxial RF connector. See RF. |
| SRED | Secure Reading and Exchange of Data |
| USB | Universal Serial Bus |
| VM | Vending Machine |
| WAN | Wide Area Networks |

# Device Overview

This chapter provides a brief description of VeriFone's UX300 Manual Card Reader.

The device is a card reader processing device that works with the UX1XX PIN pads, UX400 CTLS antenna unit, UX200 display, vending machines, PCs, and other similar peripheral devices. The device can also connect to VeriFone's TG-2460 printer, as well as other VeriFone PIN pad units. The reader supports transactions in a variety of environments, specifically in the outdoor and unattended markets.

**Features and Benefits**

The UX300 is VeriFone's card reader and main control unit. It creates an economical solution for merchants who are looking to expand their payment acceptance options.

**Exceptional Ease of Use**

The following features of the device simplifies transactions in various environments:

- Device driver installs USB connections automatically.
- Designed for indoor and outdoor use.
- Sleep mode.
- Various connectivity options integrated into device to conveniently suit most unattended environments.
- Connects with various VeriFone unattended POS terminals.
- Bright LEDs to display card transaction progress.

**NOTE**

The implementation of the LED color configuration varies by (or may not be present in some) regional locations.

- Buzzer for audio confirmation of card transactions.
- Conducive design supports payment transactions in a variety of payment situations, such as transportation, vending, and kiosk environments.

**Compliance**

PCI PTS 3.1, PCI-SRED, EMV Level 1 and Level 2, PayPass, PayWave, and AMEX Expresspay2.

**Device Capabilities**   The UX300 is a magnetic card reader, smart card reader, as well as a main control unit device. This unit connects to vending machines and PCs, and is intended to connect to peripheral units such as PIN pad, CTLS antenna, media display units, and external printers.

# Setup

This chapter describes the setup procedure for the card reader and controller in the following sections:

- Selecting Unit Location
- Unpacking the Shipping Carton
- Examining the Unit's Features
- Installing or Replacing SAM Cards
- Cable Connections
- Power Supply
- Mounting the Device
- Grounding the Reader
- Service Switches
- Using the Device

## Selecting Unit Location

Use the following guidelines when selecting a location for your device.

- Select a location convenient for the customer. For optimum performance of the card entry slot, place the unit at a 30° angle.
- Select a location near the device that will be connected to the reader/control unit.

**WARNING**

For safety, do not string cables or cords across a walkway.

**CAUTION**

The following sentence has to be displayed on the outside of device in which the transmitter module is installed "Contains FCC ID: 32UX300400

## Environmental Factors

The front panel of the device is dustproof and designed for any rainfall to run off of it, as well as fade-proof from sun exposure, according to IP44 ratings.

## Unpacking the Shipping Carton

Open the shipping carton and carefully inspect its contents for possible tampering or shipping damage.

*To unpack the shipping carton*

1   Remove the unit from the shipping carton. The standard package contains the unit only and does not include any other cables or accessories. Refer to Accessories and Documentation for more information about the device's related accessories.

2   Remove any protective wrap before mounting the unit.

3   Save the shipping carton and packing material for future repacking or moving of the device.

**WARNING**   Do not use a unit that appears to be damaged.

If a label or component appears damaged, please notify the shipping company and your VeriFone service provider immediately.

## Examining the Unit's Features

Before you continue the installation process, notice the features of the device (see Figure 1, Figure 2, and Figure 3).

MOUNTING STUD HOLES

LEDS

SERVICE SWITCH

SERVICE SWITCH

MAGNETIC STRIPE CARD AND SMART CARD READER

MOUNTING STUD HOLES
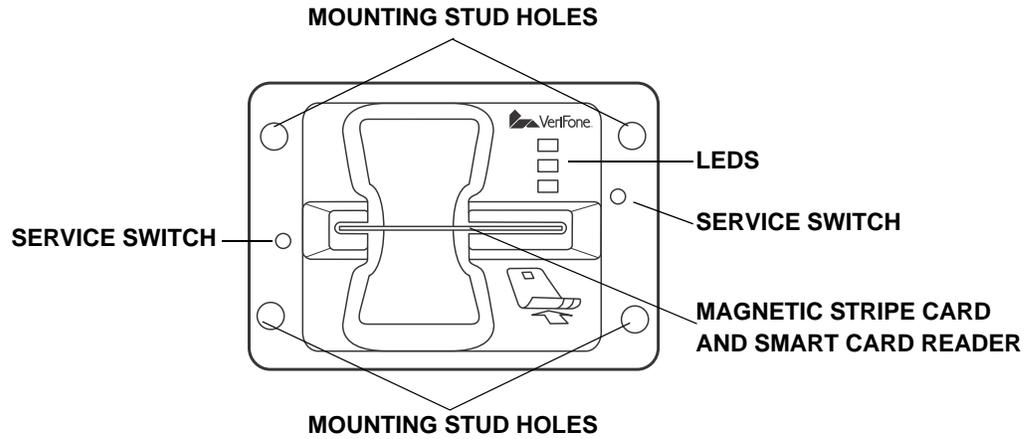
**Figure 1        Reader's Front View**

NOZZLE

MDB

COM2 AND 3

POWERED USB (HOST)

PERSISTENT BOARD

SMA

8-PIN RF

COM1        LAN        POWER

MODEL DEPENDENT BOARD

485–RJ9

485– 3-PIN

USB DEVICE (CLIENT)

POWERED USB (HOST)
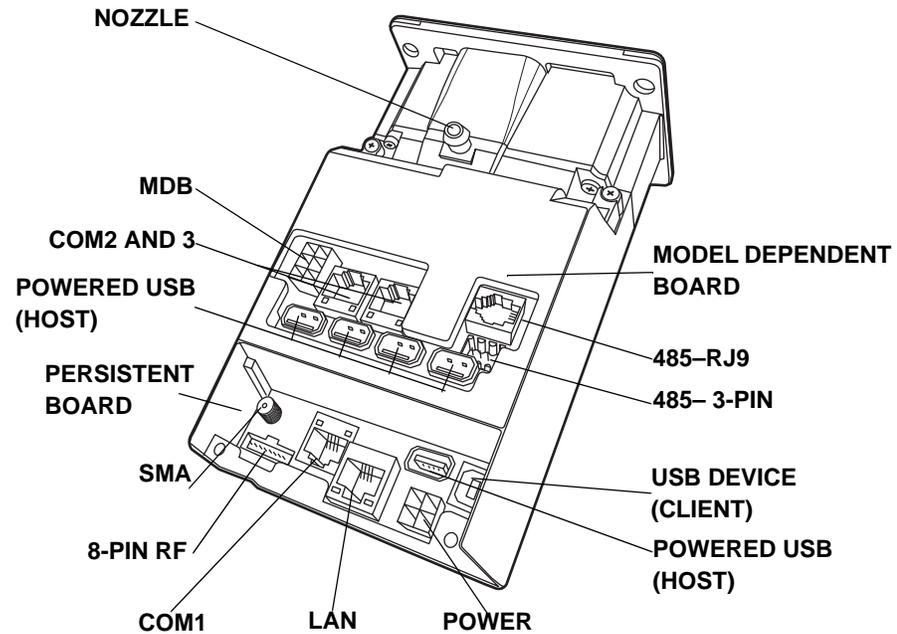
**Figure 2        Reader's Bottom View**

.
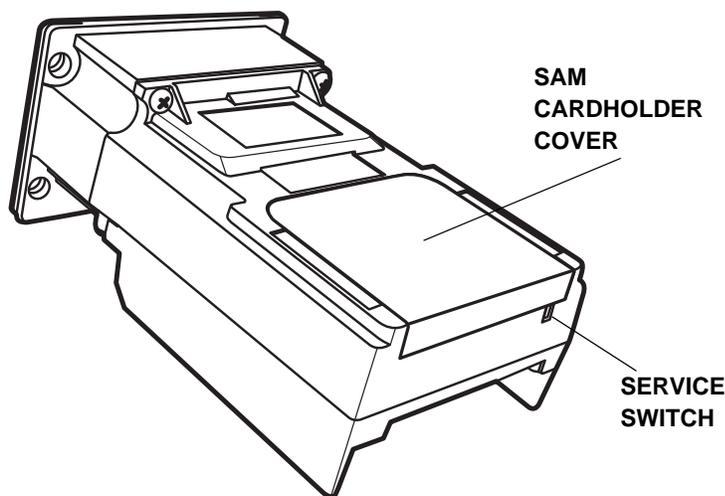


**Figure 3        Reader's Top View**

| NOTE | VeriFone ships variants of the reader for different markets. Your unit may have a different configuration and may look different from the illustration. However, the basic process described in this guide remain the same, regardless of the configuration. |
|------|-----|

**Front Functions**  The front of the reader shows the following:

- Customer-view **indicator LEDs**
- A **card reader** panel
- Service switches

**Bottom Functions**  • Nozzle for **water drainage**

- Persistent cable connection board
    - **USB Device** (Type B) (client)
    - **Powered USB** (Type A) for UX PIN pad connection (host)
    - Power
    - **LAN** with 2 LEDs
    - **COM1**
    - **8-PIN**—RJ-45 connector to UX400 CTLS antenna unit
    - **SMA** (analog RF) CTLS antenna connector to UX400
- Model dependent cable connection board
    - **MDB**
    - Additional one or two **COM** ports
    - 4 **USB** Type A
    - Additional **LAN** with 2 LEDs

- **PSTN**
- **ISDN**
- **RS-485**
- **Printer COM**
- **PSTN_RJ9**
- **485_3pin**

> **NOTE**
>
> Some or none of the model-dependent may be present on your unit and in the model depicted in Figure 2.

**Top Functions**
- SAM cardholder cover
- Additional service switch

## Installing or Replacing SAM Cards

You may need to install a security access module (SAM) card or replace the old card. The manual card reader and controller has 2 (two) SAM slots, which are located under a removable protective cover.

> **CAUTION**
>
> Observe standard precautions in handling electrostatically sensitive devices. Electrostatic discharges can damage the equipment. VeriFone recommends using a grounded anti-static wrist strap.

*To install or replace SAM cards*

1 Power down the device.

2 Disconnect the device from any external devices.

3 Gently slide the SAM cardholder cover away from the unit, off the top panel.
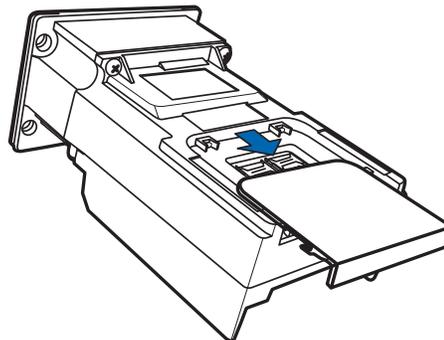
**Figure 4        Removing the SAM Cardholder Casing**

4 Open the SAM cardholder, by sliding the locking tab towards the back of the unit, to the OPEN position.

**5** Carefully slide the SAM card into the slot, by aligning the card and carefully sliding into the slot until fully inserted.

---

**NOTE** Before inserting the SAM card, position it as shown in Figure 5, with the card's gold contacts facing outward, toward the unit. The cardholder slot in the reader has a set of contacts.

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**6** Close the SAM cardholder.

**7** Slide the locking tab to the LOCK position.
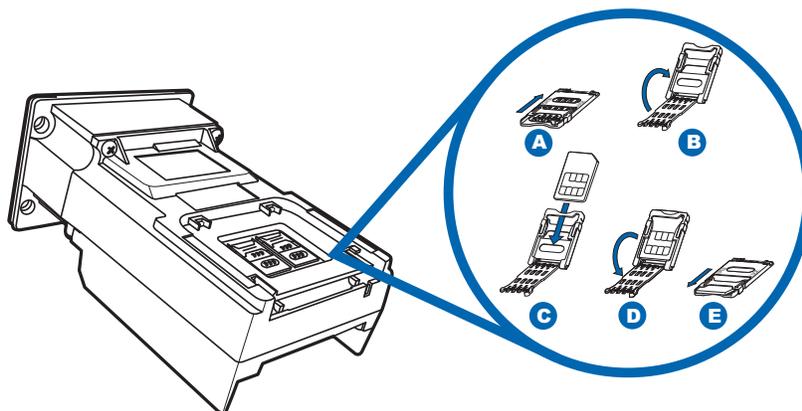


**Figure 5** **Installing SAM Card**

**8** Slide the cardholder cover back, locking it into place.
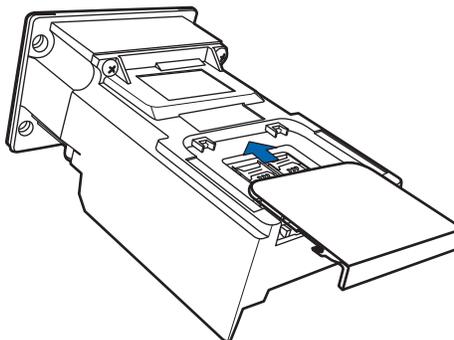


**Figure 6** **Replacing the SAM Cardholders**

**9** Reconnect the cables to the device.

**10** Power up reader for use.

## Cable Connections

The device's rear panel has various interface ports for power and communication connections to controlling and peripheral devices. This section discusses these various connections.

The UX300 card reader/control unit connects to the various UX-series units, as well as other devices.

This section discusses how to connect to each of the units:

- Connecting to a UX-Series Host Device
- Connecting to a UX-Series Peripheral Device
- Connecting to Other Optional Devices

**NOTE**

> To attain or replace connection cables, see Accessories and Documentation.

## Connecting to a UX-Series Host Device

This section discusses the connection of the UX300 device with the following host units:

- Connecting to a Vending Machine
- Connecting to a UX200 Media Display Host Unit
- Connecting to a PC

### Connecting to a Vending Machine

The UX300 unit is designed to connect to a host vending machine. Connect to a host VM, through any of one of these four connection types:

- MDB
- USB Type B
- ETH (LAN)
- COM (RS-232)

Connect the appropriate cable to the UX300 unit and the other end to the vending machine.

### Connecting to a UX200 Media Display Host Unit

The UX300 unit is designed to connect to the host UX200 media display. Connect to the display through any one of these two connection types:

- USB Type B
- ETH (LAN)

Connect the appropriate cable to the UX300 unit and the other end to the media display.

---

**NOTE**

The UX300 connects to the UX200 media display as both a host, as well as a peripheral device. To see how to connect to the UX200 as a peripheral device, see Connecting to a UX-Series Peripheral Device.

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### Connecting to a PC

The UX300 unit is designed to connect to a host PC through one of three connection ports:

- RJ-45–-RS-232 connection
- USB Type B connection
- LAN connection

Connect the appropriate cable to the UX300 unit and the other end to the PC unit.

For more information regarding your card reader configuration and your cabling needs, contact your local VeriFone service provider. For cable ordering information, see Accessories and Documentation).

**Connecting to a UX-Series Peripheral Device**

This section discusses the connection of the UX300 device with the following peripheral units:

- Connecting to a UX1XX PIN Pad
- Connecting to a UX200 Media Display Unit
- Connecting to a UX400 CTLS Unit

### Connecting to a UX1XX PIN Pad

The UX300 unit is designed to connect to a UX1XX PIN pad device through a standard USB Type A connection.

Connect the USB cable to the UX300 unit and the other end to the PIN pad.
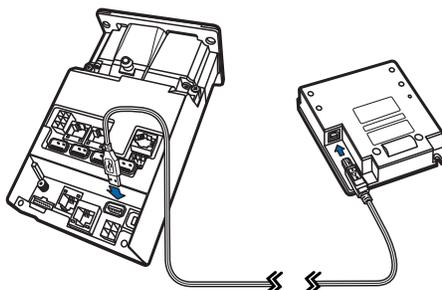
For further cabling instructions, see Figure 7.



**Figure 7       Connecting to a UX Series PIN Pad**

### Connecting to a UX200 Media Display Unit

The UX300 unit is designed to connect to a UX200 media display. Connect to the peripheral display unit through any one of these two connection types:

• USB Type A

• ETH (LAN)

Connect the appropriate cable to the UX300 unit and the other end to the media display.

For more information regarding your card reader configuration and your cabling needs, contact your local VeriFone service provider. For cable ordering information, see Accessories and Documentation).

| NOTE | The UX300 connects to the UX200 media display as both a peripheral device, as well as a host unit. To see how to connect to the UX200 as a host unit, see Connecting to a UX-Series Host Device. |
|------|---|

### Connecting to a UX400 CTLS Unit

The UX300 unit is designed to connect to a UX400 contactless unit using an 8-pin—RJ-45 connector and an SMA connector.

*To connect the UX300 to the UX400 CTLS unit*

**1** Connect the 8-pin connector to the UX300 unit.

**2** Connect the RJ-45 plug to the rear of the contactless unit.

**3** Screw in the SMA connector to the UX300 unit.

**4** Screw in the SMA connector to the rear of the contactless unit.

**5** Connect the RF antenna cable to the UX300 unit and the other end to the CTLS unit and screw tightly by hand.

For further cabling instructions, see Figure 8.



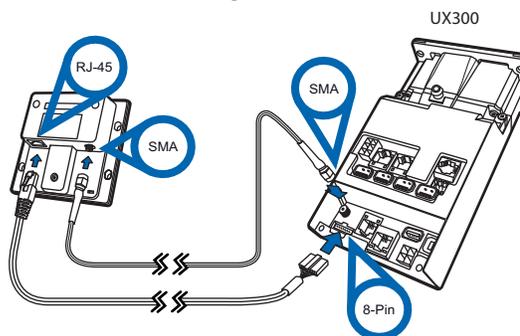**Figure 8      Connecting to a UX400 CTLS Unit**

**Connecting to Other Optional Devices**

The UX300 device can connect to various peripheral devices, outside of the UX-Series product range. Such products include:

• Connecting to a Printer

- Connecting to A VeriFone PIN Pad

### Connecting to a Printer

The UX300 unit is designed to connect to an external printer, such as VeriFone's TG2460 printer, using a COM connection.

Connect one end of the RS-232 cable to the UX300 printer port and the other end to the printer.

### Connecting to A VeriFone PIN Pad

The UX300 unit is designed to connect to other VeriFone PIN pads. Connect to the PIN pad through any one of two connection types:

- USB Type A
- ETH (LAN)

Connect the appropriate cable to the UX300 unit and the other end to the PIN pad.

### Disconnecting Cables

To disconnect cables, use the same steps described above in reverse. If exchanging cables, use a VeriFone-approved cable. See Accessories and Documentation for cable ordering information.

## Power Supply

Not all UX300 configurations and device contexts require the use of a power supply. VeriFone ships power supplies with the UX300 as required.

If you have changed the context in which the UX300 is used or have questions about which power supply should be used, contact your VeriFone representative. For more information, see Accessories and Documentation.

**CAUTION** Using an incorrectly rated power supply can damage the unit or cause it to malfunction. The power rating as listed for the various unit types is as follows:

- MDB, LAN, PSTN, and ISDN units: 9V DC to 43V DC, 4.4A
- Standard unit: 9V DC to 12V DC, 1.6A
- Petrol unit: 24V DC, 3.7A

Use only a power pack with VPN PWR159-001-01-A or CPS12490-4A-R. See Specifications for detailed power supply specifications.

Before connecting a power supply, disconnect the power pack cord from the power outlet.

Connect and route all cables between the UX300 and any peripheral units before plugging the power pack cord into a wall outlet or surge protector.

**WARNING** Disconnecting power during a transaction can cause transaction data files not yet stored in memory to be lost.

> **NOTE**
>
> To protect against possible damage caused by lightning strikes and electrical surges, VeriFone recommends installing a power surge protector.

**External Power Connections**

The UX300 connects to an external power outlet through a 4-pin interconnect cable (VPN - CBL159-308-01-A) or a 6-pin interconnect cable (CBL159-309-01-A). The connection depends on your specific card reader configuration.

For more information regarding your card reader configuration, contact your local VeriFone service provider. For cable ordering information, see Accessories and Documentation).

**To connect to an external power outlet**

Connect the 4- or 6-pin interconnect cable to the external power port on your device and the other end to an external power outlet.
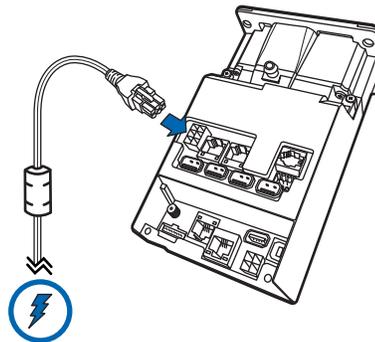


**Figure 9        Sample Connection to an External Power Source**

**Mounting the Device**

The card reader and controller is designed to be flush-mounted to the mounting surface, without further need for any external mounting devices.

> **CAUTION**
>
> For proper operation of the security switches, no additional gaskets or washers may be used, except for the ones provided to you.
>
> Ensure that your mounting frame has a thickness of 2 mm.

> **NOTE**
>
> Your mounting surface may have different installation instructions. Refer to your mounting device's user guide for further instructions.

**To mount the unit**

1   Peel off the plastic liner from the front of the unit.

2   Align the reader's stud holes with the holes of your mounting surface.

3   Flush-mount the reader at a 30° angle, for optimum performance of the card entry slot.

**NOTE**
Your device may come with an optional cable retainer. If so, place the cable retainer by the base of the cable connector, and align the studhole of the cable retainer with the mounting hole of the unit.

The cable retainer is then secured along with the unit with the M5 nut (see Step 4).

4   Secure the unit with M5 nuts.

**NOTE**
Use M5 mounting studs with a minimum length of 12 mm.

Tighten the nuts, using a recommended tightening torque of 7.0 kgfcm.
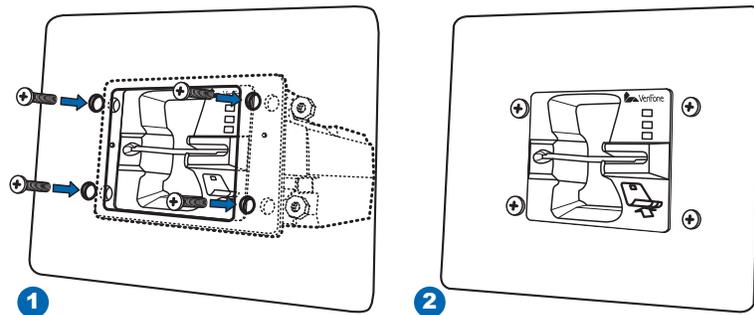
**Figure 10      Mounting the Card Reader/Controller**

**NOTE**
Another mounting option is using welded screw bolts on the inner side of the mounting plate. This may be used in order to prevent any vandalism by way of the screw heads on the outer surface.

5   Connect one side of flexible tubing to the nozzle on the bottom of the unit (see Figure 2).

6   Hang the other side of the tube out of the VM, or other outside unit.

**NOTE**
The nozzle is designed to drain water out of the bezel area, through the flexible tube.

## Grounding the Reader

When the reader is connected to one of the UX-series PIN pads, it is important to ground your units.

**NOTE**

For cable use and ordering information, see Accessories and Documentation.

*To ground the reader*

1   Remove a nut, exposing a stud from the back of the PIN pad unit (do not use the one from the cable retainer). See (A) in .Figure 11.

2   Attach the grounding cable to the UX300 (P/N WIR159-302-01-A) and the grounding cable to a ground installation. See (A) in Figure 11.

3   Tighten the nut, to secure the PIN pad.

**NOTE**

To tighten the nuts, using a recommended tightening torque of 7.0 kgfcm.

4   Remove a nut, exposing a stud from the back of the UX300 unit.

5   On the UX300 unit stud, attach the other end of the grounding cable from the PIN pad (P/N WIR159-302-01-A) and the grounding cable to a ground installation (P/N WIR159-302-02-A). See (B) in Figure 11.

6   Tighten the nut, to secure the UX300 device.

**NOTE**

Tighten the nuts, using a recommended tightening torque of 7.0 kgfcm.

7   Connect the other end of both ground installation cables to the nearest ground installations, to complete the grounding of the UX300 and PIN pad units. See (C) in Figure 11.
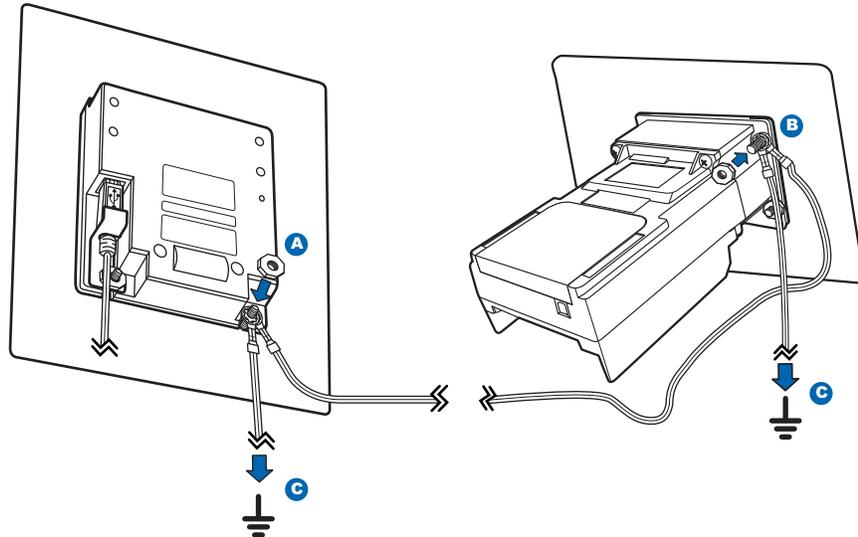
**Figure 11      Grounding the UX300 and PIN Pad Units**

**Service Switches**

There are three anti-removal service switches: two on the front of the card reader (see Figure 1), and one on the back side of the unit (see Figure 3). These switches detect any unauthorized removal attempts and trigger a software event if the unit is removed in an unauthorized manner. This does not cause any hardware damage to the reader.

## Using the Device

The card transaction procedure can vary depending on the application. Verify the proper procedure with your application provider before performing a card transaction.

The UX300 supports both magnetic stripe cards, as well as smart cards. The following section describes how to use the device's multi-card reader.

**Using the Multi-Card Reader**

The device's card reader supports both a triple-track card reader, as well as a variety of smart cards.

*To conduct a card transaction*

1   Position the card, with the magnetic stripe facing downward and to the right of the card, or with the chip on the top right of the card (see Figure 12).

2   Insert the card into the card reader slot in a smooth, continuous motion until it seats firmly.

If using a magnetic card, proceed to Step 3.

If using a smart card, proceed to Step 4.

3   Remove the magnetic stripe card.

The unit's LEDs or peripheral display indicates when the transaction is completed.

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**NOTE**

When using a magnetic stripe card, the transaction is conducted upon card removal.

---

4   Remove the smart card when the unit's LEDs or peripheral display indicates that the transaction is completed.

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**CAUTION**   When using a smart card, leave the card in the reader until the transaction is completed.
Premature card removal can void the transaction.

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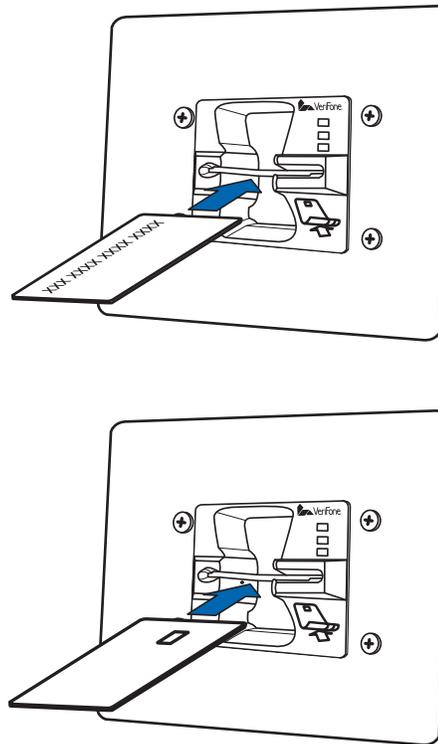


**Figure 12      Using the Multi-Card Reader**

# Specifications

This chapter discusses power requirements, dimensions, and other specifications of the card reader.

**Unit Power Requirements**

- MDB, LAN, PSTN, and ISDN units:
    - Operation voltage: 9V DC to 43V DC, 4.4A
    - Fully optically isolated serial current loop: 9600 bps
- Standard unit:
    - Operation voltage: 9V DC to 12V DC, 1.6A
- Petrol unit:
    - Operation voltage: 24V DC, 3.7A
- External Power Supply:
    - 12V DC, 3.3A

    or

    - 24V DC, 3.75A
- Power Supply:
    - 12V DC 3.3A
    - 24V DC 3.75A

**Temperature**

- Indoor operating temperature: -20°C – 70°C (-4°F – 158°F)
- Indoor storage temperature: -25°C – 70°C (-13°F – 158°F)
- Outdoor operating temperature: -20°C – 60°C (-4°F – 140°F)
- Outdoor storage temperature: -25°C – 60°C (-13°F – 140°F)
- Relative humidity: 5% to 90% RH non-condensing

**NOTE** If this device is to be used in the Nordic countries, or in any environment where the temperature range exceeds the product's operating temperature, it is the responsibility of the integrators to ensure that the ambient environment is controlled in such a way to ensure that the product operates within the specified temperature range.

**External Dimensions**

- Height: 72 mm (2.83 in)
- Width: 96 mm (3.78 in)

|  |  |
|---|---|
| | • Depth 150 mm (5.9 in) |
| **Weight** | • Unit weight:750 g (26.46 oz) |
| **Memory** | • 128 MB DDRAM |
| | • 256 MB NAND-Flash |
| **Magnetic Stripe Card** | • Bi-directional reader |
| | • Triple-track |
| **Smart Card Reader** | • Non-sliding |
| | • Card conserving plated landing contacts |
| **SAM Requirements** | • 2 SAM slots |
| **Peripheral Ports** | • Consistent ports: |

- Power
- Powered USB Type A for UX PIN pads (host)
- USB Type B (client)
- COM1 (powered)
- ETH (LAN) connection with 2 colored LEDs for link state and speed indication
- Analog RF CTLS antenna connector to the UX400 CTLS unit
- 8-PIN–RJ-45 connector to UX400 CTLS antenna unit

Model dependent cable connection board:

- 4 Powered USB Type A
- MDB
- Additional 1 or 2 COM powered ports
- ISDN
- PSTN
- RS-485
- An additional ETH connection with 2 colored LEDs for link state and speed indication
- Printer COM
- PSTN_RJ9
- 485_3pin

|  |  |
|---|---|
| **Communication** | • COM: Up to 115200 HW RTS/CTS handshake |
| | • MDB: 9600 bps fix, 9E1 |

- RS485: Up to 115200 bps, half duplex

**Display** • 3 status LEDs on the front (payment application controlled)

# Maintenance and Cleaning

Your card reader is a product of superior design and craftsmanship and should be treated with care. It has no user-serviceable parts.

The following suggestions will help you protect your warranty coverage.

- Do not store the device in hot areas. High temperatures can shorten the life of electronic devices, damage batteries, and warp or melt certain plastics.

- Do not store the device in cold areas. When the device returns to its normal temperature, moisture can form inside the device and damage electronic circuit boards.

- Do not drop, knock, or shake the device. Rough handling can break internal circuit boards and fine mechanics.

- Do not use harsh chemicals, cleaning solvents, or strong detergents to clean the device. Use only a soft, clean, dry cloth for cleaning.

These suggestions apply equally to your device, or any of its attachments or accessories. If your device is not working properly, take it to the nearest VeriFone-authorized service provider for servicing or replacement.

**CAUTION**

Never use thinner, trichloroethylene, or ketone-based solvents – they can deteriorate plastic or rubber parts.

## Additional Safety Information

The following is additional information for your safety in using this device.

### Potentially Explosive Environments

When using the device in areas with potential risk of explosion, such as petrol stations, follow the advice of all signs and instructions. If there has been a leak, do not use this device.

# Service and Support

For UX300 problems, contact your local VeriFone representative or service provider.

For device product service and repair information:

- USA – VeriFone Service and Support Group, 1-800-834-4366, Monday - Friday, 8 A.M. - 8 P.M., eastern time.

- International – Contact your VeriFone representative.

**Service Returns**  Before returning the unit to VeriFone, you must obtain a Merchandise Return Authorization (MRA) number. The following procedure describes how to return one or more card reading units for repair or replacement (U.S. customers only).

**NOTE**

International customers, please contact your local VeriFone representative for assistance with your service, return, or replacement.

1  Gather the following information from the printed labels (see Figure 13) on the bottom of each unit to be returned:

- Product ID, including the model and part number. For example, "M159-300-xx-WWB" and "PTID xxxxxxxx."

- Serial number (S/N xxx-xxx-xxx).

2  Within the United States, call VeriFone toll-free at 1-800-834-4366.

3  Select the MRA option from the automated message. The MRA department is open Monday–Friday, 8 A.M.–8 P.M., eastern time.

**4**  Give the MRA representative the information gathered in Step 1.
If the list of serial numbers is long, you can fax the list, along with the information gathered in Step 1, to the MRA department at 1-727-953-4172 (U.S.).

- Please address the fax clearly to the attention of the "VeriFone MRA Dept."

- Include a telephone number where you can be reached and your fax number.

- You will be issued MRA number(s) and the fax will be returned to you.

**NOTE**

One MRA number must be issued for each unit you return to VeriFone, even if you are returning several of the same model.

**5**  Describe the problem(s) and provide the shipping address where the repaired or replacement unit must be returned.

**6**  Keep a record of the following items:

- Assigned MRA number(s).

- VeriFone serial number assigned to the unit you are returning for service or repair (serial numbers are located on the top of the unit, (see Figure 13).

- Shipping documentation, such as air bill numbers used to trace the shipment.

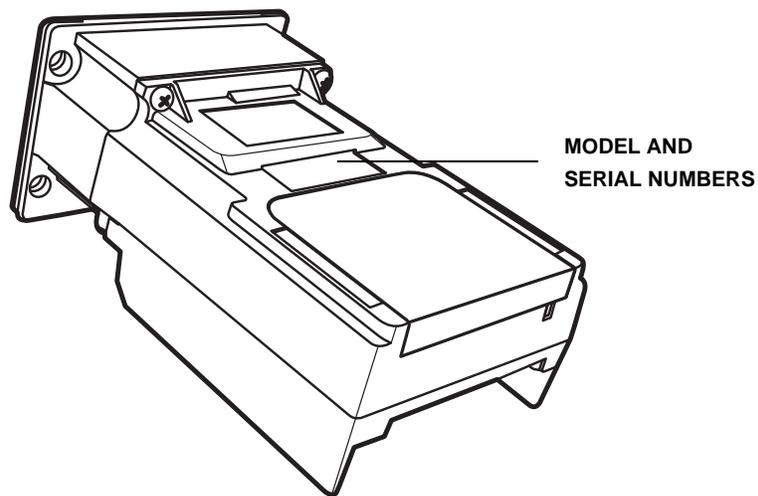- Model(s) returned (model numbers are located on the VeriFone label on the top of the unit).



MODEL AND
SERIAL NUMBERS

**Figure 13      Information Labels on Unit Top**

## Accessories and Documentation

VeriFone produces accessories and documentation for the card reader. When ordering, please refer to the part number in the left column.

VeriFone Online Store at *www.store.verifone.com*

- USA – VeriFone Customer Development Center, 1-800-834-4366, Monday - Friday, 7 A.M. - 8 P.M., eastern time

- International – Contact your VeriFone representative

## Connection Cables

The following cables can be used with the card reader. Contact your local VeriFone distributor to determine which cable fits your needs:

| | |
|---|---|
| CAB-00123-L | Powered USB Type A connection to peripheral devices. |
| xxxxxx | USB Type B connection for Host connections |
| CBL159-302-02-X | SMA (RF) connector to UX400 CTLS unit |
| CBL159-301-01-X | 8-PIN–RJ-45 connector to UX400 CTLS unit |
| xxxxxxx | MDB connection to VMs |
| xxxxxxx | RS-485 connection |
| xxxxxxxx | WAN connections |
| CBL159-305-01-X | RS232 to RJ45 connector. For connection to TG2460 printer. |
| CBL000-045-01-A | USB Type A-B cable for UX1xx connection |
| 26264-02-R | COM-DB9 cable for connecting UX300 controlling device. |
| CBL159-312-01-A | LAN cable for Ethernet connections |

Various others, depending on what they connect to. Contact your local VeriFone representative or service provider to identify the best cable for your needs.

**Power Cables**  The following power cables can be used with the card reader. Contact your local VeriFone distributor to determine which cable fits your needs:

| | |
|---|---|
| CBL159-308-01-A | 4-pin connection cable to external power supply |
| CBL159-309-01-A | 6-pin connection cable to external power supply |
| PWR159-001-01-A | Power pack for indoor power supply |
| CPS12490-4A-R | Power pack for outdoor power supply |
| CBL159-306-01-X | Y power cable for external power connection for TG2460 printer. |
| CBL159-307-01-X | Interconnect PWR cable from CBL159-309-01-X to TRACO PWR cable 27556-10-R for printer external power. |

**Grounding Cables**  The following grounding cables are to be used with the card reader, when connecting to a PIN pad unit. Contact your local VeriFone distributor for further information:

| | |
|---|---|
| WIR159-302-01-A | 1 meter PIN pad–UX300 grounding cable |
| WIR159-302-02-A | 2.5 meter grounding cables |

**Drainage Tubing**

| | |
|---|---|
| XXXXXXX | Flexible tubing for water drainage. |

**Cleaning Kit**

| | |
|---|---|
| 02746 | VeriFone Cleaning Kit |

**Documentation**

| | |
|---|---|
| UX1XX PIN Pad Series Certifications and Regulations Sheet | VPN - DOC159-001-EN-A |
| UX1XX PIN Pad Series Quick Installation Guide | VPN - DOC159-002-EN-A |
| UX1XX PIN Pad Series Installation Guide | VPN - DOC159-003-EN-A |
| UX1XX PIN Pad Series Reference Guide | VPN - DOC159-004-EN-A |
| UX200 Media Display Certifications and Regulations Sheet | VPN - DOC159-011-EN-A |
| UX200 Media Display Quick Installation Guide | VPN - DOC159-012-EN-A |
| UX200 Media Display Installation Guide | VPN - DOC159-013-EN-A |
| UX200 Media Display Reference Guide | VPN - DOC159-014-EN-A |

| | |
|---|---|
| UX300 Manual Card Reader Certifications and Regulations Sheet | VPN - DOC159-021-EN-A |
| UX300 Manual Card Reader Quick Installation Guide | VPN - DOC159-022-EN-A |
| UX300 Manual Card Reader Reference Guide | VPN - DOC159-024-EN-A |
| UX400 CTLS Reader Certifications and Regulations Guide | VPN - DOC159-031-EN-A |
| UX400 CTLS Reader Quick Installation Guide | VPN - DOC159-032-EN-A |
| UX400 CTLS Reader Installation Guide | VPN - DOC159-033-EN-A |
| UX400 CTLS Reader Reference Guide | VPN - DOC159-034-EN-A |

# Troubleshooting Guidelines

This chapter lists possible malfunctions that may occur while operating a UX300 device and the appropriate corrective action. if the problem persists - even after performing the outlined guidelines, or if the problem is not described, contact your local VeriFone representative for assistance.

**NOTE**

The unit comes equipped with tamper-evident labels. The reader contains no user-serviceable parts. Do not, under any circumstance, attempt to disassemble the unit. Perform only those adjustments or repairs specified in this guide. For all other services, contact your local VeriFone service provider. Service conducted by parties other than authorized VeriFone representatives may void any warranty.

**CAUTION**

Not all units require use of a power supply.

Using an incorrectly rated power supply may damage the unit or cause it not to work properly. Before troubleshooting, ensure that the power supply used to power the unit matches the requirements specified on the back of the unit (see Specifications for detailed power supply specifications). If not, obtain the appropriately rated power supply before continuing with troubleshooting.

## Transactions Fail To Process

There are several reasons why the card reader may not be processing transactions. Use the following steps to troubleshoot failures.

### Check the Magnetic Card Reader

- Perform a test transaction using one or more different magnetic stripe cards to ensure the problem is not a defective card.

- Ensure that you are swiping cards properly. With the card reader, the black magnetic stripe should face down and outward, toward the outside of the reader.

- If possible, process a transaction manually, using an external keypad, instead of the card reader. If the manual transaction works, the problem may be a defective reader.

- If the problem persists, contact your local VeriFone representative.

### Check the Smart Card Reader

- Perform a test transaction using several different smart cards to ensure the problem is not a defective card.

- Ensure that the card is inserted correctly and that the card is not removed prematurely.

- Ensure the SAM cards are properly inserted in the cardholders and that the cardholders are properly secured (see Installing or Replacing SAM Cards).

- If the problem persists, contact your local VeriFone representative.

VeriFone, Inc.
2099 Gateway Place, Suite 600
San Jose, CA, 95110 USA
Tel: (800) VeriFone (837-4366)
www.verifone.com

# UX300 Manual Card Reader

*Installation Guide*

2099 Gateway Place, Suite 600
San Jose CA 95110
Tel: 800 VeriFone (837-4366)
www.verifone.com

## Electrical

The reference input power rating for the UX400 CTLS Reader is 450mW max.

### Location – Electrical Considerations

Do not install this device near electrical appliances or other devices that cause excessive voltage fluctuations or emit electrical noise (for example: air conditioners, neon signs, electric motors, high-frequency or magnetic security devices).

**WARNING!** This device contains sensitive electronic components that can be permanently damaged if exposed to excessive shock, electrical interference or vibration.

## Equipment

### Repairs

Do not, *under any circumstances*, attempt any service, adjustments, or repairs on this equipment. Instead, contact your local VeriFone distributor or service provider for assistance. Failure to comply may void the product warranty.

### Damage

Carefully inspect the shipping carton and its contents for any damage. If the UX400 CTLS Reader or any product component appears damaged or tampered, immediately notify the shipping company and your VeriFone distributor or service provider.

Do not use a device that has been damaged or tampered with.

### Cleaners and Solvents

Never use thinner, trichloroethylene, or ketone-based solvents to clean the device — they may deteriorate the plastic and rubber parts. For best results, use a clean cloth dampened with water and mild soap. To remove stubborn stains, use alcohol or an alcohol-based cleaner.

# UX400 CTLS Reader Certifications and Regulations

## FCC Compliance

The following product has been tested and certified as compliant with the regulations and guidelines set forth in Part 15 of FCC Rules:

Manufacturer: VeriFone, Inc.
Brand, Model: UX400 CTLS Reader

## Part 15 of FCC Rules

This device complies with the limits for a Class B digital device as specified in Part 15 of FCC Rules which provide reasonable protection against harmful interference in a residential area.

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.

This equipment generates and uses 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.

In the unlikely event that there is 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:

•   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 with the dealer or ask an experienced radio/TV technician for help.

Any changes or modifications to this equipment not expressly approved by VeriFone could void the user's authority to operate this equipment. The antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. Use of a shielded interface cable is required to comply with the Class B limits of Part 15 of FCC Rules.

## RF Exposure

This device was verified for RF exposure. To comply with Council Recommendation 1999/519/EC, IC RSS-102, and FCC RF exposure requirements, a minimum separation distance of 20 cm must be maintained between the user's body and the device, including the antenna. Any metallic components should be far from this device. Conditions that do not meet these requirements may not comply with Council Recommendation 1999/519/EC, IC RSS-102 and FCC RF exposure requirements and should be avoided.

To comply with the FCC RF exposure compliance requirements, make sure to use only the antenna that is included with the device. This device and its antenna must not be in the same location or operating in the same area in conjunction with any other antenna or transmitter.

## Legal Terms and Conditions Regarding PCI SSC Approvals

PCI SSC's approval only applies to PEDs that are identical to the PED tested by a PCI Security Standards Council recognized laboratory. If any aspect of the PED is different from that which was tested by the laboratory - even if the PED conforms to the basic product description contained in the letter, then the PED model should not be considered approved, nor promoted as approved. For example, if a PED contains firmware, software, or physical construction that has the same name or model number as those tested by the laboratory, but in fact are not identical to those PED samples tested by the laboratory, then the PED should not be considered or promoted as approved.

No vendor or other third party may refer to a PED as "PCI Approved," nor otherwise state or imply that PCI SSC has, in whole or part, approved any aspect of a vendor or its PEDs, except to the extent and subject to the terms and restrictions expressly set forth in a written agreement with PCI SSC, or in an approval letter. All other references to PCI SSC's approval are strictly and actively prohibited by PCI SSC.

When granted, an approval is provided by PCI SSC to ensure certain security and operational characteristics important to the achievement of PCI SSC's goals, but the approval does not under any circumstances include any endorsement or warranty regarding the functionality, quality, or performance of any particular product or service. PCI SSC does not warrant any products or services provided by third parties. Approval does not, under any circumstances, include or imply any product warranties from PCI SSC, including, without limitation, any implied warranties of merchantability, fitness for purpose or noninfringement, all of which are expressly disclaimed by PCI SSC. All rights and remedies regarding products and services, which have received an approval, shall be provided by the party providing such products or services, and not by PCI SSC or the payment brand participants.

This equipment operates on a secondary basis. It is not entitled to protection from harmful interference, even for stations of the same type, and may not cause interference to systems operating on a primary basis.

**Recycling: DO NOT DISCARD!**
UNIT MUST BE RECYCLED OR DISPOSED OF PROPERLY
For proper disposal instructions go to *http://recycle.verifone.com/*Please retain this sheet for future reference.