Verifone®

UX301

Installation Guide

UX301 Installation Guide
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Examining the Unit's Features

Before you continue the installation process, review the features of the device

CARD READER SLOT

LEDS

MOUNTING STUD HOLES

MOUNTING STUD HOLES

ANTI-REMOVAL SWITCHES (ARS)
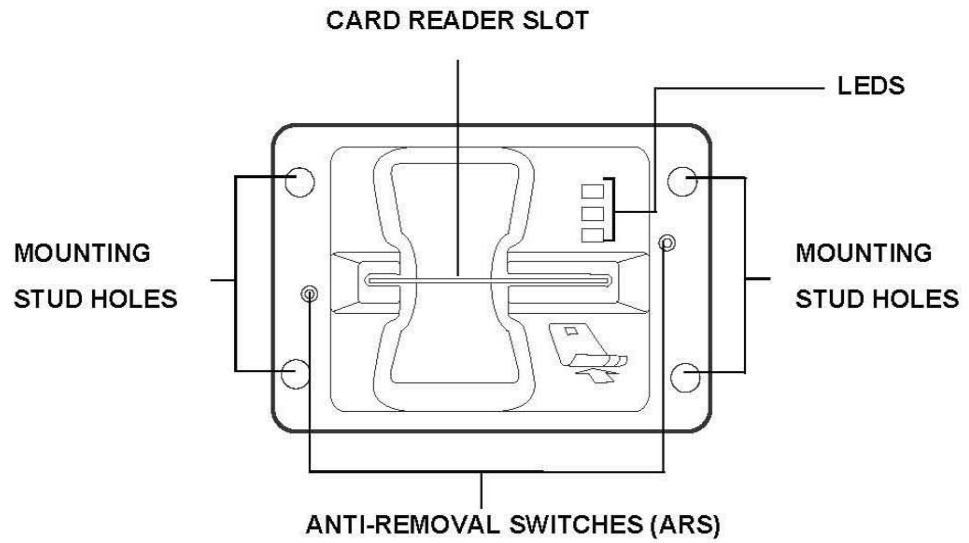
UX301 Front View

Front Features

The front of the reader shows the following:

- Customer-view **indicator LEDs**
- The **card reader** slot
- **Anti-removal switches**
- Installation **mounting stud holes**.

UX301 Underside View

The I/O ports of the EUT are listed below:

SAM Card Slot	*3
USB Port	*3
Smart Card Slot	*1
SMA port	*1
RJ45 Port	*2
LAN Port	*1

Cable Connections

The UX301 rear panel holds several interface ports for power and communications. Use this section to see how the UX301 connects to various UX-series units, as well as other devices.

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

NOTE

To get the proper connection cables, please refer to Accessories and Documentation.

Connecting to a UX-Series Host Device

This section discusses the connection of the UX301 device with the following host units:

Connecting to a Vending Machine

You can connect the UX301 to a host vending machine (VM) with any of the following connection types:

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

SETUP
Cable Connections

Connecting to a UX-Series Peripheral Device

This section discusses the connection of the UX301 device with the following peripheral units:

- Connecting to a UX1xx Series PIN Pad
- Connecting to a UX401 CTLS Unit

Connecting to a UX1xx Series PIN Pad

You can connect the UX301 to a UX1xx-series PIN pad device with a standard USB Type A to B cable (VPN CBL000-045-01-A).

Connect the Type A plug in the UX301 high-powered port and connect the type B plug to the USB port of the UX110.

Use the same procedure for connecting to other UX1xx-series PIN pads.

The UX301 host device installs the USB device driver automatically. The USB data will be encrypted with authentication upon startup.

Connecting to a UX401 CTLS Unit

You can connect the UX301 to a UX401 unit using a communication cable (VPN CBL159-313-02-A) and an SMA / analog RF cable (VPN CBL159-302-03-A).

To connect the UX301 to the UX401 CTLS unit

1 Attach one end of the comm cable to the UX301 and the other end to the UX401.

2 Attach one end of the SMA cable to the UX301 and the other end to theUX401.

Specifications

This chapter discusses power requirements, dimensions, and other specifications of the UX301 card reader.

Unit Power Requirements
- Operation voltage: 8 to 43V DC, 24V DC for Printer use
- Idle Power: 2W
- Typical Power: 3W (CTLS read), 4W (UX100 display heater), 0.5W (UX100/110), 5W (RS232-vout)
- Sleep Mode: TBD.

Temperature
- Operating temperature:
    - -30°C to 70°C (-22°F to 158°F) Standard unit
- Storage temperature: -25°C to 70°C (-13°F to 158°F)
- Power Supply rated for indoor use only: 12V DC 3.3A, operating temperature 0°C to 40°C (32°F to 104°F)
- Power Supply rated for outdoor use: 24V, DC 3.75A up to 40°C (DC 2.5A up to 60°C), operating temperature -25°C to 60°C
- 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: 67 mm (2.64 in)
    - Width: 97 mm (3.82 in)
    - Depth 102 mm (4.02 in)

Memory
- 128 MB DDRAM
- 256 MB NAND-Flash

Magnetic Stripe Card
- Triple-track

Smart Card Reader	• Non-sliding
	• Card conserving plated landing contacts
SAM Requirements	• 3 SAM slots
Peripheral Ports	• Consistent ports:

- • Power
- • Powered USB Type A for external device (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 UX401 CTLS unit
- • 8-PIN to RJ-45 connector to UX401 CTLS antenna unit

Model dependent board:

- • MDB

Communication	• COM: Up to 115200 bps,HW RTS/CTS handshake
	• MDB: 9600 bps fix, 9E1
Display	• 3 status LEDs on the front (payment application controlled)

Maintenance and Cleaning

Your card reader 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 UX301 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 16) on the underside of each unit to be returned:

- Product ID, including the model and part number. For example, "M159-301-xx-WWA" and "PTID xxxxxxxx."

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

**MODEL AND
SERIAL NUMBERS**

Connection Cables

CBL159-313-02-A	UX301 to UX401 communications cable
CBL159-302-03-A	UX301 to UX401 RF cable analog
CBL013-005-01-A	RS232 to connect TG-2460H printer
CBL159-312-01-A	LAN cable for Ethernet connections.
26264-01-R	Cash register cable, RJ45-SUBD9f, 1.0m
26264-02-R	Cash register cable, RJ45-SUBD9f, 2.0m

Power Cables

CBL000-039-02-A	Australia power cord for PWR159-001-01-A PSU.
CBL159-306-01-A	Y power cable for TG-2460H printer and UX301
CBL159-307-01-A	Interconnect power cable from CBL159-309-01-X to TRACO PWR cable 27556-10-R for printer external power.
CBL159-309-01-B	6-pin ferrite cable
CBL258-001-01-A	EU power cord for PWR159-001-01-A PSU.
CBL258-006-01-A	US power cord for PWR159-001-01-A PSU.
CBL258-004-01-A	UK power cord for PWR159-001-01-A PSU.
CBL258-014-01-A	South Africa power cord for PWR159-001-01-A PSU.
PWR159-001-01-A	12V, 3.3A power supply unit (PSU) for UX301.
27556-10-R	Power cable for printer external power supply.
28580-01-R	TG2460-H Printer Power cable for UX301

Grounding Cables

WIR159-302-01-A	1 meter grounding cable for UX301 and UX1xx PIN pads.
WIR159-302-02-A	2.5 meter grounding cable for UX301 and UX1xx PIN pads.

Printers

P013-010-01-R	TG2460-H Printer

ARS Kit

MET159-502-01-A	UX301 Anti Removal Switch (ARS) kit for development assembly.

Cleaning Kit

02746	Verifone Cleaning Kit.

Documentation

VPN DOC159-024-EN	UX301 Certifications and Regulations Sheet
VPN DOC159-025-EN	UX301 Quick Installation Guide
VPN DOC159-034-EN	UX401 Certifications and Regulations Guide
VPN DOC159-035-EN	UX401 Quick Installation Guide
VPN DOC159-036-EN	UX401 Installation Guide

Troubleshooting Guidelines

This chapter lists possible malfunctions that may occur while operating a UX301 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

Using an incorrectly rated power supply may damage the unit or cause it to not work properly. Before troubleshooting, ensure that the power supply used to power the unit matches the specified requirements (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.

NOTE

The UX301 reads the card upon card removal or withdrawal from the slot.

- 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.

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UX301

Installation Guide

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Electrical

The reference input power rating for the UX301 is 8V DC to 43V DC.

External Power Supply

Use of an external power supply is 12V DC, 3.3A or 24V DC, 3.75A.

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.

Cet appareil contient des composants électroniques sensibles qui peuvent être endommagés de façon permanente si elle est exposée à des chocs excessifs, des interférences électriques ou des vibrations.

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 UX301 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.

UX301 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: UX301

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 non-infringement, 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.

Recyclage: NE PAS JETER!

L'unité doit être recyclée ou mise au rebut dans les endroits prévus à cet effet.
Pour connaître les procédures de mise au rebut, consultez le site http://recycle.verifone.com/   *À conserver pour référence ultérieure*

suite au verso