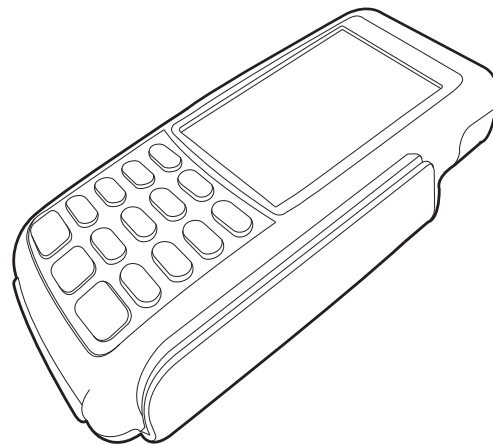




VX 820

Installation Guide

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VX 820 Installation Guide

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This guide is the primary source of information for setting up and installing the VX 820.

Audience

This guide describes the VX 820 features, and provides the basic information for its installation and configuration.

Organization

This guide is organized as follows:

Chapter 1, Overview. Provides an overview of the VX 820.

Chapter 2, Setup. Explains setup and installation of the VX 820, selecting a location, and establishing connections with other devices.

Chapter 3, Specifications. Discusses power requirements and dimensions of the VX 820.

Chapter 4, Maintenance and Cleaning. Explains maintenance of the VX 820.

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 in terminal installation and configuration.

Related Documentation




To learn more about the VX 820, refer to the following set of documents:

- Vx820 Certifications and Regulations Sheet, VPN - DOC282-001-EN-A
- Vx820 Quick Installation Guide, VPN - DOC282-002-EN-A.
- Vx820 Reference Guide, VPN - DOC282-004-EN-A.
- Verix eVo Volume I: Operating System Programmers Manual, VPN - DOC00301.
- Verix eVo Volume II: Operating System and Communication Programmers Manual, VPN - DOC00302.
- Verix eVo Volume III: Operating System Programming Tools Reference Manual, VPN - DOC00304.

Guide 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 references.	See Guide Conventions .
<i>Italics</i>	Italic typeface indicates book titles or emphasis.	You <i>must</i> not use this unit underwater.
NOTE 	The pencil icon is used to highlight important information.	RS232-type devices do not work on the VX 820 communication port.
CAUTION 	The caution symbol indicates hardware or software failure, or loss of data.	The unit is not waterproof or dustproof, and is intended for indoor use only.
WARNING 	The lightning symbol is used as a warning when bodily injury might occur.	Due to risk of shock do not use the terminal near water.

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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
AES	Advanced Encryption Standard Algorithm
DUKPT	Derived Unique Key Per Transaction Method as defined in the VISA's POS Equipment Requirement: PIN processing and Data Authentication, International Version 1.0, August 1988
ECR	Electronic Cash Register
EMV	Joint Europay, MasterCard and Visa Standard
MSAM	Multiple Secure Access Module
OS	Operating System
PIN	Personal Identification Number
POS	Point-of-Sale
RFID	Radio Frequency Identification
SAM	Secure Access Module
SC	Smart Card (Integrated Chip Card)
SD	Secure Digital
SR	Ship Release
SRAM	Static Random Access Memory
UI	User Interface
USB	Universal Serial Bus

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Overview

This chapter provides a brief description of VeriFone's VX 820.

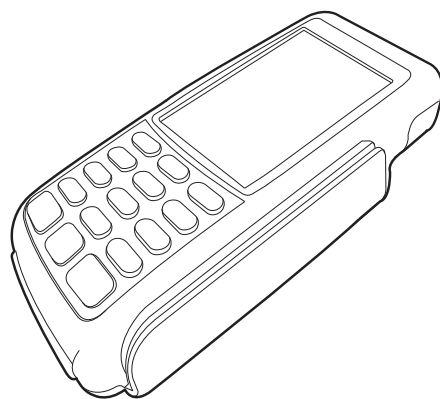
VX 820

The VX 820 takes the most usable and ergonomic hand-held PIN pad payment device and takes it to a new level by adding a color touchscreen display, a larger keypad, and integrated contactless capability. It is designed to fit in a variety of payment environments to suit nearly any need. With VeriFone's patent-pending MAXui design, enhanced with a robust 3.5" color QVGA display, and larger blue backlit keys, the device is easy to use under any lighting conditions. A tapered design and ergonomically balanced midpoint help the VX 820 fit comfortably in even the smallest hands, and the rugged design holds up to the most demanding conditions.

The VX 820 is a programmable device, allowing a custom or EMV-approved transaction application to run from the PCI PED 3.0-compliant PIN pad, either to meet local regulatory requirements or relieve the ECR or terminal of this task.

Features at a Glance

The VX 820 has a sleek and stylish ergonomic design that offers power and performance in a smart card- and MSR-integrated PIN pad device. The VX 820 provides the right combination of features and functions in a sleek, stylish device that fits in the palm of your hand. This includes a magnetic stripe card reader, smart card reader, an integrated PIN pad, and optional integrated contactless.



- Displays **vibrant colors** and comes with a **touchscreen interface** ideal for large and small retailers
- Integrated contactless option
- PCI PED 3.0 approved
- EMV Level 1 and 2 Type Approved, offering the most reliable security available, including SSL and VeriShield file authentication, and VeriShield Protect to help prevent fraud.

Figure 1 VX 820 with new handheld design

Features and Benefits

Exceptional Ease of Use

- Bold, ergonomic design is sleek, stylish, and lightweight for conveniently handing the unit to the consumer for PIN entry or other input
- Intuitive telco-style interface with large, colored control keys and optionally 4 soft-function keys as well as 4 screen-addressable keys via touchscreen simplify training and reduce support requests
- 240 x 320 pixel color TFT (QVGA) display that supports up to 26 lines x 26 characters and handles multiple languages for global applications

Critical Security Protection

- Incorporates tamper-detection circuitry to resist unauthorized intrusion and supports a broad spectrum of software-based security features
- Integrated security modules simultaneously support sophisticated encryption (AES, DES, 3DES, RSA) and key management schemes, including single and 3DES Master Session, single, and 3DES Derived

Strong Feature Set

- Ensures uncompromising reliability from VeriFone, the worldwide leader in e-payment
- Primary smart card reader support for synchronous and asynchronous smart cards
- Support for international character sets and Unicode standard
- Received EMV Level 1 and Level 2 approval for smart card solutions
- Offers the most reliable security available, including SSL, VeriShield file authentication, and VeriShield Protect to help prevent fraud and other intrusions

Extended PIN pad Capabilities

- Optional privacy shield
- Patent-pending MAXui design, enhanced with a robust 3.5" color QVGA display, and larger blue backlit keys, makes it easy to use under any lighting condition
- Triple-track, high-coercivity, bi-directional card reader handles most magnetic stripe cards
- Three Security Access Modules (SAMs) safeguard sensitive financial data and support multiple smart card schemes
- Integrated contactless option
- PCI PED 3.0 approved for PIN-based debit transactions
- Can be powered by other Vx series terminals through a single multi-port connector which supports RS-232, USB 2.0 device, USB Host, and Ethernet



Setup

This chapter describes the setup procedure for the VX 820, in the following sections:

- Select Location
- Unpack Shipping Carton
- Examine VX 820 Features
- MSAM / Micro SD Cards
- Cable Connections
- Cable Connections
- Power Supply
- Smart Card Reader Use
- Magnetic Card Reader Use
- Contactless Transactions
- Optional Accessories

Select Location

Use the following guidelines to select a location for the VX 820.

Ease of Use

- Select a location convenient for both merchant and cardholder.
- Select a flat support surface, such as a countertop or table.
- Select a location near a power outlet and the terminal, ECR, or computer connected to the VX 820. For safety, do not string cables or cords across a walkway.

Environmental Factors

- Do not use the unit where there is high heat, dust, humidity, moisture, or caustic chemicals or oils.
- Keep the unit away from direct sunlight and anything that radiates heat, such as a stove or a motor.
- Do not use the VX 820 outdoors.



The VX 820 is not waterproof or dustproof, and is intended for indoor use only. Any damage to the unit from exposure to rain or dust can void any warranty.

Electrical Considerations

- Avoid using this product during electrical storms.
- Avoid locations near electrical appliances or other devices that cause excessive voltage fluctuations or emit electrical noise (for example, air conditioners, electric motors, neon signs, high-frequency or magnetic security devices, or computer equipment).
- Do not use the VX 820 near water or in moist conditions.

WARNING



Due to risk of shock or damage, do not use the VX 820 near water, including a bathtub, wash bowl, kitchen sink or laundry tub, in a wet basement, or near a swimming pool.

Unpack Shipping Carton

Open the shipping carton and carefully inspect its contents for possible tampering or shipping damage. The VX 820 is a secure product and any tampering can cause it to cease to function or to operate in an unsecured manner.

- 1 Remove and inspect the contents of the shipping carton, since the VX 820 ships in multiple configurations, the carton may include any or all of the following:
 - VX 820
 - Data cable
 - Power pack
 - Power cord
 - ECR cable
 - Privacy shield
- 2 Remove all plastic wrapping from the terminal and components.
- 3 Remove the clear protective film from the display.
- 4 Save the shipping carton and packing material for future repacking or moving of the device.

WARNING



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

The VX 820 comes equipped with tamper-evident labels. If a label or component appears damaged, please notify the shipping company and your VeriFone service provider immediately.

Examine VX 820 Features

Before you continue with the installation process, familiarize yourself with the VX 820 features:

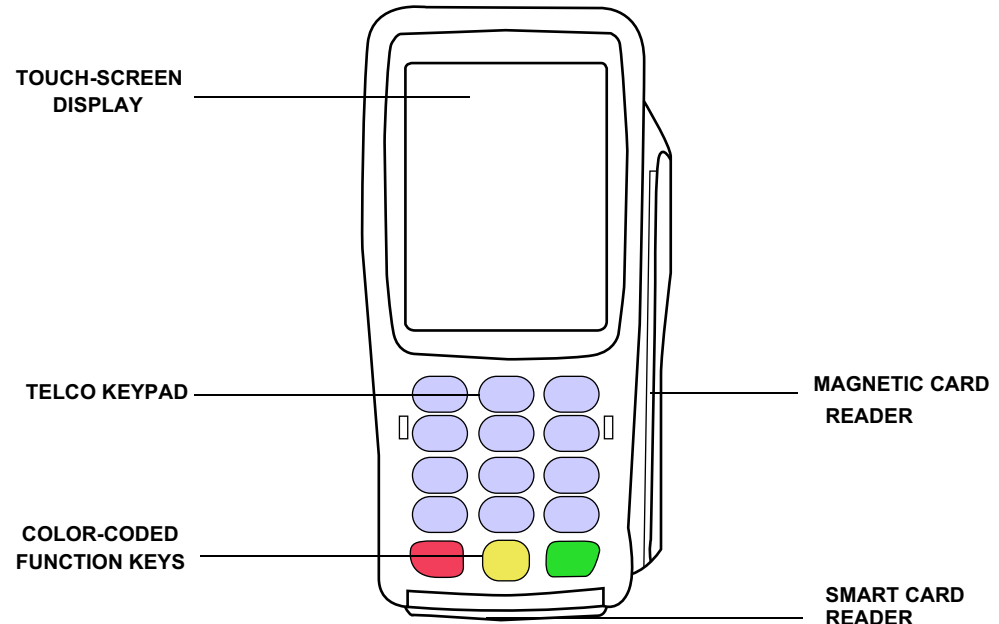


Figure 2 VX 820 Features

The VX 820 includes the following features:

- A **touch-screen display**.
- Three **color-coded function keys** below the keypad (CANCEL [RED], BACKSPACE [YELLOW], ENTER [GREEN]).
- A **magnetic card reader**, built into the right side. An icon shows the proper swipe direction, with the stripe facing down and towards the keypad.
- A **smart card reader**, built into the unit's front side. An icon indicates the proper card position and insertion direction.
- A **SAM (Security Access Module) compartment**, built into the back side of the unit. The VX 820 contains multiple-SAM (MSAM) cardholders to support multiple stored-value card programs or other merchant card requirements.
- An optional **Micro SD Card slot** built into the back side of the unit.

MSAM / Micro SD Cards

You may need to install one or more multiple security access module (MSAM) cards or replace the old cards.



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 change or install MSAMs

- 1 Remove the data cable from the back of the unit.
- 2 Place the VX 820 facedown on a soft, clean surface to protect the lens from scratches.
- 3 Loosen the retaining screw. The restraining screw is captive, which means that it cannot be fully removed from the slot.

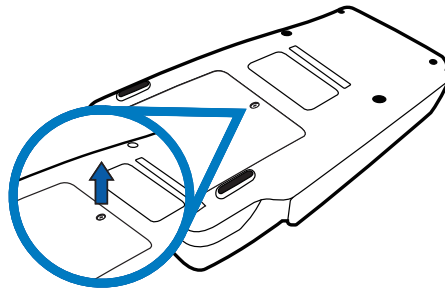


Figure 3 VX 820 Compartment Door and Locking Screw

- 4 Slide out the compartment door. The MSAM cardholders are now accessible. Each cardholder consists of a slot inboard of a numbered tray.

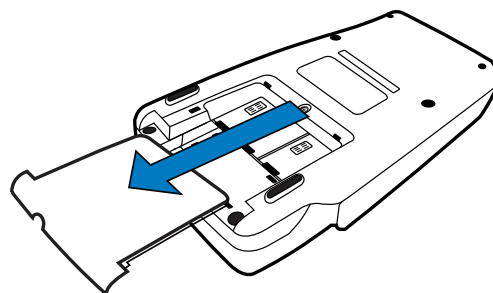


Figure 4 Opening VX 820 Compartment Door



NOTE Before inserting the MSAM card, position it as shown in [Figure 5](#), with the card's gold contacts facing away from you, toward the unit. The cardholder slot in the VX 820 has a set of contacts. The MSAM card has a notch on one corner to ensure that it fits into the connector base in only one way; the VX 820 has a matching notch cast into the backside of the MSAM compartment door to ensure the MSAM card is positioned correctly when the cover is closed.

- 5 Install the MSAM card by aligning the card to match the embossed number and carefully sliding it into the slots until fully inserted.

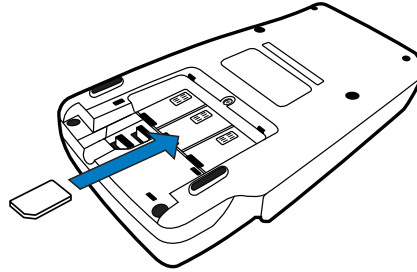


Figure 5 MSAM Insertion

**To change or install a
Micro SD Card**

- 1 Follow steps 1-4 for opening the VX 820 compartment door.
- 2 Insert the Micro SD card directly into the slot across the MSAM card holders.

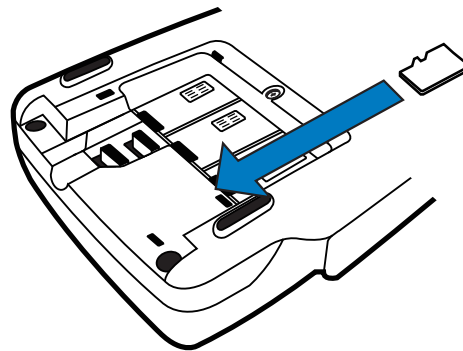


Figure 6 Inserting a Micro SD Card

- 3 Close the VX 820 compartment door after inserting/replacing the necessary cards and tighten the locking screw.

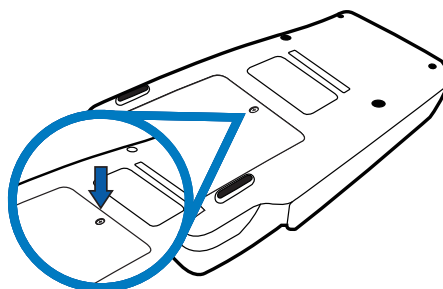


Figure 7 Closed VX 820 Compartment

Cable Connections

The VX 820 has six general cabling scenarios, depending on what the VX 820 connects to:

- 1 Connection to another VeriFone Terminal
- 2 RS232 Connection using an External Power Brick
- 3 Direct USB Connection
- 4 USB–Download Support using an External Power Brick
- 5 PoweredUSB connection
- 6 Ethernet Connection with External Power Brick



CAUTION Using an incorrectly rated power supply can damage the unit or cause it not to work properly. Use only a power pack with VPN PWR282-001-01-A (see [Specifications](#) for detailed power supply specifications).

Connection to another VeriFone Terminal

The VX 820 connects to a VeriFone terminal via a straight cable. There is a minimum power requirement for the VX 820, currently specified as 4.2W. In cases where the terminal is only able to provide a 7 V DC output to power the VX 820, the terminal must be able to source at least 0.57 A of current. Otherwise, proper functioning of the VX 820 is not guaranteed.

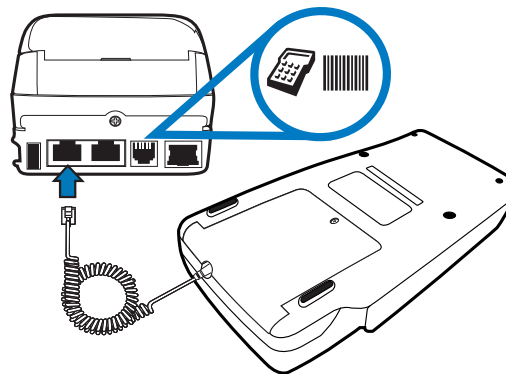


Figure 8 VX 820 Connected to Another VeriFone Terminal

RS232 Connection using an External Power Brick

A special dongle cable is used, where one end of the cable plugs into the VX 820 while the other end terminates in a DB-9 connector housing. On the housing, a DC jack is provided to connect to an external power brick. This is a generic cable for all RS232-based hosts.

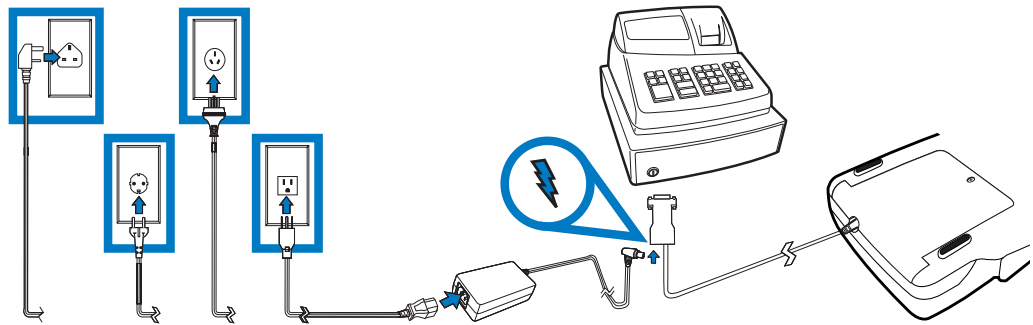


Figure 9 VX 820 with an RS232 Connection Using an External Power Brick

Direct USB Connection

Similarly, a dongle cable is required in standard USB environments. For this cable option, the host end has a molded housing which exposes the standard USB plug.

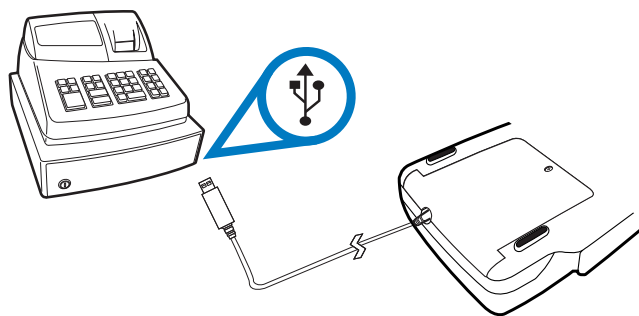


Figure 10 Direct USB Connection

USB-Download Support using an External Power Brick

This cable option comes with a junction box that provides a mini-style Type B USB socket for connecting to the USB-based host and a DC jack for external power connection.

In addition, a Type A USB socket is provided on the junction box to support application download via a USB thumb drive.

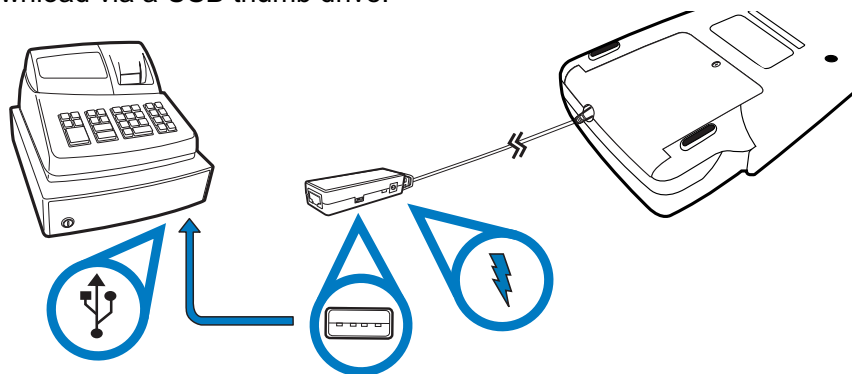


Figure 11 VX 820 Connected to a USB with Download Support

PoweredUSB connection For a USB-based host with PoweredUSB feature, a straight cable is all that is required. The VX 820 supports the 12 V DC option.

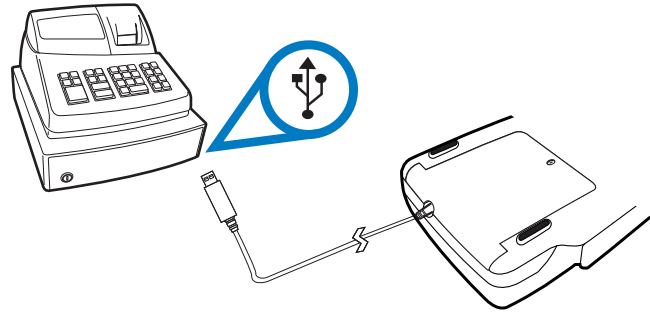


Figure 12 PoweredUSB Connection

Use the DC jack provided on the USB power cable to connect to an external power brick. Connect the cable to the VX 820 and plug the male USB connector into the corresponding USB port on the USB host as illustrated in [Figure 10](#).

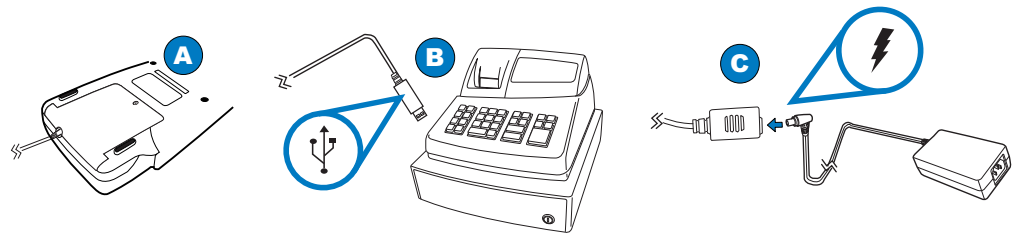



Figure 13 USB Power Cable Connections

CAUTION  Using an incorrectly rated power supply can damage the unit or cause it not to work properly. Use only a power pack with PWR282-001-01-A (see [Specifications](#) for detailed power supply specifications).

Ethernet Connection with External Power Brick

The cable required junction box that provides a standard RJ-45 LAN socket and a DC jack. However, since most hosts do not support peer-to-peer LAN connection to a PIN pad, an additional RJ-45 socket is provided on the junction box to allow a direct connection between VX 820 and the host.

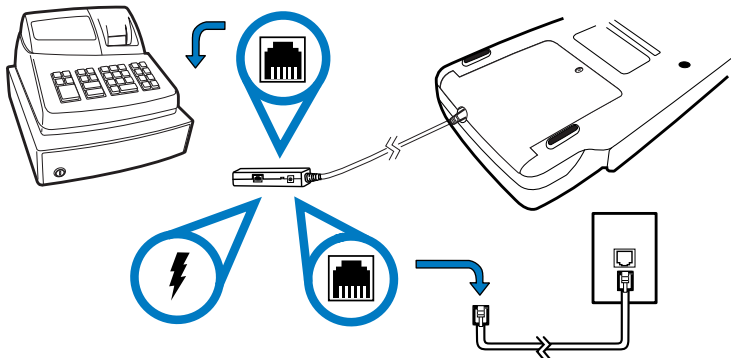


Figure 14 Ethernet Connection with External Power Brick

Power Supply

Not all VX 820 configurations and device contexts require the use of a power supply – VeriFone ships power supplies with the VX 820 as required.

If you have changed the context in which the VX 820 is used or have questions about which power supply should be used, contact your VeriFone representative.



CAUTION Using an incorrectly rated power supply can damage the unit or cause it not to work properly. Use only a power pack with VPN PWR282-001-01-A (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 VX 820, ECR, and PC before plugging the power pack cord into a wall outlet or surge protector.



WARNING Do not plug the power pack into an outdoor outlet or operate the VX 820 outdoors. Also, 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.

When the VX 820 has power and an application is loaded, the application starts after the initial VeriFone copyright screen and displays a unique copyright screen. If no application is loaded, **DOWNLOAD NEEDED** appears on the display after the initial VeriFone copyright screen.

Smart Card Reader Use

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

To Conduct a Smart Card Transaction

- 1 Position the smart card with the gold contacts facing upward (see Figure 15).
- 2 Insert it into the smart card reader slot in a smooth, continuous motion until it seats firmly.
- 3 Remove the card when the display indicates the transaction is completed.

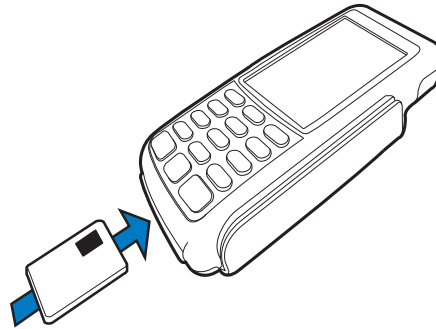


Figure 15 Smart Card Reader Use



Leave the smart card in the card reader until the transaction is completed. Premature removal can void the transaction.

Magnetic Card Reader Use

The VX 820 has a magnetic card reader that uses a triple track stripe reader. This gives the unit greater reliability over a wide range of swipe speeds and operating environments.

To Conduct a Credit/Debit Card Transaction

- 1 Position a magnetic card with the stripe facing the keypad.
- 2 Swipe it through the magnetic card reader.

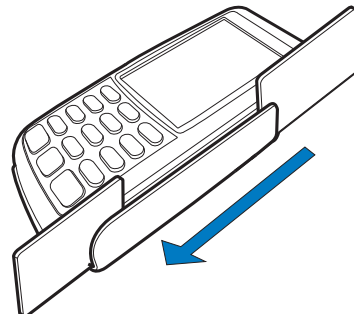


Figure 16 Magnetic Card Reader Use

Contactless Transactions

The VX 820 supports contactless transactions through an integrated contactless module.

Using the VX 820 for Contactless Transactions

The VX 820 only becomes active for contactless smart card transactions when initialized by an application.

To perform a contactless smart card transaction:

- 1 Gently tap the card onto or hold the card (within to 4 cm.) against the surface of the display.
- 2 An activated LED visual on the display accompanied by a short beeping sound indicates a successful transaction.



Figure 17 Contactless Reader Use

Optional Accessories

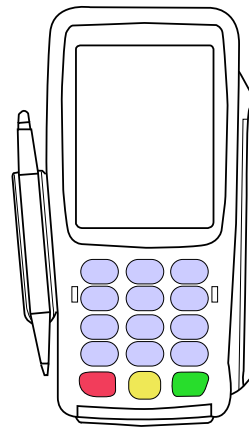
These accessories do not come with the standard VX 820 package but can be used to further enhance the device's functionality.

Privacy Shield This figure shows an example of a VX 820 with the privacy shield installed.

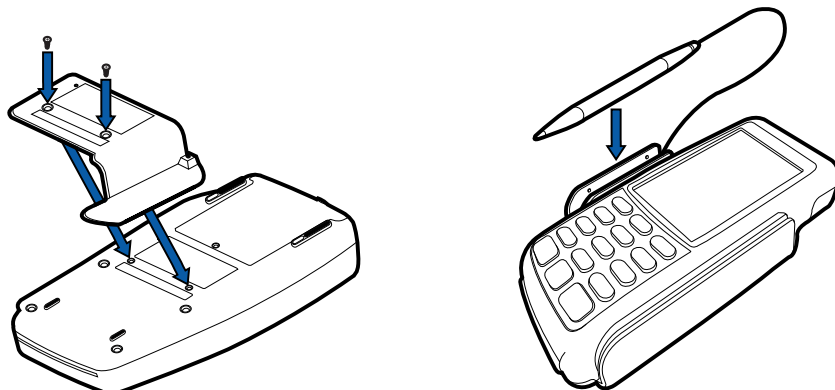


Figure 18 Installed Privacy Shield

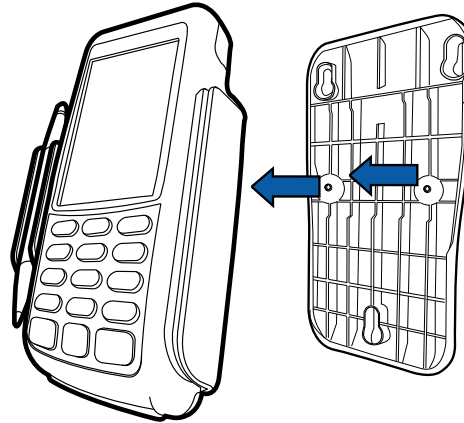
Stylus and Holder An stylus with holder can be attached to the VX 820 and used as an alternative device input method.



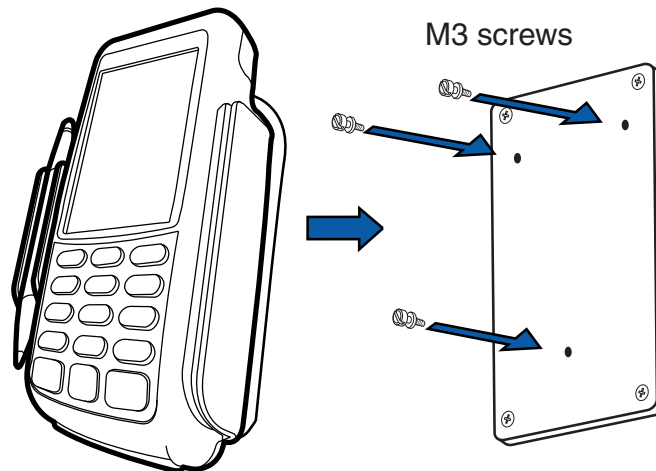
To attach the stylus holder, screw it into the back of the VX 820 as shown in the illustration below:



Mounting Adapter This optional accessory is used to mount the VX 820 to vertical or inclined surfaces. First, screw the mounting adapter in place using the two slots behind the terminal, and optionally the stylus holder.



Attach three M3 screws to the desired surface. Make sure that they are placed at distances that align with the slots on the mounting adapter. Finally, slide the terminal with the attached adapter in place.



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Specifications

This chapter discusses power requirements, dimensions, and other specifications of the VX 820.

- Unit Power Requirements**
 - 5-12VDC, 4.2W Max
(Maximum consumption with backlight and contactless active)
- Power Pack**
 - PWR282-001-01-A (varies per region)
 - UL, ITE listed, Class 2, switching power supply
 - PS, 100-240V, 9V DC UNIVERSAL, 1A, 9W
- Temperature**
 - Operating temperature: 0° to 50° C (32° to 122° F)
 - Storage temperature: -30° to 60° C (-22° to 140° F)
- Humidity**
 - Relative humidity: 5% to 95%; no condensation
- External Dimensions**
 - Length : 173.25 mm (6.82 in)
 - Width: 87 mm (3.43 in)
 - Depth: 31.7 mm (1.25 in)
- Weight**
 - Unit weight: 0.27 Kg (0.6 lb)
 - Shipping weight: 0.850 Kg (1.9 lb)
- Processor**
 - 400 MHz ARM11 32-bit RISC processor
- Memory**
 - 160 MB (128 MB of Flash, 32 MB of mDDR)
- Display**
 - 240 x 320 pixel color TFT (QVGA)
 - supports up to 26 lines x 26 characters
- Magnetic Card Reader**
 - Triple track (tracks 1, 2, 3), high coercivity, bi-directional
- Primary Smart Card**
 - ISO 7816, 1.8V, 3V, 5V
 - synchronous and asynchronous cards
 - EMV Approved
- SAM Card Reader**
 - 3 Security Access Modules (SAMs)

- Keypad**
 - 3 x 4 numeric keypad, plus screen addressable
 - keys can be simulated on touchscreen
- Peripheral Ports**
 - Single multi-port connector which supports RS-232, USB 2.0 device, USB Host, Ethernet
- Security**
 - 3DES encryption, Master/Session and DUKPT key management
 - VeriShield file authentication
 - PCI PED 3.0 approved

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Maintenance and Cleaning

The VX 820 has no user-serviceable parts.

Clean the PIN Pad

To clean the unit, use a clean cloth slightly dampened with water and a drop or two of mild soap. For stubborn stains, use alcohol or an alcohol-based cleaner.



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

Do not spray cleaners or other solutions directly onto the keypad or display.

Card Readers

Do not attempt to clean the card readers. Doing so can void any warranty. For card reader service, contact your VeriFone distributor or service provider.

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Service and Support

For VX 820 problems, contact your local VeriFone representative or service provider.

For VX 820 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 VX 820 to VeriFone, you must obtain a Merchandise Return Authorization (MRA) number. The following procedure describes how to return one or more VX 820 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 19](#)) on the bottom of each VX 820 to be returned:
 - Product ID, including the model and part number. For example, “m282-xxx-xx” 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 VX 820 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 VX 820 you are returning for service or repair (serial numbers are located on the bottom of the unit (see Figure 19).
 - 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 bottom of the VX 820).

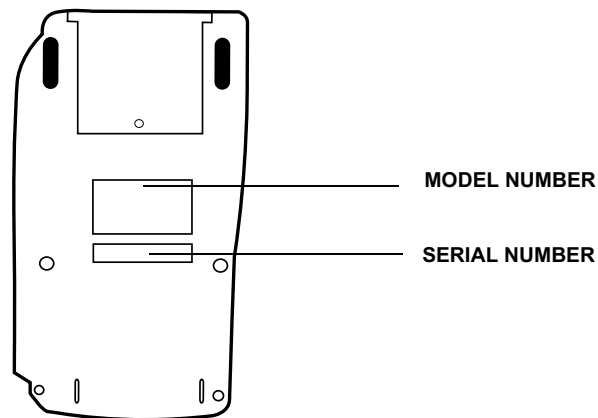


Figure 19 Information Label on Unit Bottom

Accessories Accessories and Documentation

VeriFone produces accessories and documentation for the VX 820. 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

Supplementary Hardware

The following parts come as optional accessories:

PPL282-015-01-A	Mounting adapter
PPL282-009-01-A	Privacy shield
MSC282-003-01-A	Stylus
PPL282-012-01-A	Stylus holder

Data Cables

08361-XX-(R) Connects to VX 520 and other countertop terminals (Mod-10)

08398-XX-(R) Connects VX 820 to ECR with USB Type A

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 Supply

Power packs are optional, except in certain instances (see [Power Supply](#)).

PWR282-001-01-A	DC power pack (US)
PWR282-002-01-A	DC power pack (UK)
PWR282-003-01-A	DC power pack (EU)

USB Power Cable

08541-01-R USB Power Cable

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Troubleshooting Guidelines

This chapter lists typical examples of malfunctions that you may encounter while operating your VX 820 and the steps that you can take to resolve them.

The troubleshooting guidelines provided in the following section are included to assist successful installation and configuration of the VX 820. If you are having problems operating your VX 820, please read these troubleshooting examples. 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 VX 820 comes equipped with tamper-evident labels. The VX 820 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.

Blank Display

When the VX 820 display does not show correct or clearly readable information:

- Check all power and cable connections.
- If the problem persists, contact your local VeriFone service provider.

Keypad Does Not Respond

If the keypad does not respond properly:

- Check the display. If it displays the wrong character or nothing at all when you press a key, follow the steps outlined in [Transactions Fail To Process](#).
- If pressing a function key does not perform the expected action, refer to the user documentation for that application to ensure you are entering data correctly.
- If the problem persists, contact your local VeriFone representative.

Transactions Fail To Process

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


Check 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 (see [Magnetic Card Reader Use](#)).
- Process a transaction manually using the keypad instead of the card reader. If the manual transaction works, the problem may be a defective card reader.
- If the problem persists, contact your local VeriFone representative.

Check 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 (see [Smart Card Reader Use](#)).
- Ensure the MSAM cards are properly inserted in the slots and are properly secured (see [MSAM / Micro SD Cards](#)).
- If the problem persists, contact your local VeriFone representative.

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Warning:

FCC : Changes or modifications are not expressly approved by the manufacturer could void the user's authority to operate the equipment.

IC : Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

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VX 820

Installation Guide

