

V200 Non-Touch

Installation Guide



V200 Non-Touch Installation Guide

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Verifone, Inc.

1-800-Verifone

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CONTENTS

PREFACE	5
Audience	5
Organization	5
Related Documentation	5
Conventions and Acronyms	5
Document Conventions	6
Acronym Definitions	6
 CHAPTER 1	
Device Overview	
Features and Benefits	9
Connectivity	9
Performance	9
Security	9
Form Factor	10
Exceptional Ease of Use	10
Countertop Performance in a Hand-Over Design	10
True Multi-Application Capability	10
 CHAPTER 2	
Setup	
Selecting Unit Location	13
Ease of Use	13
Environmental Factors	13
Electrical Considerations	14
Ensuring User Privacy	14
PIN Protection Measures	15
Privacy Shield	16
Unpacking the Shipping Carton	16
Examining the Unit's Features	17
Front Panel	17
Connection Ports	18
Establishing Communication	20
Connecting by Telephone Line	20
Connecting by Ethernet Cable	20
Loading a Paper Roll in the Printer	21
Installing or Replacing MSAM Cards	23
Connecting Optional Devices	24
Optional Device Connections	24
Connecting ECRs to the V200 Non-Touch	24
Connecting the Terminal Power Pack	25
Privacy Shield	27
Using the CTLS Reader	27
Using the Smart Card Reader	27
Using the Magnetic Card Reader	28
Periodic Inspection	29

CHAPTER 3		
Specifications	Technical Specifications	31
	Unit Power Requirements	31
	Temperature	31
	Memory	31
	Magnetic Stripe Card	31
	Smart Card Reader	31
	SAM Requirements	31
	Communication	31
	Display	32
	Thermal Printer	32
	SD Memory (Media version only)	32
CHAPTER 4		
Maintenance and Cleaning	Additional Safety Information	33
	Potentially Explosive Environments	33
CHAPTER 5		
Service and Support	Service Returns	35
	Accessories and Documentation	36
	Connection Cables	37
	Power Cables	37
	Cleaning Kit	37
	Documentation	37
CHAPTER 6		
Troubleshooting Guidelines	Blank Display	39
	Terminal Does Not Dial Out	39
	Printer Paper Jam	40
	Keypad Does Not Respond	40
	Peripheral Device Does Not Work	40
	Transactions Fail To Process	40
	Printer Does Not Print	41
	Terminal Display Does not Show Correct or Readable Information	42
CHAPTER 7		
Port Pinouts	RS-232 Port (COM1)	43
	Ethernet Port (LAN)	43
	USB Pinout (Host Port)	44
	USB Pinout (Client Port)	44
APPENDIX A		
Caution and Warning Messages	V200 Non-Touch Caution and Warning Messages	45



This guide is the primary source of information for setting up and installing the V200 Non-Touch 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 documentation from Verifone.
- [Chapter 6, Troubleshooting Guidelines](#). Provides troubleshooting guidelines should you encounter a problem with unit installation and configuration.
- [Chapter 7, Port Pinouts](#). Shows the different pinout settings for ports on the V200 Non-Touch
- [Appendix A, Caution and Warning Messages](#). Shows the UL/cUL certification-compliant translations of all Warning and Caution messages in this installation guide.

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).

<i>V200 Non-Touch Certifications and Regulations Sheet</i>	VPN DOCxxx-xxx-EN
<i>V200 Non-Touch Quick Installation Guide</i>	VPN DOCxxx-xxx-EN
<i>V200 Non-Touch Reference Guide</i>	VPN DOCxxx-xxx-EN

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 .
	The pencil icon is used to highlight important information.	If exchanging cables, use a Verifone-approved cable.
	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.
	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
ATM	Automated teller machine
COM	Communications port
CTLS	Contactless
DDA	Dynamic Data Authentication
ECC	Elliptic Curve Cryptography
EMV	Europay, MasterCard, and Visa
ETH	Ethernet
HSM	Hardware security module
HW	Hardware
I/O	Input/Output
ITP	Internal thermal printer
LCD	Liquid crystal display
LPS	Lines per second
MB	Mega-bytes
MOD 10	Luhn algorithm or Luhn formula, also known as "mod 10"
MSAM	Micromodule-Size Secure Access Module
MSR	Magnetic-stripe card reader
PCI	Payment Card Industry

Table 2 **Acronym Definitions** (continued)

Acronym	Definitions
PED	PIN-entry device
PIN	Personal Identification Number
QVGA	Quarter Video Graphics Array
RF	Radio Frequency
RJ45	Registered Jack 45 modular connector
RS-232	Recommended Standard 232
SAM	Secure Access Module
SC	Smart card
SCR	Smart card reader
SD	Secure Digital
SDA	Static Data Authentication
SDHC	Secure Digital High Capacity
SIM	Subscriber Identity Module
SMA	SubMiniature version A connector
SRED	Secure Reading and Exchange of Data
TFT	Thin-film transistor
TQM	Terminal Quality Management
UI	User interface
USB	Universal Serial Bus
VM	Vending Machine
WAN	Wide Area Networks



Device Overview

This chapter provides a brief description of the V200 Non-Touch terminal.

The V200 Non-Touch offers several communication options, enhanced display, increased processing power and two USB peripheral ports.

The V200 Non-Touch terminal uses a robust, sleek, and highly functional design.

Features and Benefits

The V200 Non-Touch is an all-in-one countertop payment system that provides quick contactless (CTLS), magnetic-stripe card reader (MSR) and smart card (SC) payment processing with a fast internal thermal printer (ITP) and clear color TFT LCD display.

- Connectivity**
- 2 SAM ports (standard size)
 - MOD 10 2-in-1 I/O port
 - Host USB port
 - Client USB port
 - Telco port (56K modem)
 - Ethernet Port



NOTE

The connectivity ports are easily accessible from the underside of the terminal.

- Performance**
- 600 MHz, 32-bit processor (CPU)
 - Increased memory
 - V200 Non-Touch: 128MB RAM
 - V200 Non-Touch Plus: 512MB RAM
 - Both products use 256MB Flash
 - 2.8-inch QVGA LCD (240RGB x 320 dots)
 - Fastest encryption/decryption appliance on the market
 - Backlit keypad with tactile and audible feedback.

- Security**
- PCI 4.0 compliant
 - Direct key injection using industry standard HSMS
 - VeriShield Retain

- VeriShield Remote Key
- Verifone Secure Data
- VeriShield Total Protect
- MasterCard TQM
- IPP8 functionality plus multiple DUKPT engines
- EMV L1 and L2
- ISO7816-3, ISO7816-10 and EMV 4.3 standards

Form Factor

- The V200 Non-Touch is ergonomically designed to fit both the traditional countertop and hand-over models.

Exceptional Ease of Use

- Four-way navigation button with two selection keys for UI access.
- The contactless functionality offers a convenient payment option for consumers.
- The bold design is sleek, stylish, and lightweight for conveniently handing the terminal to the consumer for PIN entry or other input.
- An intuitive ATM-style interface, a large 8-line by 21-character backlit display with backlit keypad, and extra-size menu prompts, simplify training and reduce help desk calls.
- The multiple font-capable integrated thermal printer simplifies paper loading and reduces paper jams. Uses 57 mm wide x 40 mm diameter paper rolls, prints at 30 lines per second (LPS).
- The triple-track, high-coercivity card reader handles most magnetic stripe cards.

Countertop Performance in a Hand-Over Design

- The 32-bit processing and multi-tasking capabilities ensures fast processing of payment, payment-related, and value-added applications.
- Exceptional display and printer graphics-handling capabilities that quickly render logos, graphical fonts, and character-based languages.
- The V200 Non-Touch ensures uncompromising reliability from Verifone, the worldwide leader in e-payment.

True Multi-Application Capability

- The V200 Non-Touch offers 128MB and 512MB for V200 Non-Touch Plus of random access memory, and 256MB dynamic memory allocation for operating system, which supports multiple applications on a single terminal.
- The primary smart card reader and the MSAMs safeguard sensitive financial data and support multiple smart card schemes.
- V200 Non-Touch units are certified for ISO7816-3, ISO7816-10 and EMV4.3 standards for smart card solutions.

- The VeriShield security architecture meets published specifications for PCI PED and provides sophisticated file authentication to prevent execution of unauthorized software on V200 Non-Touch devices.
- Biometrics and Barcode reader support via MOD 10 connector.



CHAPTER 2

Setup

This chapter describes the setup procedures for the V200 Non-Touch terminal, under the following sections:

- Selecting Unit Location
- Unpacking the Shipping Carton
- Examining the Unit's Features
- Establishing Communication
- Loading a Paper Roll in the Printer
- Installing or Replacing MSAM Cards
- Connecting Optional Devices
- Connecting the Terminal Power Pack
- Privacy Shield
- Using the CTLS Reader
- Using the Smart Card Reader
- Using the Magnetic Card Reader

Selecting Unit Location

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

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 a telephone/modem line connection.
- For safety, do not string the power cord in a walkway or place it across a walkway on the floor.

Environmental Factors

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

- Do not use the terminal outdoors.



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

Electrical Considerations

- Avoid using this product during electrical storms.
- Do not place a CTLS device within 10 cm from metallic objects to avoid interference to the CTLS field.
- 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 terminal near water or in moist conditions.

Ensuring User Privacy

Use the following guidelines to protect the user's privacy when he enters his PIN:

- The area of visibility should be no larger than a cone taken from the number 5 key at an angle of 45° and covering an area of 270° directly in front of the user, as shown in [Figure 1](#).

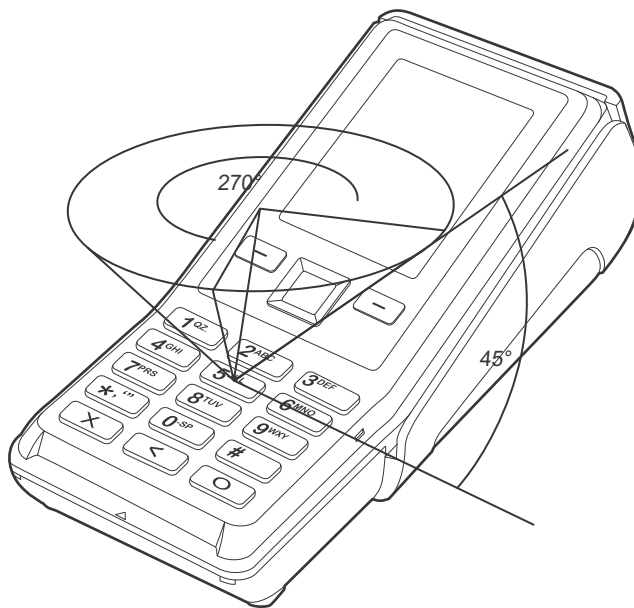


Figure 1

Pin Entry Visibility Area

- You can secure PIN entry by installing a privacy shield (Figure 2).

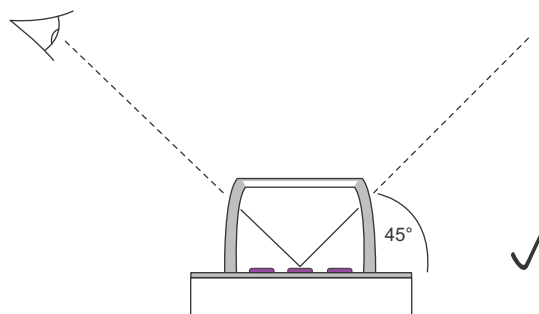


Figure 2 PIN Entry Privacy Shield

PIN Protection Measures

Several techniques can be employed to provide for effective screening of the PIN entry keypad during the PIN entry process. These methods would typically be used in combination, though in some cases a method might be used singly.

- Position the unit on the check-stand in such a way as to make visual observation of the PIN entry process infeasible. Examples here include:
 - Visual shields designed into the check-stand. These shields may be solely for shielding purposes, or may be part of the general check-stand design.
 - Position the PED so that it is angled in such a way that PIN spying is difficult.
- Installing the PED on an adjustable stand that allows consumers to swivel the terminal sideways and/or tilt it forwards/backwards to a position that makes visual observation of the PIN entry process difficult.
- Positioning of in-store security cameras so that the PIN entry keypad is not visible.

The following table shows the combinations of methods that must be used when installing the MX 900 Series terminal to protect the cardholder's PIN during PIN entry.

Table 3 PIN Entry Protection Measures

Method	Observation Corridors			
	Cashier	Customer Queue	Customers Elsewhere	On-Site Cameras
Countertop with Swivel Stand	No Action Needed.	Customer positions PED.	No Action Needed.	Do not install within view of cameras.
Countertop without stand	Position unit to face away from the cashier. Use signage to block cashiers view.	Position unit between customer and the next in cue. Install the optional privacy shield.	Privacy Shield Installed.	Do not install within view of cameras.

NOTE



The stand swivels to allow the cardholder to position the PED to optimize their viewing angle. If the stand will be used, you must include prompts in your application directing the cardholder to position the PED strategically to restrict the view of others.

Additionally, you may wish to implement the following to further increase security during PIN entry.

- Offer PIN security literature at the point of sale
- Use signage to limit the view of the PED to just that of the cardholder

Privacy Shield

In order to comply with PCI, perform visual inspection of the terminal every 24 hours to ensure that the privacy shield is installed.

Unpacking the Shipping Carton

Open the shipping carton and carefully inspect its contents for possible tampering or shipping damage. The V200 Non-Touch is a secure product and any tampering may cause the device to cease to function properly.

To unpack the shipping carton

- 1 Validate the authenticity of the sender by verifying the shipping tracking number and other information located on the product order paperwork.
- 2 Remove and inspect the following items:
 - Terminal
 - Power pack
 - Telephone line cord
 - Paper roll

Refer to [Accessories and Documentation](#) for more information about the device's related accessories.

- 3 Remove all plastic wrapping from the terminal and other components.

- 4 Remove the clear protective film from the display.
- 5 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 otherwise damaged. This unit comes equipped with tamper-evident labels. If a label or component appears damaged, immediately notify the shipping company and your Verifone representative or service provider.

Examining the Unit's Features

Before you continue the installation process, review the features of the device (see [Figure 3](#)).

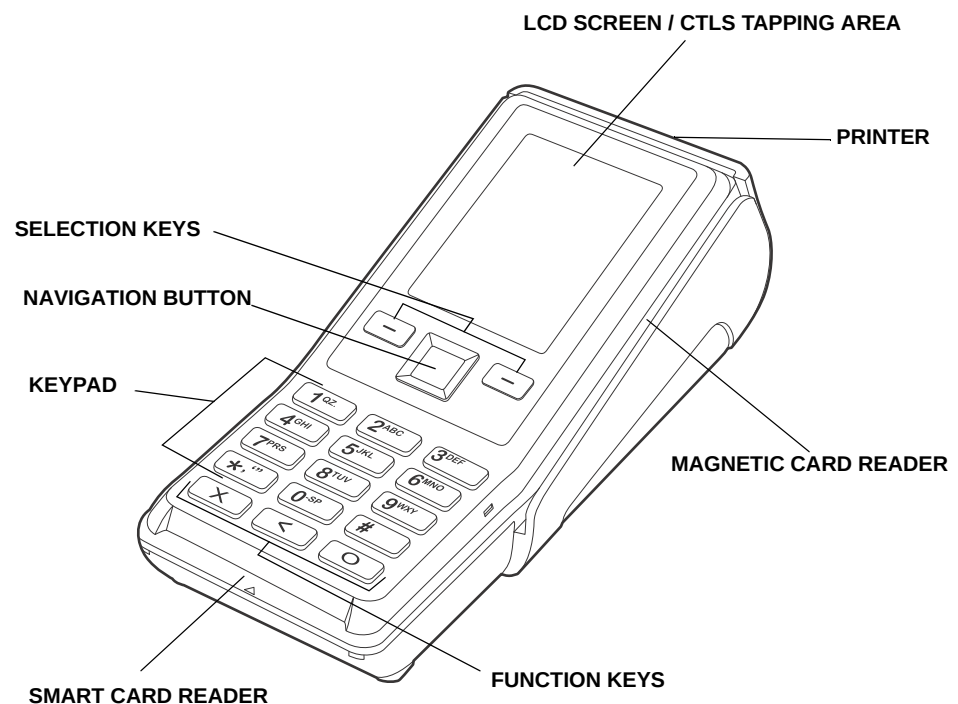


Figure 3 V200 Non-Touch Front View

Front Panel The front panel includes the following features:

- A terminal display, backlit LCD screen. The screen also acts as the CTLS tapping area for contactless transactions.
- Four sets of keys:
 - A backlit 12-key, telephone-style keypad.
 - Three color-coded function keys below the keypad (icons at right; from left to right: CANCEL, BACKSPACE/CLEAR, ENTER).
 - A four-way navigation button centered at the top of the keypad, below the LCD screen.

- Two selection keys on the left and right side of the navigation button.
- A magnetic card reader, built into the right side. The icon shows the proper swipe direction, with the stripe down and facing inward, toward the keypad.
- A smart card reader, built into the front of the terminal. The icon indicates proper card position and insertion direction.
- The internal thermal printer opens toward the rear of the unit.

Connection Ports Turn the unit upside down and remove the rear cover to view the connection ports. Notice that the ports are recessed. Different ports provide connections to a communications line, optional peripheral devices, and the power supply.

Figure 4 shows how to open the rear cover of the V200 Non-Touch device.

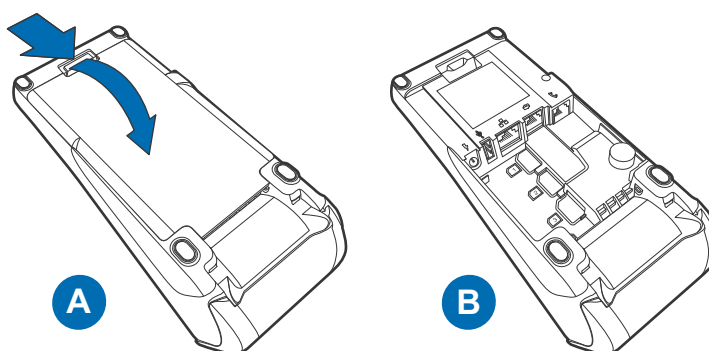


Figure 4 Opening the Rear Cover

Figure 5 shows the power and connection ports for the V200 Non-Touch.

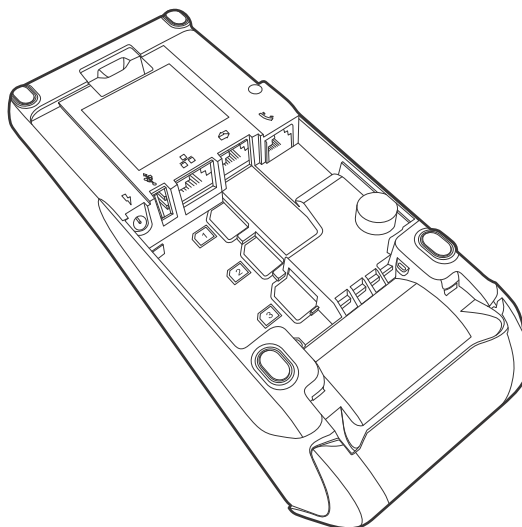


Figure 5 Power and Connection Ports



WARNING Do not connect the terminal to the power supply until all the peripherals are attached.

To use the connection ports

The connection ports offer multiple connectivity for the V200 Non-Touch terminal. Please refer to the following list of peripheral devices for the connectivity options.

Host USB Port

- PIN Pads
- Barcode readers
- Biometric readers
- USB flash disk
- USB keyboards

Ethernet Port

- Ethernet cable to router, hub or switch

Client USB Port

- PCs
- ECR/Cash registers

Telco Port

- Telephone line with 56K modem

MOD 10 2-in-1 I/O port

- PIN Pads
- Computers
- ECRs
- Check readers
- CTLS readers
- Biometric readers
- Barcode readers
- Keyboards

NOTE

The MOD 10 2-in-1 I/O port supplies 11.6 V / 365 mA to power accessories (PIN pads and powered RS-232 devices). It is SW configurable to USB 2.0 High speed Host and supplies 5 V, 500 mA to external USB devices.

For information on how to attach peripheral devices, see [Connecting Optional Devices](#).

Establishing Communication

You can connect the V200 Non-Touch using the following options: By telephone line and by ethernet cable.

Connecting by Telephone Line

Connect the telephone cord to the communication port on the terminal, then route it directly to a telephone wall jack (see [Figure 6](#)). This is a direct connection and the line is dedicated to the terminal.

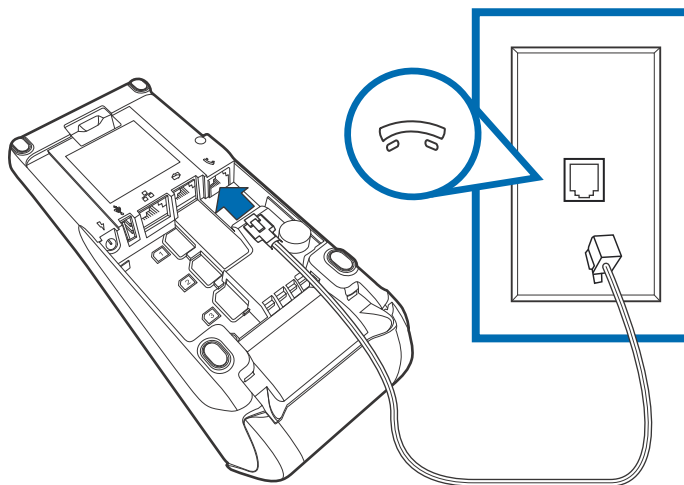


Figure 6 Direct Telephone Connection

WARNING



To reduce the risk of fire, use only No. 26AWG or larger UL Listed or CSA Certified Telecommunication Line Cord.

Connecting by Ethernet Cable

Connect the ethernet cable to the ETH port on the terminal, then route it directly to a network jack (see [Figure 7](#)). This is a direct connection to your network.

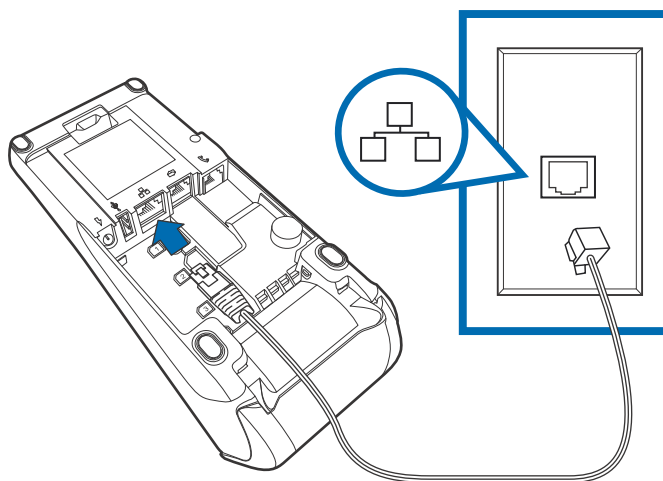


Figure 7 Ethernet Connection

Loading a Paper Roll in the Printer

Before you can process transactions that require a receipt or record, you must install paper in the printer.

The V200 Non-Touch uses a roll of 57 mm wide x 40 mm, single-ply, thermal sensitive paper.

A pink out-of-paper indicator line appears on the edge of the paper before the end of the roll. After this line appears, there is enough paper remaining on the roll to conclude at least one more transaction.



CAUTION Poor-quality paper can jam the printer and create excessive paper dust. To order high-quality Verifone paper, refer to [Accessories and Documentation](#). Store thermal paper in a dry, dark area. Handle thermal paper carefully: impact, friction, temperature, humidity, and oils affect the color and storage characteristics of the paper. Never load a roll of paper with folds, wrinkles, tears, or holes at the edges.

- To install a paper roll**
- 1 Hook your finger under the latch and lift up to swing the paper roll cover open (see [Figure 8](#)).



Figure 8 Opening the Printer Cover

- 2 Remove any partial roll of paper in the printer tray by lifting it up.
- 3 Loosen the glued leading edge of the new paper roll or remove the protective strip. Unwind the paper roll past any glue residue.
- 4 Hold the roll so the paper feeds from the *bottom* of the roll.

- 5 Drop the paper roll into the printer tray.



Figure 9 Loading Paper Roll

- 6 Pull paper up past the glue residue.
- 7 Close the paper roll cover by gently pressing directly on the cover until it clicks shut, allowing a small amount of paper past the glue residue to extend outside the printer door. (see [Figure 9](#)).



To prevent the paper roll cover from damaging the print roller, always gently press down on the printer dust cover to close it.



Figure 10 Closing Paper Roll Cover

- 8 Tear the paper off against the serrated metal strip in the printer.



For paper ordering information, refer to [Accessories and Documentation](#).

Installing or Replacing MSAM Cards

When you first receive your V200 Non-Touch, you may need to install one or more MSAM cards or you may need to replace old cards.



CAUTION Observe standard precautions when handling electrostatically sensitive devices. Electrostatic discharges can damage this equipment. Verifone recommends using a grounded anti-static wrist strap.

To install or replace MSAMs

- 1 Remove the power pack from the power outlet.
- 2 Place the terminal upside down on a soft, clean surface to protect the display from scratches.
- 3 Press the unlocking button and then lift the rear cover to access the MSAM card slots.

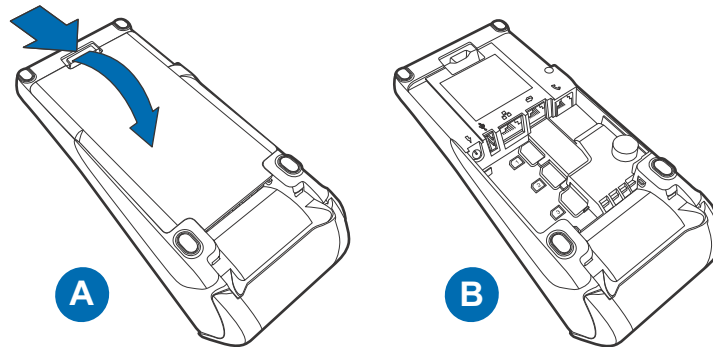


Figure 11 Opening the V200 Non-Touch Rear Cover

- 4 Remove any previously installed MSAM cards by sliding the card out from the cardholder.
- 5 Install an MSAM card by carefully sliding it into the slot until it is fully inserted.

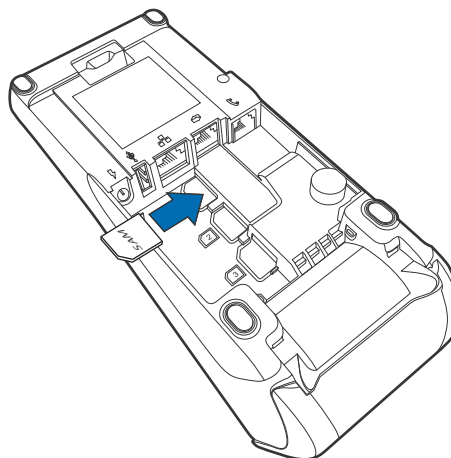


Figure 12 Installing an MSAM Card

- 6 Replace the terminal rear cover.

Connecting Optional Devices

The V200 Non-Touch device supports some peripheral devices designed for use with electronic point-of-sale terminals.

CAUTION

Before connecting any peripheral device, remove the power plug from the terminal. Reconnect the power cord only after you are finished connecting the peripheral device(s). For complete information about peripheral installation and use, refer to the user documentation supplied with those devices.

Different terminals support different devices, so for more information about optional devices, please contact your Verifone distributor.

Optional Device Connections

The MOD 10 2-in-1 I/O port can operate either as a PIN pad port or an RS-232 port, depending on the power source available.

Connecting a PIN Pad to the V200 Non-Touch

Use the following procedures to connect a PIN pad or smart card reader.

- 1 Remove the V200 Non-Touch rear cover.
- 2 Insert the RJ45-type connector of the PIN pad or smart card reader into the port of the peripheral device.

If a cable is not already connected to the smart card reader or PIN pad, insert the small modular plug on one end of the interface cable into the optional device's modular jack.

- 3 Insert the larger RJ45-type connector on the other end of the PIN pad cable into the PIN pad serial port on the V200 Non-Touch. Figure 13 provides an example of a PIN pad connection to the V200 Non-Touch.

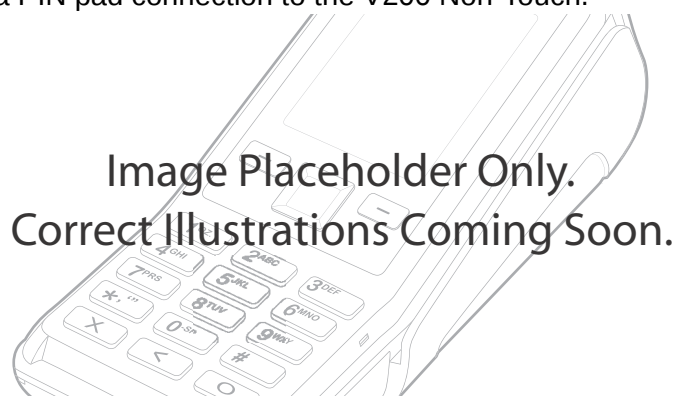


Figure 13 Sample PIN Pad Connection

NOTE

Make sure you replace the rear cover when all cables are installed. This provides some protection to the cables and connectors. Do not carry the terminal by the installed cables or pull the terminal about the by the cables. This may cause a cable to be removed or damage the cables.

Connecting ECRs to the V200 Non-Touch

The V200 Non-Touch also supports electronic cash registers (ECR).

Contact your Verifone representative or visit the online store at www.store.verifone.com for information on these devices.



ECRs require a separate power source. Before connecting to an ECR or similar device, remove the power cord from the V200 Non-Touch unit.

The following illustration shows how to make a peripheral connection to the USB port



Figure 14 Sample ECR Connection

Connecting the Terminal Power Pack

When you have finished connecting optional peripheral(s), you are ready to connect the V200 Non-Touch to the provided power source.



Using an incorrectly rated power supply may damage the terminal or cause it not to work as specified. Before troubleshooting, ensure that the power supply being used to power the terminal matches the requirements specified on the bottom of the terminal. (See [Chapter 3, Technical Specifications](#), for detailed power supply specifications.) Obtain the appropriately rated power supply before continuing with troubleshooting.



Plugging in the power pack to a power source automatically turns on the terminal.

To connect the terminal power pack

- 1 Remove the terminal rear cover to access the power port.

- 2 Insert the round barrel connector (see Figure 15) into the power port.

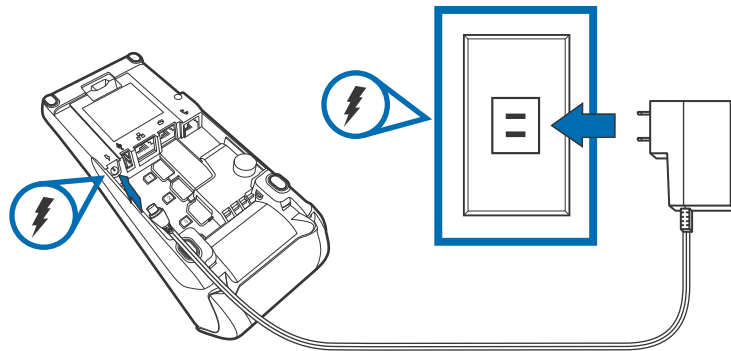


Figure 15 Power Connection

- 3 Route the cable in the direction of the arrow above the power port and sling the cable over the underside of the thermal paper container.
- 4 Close the terminal rear cover.
- 5 Plug the AC power pack into a wall outlet or powered surge protector.

WARNING



Do not plug the power pack into an outdoor outlet or operate the terminal outdoors.

Disconnecting the power during a transaction may cause transaction data files not yet stored in terminal memory to be lost.

To protect against possible damage caused by lightning strikes and electrical surges, consider installing a power surge protector.

NOTE



Verifone recommends connecting wall power in the following order:

- 1 Connect the terminal to the power supply.
- 2 Connect the power supply to the power cord (if applicable).
- 3 Connect the power cord to the wall outlet.

The terminal lights activate when the terminal has power.

If an application is loaded in the terminal, it starts after the initial Verifone copyright screen and usually displays a unique copyright screen. If no application is loaded in the terminal, **DOWNLOAD NEEDED** appears on screen after the initial Verifone copyright screen.

Privacy Shield

The privacy shield protects the customers' PIN entry from being seen by the cashier or other customers. The illustration (Figure 16) shows an example of a V200 Non-Touch unit with a privacy shield.

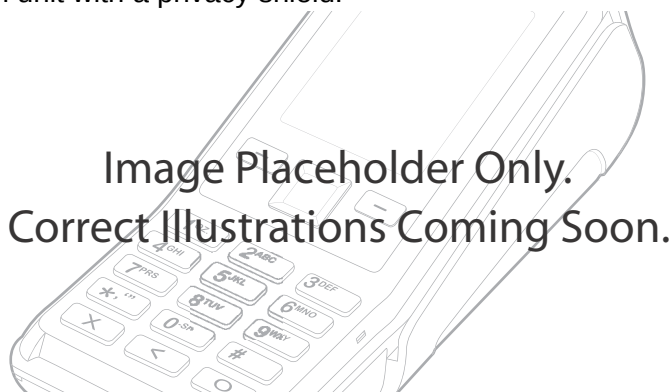


Figure 16 Privacy Shield

NOTE



Merchants who install the terminal without the privacy shield must ensure the cardholder's privacy when entering his PIN by positioning the terminal away from open view.

Using the CTLS Reader

The V200 Non-Touch function is only active when signaled by an application for the conduction of a contactless smart card transaction.

To perform a contactless smart card transaction

- 1 Gently tap the card onto or hold the card (within 4 cm) against the surface of the RFID canopy (see Figure 17).
- 2 A short beeping sound indicates a successful transaction.

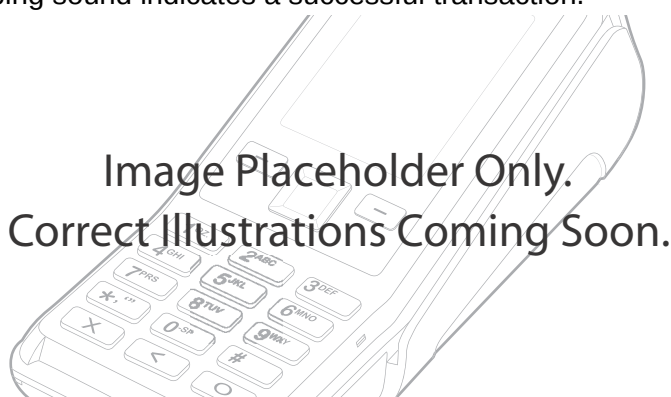


Figure 17 Using a CTLS Card

NOTE



Follow proper care procedures to ensure the contactless module continues working properly. Avoid exposing the module to metallic surfaces while in use.

Using the Smart Card Reader

The smart card transaction procedure may vary from one application to another. Verify the procedure with your application provider before performing a smart card transaction.

To conduct a smart card transaction

- 1 Position a smart card with the contacts facing upward (see Figure 18).
- 2 Insert the smart card into the smart card reader slot in a smooth, continuous motion until it seats firmly.
- 3 Remove the card only when the application indicates the transaction is complete.



Figure 18 Inserting a Smart Card



Leave the smart card in the card reader until the transaction is complete. Premature card removal will invalidate the transaction.

Using the Magnetic Card Reader

The V200 Non-Touch terminal supports credit or debit card transactions.

To conduct a credit or debit card transaction

- 1 Position the card with the stripe in the card reader and facing inward, toward the keypad.
- 2 To ensure a proper read of the magnetic swipe card, the user should insert the magnetic card from the top of the unit, as shown in Figure 19.

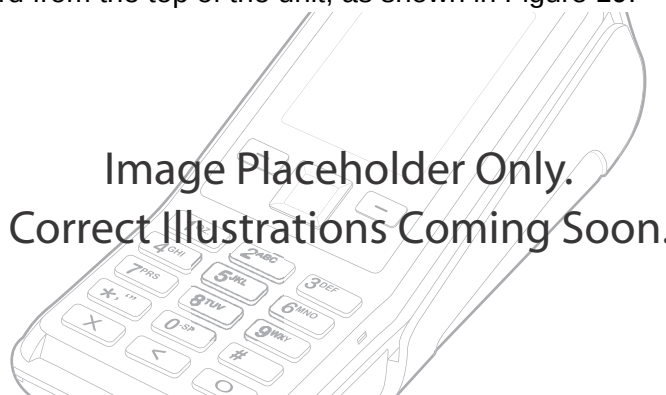


Figure 19 Using the Magnetic Card Reader

- 3 Swipe the card through the magnetic card reader.

Periodic Inspection

Periodically inspect the terminal for possible tampering. Signs of tampering include:

- Wires protruding out of the device.
- Foreign objects inserted into the smartcard slot or magnetic stripe slot.
- Signs of damage to the tamper evident labels
- Warning message on the device display

If any device is found in tamper state, please remove it from service immediately, keep it available for potential forensics investigation, and notify your company security officer and your local Verifone representative or service provider. For contacting Verifone, please see section “[Service and Support](#)”.

For terminals equipped with a privacy shield, perform daily inspections to ensure that the privacy shield is installed.

Specifications

This chapter discusses power requirements, dimensions, and other specifications of the V200 Non-Touch unit.

Technical Specifications

Refer to the following information on the power, weight, temperature, memory, ports and other technical details about your V200 Non-Touch unit.

Unit Power Requirements

- Input power rating: 11.6 V DC, 1.55 A.
- External universal-input 18 W power supply, compliant with Energy Efficiency.

Temperature

- Operating Environment: 0°C to +50 °C (32 °F to 122 °F)
- Non-Operating Environment: -20 °C to +60°C (- 4 °F to 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.

Memory

- 128MB DDRAM, 256MB NAND-Flash (V200 Non-Touch)
- 512MB DDRAM, 256MB NAND-Flash (V200 Non-Touch Plus)

Magnetic Stripe Card

- Triple-track
- Supports bi-directional card read, swipe speed at 10 IPS to 40 IPS

Smart Card Reader

- Non-sliding
- Card conserving plated landing contacts
- SC voltage 1.8V, 3.0V, 5.0V

SAM Requirements

- 2 SAM slots
- ID-000 format

Communication

- Ethernet
 - Speed 10 Base-T /100 Base-TX
 - Compliant with IEEE802.3 LAN networks.

- Dial modem
 - Modem: Conexant Boulevard CX93040-1X
 - DAA: Conexant CX20548
 - Host interface SPI
 - V.92 standard supported, line speeds from 2400 Kbps to 56 Kbps.
- USB
 - USB2.0 high speed
 - USB Host/Device configurable by SW
 - Supports 5 V/500 mA to external USB device.
- MOD 10 2-in-1 I/O port
 - Integrates RS-232, USB2.0 Host / Device IO ports into a 10-pin RJ45 connector.
 - Uses VFI customized extension cable to access USB host port or USB device port. The extension cable is not a standard in-box accessory.
 - Supports Biometrics and Barcode reader via MOD 10 connector.

- Display**
- 2.8 inch portrait mode transmissive TFT LCD, RGB stripe (QVGA, 240 RGB x 320 dots)
 - RGB data bus interface, 18 bit Parallel Data
 - Software controllable back-light
 - SPI interface for LCM controller.

- Thermal Printer**
- Support 30 LPS for first 30 sec, and then printing speed will slow down to meet 18 W power budget.
 - Supports 57 mm wide x 40 mm diameter paper roll
 - Out-of-Paper Sensor.

- SD Memory (Media version only)**
- 4 bit SDIO interface
 - Up to 192 Mbps in High-Speed SD mode, 4 bit data transfer
 - Supports card detect and write protect
 - Speed Class: SDHC Class 2, 4, 6 and 10



Maintenance and Cleaning

Your V200 Non-Touch 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 V200 Non-Touch 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).



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 20](#)) on the underside of each unit to be returned:
 - Product ID, including the model and part number. For example, "Mabx-xxx-xx-xxx" and "PTID xxxxxxxx."
 - Serial number (S/N xxx-xxx-xxx).

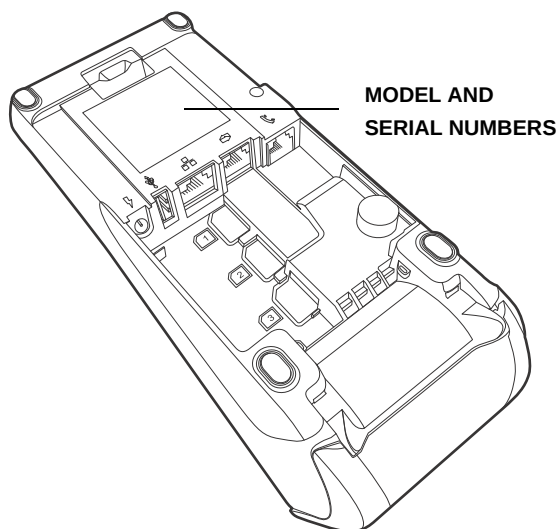


Figure 20 Information Labels on Unit

- 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 20](#)).
 - 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).

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

CBL159-312-01-A	LAN cable for Ethernet connections.
CBL420-001-01-A	RJ45 + USB type A cable
CBL420-002-02-A	RJ45 + USB mini B cable
26264-01-R	Cash register cable, RJ45-SUBD9f, 1.0m.
26264-02-R	Cash register cable, RJ45-SUBD9f, 2.0m.

Power Cables

PWR420-001-01-A	18 W power pack.
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Cleaning Kit

02746	Verifone Cleaning Kit.
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Documentation

VPN DOCxxx-xxx-EN	<i>V200 Non-Touch Certifications and Regulations Sheet</i>
VPN DOCxxx-xxx-EN	<i>V200 Non-Touch Quick Installation Guide</i>
VPN DOCxxx-xxx-EN	<i>V200 Non-Touch Reference Guide</i>



CHAPTER 6

Troubleshooting Guidelines

This chapter lists possible malfunctions that may occur while operating a V200 Non-Touch device and recommends appropriate corrective actions. 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.

Blank Display

When the terminal display screen does not show correct or clearly readable information:

- Check terminal power connection.
- Remove and reapply power to the terminal.
- Check the battery status.
- Check all cable connections and verify that the telephone line is properly connected.
- If the problem persists, contact your local Verifone service provider.

Terminal Does Not Dial Out

If the terminal does not dial out:

- Check the telephone line connections.
- Check that the telephone line is working by plugging it into a working telephone and listening for a dial tone.
- Replace the telephone cable that connects the terminal with a cable you know is working correctly.
- Verify that a modem profile is present. The modem will not function without a modem profile.
- If the problem persists, contact your local Verifone service provider.

Printer Paper Jam

If paper jams inside the printer:

- 1 Open the paper roll cover.
- 2 Remove the damaged paper from the paper roll and clear the feed mechanism.
- 3 Install printer paper.
- 4 If the problem persists, it may be due to poor paper quality. Install a new roll of higher-quality paper.

CAUTION



Poor-quality paper may jam the printer. To order high-quality Verifone paper, refer to [Accessories and Documentation](#).

Keypad Does Not Respond

If the keypad does not respond properly:

- Check the terminal 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.

Peripheral Device Does Not Work

If any peripheral device (PIN pad or smart card reader) does not work properly:

- Check the power cord connection to the peripheral device.
- Check that the device connected to the proper port has power and is functioning properly. If possible, perform a self-test on the device in question.
- The cable connecting the optional device to the terminal serial port may be defective. Try a different serial cable. See [Connecting Optional Devices](#).
- If the problem persists, contact your local Verifone representative.

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.

- 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 manual transaction does not process, proceed to [Check the Telephone Line](#).
- 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.



The V200 Non-Touch reads the card upon card removal or withdrawal from the slot.

- Ensure the SAM cards are properly inserted in the cardholders and that the cardholders are properly secured (see [Installing or Replacing MSAM Cards](#)).
- If the manual transaction does not process, proceed to [Check the Telephone Line](#).
- If the problem persists, contact your local Verifone representative.

Check the Telephone Line

- Disconnect the telephone line from the terminal and connect it to a working telephone to check for a dial tone. If there is no dial tone, replace the telephone cable.
- If the problem appears to be with the telephone line, check with the party you are trying to call to see if their system is operational. If they are not experiencing difficulties with their line, contact the telephone company and have your line checked.
- If the telephone line works, contact your local Verifone representative for assistance.

Printer Does Not Print

If the printer does not work properly:

- Check terminal power connection.
- Check if the printer is out of paper and that the roll is properly installed. Open the paper roll cover and install a new roll of printer paper or ensure that the roll is feeding from the bottom.
- Verify that the printer roller and paper roll dust cover are properly installed.
- If the problem persists, contact your Verifone distributor or service provider.

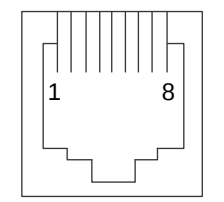
Terminal Display Does not Show Correct or Readable Information

- Connect the terminal in to a known-good power supply (if you have one) to see if this clears the problem.
- If the problem persists, contact your local Verifone representative for assistance.

Port Pinouts

This section contains port pinout tables for the V200 Non-Touch.

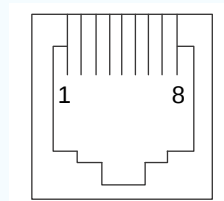
RS-232 Port (COM1)

Connector	PIN	Function	Description
	1	Portpwr (9 to12 V DC)	Port power (11.6V typ., 365mA)
	2	NC	No connection
	3	NC	No connection
	4	GND	Power ground
	5	RXD	Receive data
	6	TXD	Transmit data
	7	NC	No connection
	8	NC	No connection

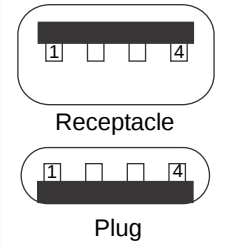


The 10-pin download cable (VPN 26264) connects to the 8-Pin RS-232 port of the device, wherein Pin 2 from the cable corresponds to Pin 1 on the RS-232 port.

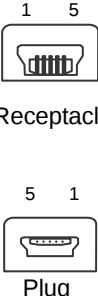
Ethernet Port (LAN)

Connector	PIN	Function	Description
	1	TXD+	Transmit data +
	2	TXD-	Transmit data -
	3	RXD+	Receive data +
	4	NC	No connection
	5	NC	No connection
	6	RXD-	Receive data -
	7	NC	No connection
	8	NC	No connection

USB Pinout
(Host Port)

Connector	PIN	Function	Description
 Receptacle Plug	1	+5 V	5 V USB Power (500 mA)
	2	DATA-	USB Host Signal -
	3	DATA+	USB Host Signal +
	4	GND	USB ID pin/Ground

USB Pinout
(Client Port)

Connector	PIN	Function	Description
 Receptacle Plug	1	5 V 0	5 V USB Power
	2	DATA-	USB Device Signal -
	3	DATA+	USB Device Signal +
	4		
	5	GND	USB Ground



APPENDIX A

Caution and Warning Messages

V200 Non-Touch Caution and Warning Messages

Products with UL/cUL certification include French translations of Caution and Warning notices. The following table lists all notices found in the document, their location and the equivalent French translations.

Table 4 Caution and Warning Messages

Notice	Chapter	Page	English Text	French Text
Caution	Setup	page 14	The terminal is not waterproof or dustproof, and is intended for indoor use only. Any damage to the unit from exposure to rain or dust may void any warranty.	<i>Le terminal est pas étanche ou à la poussière, et est destiné à une utilisation en intérieur. Tout dommage à l'unité de l'exposition à la pluie ou à la poussière peut annuler la garantie.</i>
Warning	Setup	page 15	Do not use a unit that has been tampered with or otherwise damaged. This unit comes equipped with tamper-evident labels. If a label or component appears damaged, immediately notify the shipping company and your Verifone representative or service provider.	<i>Ne pas utiliser une unité qui a été altéré ou endommagé. Cet appareil est équipé d'étiquettes inviolables. Si une étiquette ou d'un composant semble endommagé, avertissez immédiatement la compagnie de navigation et votre représentant ou du prestataire de services Verifone.</i>
Warning	Setup	page 17	Do not connect the terminal to the power supply until all the peripherals are attached.	<i>Ne pas connecter le terminal à l'alimentation jusqu'à ce que tous les périphériques sont branchés.</i>
Warning	Setup	page 19	To reduce the risk of fire, use only No. 26AWG or larger UL Listed or CSA Certified Telecommunication Line Cord.	<i>Pour réduire le risque d'incendie, utilisez uniquement No. 26AWG ou plus cordon certifiés CSA télécommunications UL ou.</i>

Table 4 Caution and Warning Messages (continued)

Notice	Chapter	Page	English Text	French Text
Caution	Setup	page 20	Poor-quality paper can jam the printer and create excessive paper dust. To order high-quality Verifone paper, refer to Accessories and Documentation. Store thermal paper in a dry, dark area. Handle thermal paper carefully: impact, friction, temperature, humidity, and oils affect the color and storage characteristics of the paper. Never load a roll of paper with folds, wrinkles, tears, or holes at the edges.	<i>Papier de mauvaise qualité peut provoquer un bourrage et de créer excessive de poussière de papier. Pour commander - papier de haute qualité Verifone, consultez Accessoires et documentation.</i> <i>Gardez le papier thermique dans un endroit sombre . Manipulez le papier thermique attentivement: impact, friction, la température, l'humidité et les huiles affectent les caractéristiques de couleur et de stockage du papier.</i> <i>Ne jamais charger un rouleau de papier avec des plis, des larmes, ou des trous sur les bords.</i>
Caution	Setup	page 21	To prevent the paper roll cover from damaging the print roller, always gently press down on the printer dust cover to close it.	<i>Pour éviter que le couvercle du rouleau de papier d'endommager le rouleau d'impression, toujours appuyez doucement sur le capot de protection de l'imprimante pour le fermer.</i>
Caution	Setup	page 21	Observe standard precautions when handling electrostatically sensitive devices. Electrostatic discharges can damage this equipment. Verifone recommends using a grounded anti-static wrist strap.	<i>Respecter les précautions standard lors de la manipulation des appareils sensibles aux décharges électrostatiques. Les décharges électrostatiques peuvent endommager cet équipement. Verifone recommande d'utiliser un bracelet anti-statique à la terre.</i>
Caution	Setup	page 22	Before connecting any peripheral device, remove the power cord from the terminal and ensure that the green indicator LED is not lit. Reconnect the power cord only after you are finished connecting the peripheral device(s). For complete information about peripheral installation and use, refer to the user documentation supplied with those devices.	<i>Avant de connecter un périphérique, débranchez le cordon d'alimentation de la borne et de veiller à ce que la LED témoin verte est pas allumé Rebranchez le cordon d'alimentation seulement après que vous avez terminé de connecter le périphérique (s) périphérique. Pour des informations complètes sur l'installation et l'utilisation périphérique, reportez-vous à la documentation utilisateur fournie avec ces périphériques.</i>
Caution	Setup	page 23	ECRs require a separate power source. Before connecting to an ECR or similar device, remove the power cord from the V200 Non-Touch unit.	<i>ECR nécessitent une source d'alimentation séparée. Avant la connexion à un ECR ou un dispositif similaire, débranchez le cordon d'alimentation de l'appareil V200 Non-Touch.</i>

Table 4 **Caution and Warning Messages** (continued)

Notice	Chapter	Page	English Text	French Text
Caution	Setup	page 24	Using an incorrectly rated power supply may damage the terminal or cause it not to work as specified. Before troubleshooting, ensure that the power supply being used to power the terminal matches the requirements specified on the bottom of the terminal. (See Chapter 3, Technical Specifications, for detailed power supply specifications.) Obtain the appropriately rated power supply before continuing with troubleshooting.	<i>Utilisation d'une alimentation mal classé peut endommager le terminal ou de l'empêcher de travailler comme spécifié. Avant de dépannage, assurez-vous que l'alimentation est utilisé pour alimenter le terminal correspond aux exigences spécifiées sur le fond de la borne. (Voir le chapitre 3, Caractéristiques techniques, pour les caractéristiques de l'alimentation.) Obtenir l'alimentation nominale appropriée avant de continuer avec le dépannage.</i>
Warning	Setup	page 25	Do not plug the power pack into an outdoor outlet or operate the terminal outdoors. Disconnecting the power during a transaction may cause transaction data files not yet stored in terminal memory to be lost. To protect against possible damage caused by lightning strikes and electrical surges, consider installing a power surge protector.	<i>Ne pas brancher le bloc d'alimentation à une prise extérieure ou exploiter le terminal à l'extérieur. Déconnexion de l' alimentation lors d'une transaction peut entraîner des fichiers de données de transaction non encore stockées dans la mémoire terminal pour être perdu. Pour se protéger contre de possibles dommages causés par la foudre et les surtensions électriques, pensez à installer un protecteur de surtension.</i>
Caution	Setup	page 26	Leave the smart card in the card reader until the transaction is complete. Premature card removal will invalidate the transaction.	<i>Laissez la carte à puce dans le lecteur de carte jusqu'à ce que la transaction est terminée. Retrait prématuré de la carte d'invalider la transaction.</i>
Caution	Maintenance and Cleaning	page 31	Never use thinner, trichloroethylene, or ketone-based solvents – they can deteriorate plastic or rubber parts.	<i>Ne jamais utiliser de diluant, le trichloréthylène ou des solvants à base de cétone - ils peuvent détériorer les pièces en plastique ou en caoutchouc.</i>

Table 4 Caution and Warning Messages (continued)

Notice	Chapter	Page	English Text	French Text
Caution	Troubleshooting Guidelines	37	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.	<i>Utilisation d'une alimentation mal classée peut endommager l'appareil ou provoquer sa ne fonctionne pas correctement. Avant de dépannage, assurez-vous que l'alimentation utilisée pour alimenter l'unité correspond aux exigences spécifiées (voir spécifications pour les caractéristiques de l'alimentation). Si non, obtenir l'alimentation nominale appropriée avant de continuer avec le dépannage.</i>
Caution	Troubleshooting Guidelines	page 38	Poor-quality paper may jam the printer. To order high-quality Verifone paper, refer to Accessories and Documentation.	<i>Papier de mauvaise qualité peut provoquer un bourrage. Pour commander - papier de haute qualité Verifone, consultez Accessoires et documentation.</i>



Verifone, Inc.
1-800-Verifone
www.verifone.com

V200 Non-Touch

Installation Guide

