

T650T

Installation Guide

Verifone Part Number: DOC560-030-EN-B, Revision B02



www.verifone.com

T650T Installation Guide
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Preface

This guide is the primary source of information for setting up the T650T device.

Audience

This guide is intended for the users involved in T650T device installation.

Organization

This guide is organized as follows:

- Chapter 1: [Device Overview](#) - Provides an overview of the T650T device.
- Chapter 2: [Device Setup](#) - Provides instructions on configuring the T650T device.
- Chapter 3: [Specifications](#) - Provides the power requirements and dimensions of the T650T device.
- Chapter 4: [Maintenance and Cleaning](#) - Explains how to maintain the device.
- Chapter 5: [Service and Support](#) - Furnishes information on contacting local Verifone representatives or service providers, as well as details on ordering accessories or documentation from Verifone.
- Chapter 6: [Accessories and Cables](#) - Provides the range of accessories and cables with corresponding part numbers.
- Chapter 7: [Troubleshooting Guidelines](#) - Provides guidance for addressing issues that may arise during device installation.

Related Documentation

To learn more about the T650T, refer to the following documents associated with the Verifone Part Numbers (VPNs).

T650t Certifications and Regulations

VPN - DOC560-031-EN-A

T650T Quick Installation Guide

VPN - DOC560-032-EN-A

Conventions

The following table describes the conventions and provides examples of their use.

Convention	Meaning	Example
<p style="text-align: center;">Blue</p>	<p>Text in blue indicates terms that are cross-referenced.</p>	<p>See Conventions.</p>
 <p style="text-align: center;">NOTE</p>	<p>The bulb icon is used to highlight important information.</p>	<p>If exchanging cables use a Verifone-approved cable.</p>
 <p style="text-align: center;">CAUTION</p>	<p>The caution symbol indicates possible hardware or software failure or loss of data.</p>	<p>Avoid placing metallic objects at the front of the card reader.</p>
 <p style="text-align: center;">WARNING</p>	<p>The lightning symbol is used as a warning when bodily injury might occur.</p>	<p>For safety, do not string cables or cords across a walkway.</p>

1. Device Overview

This chapter provides an overview of the T650T device:

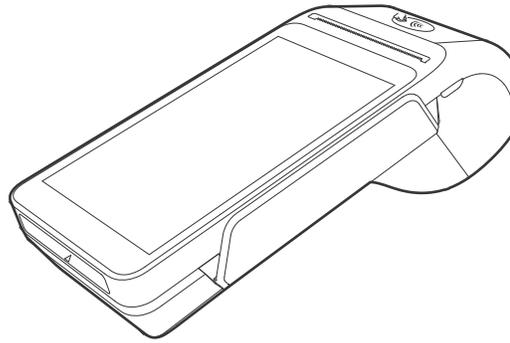
The Verifone T650T device is a powerful countertop device, 4G LTE (Long-Term Evolution), provides a dedicated cellular IP (Internet Protocol) connection with strong battery backup, ensures uninterrupted transaction flow in the event of power failure.

It is a single integrated hardware and software solution to drive booking applications, navigation applications, VoIP (Voice over Internet Protocol), card payment acceptance, APMs (Alternative Payment Methods), and an integrated printer. The Verifone T650T device is available with a dedicated DC (Direct Current) Car PSU (Power Supply Unit) eliminating the need for a battery. The embedded power and data connectors, and the integrated cable management, make a seamless handover from driver to rider.

The Verifone T650T device supports all payment methods - magnetic stripe, EMV (Europay MasterCard and VISA), and NFC (Near Field Communication)/Contactless (CTLS) Reader, including Apple Pay, Google Pay and Samsung Pay mobile wallets. The easy-to-read color touch screen supports all payment related user interactions and keypad for secure PIN (Personal Identification Number) entry. The Verifone T650T device has two variants, 4G LTE + WiFi + with Battery and 4G LTE + WiFi + without Battery. In combination with Verifone Connect digital services, T650T device has the ability to run Android applications, like loyalty and inventory. It also enables clients to remotely monitor and update their device using Verifone's estate management solution.

The T650T device supports Bluetooth and Wi-Fi (Wireless Fidelity) and meets PCI (Payment Card Industry) - PTS (PIN Transaction Security) 6.x SRED (Secure Reading and Exchange of Data) requirements for maximum security.

Figure: 1 T650T Device



Key Features and Benefits

Processor

- Cortex A7 Quad Core 1.1GHz
- (QCOM 8909)

Keypad

- On-screen, Navigation possible

Payment

- MSR (Magnetic Stripe Reader)
- SCR (Smart Card Reader)
- CTLS (Contactless)
- QR (Quick Response) Code

Multimedia

- Speaker and audio jack
- Video Decode
- Video HD (High Definition)
- Integrated microphone

Communication

- Bluetooth 4.2 BLE

- 2.4 GHz + 5 GHz
- 802.11 a, b, g, n

Physical Interface

- 2 USB (Universal Serial Bus) ports
- Serial port (RS232 (Recommended Standard 232))
- Ethernet port
- USB-C OTG (On The Go) port
- USB-A Host port

Security

- PCI PTS 6.x-approved
- SRED
- Supports AES (Advanced Encryption Standard) DUKPT (Derived Unique Key Per Transaction)

SIM/SAM

- SIM (Subscriber Identity Module) x 1
- SAM (Secure Access Module) x 1
- SIM/SAM x 1

Card Reader

- Triple track MSR
- EMV L1-approved Smart card
- ISO (International Organization for Standardization) 7810, 7811, 7813 Smart card reader
- NFC/CTLS

Printer

- Built-in high-speed thermal printer with print speed greater than 25 lines per second, support paper roll with a width of 58mm and diameter of 50mm, support black mark positioning.

- LEDs
- 4 CTLS Indicator
 - Power Indicator
 - Red = charging indicator
 - Green = fully charged indicator

- Camera/
Barcode Scan
- 0.3 MP (Front camera)
 - 5.0 MP (Rear camera)
 - QR/Barcode Scanner

Features and Benefits

- Ease of Use
- Large 5.5" LCD (Liquid Crystal Display) for unlimited application possibilities and easy readability under various lighting conditions.
 - Touchscreen for icon-based applications or electronic signature capture support.
 - Magnetic stripe card reader for optimal card reading.
 - Audio jack to facilitate accessibility for the visually impaired.

- Performance
and Durability
- Fast transactions due to powerful ARM (Advanced RISC Machine) Cortex A7 1.1 GHz quad-core processor.
 - Rounded corners and drop resistance to less than 1m on the concrete floor to minimize breakage.
 - High-capacity lithium-ion battery pack (7.4V/1000mAh with Maxell ICP425262AHR battery cell).
 - 2GB RAM (Random Access Memory) /16GB ROM (Read Only Memory), SD (Secure Digital) card slot size that supports up to 64GB SD memory.

- Security
- Incorporates tamper-sensing circuitry to detect unauthorized intrusion and supports a broad spectrum of software-based security features.
 - PCI-PTS 6.x approved for debit and other PIN-based transactions.
 - EMV Level 1 Type approval.

- Supports reliable security features including TLS (Transport Layer Security), VeriShield file, authentication and VeriShield Protect to help prevent fraud and other intrusions.

Contactless Capability

- Advanced contactless architecture that future-proofs investment with a single contactless interface (SingleCI), SoftSAMs, and side-by-side application architecture.
- Dedicated tap zone for optimized user experience.
- Accepts EMV, NFC, QR Code and mag-stripe contactless payments as well as PIN-based transactions.

Communication Technology

- Bluetooth: Simple, plug-and-play installation for locations that need short-range wireless capability. Eddystone and iBeacon profiles are also supported.
- Dual band Wi-Fi.

Connectivity

- 4G LTE/Wi-Fi; 5 GHz + 2.4 GHz/Bluetooth
- Ethernet, USB-C/ USB-A/ serial RS-232

2. Device Setup

This chapter describes the setup procedure. You will learn about:

- [Environmental Factors](#)
- [PIN Protection Measures](#)
- [Inside the Shipping Carton](#)
- [Device Features](#)
- [Connection Ports](#)
- [SAM CARD](#)
- [Removing the Battery Cover](#)
- [Installing or Replacing SIM/SAM Card](#)
- [Initial Battery Charging](#)
- [Starting Up and Shutting Down](#)
- [Using the Battery](#)
- [Examining Connection Port](#)
- [Loading a Paper Roll in Device](#)
- [Using the Smart Card Reader](#)
- [Using the Magnetic Card Reader](#)
- [CTLS Transaction](#)
- [Camera/QR Code Reader](#)
- [Wi-Fi/BT Support](#)

Environmental Factors

- Do not use the device where there is excess heat, dust, humidity, moisture, caustic chemicals or oils.
- Keep the device away from direct sunlight and anything that radiates heat.

Contactless Considerations

Avoid having metallic objects in proximity of the contactless antenna. If you need to mount the device onto a vertical or inclined surface, use VeriFone approved stand.



CAUTION

Using an enclosed metal frame or mount may negatively affect contactless performance.

L'utilisation d'un cadre ou d'un support métallique fermé peut affecter négativement les performances sans contact.

PIN Protection Measures

Use the following techniques to provide effective screening of the PIN-entry keypad during the PIN-entry process. You can use these methods in combination, although in some cases a single method might suffice.

- Position the device on the check-in stand in such a way as to block visual observation of the PIN-entry process. Examples include:
 - Visual shields designed into the check-in stand. The shields may be solely for shielding purposes or may be part of the general check-in stand design.
 - Position the angle of the device in such a way that PIN spying is difficult.
- Install the PED (PIN Entry Device) on an adjustable stand that allows consumers to swivel the device sideways and/or tilt it forward/backward to a position that makes visual observation of the PIN-entry process difficult.
- Position in-store security cameras so that the PIN-entry keypad is not visible.

VeriFone also recommends instructing the cardholder regarding safe PIN-entry. This can be done with a combination of:

- Signage on the PED
- Prompts on the display, possibly with a click-through screen
- Literature at the point of sale
- A logo for safe PIN-entry process

Inside the Shipping Carton

Open the shipping carton and carefully inspect its contents for possible tampering or shipping damage. The device is a secure product. Tampering causes it to cease to function or to operate in an unsecured manner.

Unpacking the Shipping Carton

To unpack the shipping carton:

- 1 Carefully inspect the shipping carton and its contents for possible tampering or damage.
- 2 Validate the authenticity of the sender by verifying the shipping tracking number and other information located on the product order paperwork.
- 3 Remove and inspect the contents of the shipping carton. The device ships in multiple configurations, the carton may include all or any of the following:
 - Device with Battery/without Battery variant
 - Connectivity cable
 - Paper roll

- Additional accessories (optional)



NOTE

Power supply and connectivity cables are shipped separately or depending on the customer requirements.

- 4 Remove all plastic wrapping from the device and components.
- 5 Remove the clear protective film from the display.
- 6 Inspect the terminal for possible tampering; see how to identify signs of tampering in section [Periodic Inspection](#).
- 7 Save the shipping carton and packing material for future repacking or moving of the device.



WARNING

Do not use a tampered or damaged unit. The device comes equipped with tamper-evident labels. If a label or component appears damaged, please notify the shipping company and your Verifone service provider immediately.

N'utilisez pas un appareil trafiqué ou endommagé. L'appareil est équipé d'étiquettes inviolables. Si une étiquette ou un composant semble endommagé, veuillez en informer immédiatement la compagnie maritime et votre fournisseur de services Verifone.

Periodic Inspection

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

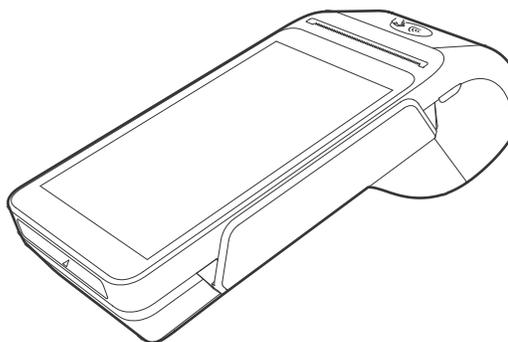
- Overlays in the PIN pad area
- Wires protruding out of the device
- Foreign objects inserted into the smart card slot or magnetic stripe slot
- Any bumps in the casing below the mag stripe slot and any noticeable additional mag stripe head from the side
- Signs of damage to the tamper-evident labels
- A Tamper Warning message on the device display

If any device is found to have been tampered with, 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. To contact Verifone, please see [Service and Support](#).

Device Features

Familiarize yourself with the features before continuing with the installation process.

Figure: 2 T650T (Front Panel)



Front Panel

The front panel offers the following features:

- The T650T device has a colored touch screen display.
- A smart card reader is built into the front of the device to process smart card-based debit or credit transactions. For directions on how to use a smart card, see [Using the Smart Card Reader](#).
- A magnetic card reader is built into the device for performing debit or credit card transactions. The card can be swiped in either direction. To ensure a proper read of the magnetic swipe card, insert the magnetic card from the side of the device as shown in [Figure 14](#).
- Contactless Reader and EMV have dedicated LEDs (Light Emitting Diodes) lower to the left of the display for contactless payments. For directions on how to perform contactless transactions, see [CTLS Transaction](#).
- A 3.5 mm audio jack to facilitate accessibility for the visually impaired.

Connection Ports

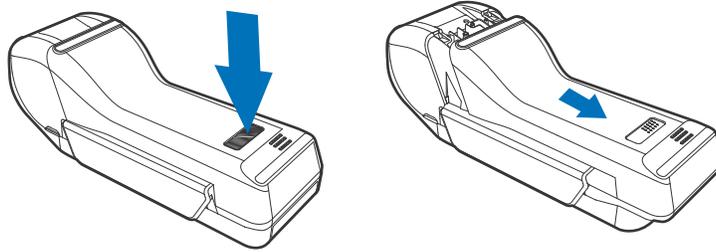
The device has dedicated input/output connectors: Ethernet, RS-232, USB-A, USB-C and DC (Direct Current) power.

Connecting Cables and Other Devices

To connect required cables and other devices:

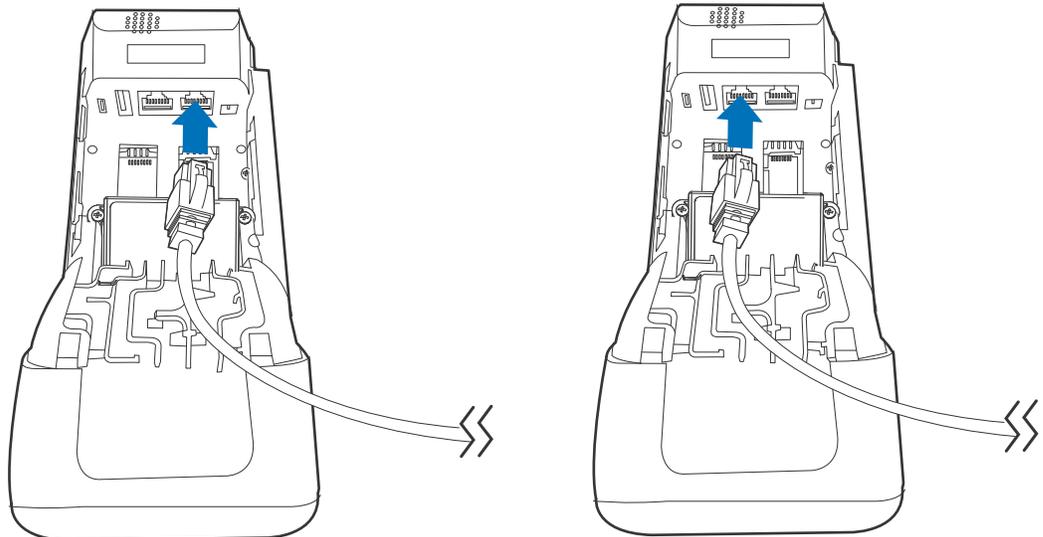
- 1 Remove cable cover as shown below.

Figure: 3 Removing Cable Cover



- 2 Connect required cables or optional devices. Cable is connected to the rear of the unit.

Figure: 4 Connecting the Cable



NOTE

Route the cable through the cable cover first, as shown in the picture.

SAM CARD When you first receive your T650T device, you may need to install one or more SAM cards, or you may need to replace old cards. You may need to install one or two Multiple Security Access Module cards or replace an old one.



CAUTION

Observe standard precautions in handling electrostatically sensitive devices. Electrostatic discharge can damage the equipment. Verifone recommends using a grounded anti-static wrist strap.

Observez les précautions standard lors de la manipulation d'appareils sensibles aux décharges électrostatiques. Les décharges électrostatiques peuvent endommager l'équipement. Verifone recommande d'utiliser un bracelet antistatique mis à la terre.



NOTE

Verifone ships variants of the T650T device for different markets. Your unit may have different options or accessories described in this section.

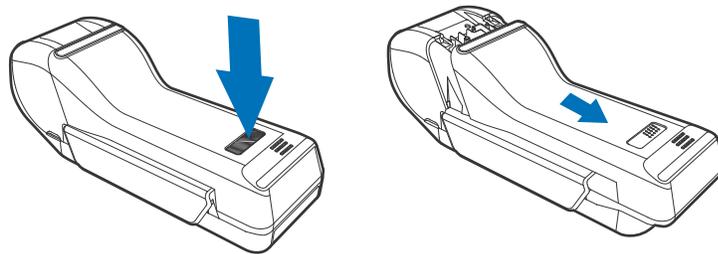
Removing the Battery Cover

Remove the battery cover to access the battery as well as the SIM and SAM slots.

- 1 Turn off the device.
- 2 Place the device upside down on a soft, clean surface to protect the screen from scratches.
- 3 If installed, loosen the retaining screw.

Press and slide the battery cover, away from the magnetic card reader.

Figure: 5 Removing the Battery Cover



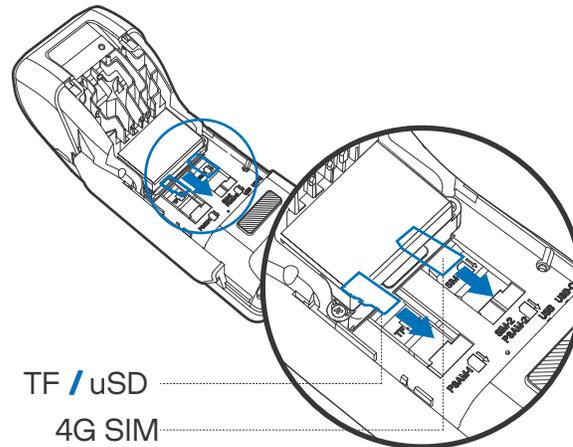
Installing or Replacing SIM/SAM Card

To install or replace SIM/SAM cards:

- 1 Power off the device.
- 2 Place the device face down on a soft and clean surface.
- 3 Remove the cable cover of the unit.

- 4 Insert the SIM/SAM cards. Carefully slide the cards one at a time into the slots until fully inserted. The correct orientation of the SIM/SAM card is as indicated in [Figure 6](#).
- 5 Close the cable cover.

Figure: 6 SAM Insertion



Position the card's gold contacts facing downward towards the user. The card slot in the device has a set of contacts. The SAM card has a notch on one corner to ensure that it fits into the connector base in only one way.

To replace SIM/SAM card, gently slide out the old SIM/SAM card before inserting a new one.

Initial Battery Charging

After unpacking your T650T device, connect the power pack to the unit for eight hours or until fully charged.

The battery has a safety circuit to protect the Li-ion cells from overcharging and over-discharging. If the battery is over-discharged, the safety circuit shuts down the battery. The battery must then be recharged to restore operation.

Starting Up and Shutting Down

The T650T device starts up differently depending on how it is powered ON.

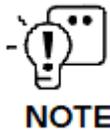
- The device starts up automatically when the T650T is connected to a non-battery power source, regardless of the battery charge state.

- To manually power up, hold the green key down for about 4 seconds until the device displays the startup screen.



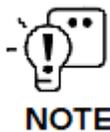
The 4-second power-up delay prevents device startup if the green key is accidentally held down. The time required to hold the green key down to power up the device is configurable.

The device lights up once the power is on.



The Verifone copyright screen starts and displays a unique copyright screen. If the terminal comes pre-loaded with an application, this starts after the initial Verifone copyright screen and usually displays its own copyright screen.

To manually shut down, hold the red key down for about 4 seconds until the device screen stays blank.



The T650T device will only operate when the battery is installed unless connected to AC (Alternating Current) power, for example, in a stand.

Using the Battery

The T650T device uses a single-cell Li-ion battery which features:

- The battery has a safety circuit that:
 - Prevents cell damage from overcharge, over-discharge, or overheating.
 - Activates when the battery is left in an unused device for extended periods.
- The battery provides power to the security circuit when the T650T device has no external power source.
- Li-ion batteries are not affected by shallow charging.

Follow these best practices for best function:

- Conserve battery power by turning the T650T device off when not in use.
- Keep the Li-ion battery inserted in the device and power up the device periodically to check the battery charge. Do not let the battery charge fall below 10% for an extended period as this may permanently diminish battery capacity.
- Recharge the battery by connecting the USB-C end of the power pack to the device and plugging the other end of the power pack into a wall outlet.



The T650T device automatically shuts off when the battery reaches the critically low charge state. If this occurs, the battery must be recharged for a minimum of 1/2 hour before it can power the device. It may take several recharge attempts to reset the safety circuit when charging a battery that has been discharged below this critical state.

The T650T device has two-color LEDs:

- Amber: indicates that it is charging.
- White: indicates that it is fully charged.

Battery Life

Charging and discharging the T650T battery hundreds of times will wear out the battery. Significantly reduced operating times indicate the need for battery replacement (see [Accessories and Cables](#) for ordering information).



Do not dispose batteries in fire. Li-ion batteries must be recycled or disposed of properly. Do not dispose Li-ion batteries in municipal waste sites.

Ne jetez pas les piles au feu. Les batteries Li-ion doivent être recyclées ou éliminées correctement. Ne jetez pas les batteries Li-ion dans les décharges municipales.

Charging the Battery

After installing the battery, the T650T device can be connected to the optional power pack or charged with a wireless charger.



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

L'utilisation d'une alimentation électrique mal évaluée peut endommager l'appareil ou l'empêcher de fonctionner comme spécifié. Avant le dépannage, assurez-vous que l'alimentation électrique utilisée pour alimenter l'appareil correspond aux exigences spécifiées au bas de l'appareil. (Voir Spécifications pour les spécifications détaillées de l'alimentation.) Procurez-vous l'alimentation électrique appropriée avant de poursuivre le dépannage.



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

During a transaction, disconnecting the power by removing the battery or unplugging the device from a wall power while at very low battery charge may cause transaction data files not yet stored in the device memory to be lost.

Ne branchez pas le bloc d'alimentation sur une prise extérieure et n'utilisez pas l'appareil à l'extérieur.

Au cours d'une transaction, débrancher l'alimentation en retirant la batterie ou en débranchant l'appareil de l'alimentation murale alors que la batterie est très faible peut entraîner la perte des fichiers de données de transaction non encore stockés dans la mémoire de l'appareil.

Charging via the Power Pack

Verifone offers the optional power supply (VPN PWR087-300-01-A) to connect the device directly to a power outlet and to charge the battery.

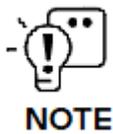
- 1 Insert the USB-C plug into the USB-C port of the T650T device.
- 2 Plug the AC power pack into a wall outlet or powered surge protector.

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

Charging with the Folio

Verifone also offers wireless charging accessories that can be connected to the optional power supply (VPN PWR087-300-01-A) to charge the T650T device when fitted with the Folio accessory.

- 1 Insert the USB-C plug into the USB-C port of the wireless charging accessory.
- 2 Plug the AC power pack into a wall outlet or powered surge protector.
- 3 Set the rear cover of the Folio-equipped T650T device against the front face of the wireless charger.



When the T650T device is fitted with the Folio accessory, the Folio has inductive charging that allows charging from any Qi charger.

Verifone provides specific accessories, as well (see [Accessories and Cables](#) for ordering information).

Upon startup, the T650T device loads its application, displays the Verifone copyright screen, and shows a unique copyright screen.

**NOTE**

If there is no available application in the device, **DOWNLOAD NEEDED** appears on screen after the initial Verifone copyright screen.

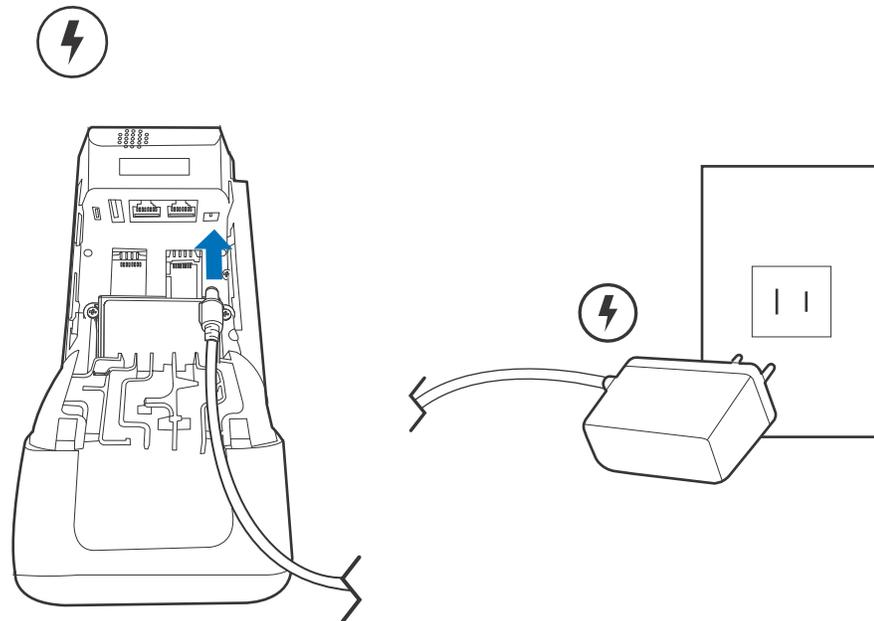
Examining Connection Port

The device has dedicated input/output connectors: Ethernet, RS-232, USB-A, USB-C and DC power.

To Connect the Terminal Power Supply

Insert the power supply cable into the T650T device and plug the other end to the power supply.

Figure: 7 T650T Power Supply Connection

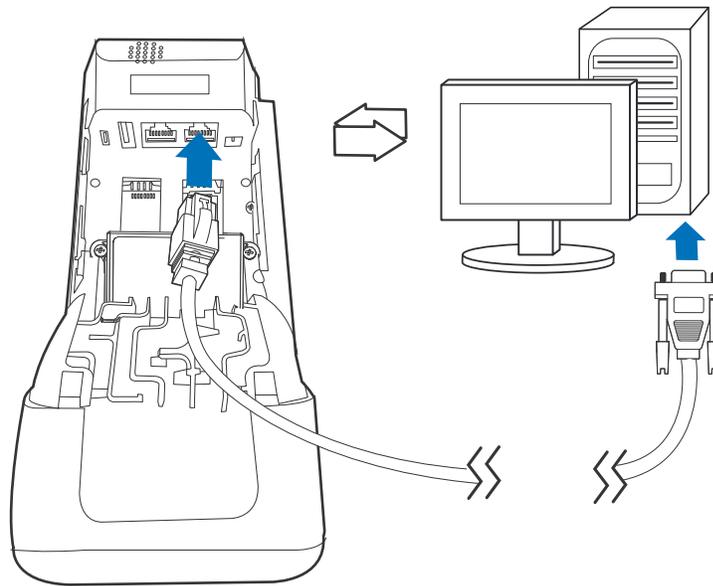


TIP: To protect against possible damage caused by lightning strikes and electrical surges, consider installing a power surge protector.

To Connect the Terminal to a PC

Insert the RS-232 cable to the T650T device and to the PC (Personal Computer).

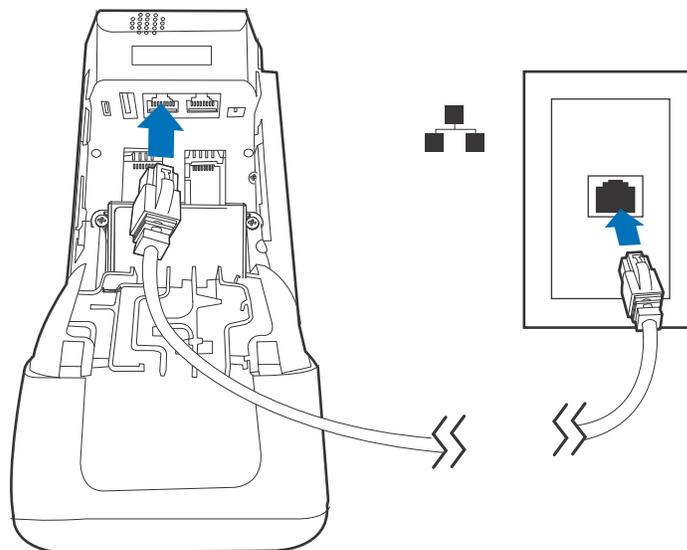
Figure: 8 Connecting to a PC



To Connect the Device to the LAN

Insert the Ethernet cable to the T650T device and to the socket.

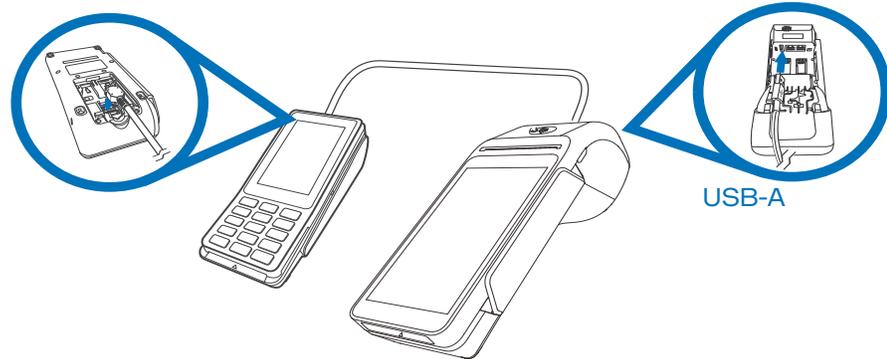
Figure: 9 Connecting Ethernet Port



To Connect the Device to the External PINpad

Insert the USB-A cable to the T650T device and the external PINpad (P400).

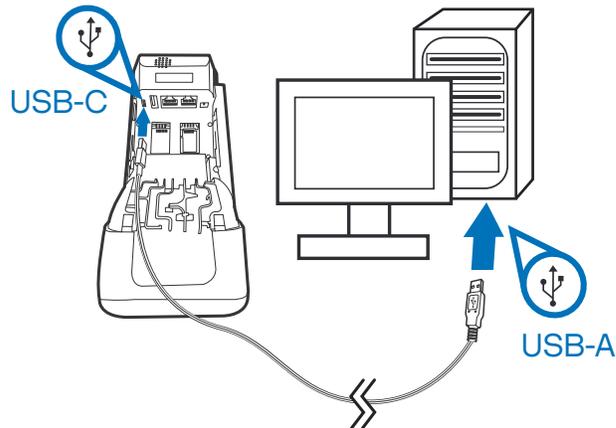
Figure: 10 Connecting to an External PINpad



To Connect the Device to the USB port

Insert the USB-C cable to the T650T device and USB-A to download.

Figure: 11 Connecting PC through USB-C port



Manual Startup

Hold the start button for about 3 seconds until the device displays the startup screen.

Manual Shutdown Hold the start button for about 1 second until the message is displayed on the screen. Touch the "Off" selection to turn off.



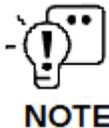
The screen is blank when the device has no power.

Loading a Paper Roll in Device

Install a paper roll before you can start transactions that require a receipt.

The T650T stand uses a roll of 58 mm x 50 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 perform at least one more transaction.



A message is always displayed to indicate that the printer is out of paper.



Poor-quality paper can jam the printer and create excessive paper dust. To place order for high-quality Verifone paper, refer to [Accessories and Cables](#).

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.

Un papier de mauvaise qualité peut bloquer l'imprimante et créer une poussière de papier excessive. Pour passer commande de papier Verifone de haute qualité, reportez-vous à Accessoires et documentation.

Conservez le papier thermique dans un endroit sec et sombre. Manipulez le papier thermique avec précaution : les chocs, la friction, la température, l'humidité et les huiles affectent la couleur et les caractéristiques de stockage du papier.

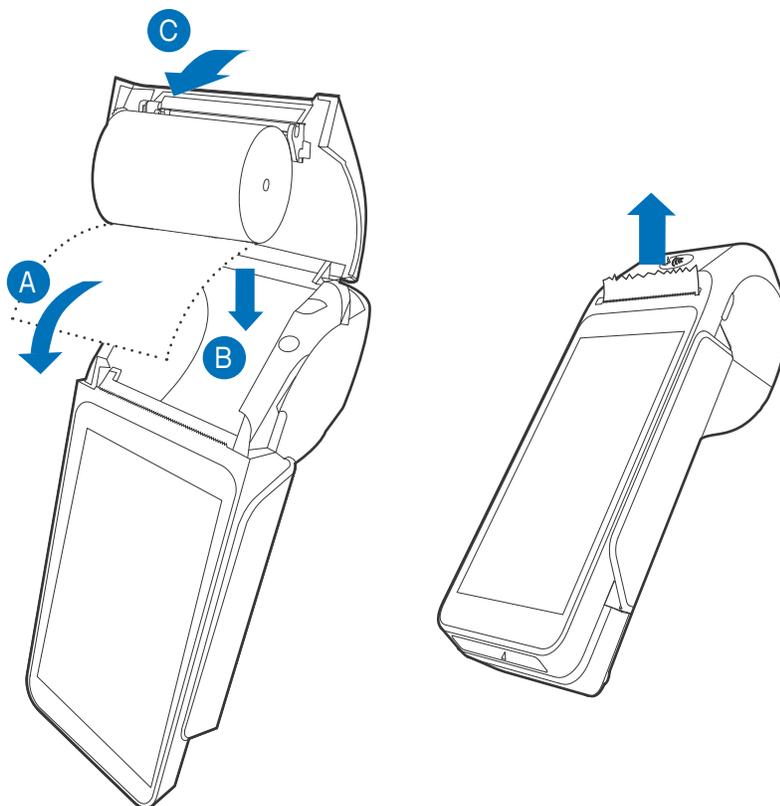
Ne chargez jamais un rouleau de papier présentant des plis, des rides, des déchirures ou des trous sur les bords.

To Install a Paper Roll

- 1 Hold both sides of the paper door, which is on the upper corner of the device and open the paper door by pulling outside (see below figure).

- 2 Remove any partial roll of paper in the tray.

Figure: 12 Steps to Install a Paper Roll in T650T



- 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 that paper feeds from the top of the roll.
- 5 Pull the paper past the printer door.
- 6 Align the printer paper to the tabs to the paper guides and hold the paper up when closing the door.
- 7 With the printer paper extending outside, close the printer door by swinging upward until the door clicks shut, allowing the printer paper to extend outside the printer door.

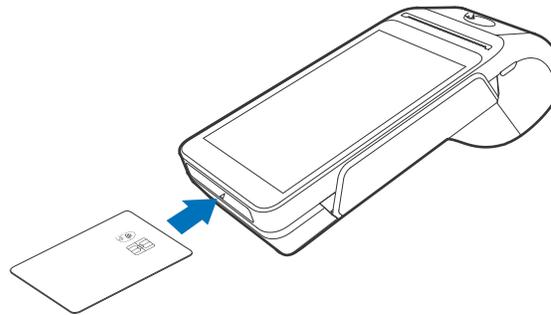
Using the Smart Card Reader

Insert the smart card to proceed with the EMV transaction. EMV supports credit card and debit card transactions.

To Conduct a Smart Card Transaction

- 1 Position the smart card with the contacts facing upward (see illustration below).
- 2 Insert the card into the reader slot in a smooth, continuous motion until it sits firmly.
- 3 Wait for the application to indicate a completed transaction before removing the card. Premature card removal invalidates the transaction.

Figure: 13 Inserting a Smart Card



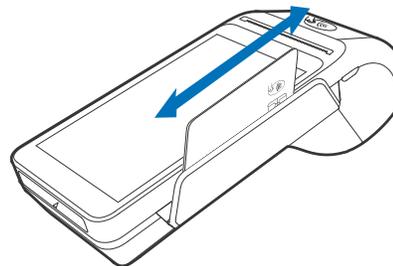
Using the Magnetic Card Reader

Use the magnetic stripe reader to perform credit and debit card transactions.

Using a Smart Card Reader - Debit or Credit Card Transaction

- 1 Position the card with the magnetic stripe facing backward.
- 2 To ensure a proper read of the magnetic swipe card, insert the magnetic card from the side of the device, as shown in the illustration below.

Figure: 14 Using Magnetic Stripe Card

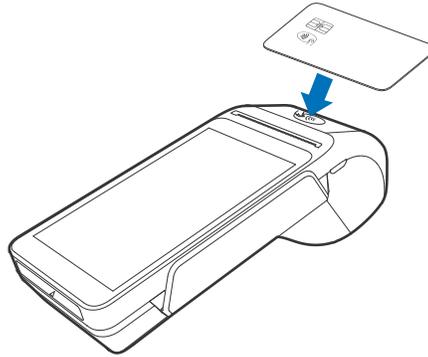


- 3 Swipe the card through the magnetic card reader.

CTLS Transaction

The T650T device supports contactless credit or debit card transactions. To perform a contactless transaction, gently tap the card or hold the card against the surface of the display.

Figure: 15 Using the CTLS Reader



Camera/QR Code Reader

The T650T device extends the use of the countertop device by providing the capabilities for barcode and OCR (Optical Character Recognition) scanning.

Wi-Fi/BT Support

The T650T device includes an integrated WLAN (Wireless Local Area Network) RF (Radio Frequency) transceiver for Wireless LAN (Local Area Network) systems with advanced power management, and an integrated radio transceiver for Bluetooth wireless systems.

Bluetooth Support

Supports BR/EDR (Basic Rate/Enhanced Data Rate) and LE (Low Energy).

Wireless Transaction

The T650T device supports wireless transactions.

External and Optional Devices

Multiple cable configurations are provided for the T650T device that supports peripheral devices designed for use with electronic point-of-sale systems such as ECR (Electronic Cash Register), cash drawer, barcode scanner, external keyboard, weighing scale, external printer, external speakers, battery, and a USB connection.

**CAUTION**

Remove the power cord from the multiport cable before connecting any peripheral device. Reconnect the power cord only after you have finished connecting the peripheral device(s).

Retirez le cordon d'alimentation du câble multiport avant de connecter un périphérique. Rebranchez le cordon d'alimentation uniquement après avoir terminé de connecter le(s) périphérique(s).

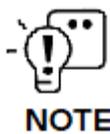
3. Specifications

This chapter provides details on the power requirements, dimensions, and additional specifications of the T650T device.

- Power Rating**
- Input power rating: AC 110V~240V/50~60Hz/0.3A
 - Output power rating: DC 9V/2.5A

- Temperature**
- Operating temperature: -10°C to 50°C (14°F to 122°F)
 - Storage temperature: -20°C to 70°C (-4°F to 158°F)

- Humidity**
- Relative humidity: 10% to 90% RH non-condensing



If the device is intended for use in environments where the temperature exceeds the specified operating range, integrators must take measures to control ambient conditions, ensuring that the product remains within the designated temperature range.

- External Dimensions**
- Length: 211 mm (8.3 in)
 - Width: 84 mm (3.3 in)
 - Depth: 72 mm (2.83 in)

- Weight**
- 456 g

- Audio Jack**
- Audio: headphone jack, speaker and microphone

- Memory**
- 2GB RAM/16GB ROM or 1GB RAM/8GB ROM
 - 64GB Micro-SD

- Magnetic Card Reader**
- Triple track
 - Supports bi-directional card read

- Swipe speed at 10 IPS to 40 IPS (In-Plane Switching)
- Smart Card Reader
- EMV L1-approved smart card
 - Triple track MSR
 - ISO (International Organization for Standardization) 7810, 7811, 7813 Smart card reader
 - NFC/CTLS
- SAM Card Reader
- Two Security Access Modules (SAMs) card slots
- Integrated Contactless Reader
- ISO 14443, ISO 18092, EMV
- Display
- 5.5" (1280 × 720) HD IPS LCD touchscreen
 - Screen rotation
- Printer
- High-speed thermal printer: 30 lps
 - Paper roll: Max 58 mm Length x Max 40 mm Diameter
- Camera/
Barcode Scan
- 5MP (front QR/Barcode Scanner)
 - Embedded forward facing camera - 5MP
 - Front facing camera - 2MP
 - LED torch

4. Maintenance and Cleaning

General Care Your device exemplifies superior design and craftsmanship. The following recommendations are provided to help safeguard your warranty coverage:

- Avoid storing the device in hot areas, as elevated temperatures can diminish the lifespan of electronic components, harm batteries, and cause deformation or melting of certain plastics.
- Refrain from storing the device in cold areas, as the return to normal temperatures may lead to moisture formation inside the device, potentially damaging electronic circuit boards.
- Exercise caution to prevent dropping, knocking, or shaking the device, as rough handling can result in the breakage of internal circuit boards and delicate mechanics.

These recommendations are equally applicable to both your device and any accompanying attachments or accessories. If your device is experiencing operational issues, kindly visit the nearest Verifone authorized service provider for maintenance or replacement.

Cleaning & Sanitizing Guidelines Verifone devices should only be gently cleaned to remove dirt, residue, or debris using a lightly water-damped, clean microfiber cloth. One or two drops of pH-neutral, non-scrubbing soap may be used. Do not use solvents, harsh detergents, or abrasive cleaners.

Using improper cleaning methods or products may result in functional and/or cosmetic issues that are not covered under warranty.

Important Guidelines:

- 1 Avoid Direct Application:** Never spray, coat, or pour any liquid, sanitizer, or disinfectant directly onto the device.
- 2 Caution Against Harsh Chemicals:** Avoid using bleach, hydrogen peroxide, thinner, trichloroethylene, or ketone-based solvents, as they can degrade plastic and rubber components.
- 3 Electrostatic Discharge (ESD) Prevention:** Exercise caution to prevent ESD by refraining from vigorously rubbing with a dry towel or similar actions, as they can cause ESD and trigger a tamper alert.



- ## Cleaning Instructions
- 1 Turn off your device.
 - 2 Disconnect it from the power source.
 - 3 Clean it following the instructions and guidelines as mentioned above. Once completely dry, reconnect to power up.

5. Service and Support

The T650T device does not contain user-serviceable parts. Unless expressly directed, refrain from attempting any service, adjustments, or repairs on the unit under any circumstance.

For product service and repair information:

- USA – Verifone Service and Support Group, 1-800-837-4366
Monday - Friday, 8 A.M. - 8 P.M., Eastern time
- International – Contact your Verifone representative

Returning a Device for Service

You must obtain a Merchandise Return Authorization (MRA) number before returning the terminal to Verifone. The following procedure describes how to return one or more terminals for repair or replacement (U.S. customers only).



CAUTION

Customers outside the United States are advised to contact their local Verifone representative for assistance regarding service, return, or replacement of devices and accessories.

Il est conseillé aux clients en dehors des États-Unis de contacter leur Verifone local représentant pour obtenir de l'aide concernant l'entretien, le retour ou le remplacement des appareils Et accessoires.

- 1 Get the following information from the printed labels on the back of each T650T device to be returned:
 - Product ID, including the model and part number. For example, “T650T” and “M560-XXX-XXX-XXX.”
 - Serial number (S/N nnn-xxx-xxx)
- 2 Obtain the MRA number(s) by completing one of the following:
 - Call Verifone toll-free within the United States at 1-800-Verifone and follow the automated menu options.
 - Select the MRA option from the automated message. The MRA department is open Monday to Friday, 8 A.M. to 8 P.M., Eastern Time.
 - Give the MRA representative the information you gathered in [Step 1](#).
 - Complete the Inquiry Contact Form at <https://www.verifone.com/en/us/contact-us>.
 - Address the Subject box to “Verifone MRA Dept.”

- Reference the model and part number in the Note box.



Each T650T returned to Verifone requires a distinct MRA number to be issued. Even if you are returning multiple terminals of the same model, ensure that a separate MRA number is issued for each unit.

- 3 Describe the problem(s).
- 4 Provide the shipping address where the repaired or replacement unit must be returned.
- 5 Keep a record of the following items:
 - Detail the issue(s) with the T650T.
 - Furnish the shipping address for the return of the repaired or replacement unit.
 - Maintain a record of the following elements:
 - Assigned MRA number(s).
 - Verifone serial number linked to the T650T being sent for service or repair (located on the back of the unit).
 - Shipping documentation, including air bill numbers utilized for shipment tracking.
 - Model(s) returned (model numbers can be found on the Verifone label on the back of the T650T device).

6. Accessories and Cables

Verifone provides a range of accessories and documentation for the T650T. When placing orders, it is essential to reference the specific part numbers. Here are the available channels for ordering: Verifone online store:

- Verifone - [Contact us](#)
- USA - Verifone Customer Development Center, 1-800-837-4366
Monday - Friday, 7 A.M. - 8 P.M., Eastern time
- International - Contact your Verifone representative

Verifone
Certified
Power Adapter PWR560-002-00-A

Verifone MSR
Cleaning Kit PN 02746-02

7. Troubleshooting Guidelines

This chapter compiles common instances of malfunctions that may arise during the operation of your device, along with the corresponding steps to address them. The troubleshooting guidelines outlined in the subsequent sections are incorporated to facilitate the effective installation and configuration of the device. Should you encounter challenges in operating your unit, please refer to these troubleshooting examples. If the issue persists despite following the provided guidelines or if the problem is not covered, kindly reach out to your local Verifone representative for further assistance.



NOTE

The device is equipped with tamper-evident labels and does not contain any user-serviceable parts. It is crucial not to attempt to disassemble the unit under any circumstances. Only perform adjustments or repairs explicitly outlined in this guide. For any other services, please contact your local Verifone service provider. Utilizing services from unauthorized parties may potentially void any existing warranty.



CAUTION

All units require the use of a power supply. Only use a Verifone-supplied power pack. Using an incorrectly rated power supply may damage the unit or cause it to malfunction. Ensure that the power supply used to power the unit matches the specified requirements on the back of the unit (refer to [Specifications](#) for detailed power supply specifications) before troubleshooting. If not, obtain the appropriately rated power supply before continuing with troubleshooting.

Toutes les unités nécessitent l'utilisation d'une alimentation. Utilisez uniquement un bloc d'alimentation fourni par Verifone. L'utilisation d'une alimentation mal calibrée peut endommager l'appareil ou l'empêcher de fonctionner correctement. Assurez-vous que l'alimentation électrique utilisée pour alimenter l'unité correspond aux exigences spécifiées à l'arrière de l'unité (voir [Spécifications](#) pour les spécifications détaillées de l'alimentation électrique) avant le dépannage. Dans le cas contraire, procurez-vous une alimentation électrique appropriée avant de poursuivre le dépannage.

Device Does not Start/Does not Display Correct Readable Information

If the device does not start:

- Ensure that the device is plugged in to a dedicated power source.
- Verify all the cable connections including the proper insertion of the power cable connector.
- If the problem persists, reach out to your local Verifone representative for assistance.

Blank Display

When the device display is blank:

- If the device display appears dark, tap the screen using the stylus. If the unit is in screen-saver mode, touch the screen to activate.
- If the display does shows incorrect or unreadable information, inspect all cable connections. In case the problem persists, reach out to your local Verifone representative for assistance.

Keypad Does Not Respond

If the keypad does not respond properly:

- Examine the device display. If it displays the wrong character or nothing at all when you press a key, follow the steps outlined in [Device Does not Start/Does not Display Correct Readable Information](#).
- Refer to the user documentation for that application if using a function key does not produce the anticipated outcome, to ensure accurate data entry.
- If the issue persists reach out to your local Verifone representative.

Transactions Fail to Process

Multiple factors could be causing the unit to fail in processing transactions. Utilize the following steps to troubleshoot and identify the root of the failures.

Checking Magnetic Card Reader

To check the magnetic card reader:

- 1 Perform a transaction using one or more distinct magnetic stripe cards to rule out the possibility of a faulty card.
- 2 Ensure that you are swiping cards correctly (see [Using the Magnetic Card Reader](#)).
- 3 Process a transaction manually using the keypad instead of the card reader. If the manual transaction is successful and the issue persists with the card reader, it may indicate a problem with the card reader itself.

- 4 If the problem persists, reach out to your local Verifone representative.

Checking Smart Card Reader

To check the smart card reader:

- 1 Execute a transaction using various smart cards to eliminate the possibility of a faulty card.
- 2 Verify that the card is inserted correctly (see [Using the Smart Card Reader](#)).
- 3 Ensure the SAM cards are appropriately inserted into the designated slots and are securely in place (refer to [Installing or Replacing SIM/SAM Card](#)).
- 4 If the issue persists, get in touch with your local Verifone representative.

Checking CTLS Reader

To check the CTLS reader:

Make sure there are no obstructions between the contactless logo and the card, ensuring a clear path between the contactless reader and the actual card for a seamless transaction.

Verifone
2744N University Drive
Coral Springs,
FL 33065, USA



www.verifone.com



Thank you!

We are the payments architects who truly understand commerce.

As payment architects we shape ecosystems for online and in-person commerce experiences, including all the tools you need... from gateways and acquiring to fraud management, tokenization and reporting.

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