

Verifone®

T650T

Installation Guide



T650T Installation Guide
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This guide is your primary source of information for setting up T650T device.

Audience

This guide is useful for anyone installing the T650T device.

Organization

This guide is organized as follows:

[Chapter 1, Device Overview](#). Provides an overview of the T650T device.

[Chapter 2, Device Setup](#). Explains how to set up the T650T device. It tells you how to select a location and establish power connection.

[Chapter 3, Specifications](#). Discusses power requirements and dimensions of the T650T device.

[Chapter 4, Maintenance and Cleaning](#). Explains how to maintain your T650T.

[Chapter 5, Verifone Service and Support](#). Provides information on how to contact your local Verifone representative or 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 during the device installation.

Related Documentation

To learn more about the T650T, refer to the following set of documents:

T650T Certifications and Regulations

VPN -DOC560-031-EN-A

T650T Quick Installation Guide

VPN -DOC560-032-EN-A




Conventions and Acronyms

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

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 .
<i>Italics</i>	Italic typeface indicates book titles or emphasis.	You <i>must</i> install a roll of thermal-sensitive paper in the printer.
Courier	The courier type face is used while specifying onscreen text, such as text that you would enter at a command prompt, or to provide an URL.	<code>http://www.verifone.com</code>
 NOTE	The pencil icon is used to highlight important information.	RS-232-type devices do not work with the PINpad port.
 CAUTION	The caution symbol indicates possible hardware or software failure, or loss of data.	The device is not waterproof or dustproof and is intended for indoor use only.
 WARNING	The lightning symbol is used as a warning when bodily injury might occur.	Due to risk of shock do not use the device near water.

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

Table 2 Acronym Definitions

Acronym	Definitions
AC	Alternating Current
ARM	Acorn RISC Machine
EMV	Europay MasterCard and VISA
LCD	Liquid Crystal Display
NFC	Near Field Communication
MRA	Merchandise Return Authorization
PCI	Payment Card Industry
PED	PIN Entry Device
PSAM	Purchase Security Application Module
PIN	Personal Identification Number
USB	Universal Serial Bus
VPN	Verifone Part Number

Device Overview

The Verifone T650T device is a powerful countertop device, 4G LTE, provides a dedicated cellular IP 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 application, VoIP, card payment acceptance, APMs, and an integrated printer. The Verifone T650T device is available with a dedicated DC Car PSU eliminating the need for a battery. The embedded power and data connectors, and the integrated cable management, make a seamless hand over from driver to rider.

The Verifone T650T device supports all payment methods - magnetic stripe, EMV, and NFC/Contactless 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 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 and meets PCI-PTS 6.x SRED requirements for maximum security. This chapter provides a brief description of the T650T.

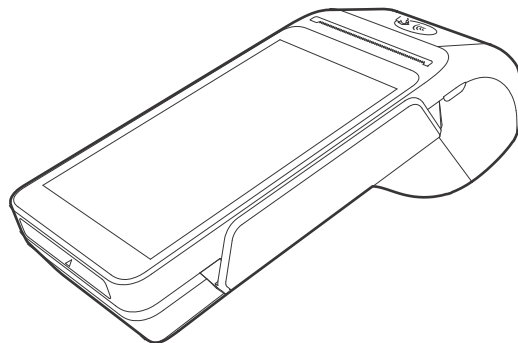


Figure 1 **T650T Device**

Key Features and Benefits

Processor	<ul style="list-style-type: none"> • Cortex A7 Quad Core, 1.1GHz • (QCOM 8909)
Memory	<ul style="list-style-type: none"> • 2 GB RAM/16 GB ROM or 1 GB RAM/8 GB ROM • 64 GB Micro-SD
Display	<ul style="list-style-type: none"> • 5.5" (1280 × 720) HD IPS LCD touchscreen • Screen rotation
Keypad	<ul style="list-style-type: none"> • On-screen, Navigation possible
Payment	<ul style="list-style-type: none"> • MSR • SCR • CTLS • QR Code
Multimedia	<ul style="list-style-type: none"> • Speaker and audio jack • Integrated microphone • Video HD • Video Decode
Communication	<ul style="list-style-type: none"> • Bluetooth 4.2 BLE • 2.4 GHz + 5 GHz • 802.11 a, b, g, n
Physical Interface	<ul style="list-style-type: none"> • 2 USB ports • Serial port (RS232) • Ethernet port • USB-C OTG port • USB-A Host port
Camera/Barcode Scan	<ul style="list-style-type: none"> • 0.3 MP (Front camera) • 5.0 MP (Rear camera) • QR/Barcode Scanner
Dimensions	<ul style="list-style-type: none"> • Length: 211 mm • Width: 84 mm • Height: 72 mm • Weight: 456 g

Security	<ul style="list-style-type: none"> • PCI PTS 6.x-approved • SRED • Supports AES DUKPT
Power Supply	<ul style="list-style-type: none"> • Input: AC 110V~240V/50~60Hz/0.3A • Output: DC 9V/2.5A
SIM/SAM	<ul style="list-style-type: none"> • SIM x 1 • SAM x 1 • SIM/SAM x 1
Card Reader	<ul style="list-style-type: none"> • Triple track MSR • EMV L1-approved Smart card • ISO (International Standard) 7810, 7811, 7813 Smart card reader • NFC/CTLS
Environmental	<ul style="list-style-type: none"> • Operating temperature: -10° to 50° C (14° to 122° F) • Storage temperature: -20° to 70° C (-4° to 158° F) • Relative humidity: 10% to 90% • Non-condensing
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	<ul style="list-style-type: none"> • 4 CTLS Indicator • Power Indicator <ul style="list-style-type: none"> - Red = charging indicator - Green = fully charged indicator

Features and Benefits

Following are the features and benefits.

Exceptional Ease of Use

- Large 5.5" LCD 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 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/16GB ROM, SD 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, 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/WiFi; 5 GHz + 2.4 GHz/Bluetooth
- Ethernet, USB-C/ USB-A/ serial RS-232

Device Setup

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

- Environmental Factors
- PIN Protection Measures
- Inside the Shipping Carton
- Device Features
- 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

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.

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 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)



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.

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 [Verifone Service and Support](#).

Device Features

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

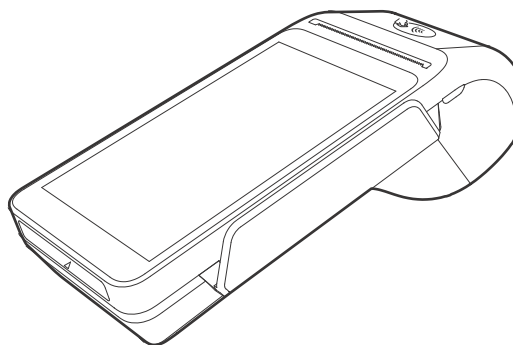


Figure 2 T650T (Front Panel)

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 lower to the left of the display for contactless payments. For directions on how to perform contactless transactions, see [Using the Contactless Reader](#).
- 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 power.

Connecting Cables and Other Devices

To connect required cables and other devices:

- 1 Remove cable cover as shown below.

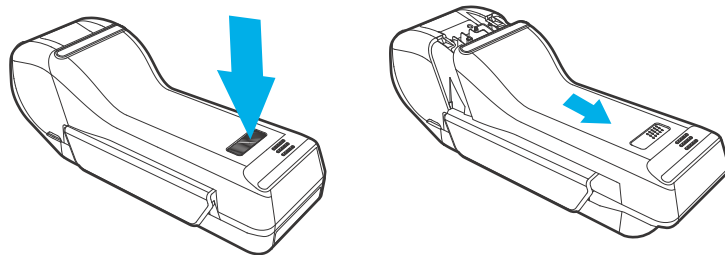


Figure 3 Removing Cable Cover

- 2 Connect required cables or optional devices. Cable is connected to the Rear of the Unit.

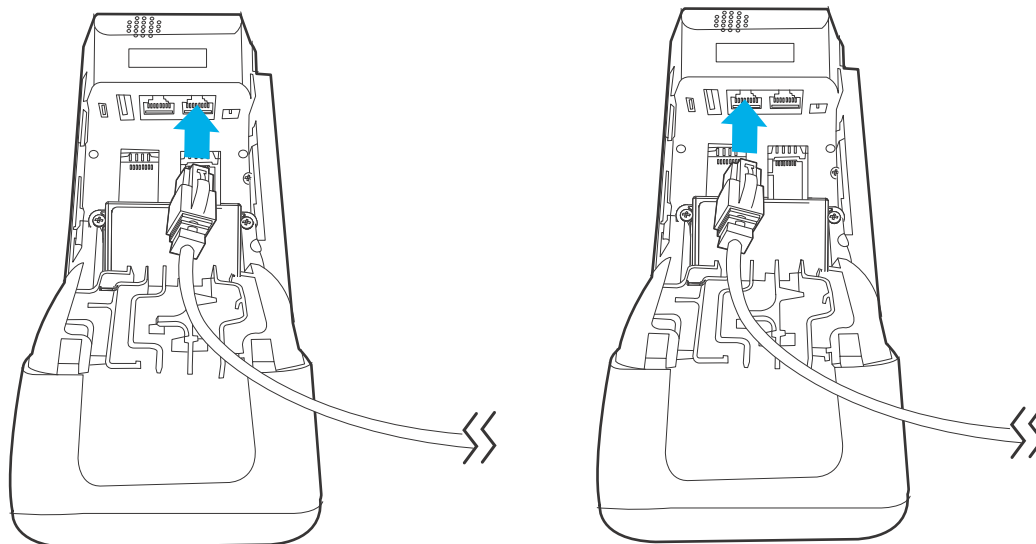


Figure 4 Connecting the Cable

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.

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.

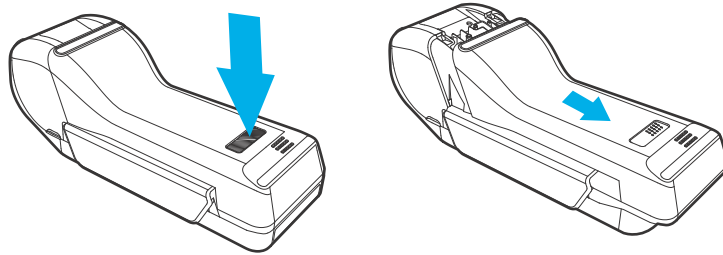


Figure 5 Removing the Battery Cover

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 5.
- 5 Close the cable cover.

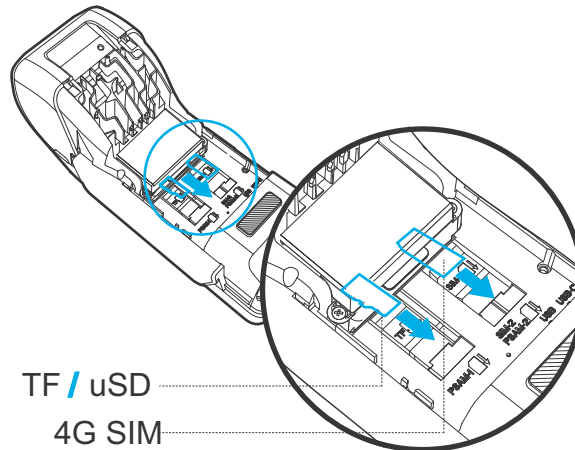


Figure 6 SAM Insertion



NOTE 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.



NOTE 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.



NOTE 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 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 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 Documentation](#) 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.

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

CAUTION



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.

WARNING



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.

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.

NOTE



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 Documentation](#) 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 to the T650T device and plug the other end to the power supply.

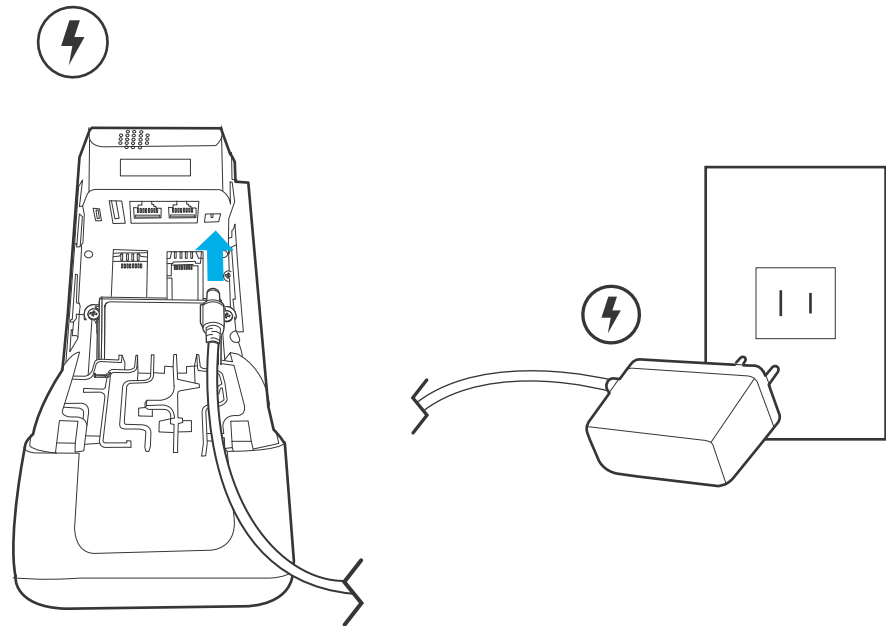


Figure 7 T650T Power Supply Connection



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.

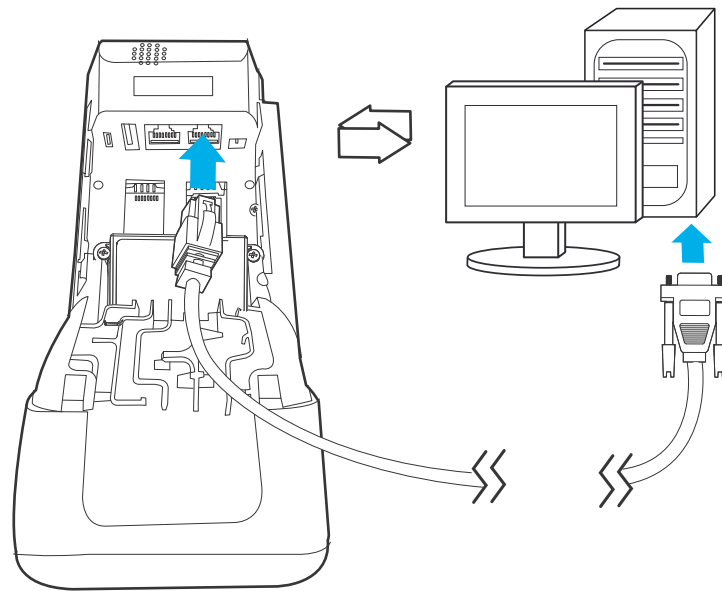


Figure 8 Connecting to a PC

To Connect the Device to the LAN Insert the Ethernet cable to the T650T device and to the socket.

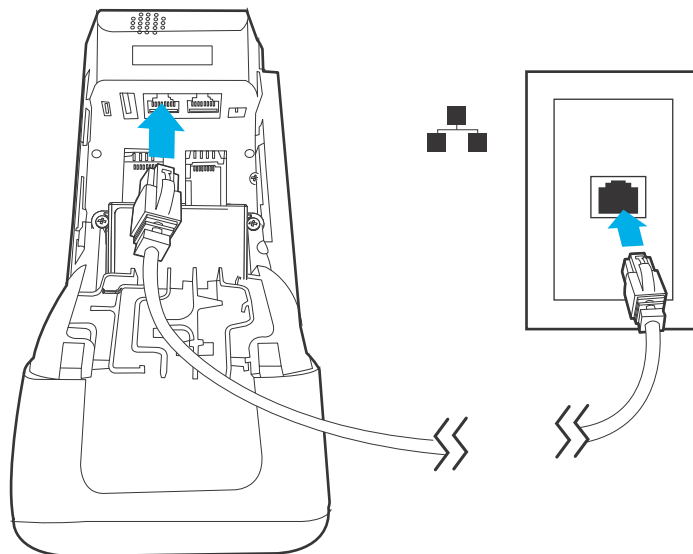


Figure 9 Connecting Ethernet Port

To Connect the Device to the External PINpad

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

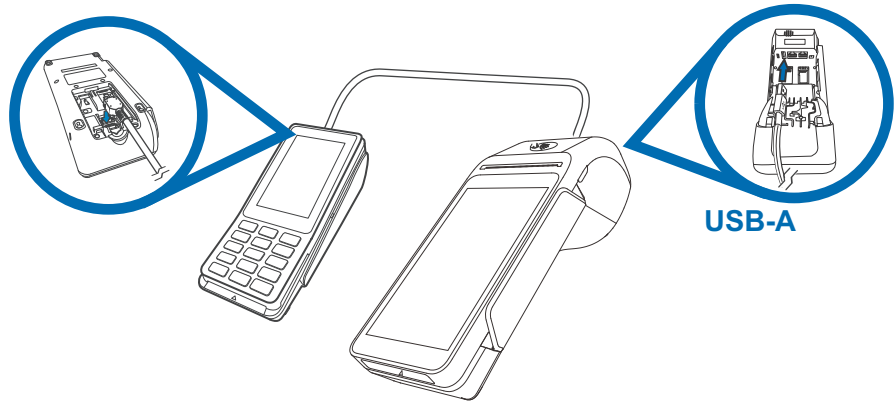


Figure 10 Connecting to an External PINpad

To Connect the Device to the USB port

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

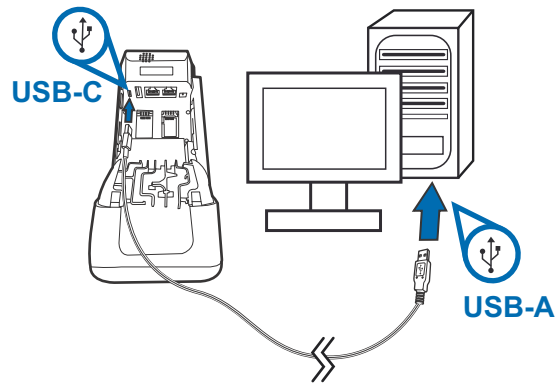


Figure 11 Connecting PC through USB-C port

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.

NOTE



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 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 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 11).
 - 2 Remove any partial roll of paper in the tray.

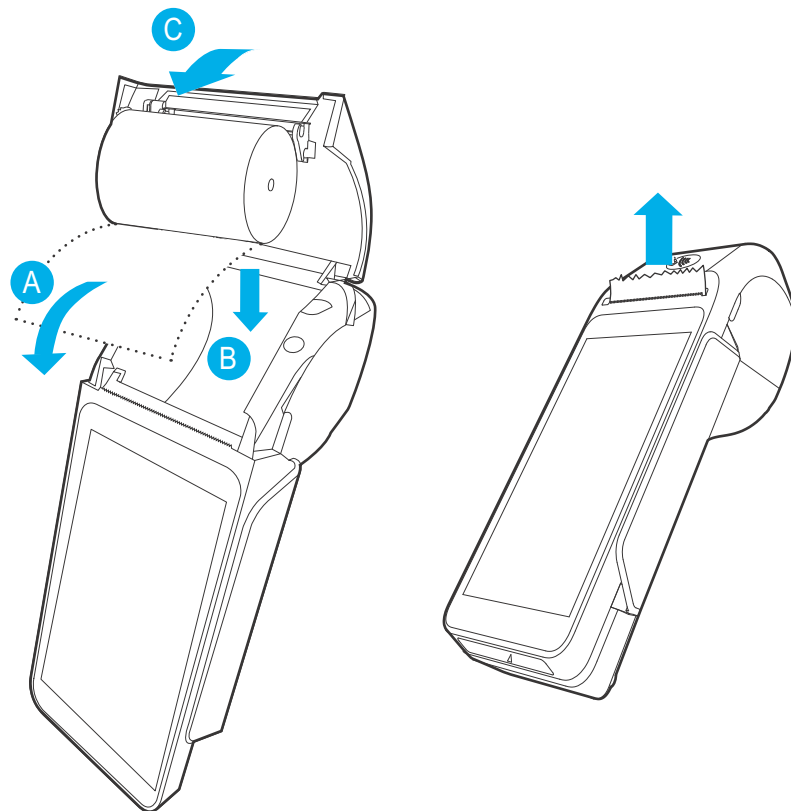


Figure 12 Steps to Install a Paper Roll in T650T

- 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 seats firmly.
- 3** Wait for the application to indicate a completed transaction before removing the card. Premature card removal invalidates the transaction.

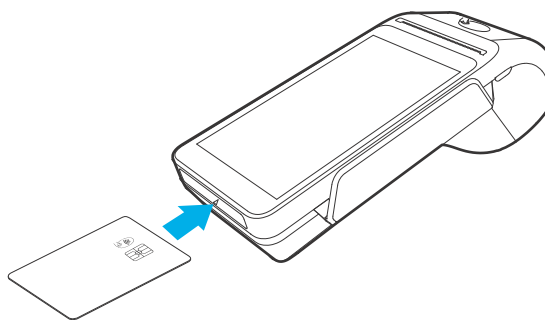


Figure 13 **Inserting a Smart Card**

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.

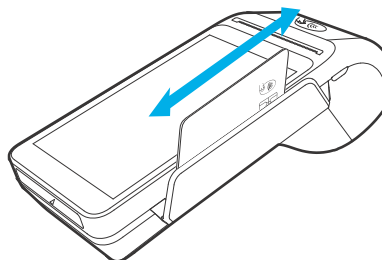


Figure 14 Using Magnetic Stripe Card

- 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.

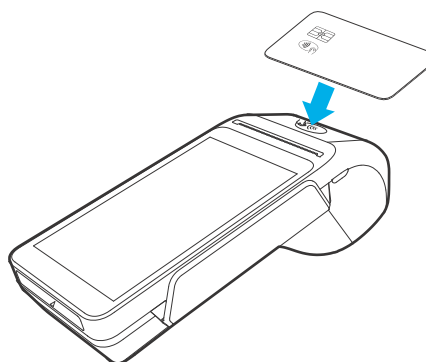


Figure 15 Using the CTLS Reader

Camera/QR Code Reader

The T650T device extends the use of the countertop device by providing the capabilities for barcode and OCR scanning.

Wi-Fi/BT Support

The T650T device includes an integrated WLAN RF transceiver for Wireless LAN systems with advanced power management, and an integrated radio transceiver for Bluetooth wireless systems.

Bluetooth Support

Supports BR/EDR and LE.

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 system such as ECR, 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).

Accessories and Documentation

Verifone produces the following accessories and documentation for the T650T device. When ordering, please take note of the part number.

- Verifone online store at www.estore.verifone.com
- USA – Verifone Customer Development Center, 1-800-837-4366, Monday - Friday, 7 A.M. - 8 P.M., Eastern time
- International – Contact your Verifone representative

Accessories

Verifone Certified Power Adapter	PWR560-002-00-A
Verifone MSR Cleaning Kit	PN 02746-02

Documentation

<i>T650T Certifications and Regulations</i>	VPN -DOC560-031-EN-A
<i>T650T Quick Installation Guide</i>	VPN -DOC560-032-EN-A



Specifications

This chapter discusses the power requirements and dimensions of the T650T device.

Power Rating

- Input power rating: 9V DC, 2.5A

Temperature

- Operating Environment:
 - Temperature: -10° C to 50° C (14° F to 122° F)
 - Relative humidity: 10% to 90% RH non-condensing

Memory

- RAM: 2GB/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

Smart Card Reader

- Triple track MSR
- EMV L1-approved smart card
- ISO (International Standard) 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

External Dimensions

- Length: 211 mm (8.3")
- Width: 84 mm (3.3")
- Depth: 72 mm (2.83")

Audio Jack

- Audio: headphone jack, speaker and microphone

Security

- Complies to PCI-PTS 6.x

Printer

- High-speed thermal printer: 30 lps
- Paper roll: Max 58 mm Length x Max 40 mm Diameter

Camera

- 5 MP (front QR/Barcode Scanner)
- Embedded forward facing camera - 5MP
- Front facing camera - 2MP
- LED torch



Maintenance and Cleaning

The T650T device has no user-maintainable parts. It can, however, be cleaned.

General Care

Your device is a product of superior design and craftsmanship and should be treated with care. The following suggestions will help you protect your warranty coverage.

- Keep the device dry. Precipitation, humidity, and all types of liquids or moisture can contain minerals that will corrode electronic circuits. If your device gets wet, switch off the power, and allow the device to dry completely before replacing it.
- Do not use or store the device in dusty and dirty areas. Its moving parts and electronic components can be damaged.
- 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. It can form moisture inside the device and damage electronic circuit boards when the device returns to its normal temperature.
- Do not drop, knock, or shake the device. Rough handling can break internal circuit boards and fine mechanics.
- Do not paint the device. Paint can clog the moving parts and prevent proper operation.
- Keep the device free from any small and loose items (such as paper clips, staples, or coins) that could accidentally get inside it through an opening, such as the SAM slots or the primary smart card reader slot.
- Do not attempt to open the device other than as instructed in this guide. This device has security features that protect it from tampering. For example, the file content will be deleted if the device's outer casing is opened.
- Use only the power adapter that came with your device. Adapters of other electronic devices may look similar, but they may affect your device's performance or damage it.
- Do not use this device in any area with a potentially explosive atmosphere. Follow all signs and instructions. Potentially explosive atmospheres include areas where you would normally be advised to turn off your vehicle engine. Sparks in such areas could cause an explosion or fire resulting in bodily injury or even death.

These suggestions apply equally to your device, or any of its attachments, or accessories. If your device is not working properly, then take it to the nearest authorized service facility for servicing or replacement. For your safety, have this device serviced only by a Verifone-authorized service provider.

Additional Safety Information

The following are additional safety information in using this device.

Surface Cleaning

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



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

Do not spray cleaners or other solutions directly onto the device.

Smart Card Reader Cleaning

The Smart Card Reader (SCR) must be cleaned on a regular basis, as dirt accumulation can lead to SCR reading problems. SCR can be cleaned using commercially available card reader cleaning cards or using recommended Verifone cleaning card (PN 02746-02).

Cleaning the SCR

To clean the SCR:

- 1 Inspect the device's SCR for presence of foreign objects before cleaning Customer Smart Card.
 - a If the unit shows no presence of foreign objects, test the SCR function and record results. Proceed to [Step 2](#).



CAUTION Send your device to a Verifone authorized repair center if foreign objects are found in the SCR at any time during SCR inspection, test diagnostics, or cleaning process. Removal of foreign objects from the SCR by customers may void device warranty.

- 2 Clean the SCR with an approved or recommended Verifone cleaning card. It is always advised to use new cleaning cards every time.



NOTE If using a commercially available cleaning card use **ONLY** an approved SCR cleaning card made specifically for POS SCR devices or Petroleum SCR.

- 3 Test the SCR after cleaning.
 - a If SCR tests out okay as “passing”, then the unit is ready for Customer Smart Card use.
 - b If SCR tests out as “failing”, then send the unit for repair. Provide details to repair center when SCR fails testing, either before cleaning OR after cleaning OR both before and after cleaning.

**Magnetic Stripe
Cleaning**

The Magnetic Stripe Reader (MSR) must be cleaned on a regular basis (daily to once a week, depending on usage), as dirt accumulation can lead to MSR reading problems. MSR can be cleaned using commercially available card reader cleaning cards or using recommended Verifone cleaning card (PN 02746-02).

NOTE



If using a commercially available cleaning card use **ONLY** an approved MSR cleaning card made specifically for POS MSR Card reader devices or Petroleum MSR card readers.

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Verifone Service and Support

Contact your local Verifone representative or service provider for any problems on your device.

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

Before returning the T650T device, you must obtain an MRA number. The following procedure describes how to return one or more devices for repair or replacement (U.S. customers only).

NOTE



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

- 1 Get the following information from the printed labels at 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.–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.



One MRA number must be issued for each T650T device you return to Verifone, even if you are returning several of the same model.

- 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:
 - Assigned MRA number(s).
 - Verifone serial number assigned to the T650T device you are returning for service or repair (device serial numbers are located at the back of the unit.)
 - Shipping documentation, such as air bill numbers used to trace the shipment.
 - Model(s) returned (model numbers are located on the Verifone label at the back of the T650T device)

Troubleshooting Guidelines

The troubleshooting guidelines provided in the following section are included to help you install and configure your T650T successfully. Typical examples of malfunction you may encounter while operating your T650T device and steps you can take to resolve them are listed in this chapter.

If the problem persists even after performing the outlined guidelines or if the problem is not described below, contact your local Verifone representative for assistance.



NOTE The T650T comes equipped with tamper-evident labels. The T650T unit contains no user serviceable parts. Do not, under any circumstance, attempt to disassemble the device. 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 Before troubleshooting, ensure that the power supply being used to power the device matches the requirements specified at the bottom of the device. (See [Specifications](#), for detailed power supply specifications.) Obtain the appropriately rated power supply before continuing with troubleshooting.

Device Does Not Start

If the device does not start:

- Ensure that the device is plugged into a dedicated power source.
- Check if the power cable connector is plugged in properly.

Device Display Does Not Show Correct/Readable Info

If the device display does not show correct/readable info:

- Check all the cable connections. If the problem persists, then contact your local Verifone representative for assistance.

Blank Display

When the device display is blank:

- If the device display is dark, tap the screen with the stylus or your finger. If the unit was in screen-saver mode, the screen will turn on when touched.
- If the display does not show correct or readable information, then check all the cable connections. If the problem persists, then contact your local Verifone representative for assistance.

Keypad Does Not Respond

If the keypad does not respond properly:

- Check the device 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](#).
- Refer to the user documentation for that application if pressing a function key does not perform the expected action to ensure you are entering correct data correctly.
- Contact your local Verifone representative if the problem persists.

Transactions Fail to Process

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

Checking Magnetic Card Reader

To check magnetic card reader:

- 1 Perform a test transaction using one or more different magnetic stripe cards to ensure that the problem is not a defective card.
- 2 Ensure that you are swiping cards properly (see [Using the Magnetic Card Reader](#)).
- 3 Process a transaction manually using the keypad instead of the card reader. If the manual transaction works, then the problem may be a defective card reader.
- 4 Contact your local Verifone representative if the problem persists.

Checking Smart Card Reader

To check smart card reader:

- 1 Perform a test transaction using several different smart cards to ensure the problem is not a defective card.
- 2 Ensure that the card is inserted correctly (see [Using the Smart Card Reader](#)).
- 3 Ensure that the SAM cards are properly inserted in the slots and are properly secured.
- 4 Contact your local Verifone representative if the problem persists.

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