PCI Security Standards Council

Payment Card Industry (PCI)
Point-to-Point Encryption

P2PE Instruction Manual (PIM) for the Verifone P400 Terminal

November 2020

Revision History

Version	Date	Author	Description of Change
1.0	February 2018	Jessica Brick	Initial Creation of Document
2.0	August 2020	Theresa Burch	Update to current Cybersource branding
3.0	November 2020	Theresa Burch	Migrate to Template Version 3.0
3.0	June 2021	David Barnet	Changed Card_Present_Support@cybersource.com to Terminals@Cybersource.com
3.0	July 2022	David Barnet	Review

1. P2PE Solution Information and Solution Provider Contact Details

1.1 P2PE Solution Information	
Solution name:	Cybersource Point-To-Point (P2PE) Solution
Solution reference number per PCI SSC website:	2017-00035.001

1.2 Solution Provider Contact Information	
Company name:	Cybersource Corporation
Company address:	900 Metro Center Blvd Foster City, CA 94404
Company URL:	www.Cybersource.com
Contact name:	Customer Support
Contact phone number:	US Toll Free: +1 855-477-1184 Europe Toll Free: +442039012015
Contact e-mail address:	Terminals@cybersource.com

P2PE and PCI DSS

Merchants using this P2PE solution may be required to validate PCI DSS compliance and should be aware of their applicable PCI DSS requirements. Merchants should contact their acquirer or payment brands to determine their PCI DSS validation requirements.

2. Confirm Devices were not tampered with and confirm the identity of any third-party personnel

2.1 Instructions for ensuring POI devices originate from trusted sites/locations only.

Europe (except United Kingdom)

Devices for Europe are shipped using UPS or FedEx services provided by Spencer Technologies.

Any documentation received from Spencer Technologies includes their trademarked logo and address:

Service and Support:

Units 5-6 Lonlas Business Park, Lonlas Neath, Swansea
United Kingdom, SA10 6SN
or
102 Otis St., Northborough
MA 01532-2415
USA

SSGsupport@spencertech.com
Tel: 508-635-2100

You will receive tracking information by email.

When receiving any package, compare the provider's shipping information with the information received.

If the solution provider changes, notification is sent to the merchant in advance using the email address on record.

If devices are received from a different provider, immediately notify Cybersource and remove the devices from your environment.

United Kingdom

Devices for the UK are shipped using UPS or FedEx services provided by Secure Retail.

Any documentation received from Secure Retail will include their trademarked logo and address:

Service and Support:

Secure Retail Ltd
Walker Road, Bardon Hill, Coalville, Leicestershire
United Kingdom, LE67 1TU

managedservices@secure-retail.com
Tel: +44 (0)1530 511150

Standard hours of operation are 09:00-17:15 UK time, Monday to Friday.

You will receive tracking information by email.

When receiving any package, compare the provider's shipping information with the information received.

If the solution provider changes, notification is sent to the merchant in advance using the email address on record.

If devices are received from a different provider, immediately notify Cybersource and remove the devices from your environment.

United States

Devices for the US are shipped using UPS or FedEx services provided by POS Portal. Any documentation received from POS Portal includes their trademarked logo and address:

Service and Support:

1627 Main Ave., Sacramento, CA 95838

or

1920 Watterson Trail Suite# A, Louisville, KY 40299

support@posportal.com

Tel: +1 855-838-4611

2.2 Instructions for confirming POI device and packaging were not tampered with, and for establishing secure, confirmed communications with the solution provider.

You will receive a delivery note via email before receiving the shipment of the devices. Upon receipt of the devices, make sure to compare the serial number of the device and tamper evident bag against the serial numbers on the delivery note.

Once you have checked all devices, make sure to respond back to the email with acknowledgement of devices delivery

All POI devices will be shipped using tamper-evident packaging:

Indications of tampering would include:

1. A bag that has been opened and reclosed
2. A missing bar code on bag
3. A torn bag

Check the bag upon receipt and confirm that it has not been tampered with. If tampering is confirmed or even suspected, **DO NOT** deploy the device. Contact Cybersource immediately.

We recommend keeping the device in the original, tamper-evident packaging until ready for deployment.

Physically secure POI devices in your possession, including devices:

- Awaiting deployment
- Undergoing repair or otherwise not in use
- Waiting transport between sites/locations

2.3 Instructions to confirm the business need for, and identities of, any third-party personnel claiming to be support or repair personnel, prior to granting those personnel access to POI devices.

1) All support or repair of devices must be performed by authorized personnel
2) All repair personnel must be verified and authorized prior to granting access
3) Call Cybersource to confirm that the person at the store was authorized to perform the repair
4) Cybersource will verify the identity of the person at the store
5) Unexpected personnel must be denied access unless fully validated and authorized
6) Escort and monitor authorized personnel at all times

3. Approved POI Devices, Applications/Software, and the Merchant Inventory

3.1 POI Device Details

The following information lists the details of the PCI-approved POI devices approved for use in this P2PE solution.

All POI device information can be verified by visiting:
https://www.pcisecuritystandards.org/approved_companies_providers/approved_pin_transaction_security.php

See also Section 9.2, "Instructions for how to confirm hardware, firmware, and application versions on POI devices."

PCI PTS approval #:	POI device vendor:	POI device model name and number:	Hardware version #(s):	Firmware version #(s):
4-10191	Verifone	P400	H435-07-32-XX0-X0-A1	Vault: 7.x.x, AppM: 11.x.x.x, VFSRED: 7.x.x, VFOP: 1.x.x

3.2 POI Software/Application Details

The following information lists the details of all software/applications (both P2PE applications and P2PE non-payment software) on POI devices used in this P2PE solution.

All applications with access to clear-text account data must be reviewed according to Domain 2 and are included in the P2PE solution listing. These applications may also be optionally included in the PCI P2PE list of Validated P2PE Applications list at vendor or solution provider discretion.

Application Vendor, Name, and Version #	POI Device Vendor	POI Device Model Name(s) and Number:	POI Device Hardware & Firmware Version #	Is Application PCI Listed? (Y/N)	Does Application Have Access to Clear-text Account Data (Y/N)
Verifone, VIPA, 6.6.1.x	Verifone	Verifone P400	H435-07-32-XX0-X0-A1 and Vault: 7.x.x, AppM: 11.x.x.x, VFSRED: 7.x.x, VFOP: 1.x.x,	Yes	Yes
Verifone, VIPA, 6.8.2.x	Verifone	Verifone P400	H435-07-32-XX0-X0-A1 and Vault: 7.x.x, AppM: 11.x.x.x, VFSRED: 7.x.x, VFOP: 1.x.x,	Yes	Yes

3.3 POI Inventory & Monitoring

- All POI devices must be documented via inventory control and monitoring procedures, including device status (deployed, awaiting deployment, undergoing repair or otherwise not in use, or in transit).
- This inventory must be performed annually, at a minimum.
- Any variances in inventory, including missing or substituted POI devices, must be reported to Cybersource via the contact information in Section 1.2 above.
- Sample inventory table below is for illustrative purposes only. The actual inventory should be captured and maintained by the merchant in an external document.

Securing the devices used for payment acceptance is crucial for your overall security solution. It begins with tracking all devices from the time that they are received until they are removed from service. Cybersource recommends inventory monitoring at regular intervals, and an audit of all devices must be performed at least once a year.

Best practice for device inventory monitoring and management is to assign a person or to assign inventory management responsibilities to a job function within your organization. The responsibility of the person is to inventory and track all devices in stores and to manage and report any discrepancies to Cybersource. This practice ensures that inventory management is performed as Cybersource recommends.

The merchant can choose to automate device inventory tracking by using software tools or on paper. The chosen tracking method must contain at least the following information:

1. General product: the terminal product number, model, and power requirements.
2. Serial number label: unique terminal serial number (S/N).
3. Tamper-evident bag serial number (in case the device is not deployed and is stored in one).
4. Status (deployed, in storage, in transit, or in repair).
5. Hardware version.
6. Firmware version.
7. Application version.
8. Device location.
9. Date of last inspection.

Images below indicate how to find the required inventory information listed above.

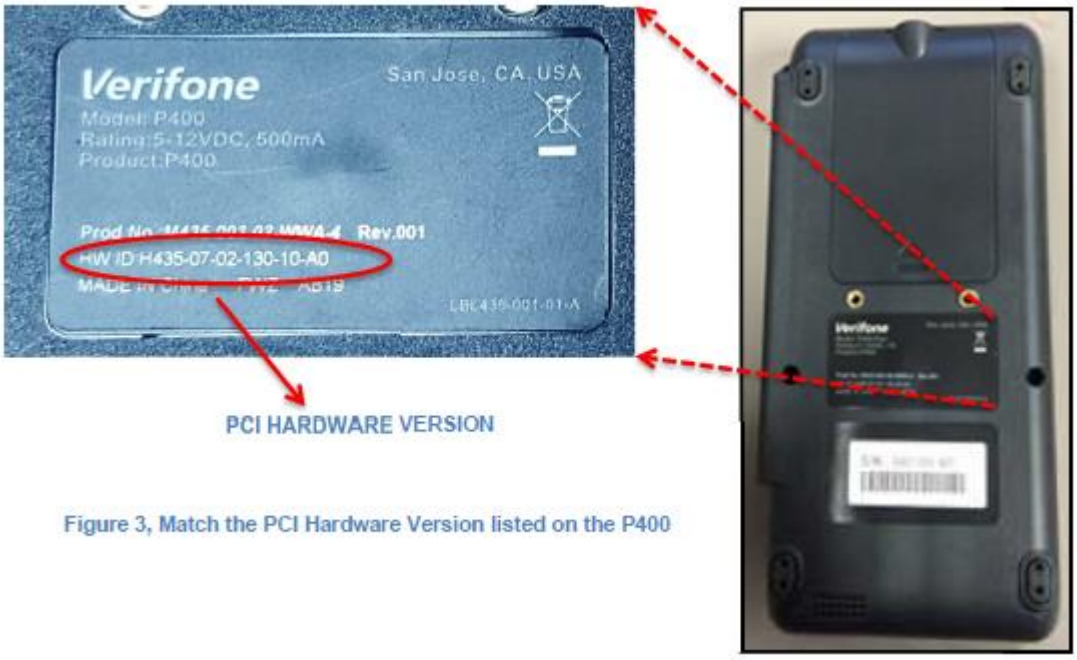
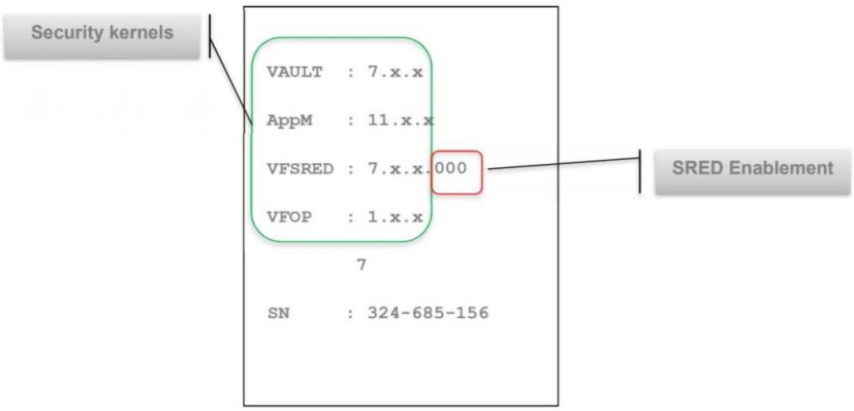


Figure 3, Match the PCI Hardware Version listed on the P400

Firmware Check

You must verify that your P400 device is running PCI PED-approved firmware. Shortly after the device powers on, a splash screen displays the operating system version number. This number must appear on the list of approved PIN Transaction Security (PTS) devices just as the hardware identifier. The listing can be found at:

https://www.pcisecuritystandards.org/assessors_and_solutions/pin_transaction_devices.



Please note the graphic is a sample only and numbers shown may not be specific to the device. You will need to compare your device to the information in Table 2.1.

The following show the SRED enablement status which is encoded as below:

SRED Enablement			
	X	X	X
	1	2	3
1	VCL/ADE encryption: • 0 = VCL and ADE are disabled • 1 = ADE is enabled • = VCL is enabled • 3 = ADE and VCL are enabled		
2	ATOS Encryption: • 0 = ATOS is disabled • 1 = ATOS is enabled		
3	3 Voltage encryption: • 0 = Voltage is disabled • 1 = Voltage is enabled		

An example for a paper-based inventory is provided in the table below.

Date last updated: *<Insert Date>*

Updated by: *<Insert Name>*

Signature:

Device Vendor	Device Model Name(s) and Number	Device Location	Device Status	Serial Number or Other Unique Identifier	Date of Inventory
Verifone	P400	Street 1 123456 City	Deployed	540-004-725	05.05.2017

4. POI Device Installation Instructions

Do not connect non-approved cardholder data capture devices.

The P2PE solution is approved to include specific PCI-approved POI devices. Only these devices denoted above in Table 3.1 are allowed for cardholder data capture.

If a merchant's PCI-approved POI device is connected to a data capture mechanism that is not PCI approved, (for example, if a PCI-approved SCR was connected to a keypad that was not PCI-approved):

- The use of such mechanisms to collect PCI payment-card data could mean that more PCI DSS requirements are now applicable for the merchant.

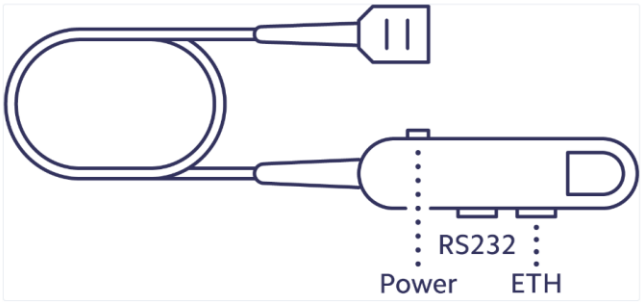
Do not change or attempt to change device configurations or settings.

Changing device configurations or settings may invalidate the PCI-approved P2PE solution in its entirety. Examples include, but are not limited to:

- Enabling any device interfaces or data-capture mechanisms that were disabled on the P2PE solution POI device.
- Altering security configurations or authentication controls on the POI device.
- Physically opening the POI device.
- Attempting to install unauthorized applications onto the POI device.

4.1 Installation and connection instructions

Follow the terminal installation guide provided to you for detailed instructions. Images below are provided to help you install the Verifone P400 device.



Setting Up the Device

Read the Verifone P400 manual for detailed installation instructions.

1) Remove the device from its packaging.
2) Securely plug the P440 connector cable into the port at the bottom of the reader.
3) Slide the cover over the port to hold the cable in place.
4) Plug the connector cable into the power adapter and into a power outlet. The P400 automatically turns on.

Setting Up Wi-Fi

When setting up a new device, follow the on-screen prompts to connect to the Internet using Wi-Fi. To start over, press the red X button on the keypad. The Wi-Fi network must use WPA-Personal or WPA2-Personal encryption and be password-protected. Wi-Fi is not supported for non-password-protected networks or enterprise networks.

Note: *Only PCI-approved POI devices listed in the PIM are allowed for use in the P2PE solution for account data capture.*

4.2 Guidance for selecting appropriate locations for deployed devices

Choose an installation location appropriate for the device and with protection measures in mind:

- Control public access to devices so that it is limited to areas one is expected to use in order to complete a transaction (for example, PIN pad and card reader).
- Place devices so that authorized personnel can monitor them (for example, daily checks performed by store security staff).
- Place devices in an environment that deters compromise (for example, through lighting, access paths, visible security measures).
- Do not install devices outdoors that are designed for indoor use only.
- Ensure that the location is adequately ventilated and protected from excessive heat, dust, oil, and moisture. The device should not be near any running or standing water.
- Place the terminal on a flat surface, or mount it on the supplied stand or on the wall mount according to manufacturer's instructions.
- Keep the terminal away from direct sunlight and from devices that cause excessive voltage fluctuations, make electrical noise, or radiate heat, including high-power radios. The terminal should be a reasonable distance from anti-theft doorway units and from surface-mounted deactivator pads.
- Position the terminal on the check-stand so that the PIN-entry process is impossible to see.

For example:

- Visual shields designed into the check-stand. The shields may be solely for shielding purposes, or may be part of the general check-stand design.
- Position the PIN Entry Device (device) so that PIN spying is difficult. Install the device on an adjustable stand that customers can swivel or tilt to a position that makes observation of the PIN-entry process difficult.
- Position in-store security cameras so that the PIN-entry keypad is not visible.

Place devices so that they can be handled only by authorized personnel who initiate transactions. In a retail environment, the unit should be placed on the counter where it can be observed, but not so close to customers that they could manipulate the device without being seen.

4.3 Guidance for physically securing deployed devices to prevent unauthorized removal or substitution

Merchants should physically secure devices to prevent substitution while devices are deployed. If devices cannot be physically secured because they are mobile:

- Secure devices in a locked room when not in use.
- Assign responsibility to specific individuals when device is in use.
- Observe devices at all times.
- Create a log to sign devices in and out.

Merchants should physically secure devices in a secure area with access for authorized personnel only when not deployed or being used, including devices:

- Undergoing repair or maintenance while in the merchant's possession.
- Awaiting deployment.
- Awaiting transport between locations.

Prior to deployment or shipment or while awaiting repairs, devices must be secured in restricted-access area to ensure that they are not tampered with. For example:

- Devices must be stored in locked room or container.
- The storage location must restrict access using a door or container with a physical key or numeric code.
- Access to the storage location must be logged. This logging may be manual with a written access log or automatic through electronic means.
- Access to the room must be monitored, such as with cameras or physical sight.

Merchants should prevent unauthorized physical access to devices undergoing repair or maintenance while in their possession:

- All repair personnel must be verified and authorized prior to granting access.
- Unexpected personnel must be denied access unless fully validated and authorized.
- Escort and monitor authorized personnel at all times.

The following are best practices to ensure an adequate level of protection for devices:

- Merchants should be aware of the location of the devices at all times. When not in use, they should be securely locked away and out of reach.
- Devices in use should be visible to staff members at all times.
- Ensure that devices are tracked at all times by assigning a job role or person to be responsible for watching the device while in use.

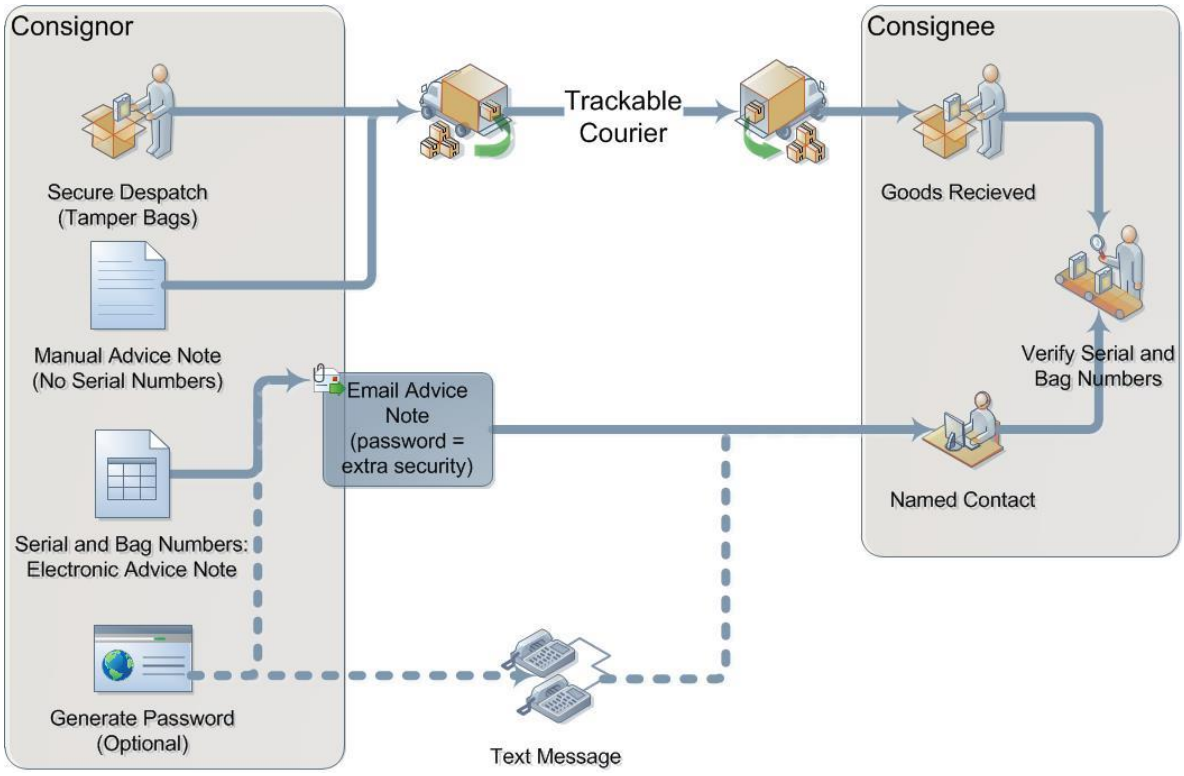
5. POI Device Transit

5.1 Instructions for securing POI devices intended for, and during, transit

Devices Transported to Merchants

The Verifone P400 is shipped as follows from the Cybersource partner distribution center:

1) The Cybersource deployment partner ships the devices in tamper-resistant bags with serial numbers placed on them.
2) An email is generated and sent to the merchant with the tamper-resistant bag serial number and terminal serial number.
3) Upon receipt of the devices, the merchant must confirm the receipt of the terminals by calling the Cybersource support number or emailing the Cybersource partner.



Physically secure POI devices in your possession, including devices:

- Awaiting deployment
- Undergoing repair or otherwise not in use
- Waiting transport between sites/locations

5.2 Instructions for ensuring POI devices are shipped to trusted sites/locations only

Devices Transported by Merchants

Devices must be shipped securely to other locations or for repair / returns. They must be packed in tamper-evident packaging, which can be independently obtained by the merchant or requested from Cybersource.

All devices being deployed or returned must be shipped using a secure transport method such as a trusted and trackable courier such as FedEx, UPS, or DHL.

For deployment to sites, internal employees may transport devices; however, internal employees must be instructed and understand that devices must be protected at all times. Devices may not be left in public areas unattended or in theft-prone areas such as the front or back seat of a car.

In addition, employees must be authorized to deliver the devices, and the recipient must be notified of who is delivering the devices.

Be it a bonded carrier, trackable courier, or internal employee, you must log the following information:

1) Personnel providing shipping (if employee, record name and job role)
2) Date of pick up
3) Device being shipped
4) Confirmation date of delivery to site

In the event devices are shipped from merchant storage locations, device recipients must be notified of authorized shipping, notified of how the device will be shipped, and trained in how to inspect the packaging and device for tampering. The training should include how to recognize breakage of tamper-evident seals on the external packaging and how to examine the device itself for cracks or breakage of security seals. Recipients of devices must also be instructed if they receive devices without prior confirmation from the shipping location or if devices are delivered in an unexpected manner, they must request and receive definitive confirmation of the legitimacy of the shipment by calling Cybersource support).

6. POI Device Tamper & Modification Guidance

6.1 Instructions for physically inspecting POI devices and preventing skimming, including instructions and contact details for reporting any suspicious activity

Additional guidance for inspecting POI devices can be found in the document entitled *Skimming Prevention: Best Practices for Merchants,* available at www.pcisecuritystandards.org.

Prior to deployment:

1) Follow all instructions on how to receive and ship devices.
2) Make sure the device is tracked in your inventory as described in Section 2.3.
3) Perform pre-installation inspection procedures:
    a. Physical and functional tests
    b. Visual inspection
    c. Verify integrity of device

After deployment:

Merchants should physically inspect devices at least every quarter for tampering or modification, including steps such as:

1) Look for missing or altered seals or screws, extraneous wiring, holes in the device, or the addition of labels or other covering materials that could mask damage from tampering.

Figure 3, Match the PCI Hardware Version listed on the P400

Example: This is the official label that should be on the device. If the label has been moved to a different place on the device, or if the label has been peeled off and replaced, this could indicate tampering. Tampering reporting procedures should be followed.

2) Verify the firmware version (confirm during boot up) and compare it to the inventory.
3) Verify the application version (on the idle screen) and compare it to the inventory.
4) Monitor devices in remote or unattended locations (using video surveillance or other physical mechanisms to alert personnel).
5) If you detect anything suspicious, do not use the device.

Report tampered or missing devices and other suspicious activity to Cybersource Support immediately using the steps below.

How to Report Tampering

If you believe your device has been tampered with, follow these steps:

1) Physically remove the device from the area in which it was used. Store out-of-service devices in a locked area (filing cabinet, secure storage room, etc.) until they are taken out of service and returned as described in Section 4.1 and 4.2. Returned devices are inspected, and if warranted, destroyed.
2) Notify Cybersource Support by email: Terminals @cybersource.com. Include the serial number of the device and confirm the device has been removed from the system completely. Please note: the device can no longer be used.

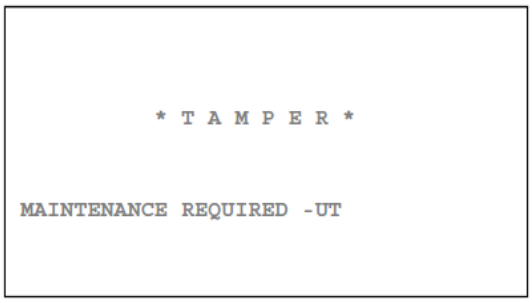
3) Receive a confirmation number and use it in all future correspondence related to the tampering report for this device.
4) Coordinate with Cybersource to secure a replacement unit.

Update the inventory to reflect the device removal.

6.2 Instructions for responding to evidence of POI device tampering

Device Security

Security mechanisms employed within the terminal can detect physical tampering and trigger a tamper event. The terminal ceases performing transactions and indicates that it has been tampered with on the device display in figure below.



9oTerminal security must not be compromised by altering the environmental conditions. The power and temperature operating ranges should be within the specifications specified in the P400 installation guide. Operating the terminal outside of these ranges triggers a tamper event.

The terminal must self-test upon start up and do so at least once each 24-hour period. The operating system performs the self-test automatically and does not require intervention from the user or the application.

If any device is found in tamper state, remove it from service immediately, keep it available for potential forensics investigation, notify your company security officer to start a tamper investigation, and call the Cybersource support desk.

Update your inventory to reflect that the device has been removed from service.

System Security

Cybersource monitors the status of our solution continually. This includes monitoring for any problems relating to encryption and decryption between the terminals and back-end systems.

If you notice that an unusually high rate of declines or errors related to encryptions is displayed on the terminal, remove the unit from service, contact Cybersource immediately, and update your inventory to reflect that the device has been removed from service.

Do not use the terminal until you have received confirmation from support that the issue is resolved.

If the issue cannot be resolved, contact Cybersource support:

Terminals@cybersource.com

7. Device Encryption Issues

7.1 Instructions for responding to POI device encryption failures

If a merchant's device is reporting encryption failure, it must be reported to Cybersource immediately. No further transactions will be authorized from the affected device, and it must be removed from service. The merchant must update the inventory to set the device status to Repair.

8. POI Device Troubleshooting

8.1 Instructions for troubleshooting a POI device

If you encounter any problems with device and need help with troubleshooting, your first point of contact is Cybersource support. For quick troubleshooting, have the following information ready:

1) Serial number of the device as found on the back. For example: 400-200-123
2) Make and model of the device. For example: Verifone P400
3) Your POS system
4) Precise date and time the problem occurred in your time zone
5) Any transaction references, such as authorization code or transaction identifier
6) Whether other devices are experiencing the same issue
7) Steps to reproduce the problem

For your own safety, we ensure that all inquiries come from authorized personnel and that product information matches Cybersource records. We never ask merchants to submit unencrypted account numbers during support calls.

9. Additional Guidance

9.1 Additional Guidance for Merchants

Third Party Access to Devices

Depending on the service selected by the merchant, third-party contractors may be used to provide onsite support. Follow procedures below:

1) Confirm the identity of the person representing as third-party support personnel.
2) Confirm the identity of the person with Cybersource if the store is not notified ahead of time.
3) Do not allow access to the devices until identity of the support person is confirmed.

Removal from Service

Removing devices from service must be done securely and must allow for the tracking and security of the device. Regardless of the reason for removal, the following steps are required:

1) Removal of device must be arranged prior to shipping.
2) Personnel at the location from which the device will be removed must confirm that personnel removing device are authorized.
3) Names of personnel performing removal must be documented, including name, company, and time of removal.
4) Inventory must be updated to indicate that the device was removed and reason for removal.

If the device is to remain at the deployment location for future deployment, it must be securely stored at the location in a manner as described in Section 3.3.

If the device is to be returned to a shipping location, it must be packed in a tamper-evident package and shipped using an authorized source that can be tracked. Methods for shipping and tracking are described in Section 4.1 and 4.2.

If the device is to be returned to an authorized Deployment Center for repair or replacement, the following steps must be taken:

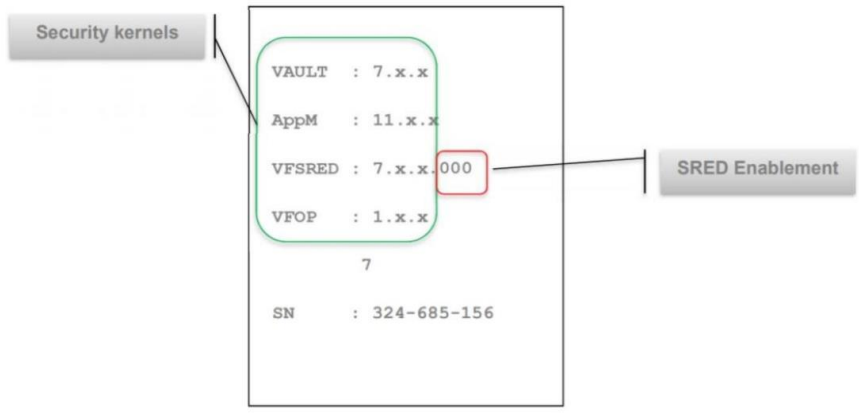
1) Place device in tamper-evident bag.
2) Call Cybersource support:
    a. US Toll Free: +1 855-477-1184
    b. UK: +44 2039012015
3) Include serial numbers and tamper bag numbers.
4) Email: Terminals@cybersource.com
5) Returned device must be accompanied by these forms:
    a. RETURNS REQUEST FORM
    b. REPAIR PROCEDURE ACCEPTANCE

9.2 Instructions for how to confirm hardware, firmware, and application versions on POI devices

Firmware Check

You must verify that your P400 device is running PCI PED-approved firmware. Shortly after the device powers on, a splash screen displays the operating system version number. This number must appear on the list of approved PIN Transaction Security (PTS) devices just as the hardware identifier. The listing can be found at:

https://www.pcisecuritystandards.org/assessors_and_solutions/pin_transaction_devices.



Please note the graphic is a sample only and numbers shown may not be specific to the device. You will need to compare your device to the information in Table 2.1.