VP8810™/VP8810P™ User Manual

80163501-001 Rev. 52
15 June, 2023

FCC Regulatory Compliance

FCC warning statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The user manual for an intentional or unintentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: The grantee is not responsible for any changes or modifications not expressly approved by the party responsible for compliance. Such modifications could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with FCC RF radiation exposure limits set forth for an uncontrolled environment.
The antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter and must be installed to provide a separation distance of at least 20cm from all persons.

Cautions and Warnings

⚠️	**Caution:** The VP8810 should be mounted at least 1 foot (30 cm) away from other VP8810. Can be adjusted based on lane setup.
⚠️	**Caution:** Danger of Explosion if battery is incorrectly replaced. Replace only with same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.
⚡	**Warning:** Avoid close proximity to radio transmitters which may reduce the capability of the reader.

ISED Warning statements

This device complies with Canada's licence-exempt RSSs. Operation is subject to the following two conditions: (I) This device may not cause interference; and (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Le present appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :
(1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This equipment complies with IC RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator and any part of your body.

Pour se conformer aux exigences de conformité CNR 102 RF exposition, une distance de separation d'au moins 20 cm doit être maintenue entre l'antenne de cetappareil et toutes les personnes.

This Class B digital apparatus complies with Canadian ICES-003.
Cet appareil numerique de la classe B est conforme a la norme NMB-003 du Canada.

The device is restricted to indoor use only when operating in the 5150 to 5250 MHz frequency range.
L'appareil est limité à une utilisation en intérieur uniquement lorsqu'il fonctionne dans la plage de fréquences de 5150 à 5250 MHz.

CE Caution:

RF Exposure
This equipment complies with CE radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20cm between the radiator and your body.

EU DECLARATION OF CONFORMITY

Hereby, ID TECH declares that the radio equipment type VP8810/VP8810P is in compliance with Directive 2014/53/EU.
The full text of the EU declaration of conformity is available at the following Internet address:
https://idtechproducts.com/
The device is restricted to indoor use only when operating in the 5150 to 5350 MHz frequency range.

	AT	BE	BG	HR	CY	CZ	DK
	EE	FI	FR	DE	EL	HU	IE
	IT	LV	LT	LU	MT	NL	PL
	PT	RO	SK	SI	ES	SE	UK(NI)

Notice for Operating Frequency and Output Power

Feature	Model: VP8810-0800, VP8810-8800	Model: VP8810-8830
NFC	<116.7dBuV/m at 3m (Measured Value)	<116.7dBuV/m at 3m (Measured Value)
2.4G WLAN (b/g/n): 2400-2483.5 MHz (EIRP dBm)	<20	<20
5G WLAN (a/n/ac): 5150-5250/5250-5350/5470-5725 MHz (EIRP dBm)	<20	<20
BT-EDR/LE (EIRP dBm)	<10	<10
2G (dBm)	Not Applicable	GSM900: <33 GSM1800: <30
3G (dBm)	Not Applicable	Band I: <24 Band VIII: <24
4G (dBm)	Not Applicable	Band 1/20: <23 Band 3: <23 Band 7: <23 Band 8: <23 Band 28: <23

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Revision History

Date	Rev	Changes	Author
10/27/2021	50	Initial VP8810 draft; forked from VP8800	CB
11/25/2022	51	Modify product spec and features for the following variants. VP8810-0800 Rev. 56 VP8810-8800 Rev. 54 VP8810-8810 Rev. 54 VP8810-8830 Rev. 54	EC
11/28/2022	52	Style and formatting changes.	CB

1. Getting Started

The VP8810 is an all-in-one card reader that can accommodate contact EMV, magstripe, and contactless (NFC) payments and offers PIN pad (chip-and-PIN) capability and electronic signature capture. It is designed to integrate easily with existing POS systems and requires minimal counter space at checkout stands. The VP8810P is equipped with a thermal printer.

The VP8810/VP8810P is a PCI-certified, SRED-compliant counter-top reader featuring RS-232 (serial), Ethernet, and USB 2.0 communications to POS systems.

The VP8810/VP8810P includes support for the following contactless payment applications:

- Support for Apple Pay, including VAS protocol
- Support for Google Pay, including Smart Tap
- Support for Samsung Pay
- Support for Mifare Suite
- Support for Payment Card Brands:
    - VISA
    - MasterCard
    - AMEX
    - Discover
    - Interac
    - JCB
    - UPI

This document assumes that users are familiar with their host POS systems and all related functions.

2. Features

The VP8810/VP8810P supports the following features:

- 3.5-inch color digital display (320 x 480 pixels)
- Supports PIN on glass
- Built-in Thermal Printer (VP8810P only[1])
- Concealed contactless antenna
- PCI 6.X certified
- SRED (Secure Reading and Exchange of Data) compliant, with tamper detection and fulltime encryption*
- Connectivity interface – RS-232, USB 2.0 via USB Type C, Ethernet 10/100M[2], Wi-Fi/BLE, and optional LTE 4G (VP8810P LTE variants only[3])
- Audio Line Out through mini-HDMI port
- Camera or 1D/2D scanner
- ANSI X.9-24 DUKPT key management
- ISO14443 type A/B and Mifare based contactless payment transactions
- Support Common Contact L2 Kernel
- Support for contactless transactions via NFC devices
- PIN entry for PIN/debit and chip-and-PIN transactions
- Magnetic stripe card transactions
- Electronic signature capture
- Up to four SAM card slots provided
- Two SIM card slots provided (VP8810P LTE variants only[4])
- One SD card slot provided

*Note that for encryption to be enabled, the VP8810/VP8810P must be key-injected. ID TECH is a certified Key Injection Facility. Contact your ID TECH representative for details.

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[1] Note: VP8810P models include VP8810-8800, VP8810-8810, and VP8810-8830.
[2] Note: VP8810/VP8810P must be power-cycled to switch between 10M and 100M.
[3] Note: Only VP8810-8810 and VP8810-8830 support LTE.
[4] Note: Only VP8810-8810 and VP8810-8830 support LTE.

3. Specifications

VP8810 Specifications (applicable for model VP8810-0800)

RF Interface	
Frequency	13.56 MHz
Standard	ISO 14443 Type A&B, Mifare
Reading distance	MAX 4cm
Physical	
Length	146 mm
Width	80 mm maximum
Depth	27 mm maximum
Weight	0.215Kg
Storage	64 MB RAM + 128 MB Flash + 32GB of Micro-SD, with 4 SAM slots
Environmental	
Operating Temp.	0 to 55° C (32 to 131° F)
Storage Temp.	-25 to 70° C (-13 to 158° F)
Relative Humidity	10 to 95% non-condensing
Operating Environment	Indoor only
Power supply	+5VDC 2A
Consumption	6W maximum
Touch Screen	
LCD	Capacitive 3.5" TN TFT Backlit Color Display
Signature Capture	Yes
Resolution	320X480 Pixels
Glass Hardness Rating	>=6H

VP8810P Specifications (applicable for model VP8810-8800, VP8810-8810, and VP8810-8830)

RF Interface	
Frequency	13.56 MHz
Standard	ISO 14443 Type A&B, Mifare
Reading distance	MAX 4cm
Physical	
Length	186 mm
Width	82.5 mm maximum
Depth	58 mm maximum
Weight	0.310Kg (without paper roll)
Storage	64 MB RAM + 128 MB Flash + 32GB of Micro-SD, with up to 4 SAM slots
Environmental	
Operating Temp.	0 to 50° C (32 to 122° F)
Storage Temp.	-20 to 60° C (-4 to 140° F)
Relative Humidity	10 to 90% non-condensing
Operating Environment	Indoor only
Power supply	+9VDC 2A
Consumption	6W maximum
Touch Screen	
LCD	Capacitive 3.5" TN TFT Backlit Color Display
Signature Capture	Yes
Resolution	320X480 Pixels
Glass Hardness Rating	>=6H
Printer	
Dots per Line	384 dots
Resolution	8 dots/mm
Print Width	48mm
Printing Speed	90mm/s (Max.)
Paper Dimension	57mm x 40mm (width x diameter)
Recommended Paper	PD160R (OJI Paper CO.,LTD.)

4. Getting Started

4.1. Unpacking the VP8810/VP8810P

The VP8810 requires a data cable and, if the cable does not supply power, a 5VDC 2A power supply is needed. The VP8810P requires a data cable and a 9VDC 2A power supply. The cable is not included with the VP8810/VP8810P and must be purchased separately from ID TECH. The VP8810/VP8810P can also use a multi-port cable to connect with host. The MP cable can bridge out the signals of USB Type C (slave), USB Type A (host), Ethernet, RS232, and Audio Line Out. It requires a power supply from a PD adapter. Verify that you have all the required components for the installation:

VP8810 (PN: VP8810-0800) VP8810P (PN: VP8810-8800 / VP8810-8810 / VP8810-8300)	VP8810 VP8810P
Interface Cables: • USB Type C • MP Cable for VP8810 • MP Cable for VP8810P	MP Cable for VP8810 MP Cable for VP8810P
Power supply 5V/2A for VP8810 Power supply 9V/2A for VP8810P	

You may also need a contactless test card (ViVO Contactless Test Card P/N 241-0015-03).

4.2. Data on production and personalization

The device has been loaded with a serial number, MAC address, data encryption key, and PIN encryption key by the factory.

5. Installing the VP8810

Before connecting and mounting the VP8810, plan the installation to conform to PCI 6.X requirements and minimize radio frequency interference. After determining the location and mounting of the VP8810/VP8810P, connect it to power and the POS terminal. Finally, test the VP8810/VP8810P to make sure the installation is successful.

5.1. Site Planning

Two environmental considerations affect VP8810/VP8810P installation. PCI certification has specific restrictions on how the reader is positioned to prevent PIN theft. Also consider objects and devices near the reader that may affect the performance of the contactless radio frequency antenna.

5.2. PCI PED Compliance

The VP8810/VP8810P is a PCI 6.x certified PIN/Debit payment device. PCI 6.x certification requires that sufficient protection be provided to ensure that entering a PIN number CANNOT be viewed by a third party (such as another customer standing nearby, the cashier, or a security camera).

The VP8810/VP8810P has design elements, such as a recessed keypad, that meet some of these requirements. However, to fully implement PCI 6.x, be sure to consider the following:

1. The VP8810/VP8810P must be in a location that will NOT force a customer to enter a PIN that can be viewed by a third party (for example, a customer must tilt or rotate the device for better accessibility due to objects blocking a card swipe).
2. If the VP8810/VP8810P is elevated on a mounting stand, shielding must be provided on the mount to prevent a PIN being viewed by a third party.
3. If the VP8810/VP8810P is mounted on a countertop, additional shielding (which can include other devices such as a cash register as long as conditions in (1) above are met) must be provided to ensure that the PIN cannot be viewed by a third party (including cashier and security camera).

WARNING: PCI requires that the device be mounted so that manual PIN entry cannot be observed by a third party (such as another customer standing in line, the cashier at the counter, or a security camera mounted in the ceiling to observe the cash register area). If the PIN entry can be observed, the store owner may be responsible for any losses incurred by the customer if it can be determined that the customer's PIN was stolen at this location.

5.3. Verifying PCI Compliance

Before completing the installation, verify that the VP8810/VP8810P is positioned so that the PIN entry is not visible to other customers, the cashier behind the counter, or video surveillance cameras. If PIN entry is visible, the VP8810/VP8810P must be repositioned or shielding added until none of the above parties can observe PIN entry.

These tests usually require at least two people—one to simulate entering the PIN while the other attempts to view the keypad:

- **Can Another Customer View the PIN:** While one person stands at the VP8810/VP8810P with their hand positioned to enter the PIN, the other tester should try to observe the keypad from behind and beside the first person.
- **Can the Cashier View the PIN:** While one person stands at the VP8810/VP8810P with their hand positioned to enter the PIN, the other tester should stand behind the counter and try to observe the PIN keypad. The second tester should move around a little to see if there is a position where they can observe PIN entry.
- **Can the Video Camera View the PIN:** While one person stands at the VP8810/VP8810P with their hand positioned to enter the PIN, the other tester should observe what is being recorded by any video camera with a view of the VP8810/VP8810P. This may require playing back a recording to see if PIN entry is visible. If the video camera is moveable, the second person should move the video camera to determine if there is a position where PIN entry can be observed.

5.3.1. Retesting Requirements

If PIN entry on the VP8810/VP8810P is observable in any of the above tests, reposition the VP8810/VP8810P and completely retest all locations to verify that PIN entry is not visible. Consider placing a display to block observation from that position.

Repositioning the VP8810/VP8810P to block observance of PIN entry at one location may expose PIN entry to observation at another location. PCI requires repositioning the VP8810/VP8810P and retesting until PIN entry is secure from observation.

5.3.2. 24-Hour Device Reboot

Per PCI Requirements, this device reboots every 24 hours. Please contact your device integrator if you need to check the reboot time for your unit.

5.4. Radio Frequency Interference

To perform contactless transactions, the VP8810/VP8810P uses a radio frequency antenna. The range (reading distance) and performance of the reader can be affected by other radio frequency emitters and proximity to metal.

For best performance, adhere to the following guidelines:

1. Do not position the VP8810/VP8810P closer than 1 foot (30 cm) to other RF-emitting devices. Some environments may require greater separation distances.
2. Avoid placing the VP8810/VP8810P near large metal objects.
3. Do not position the VP8810/VP8810P near radio transmitters.

5.5. Installation

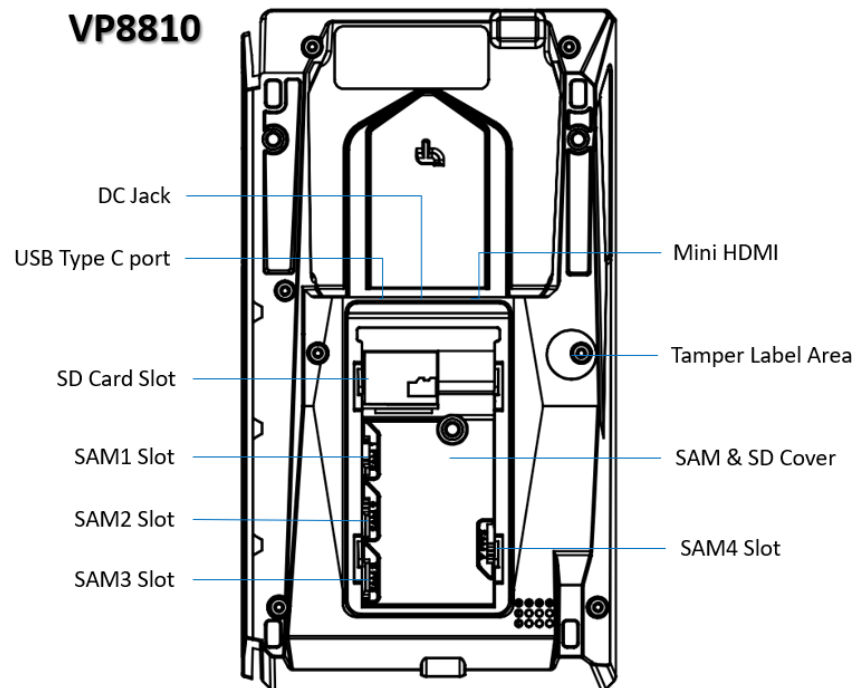This section describes how to install the VP8810/VP8810P. The basic steps are:

- Connect to power and POS
- Mount if required
- Test the installation

Note: The VP8810/VP8810P may take up to 30 seconds to finish booting.

If the unit fails to power up, try reseating the power connector (or change to a different power outlet). If the unit still fails to power up, try replacing the power supply. If the unit still fails to power up, and the power supply is definitely good, contact your local support representative. For more troubleshooting information, see Troubleshooting and Maintenance below.

5.6. Communications

The VP8810/8810P can communicate with a host via serial (RS-232), Wi-Fi, Bluetooth, USB, Ethernet, or LTE 4G connections. The diagram below illustrates the layout of various ports.

VP8810P

- Paper Roll Container
- Printer
- Tamper Label Area
- Mini HDMI
- DC Jack
- USB Type C port
- SD Card Slot
- SAM1 Slot
- SAM2 Slot
- SAM3 Slot
- SIM/SAM & SD Cover
- SIM1 Slot*
- SIM2 or SAM4 Slot**
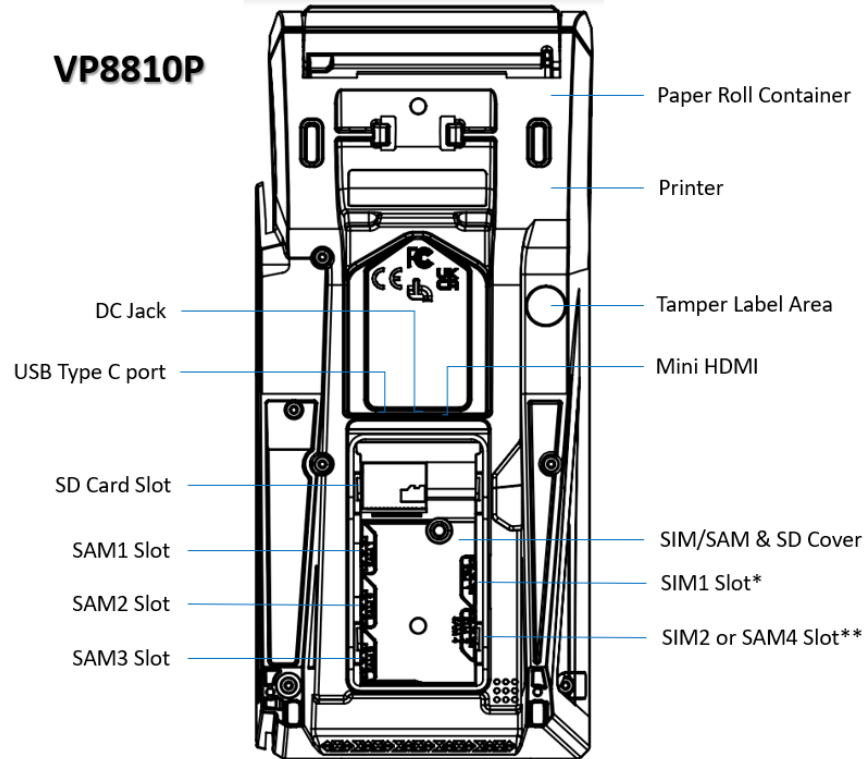
* Only VP8810-8100 and VP8810-8300 support SIM1.
** Only VP8810-8100 and VP8810-8300 support SIM2. For VP8810-8800, it is used as SAM4.

5.6.1. Audio Support

VP8810/8810P is equipped with an internal speaker to host 16mb .WAV files and can also connect to an external speaker via Audio Line Out through mini-HDMI port (An extra direct cable or multi-port cable is needed for the connection).

5.7. Bluetooth Connection

When using Bluetooth communication with the host, follow these steps:
1. Search for Bluetooth name of **VP8810/VP8810P** on the mobile host.
2. Select **Pairing**.
3. The VP8810/VP8810P will display a window with a random passkey.
4. Enter the random passkey on your mobile to set up the link.

5.8. Paper Roll Installation for Thermal Printer (VP8810P ONLY) (TBC)

5.9. Key Replacement

Cryptographic keys can always be replaced by sending the unit back to the manufacturer if necessary (ID TECH is a certified Key Injection Facility). ID TECH also provides several choices for users who need to rotate or replace a cryptographic key in the field:

1. PKI-RKI Client utility, which can replace keys in the field. It requires an internet connection and a host computer.
2. ID TECH's Universal SDK has the RKI API built in. With proper software, a key can be updated programmatically via API (this also requires an internet connection).
3. ID TECH can provide PKI-RKI integration instructions; in this case, the integrator implements the ID TECH RKI feature within custom software.

5.10. Loss or theft

Report the serial number of any lost or stolen product to the vendor from whom it was obtained.

5.11. Testing the Installation

After completing the installation and checking for PCI conformance, run the Onboard Diagnostic program as described in [Onboard Diagnostics](#). Then check that the VP8810/VP8810P and the POS are communicating correctly by performing a sample transaction. The following test assumes that the host POS is already programmed to communicate with the VP8810/VP8810P.

5.11.1. Transaction Test

The exact wording that appears on the VP8810/VP8810P screen will depend on the POS application. Consult the documentation for your POS (or payment app) for details.

5.11.2. LED Behavior

The VP8810/VP8810P uses LEDs and the main LCD display to denote its status during transactions and in case of errors. Contactless LED lights appear on the digital display.
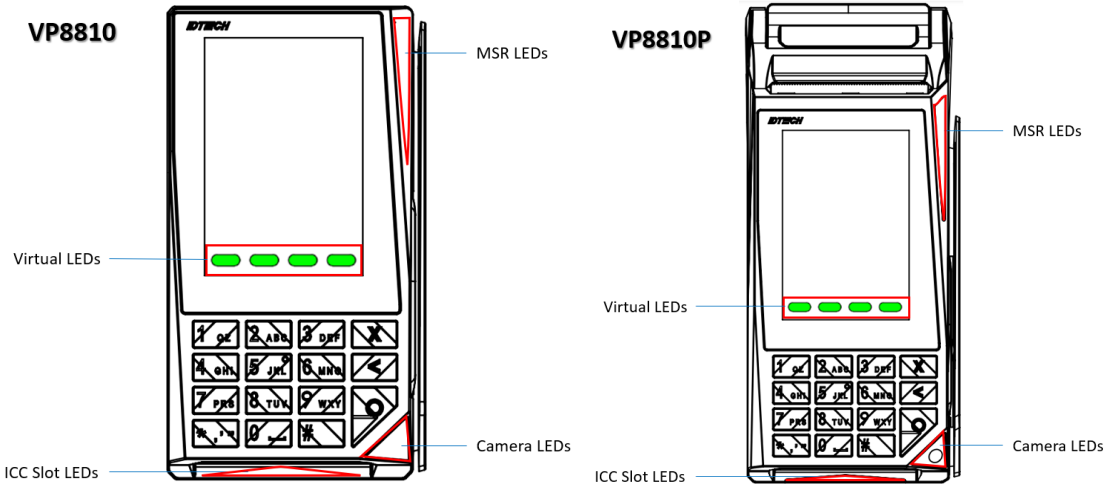
LED and Behavior	Status Indicated
First left virtual LED blink green regularly	VP8810/VP8810P in standby awaiting transaction
First left virtual LED is solid green	Contactless transaction started
All four virtual LEDs blink green	Contactless transaction complete
ICC slot green LED is on	ICC transaction started
ICC slot red LED is on	Device having error(s)
MSR LEDs on	MSR transaction started
Camera LEDs on	Camera is on and ready for capture

5.11.3. To test a transaction

Follow the steps below to test a transaction:

1. Begin a transaction on the POS. Present a card, fob, or phone in close proximity to the reader or swipe a magnetic stripe card.
2. A single beep and LED flash indicates that the card has been validated. The VP8810/VP8810P may display "Processing" or similar wording while the transaction is being processed.
3. If the POS software requires a PIN entry, the screen displays "Please enter PIN". Use the keypad to enter the PIN.
4. If the POS application requires a signature, the screen displays "Please sign below". Use the stylus to enter a signature on the touch screen.
5. A receipt is printed by the POS with the purchase amount. The VP8810/VP8810P may show "Thank You" or similar wording for a successful transaction.

5.12. Device State and UI

State	Beep	LCD	Indicating
De-activated	Short beep for 5 seconds	"Deactivated"	Device is in "Manufactory mode;" no security functions enabled.
Activated	No Beeper	"Activated"	Manufactory data and certificate loaded into device, but no working keys.
Common	No Beeper	"Need More Key" "Self–test Fail"	Device activated but not ready for sensitive functions. The reason should be due to missing working keys, device is suspended due to self-test fail or sensitive limitation, etc.
Ready	No Beeper	"Welcome"	Device ready for sensitive functions, like transaction, Get PIN ,GET account, etc.
Tamper	Beeper per 1 second	"Tampered"	Device was tampered by physical, temperature, or voltage attack. All sensitive information is erased or unrecoverable. Device blocks all sensitive function. There is no way to recover except to return to manufacturer.

5.13. Tamper and Failed Self-Check Indicators

VP8810/VP8810P displays the following indicators when it has been tampered or has any of the other following internal issues, such as an expired certificate, missing key, or similar fault discovered during a self-check.

Note that the Tampered screen also displays configuration information used to diagnose the cause of the issue, similar to the image below on the right:
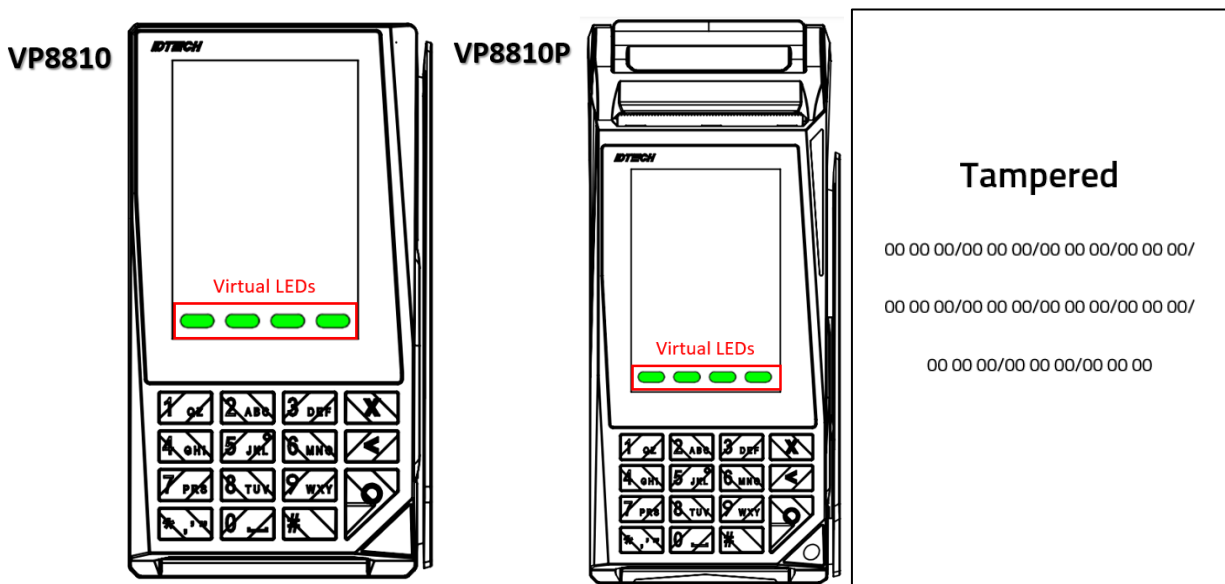
Indicator	Tampered Status	Other Issue Status
Virtual LEDs	All Virtual LEDs off	All Virtual LEDs off

LCD Display Message	TAMPERED	See below
Speaker	Alarm tone	See below

5.13.1. Other Status Messages

VP8810/VP8810P's LCD can display the following messages for both regular status and in the event of a failed self-check:

State	Speaker	LCD	Indicating
Tamper triggered	Beeps every 1 second	"Tampered"	Device was tampered by physical, temperature, or voltage attack. All sensitive information is erased or unrecoverable. The reader blocks all sensitive functions. There is no way to recover the reader except to return it to ID TECH.
Certification check fail	No sound	"Cert Fail"	Certificate tree self-check has failed (example of failure: expiration of certification).
Firmware integrity check fail	No sound	"MSRFail"	MSR failure, usually caused by the abnormal state of the MSR module.
	No sound	"FW/BL Fail"	Firmware self-check has failed
Abnormal Key Status	No sound	"Keys Fail"	Encryption key self-check has failed.
	No sound	"Need More Key" "Self –test Fail"	The reader is activated but not ready for sensitive functions. The reason is most likely due to missing working keys, the reader being suspended due to self-test failure, sensitive limitation, or similar causes.
Deactivated	Short beep for 5 seconds	"Deactivated"	The reader is in "Manufactory mode;" no security functions are enabled.
Activated	No sound	"Activated"	Manufactory data and certificate are loaded into the reader, but no working keys.
Ready	No sound	"Welcome"	The reader is ready for sensitive functions like transactions, Get PIN ,GET account, and similar commands.

If your VP8810/VP8810P is tampered, contact ID TECH support for assistance.

6. Decommissioning SRED Devices

All PCI devices require proper decommissioning prior to device disposal in order to ensure the protection of all sensitive financial card data. For instructions on decommissioning your device, see Decommissioning of SRED Devices on the ID TECH Knowledge Base.

7. Troubleshooting and Maintenance

The VP8810/VP8810P is designed for reliability and ease of troubleshooting. The components that may require troubleshooting include the power supply, the reader, and the data cable.

Symptom	Possible Cause	Probable Cause and Remedy
General Issues		
Reader does not appear to be powered on—no LEDs lit, no LCD display.	• Reader not powered on. • Incorrect power supply used.	• Check cable connections. • Verify that power is on and correct voltage and current are present. • Replace the power supply. • Verify that power cable plug is fully inserted. • Replace the power supply. • Replace the reader.
Reading Cards/Fobs/Phones		
LEDs do not light up, and beeper is not audible when card, fob, or phone is presented.	• Card/fob/phone not properly presented. • Metal or RF interference. • Wrong Firmware issue (contact your local support representative). • Reader not powered on or incorrect voltage. • Incorrect power supply used. • Unsupported card, fob, or phone used.	• Present card, fob, or phone closer to the reader and ensure it's parallel to the reader touch screen. • Verify that the card, fob, or phone is valid/current. • Test with "ViVOcard Contactless Test Card" P/N 241-0015-03. • Try a different card, fob, or phone. • Verify that the unit is not near any large metal objects. • Verify that correct firmware is loaded (local support representative only). • Verify that power is on and correct voltage and current are present. • Verify that power cable plug is fully inserted. • Replace the reader.
Some cards/fobs/phones read, but not all.	• Wrong firmware (contact your local support representative). • Possible bad card, fob, or phone. • Unsupported card used.	• Verify that correct firmware is loaded on reader (local support representative only). • Check to see if card, fob, or phone is damaged. • Try a different card, fob, or phone.
On power-up, display sticks on firmware version.	• SAM card isn't seated properly.	• Remove power from unit, remove back cover and reseat SAM card. If unsure, contact ID TECH Support for assistance.

Symptom	Possible Cause	Probable Cause and Remedy
Communication to POS/ECR		
No data is received, or data is garbled.	• Faulty or incorrect cable connections. • Unsupported card used. • Contactless application is not installed on terminal (for serial connections only). • Magstripe card not swiped correctly. • Magstripe card not level during card swipe. • The POS application is not using the correct communications parameters.	• Check that the cable connection is secure and in the correct port on the POS/ECR. • Check that the POS/ECR has the correct software application to accept data from the contactless reader (may need assistance from the POS vendor). • Try a different card, fob, or phone or magstripe card if testing the magstripe reader. • If testing with the magstripe card, try turning the card around; make sure that the card is level during the card swipe. • Contact the payment processor for an application upgrade. • Check that the cable is correctly attached to the back of the VP8810/VP8810P. • Check the POS application.

7.1. Maintenance

The VP8810/VP8810P contains no user-serviceable parts within its enclosure. Do not open the VP8810/VP8810P main enclosure.

WARNING: Attempting to open the VP8810/VP8810P enclosure will trigger PCI security measures and the unit will stop functioning even after reassembly, requiring its return to the factory.

It is also possible to upgrade the VP8810/VP8810P firmware if required.

7.2. Upgrading Firmware (TBC)

VP8810/VP8810P firmware is upgradable, if required for applications. Upgrade firmware using the ID TECH USDK Demo, which is available for free. Obtain the following from your VP8810/VP8810P distributor:

- Firmware for the VP8810/VP8810P
- USB Type C cable

Firmware upgrades also require a PC with a USB port. The PC will likely already have the required USB driver HID.DLL file. If not, download that file from Microsoft's website.
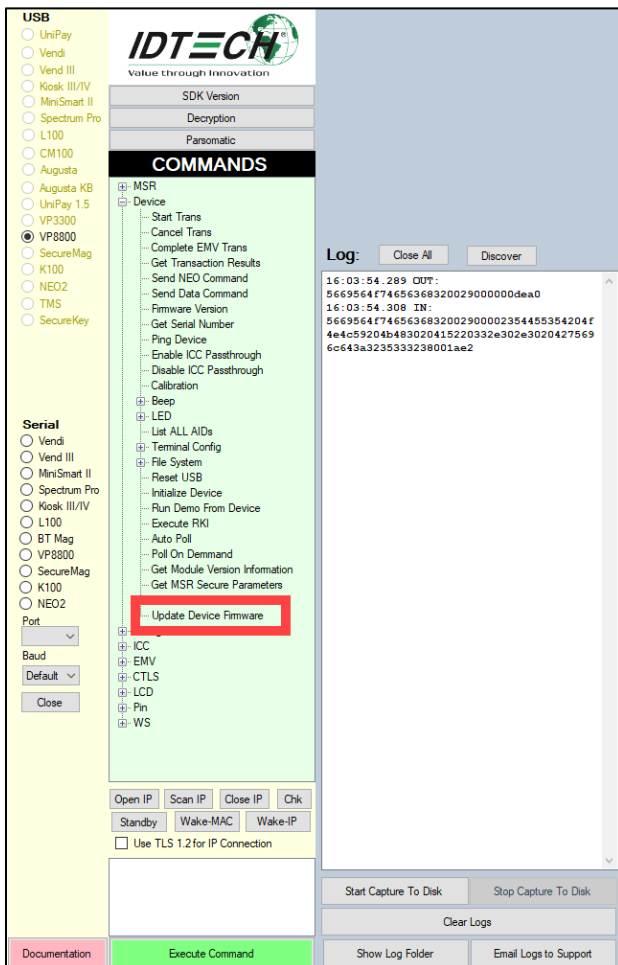
To upgrade the firmware:

1. Install and run the USDK Demo.
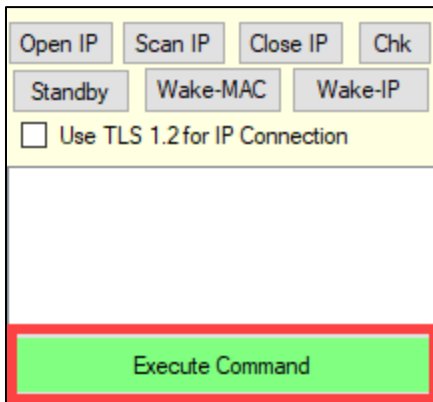2. Extract the firmware ZIP file to a directory of your choice.

3. Connect the USB data cable to the VP8810 and PC (see Connecting the VP8810 above). When the VP8810 powers on it appears under the USB devices in the USDK Demo.
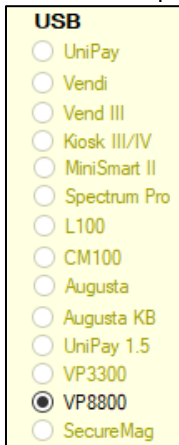
4. Select the **Update Device Firmware** command under **Commands > Device > Update Device Firmware**.

5. Click **Execute Command**.

6. A File Explorer window will open; navigate to the directory where you extracted the firmware ZIP, then open **images_for_VLoader >pisces_signed_r25680.bin**.
7. Wait for the USDK Demo to complete the firmware update.
8. After the USDK Demo applies the firmware, the VP8810 will reboot and validate the firmware file. **Please note that this can take up to five minutes to complete.**

After restarting, the VP8810/VP8810P will have updated firmware and display its Welcome screen.