



# ViVOpay VP3320

## User Manual



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**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**

	<p><b>Caution:</b> Danger of Explosion if battery is incorrectly charged. Use only standard USB 5V power source.</p> <p>Device contains a lithium battery. Approved temperature range for storage: -20°C to +60°C. Disposal: Contact your local recycling center.</p>
	<p><b>Warning:</b> Avoid close proximity to radio transmitters, which may reduce the capabilities of the reader.</p>

### **Internal Rechargeable Battery Warning**

**Danger:** Do not attempt to replace the internal rechargeable lithium ion battery. Replacing the original battery with an incompatible type may result in an increased risk of personal injury or property damage due to explosion, excessive heat, or other risks. Do not attempt to disassemble or modify the battery pack. Attempting to do so can cause a harmful explosion or battery fluid leakage.

When disposing of the battery, comply with all relevant local ordinances or regulations. Do not dispose of the battery pack in municipal waste. Dispose used batteries according to the instructions.

The battery pack contains a small amount of harmful substances.

To avoid injury:

- Keep the battery pack away from open flames or other heat sources.
- Do not expose the battery pack to water, rain, or other corrosive liquids.
- Do not leave the battery in an environment with extremely low air pressure. It may result in an explosion or the leakage of flammable liquid or gas from the battery.

To extend battery life, we recommend charging the battery to at least 30% to 50% capacity each time and recharging it every three months to prevent over discharge.

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## 1. Introduction

The ViVOpay VP3320 is ID TECH's first SCRIP (Secure Card Reader-PIN) developed to be used in SPoC standard (Software PIN on Consumer-off-the-Shelf Devices). The VP3320 supports EMV contact and contactless, Bluetooth, and micro-USB connections.

The VP3320's small form factor and Bluetooth interface make it ideal for mobile applications where smart card reading is required. As a mobile reader, VP3320 works in conjunction with Android as well as iOS phones and tablets. The VP3320 is designed to be compatible with a wide range of third-party payment applications, and the ID TECH Universal SDK (described further below in the section called [For Software Developers](#)) is available for developing applications that communicate with VP3320.

Contact your acquirer, gateway, or POS partner for instructions on setting up and pairing the VP3320 to a compatible payment application and associated host device.

## 2. Major Features of VP3320



- Communicates via Bluetooth BLE (Bluetooth Low Energy)
- Supports Apple iOS and Android platforms
- Rechargeable battery, no external power necessary
- ICC: EMV Level 1 and EMV L2 approval
- Front-facing contactless transaction support via Near Field Communication (NFC)
- LED status indicator
- Audio feedback
- Micro USB (for battery charging and communication)
- Field upgradable firmware
- Low power consumption when reader is in standby mode
- Compact and ergonomic design to integrate with a variety of mobile devices
- Supports Triple DES and AES encryption, with DUKPT key management
- Visa Ready
- Supports 16 contact and 16 contactless AIDs, for a total of 32 AIDs

## **2.1. Contactless NFC Features**

- ISO 14443 Type A&B
- ISO 18092 (P2P)
- MasterCard® MChip 3.1 (Formerly PayPass)
- Visa payWave/VCPS 2.2
- Visa IRWIN
- Discover® DPAS
- American Express® ExpressPay
- Interac Flash
- MIFARE
- Apple Pay and Apple VAS
- Samsung Pay NFC
- Android Pay
- Google Pay / Softcard SmartTap 2.1

## **3. Other Agency Approvals and Compliances**

- CE (EN55022/EN55024, Class- B)
- FCC (Part 15, Class-B)
- RoHS (DIRECTIVE 2011/65/EU)
- UL
- REACH
- EMV Contact L1&L2
- EMV Contactless L1
- TQM

## 4. Before You Start Using VP3320

The VP3320 is a mobile device for reading ICC ("chip") cards. The VP3320 is designed to operate in conjunction with certified third-party payment software and compatible host devices such as Bluetooth- or USB- equipped tablets and smartphones. Before connecting the VP3320 to the host device:

1. Install and activate the software application service according to the instructions provided by your payment application service and software provider.
2. Connect the VP3320 to the host mobile device through via Bluetooth or a micro-USB cable.

### 4.1. Bluetooth Pairing Instructions

In addition to the following instructions, see the section on [iOS Connectivity](#) for more information on using an iPad or iPhone in conjunction with the VP3320.

1. Enable the Bluetooth device search function on the host device (smart phone or tablet).
2. Make sure the VP3320 is charged or connected to a power source via USB.
  - When connected to a power source, the VP3320 automatically activates Bluetooth.
3. When not connected to a power source, press the VP3320's Bluetooth function button to activate Bluetooth. The button is located on the bottom of the case.
4. Find a Bluetooth device named **IDT####** on the host smart phone or tablet and select **Pair(####** (#### is the last four digits of the device's serial number; for example, IDT1701).
5. Enter the password for pairing. The default password is 654321.
6. Follow the payment transaction instructions provided by a compatible payment application maker to complete a transaction.

The VP3320 will remain connected via Bluetooth to the host device indefinitely when powered via the USB cable. If the unit is operating on battery power, it will go to sleep after 30 seconds of idling to extend battery life. To perform a transaction again, press the Bluetooth function button to re-establish the Bluetooth connection.

When connecting to an iOS device, please install a compatible payment application and follow the instructions provided by that application's maker. See [iOS Connectivity: BLE and VP3320](#) below for more information.

### 4.2. Battery Charging Instructions









































The VP3320 is powered by a lithium-ion polymer battery and is delivered in a partially charged state. Be sure to fully charge the VP3320 before using it for the first time. Allow four to six hours for the initial charge.

**Warning:** Do not use "fast chargers" with VP3600 readers. Only use a standard USB to micro-USB cable to charge the unit. An LED battery indicator displays the current battery charging status.



### 4.3. VP3320 LED and Sound State Indicators

The VP3320 uses the following LEDs and sounds to indicate various statuses, including power management, Bluetooth, transactions, and security.

Device State	LED1	LED2	LED3	LED4	Sound
Battery charging	 on	 off	 off	 off	None
Battery power low <sup>1</sup>	 on	 off	 off	 off	None
Bluetooth ready	 blink	 off	 off	 off	None
Bluetooth connected successfully	 blink	 off	 blink	 off	None
Bluetooth in sleep mode	 off	 off	 off	 off	None
Bluetooth on standby	 blink	 off	 off	 off	None
Transaction successful	 on	 on	 on	 on	Unit beeps once
Transaction failed	 off	 off	 off	 off	Unit beeps twice
Unit has been tampered	 blink	 blink	 blink	 blink	Unit beeps
Device deactivated	 blink	 blink	 blink	 blink	Unit beeps

1. Charge the battery or connect the VP3320 to a power source; the unit remains fully-functional when charging. When the LED is no longer flashing, the battery is fully-charged.

### 4.4. iOS Connectivity: BLE and VP3320

The VP3320 uses Bluetooth 4.2, also known as Bluetooth BLE (Bluetooth Low Energy). Unlike previous versions of Bluetooth, BLE **does not require** users to first pair their devices through the Bluetooth Settings in Apple iOS. If a payment application provider has enabled BLE scanning in their application, Apple iOS scans and locates all BLE devices in range to automatically connect with the VP3320.

**It is critical to note that if the VP3320 is paired via the iOS Settings page, it will display as a connected device but not function with a payment app.**

Unlike other operating systems that can detect or specify a BLE device by its MAC address, Apple does NOT allow users to specify a BLE device by MAC address for security reasons. Instead, after

a device is selected by its "friendly" name (see the next paragraph), the Apple iOS calculates a unique identifier to allow any that device to make further connections directly.

The VP3320 has a default friendly name of **IDT + the last four digits of the device's serial number** (for example, **IDT1701**). This is the default name the ID TECH Universal SDK uses to connect to the first VP3320 it encounters if no other friendly name is set in the SDK, or when the iOS-generated device identifier is not provided. See links given near the end of this document for information about the Universal SDK.

**Note:** The Universal SDK is primarily of interest to developers. If an application provider or POS software partner has already provided software to use with the VP3320, you do not need to obtain the SDK.

#### **4.5. 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. Operation and Storage: Environmental Limits

Item	Specification	Note
Operating Temperature	0 °C to 55 °C or 32°F to 131°F	Non-condensing. Product operation temperature is limited to this range due to constraints of the Li-Battery specification.
Storage Temperature	-20 °C to 60 °C or -4°F to 140°F	Non-condensing. Product storage temperature is limited to this range due to constraints of the Li-Battery specification.
Operating Humidity	Up to 95%	Non-condensing.
Storage Humidity	Up to 95%	Non-condensing.

## 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. For Software Developers: Software Development Support

By virtue of its EMV L2 kernel, VP3320 is designed to be compatible with a wide range of third-party payment applications. ID TECH offers a Universal SDK (available for iOS, Android, or Windows) to enable rapid application development using VP3320 as the target device. The languages supported include Objective C (on iOS), Java (on Android), and C# (on Windows). The Universal SDK includes rich, powerful libraries that make sending commands to the VP3320 comparatively easy while greatly facilitating debugging and event handling.

To obtain the Universal SDK free of charge, visit ID TECH's [VP3320 product page](#) and select the version of the SDK that applies to your desired host platform (that is to say, Android, iOS, Linux, MacOS, or Windows).

Normally, development of applications that take advantage of VP3320's capabilities can be done in a high-level language like C# or Java (using convenience objects and data structures defined in the Universal SDK), obviating the need to send byte commands directly. Nevertheless, it is possible to communicate with the device at a low level if necessary. For a command reference for VP3320, request the *NEO Interface Developers Guide* (IDG), P/N 80139403-001. This document includes not only low level (firmware) commands but error codes, response codes, and information on various default settings.

## 8. Demo App

The Universal SDK comes with a rich, fully featured demo app that allows users to run the VP3320 in USB mode. Visit the [VP3320 product page](#) to download the Universal SDK Demo app as a standalone executable, separate from the SDK; the full SDK is not required to use the demo. Be sure to check out the [Universal Demo QuickStart Guide](#) for more detailed instructions about using the Universal SDK Demo app.

### 8.1. Using the demo application

Follow the steps below to run the Universal SDK Demo app on Windows:

1. Plug the VP3320 into the host device with a USB-to-micro-USB cable (not included).
2. Double-click the **UniversalSDKDemo.exe** file and allow a few seconds for the main window to appear (see illustration below).



The Universal SDK Demo app displays VP3320's available commands in a command tree, as shown above. Single-click on a command to populate the center panel of the window with optional settings relevant to the command (for example, "Amount" and "Start EMV Additional Tags" above). In some cases, text fields appear, allowing users to enter custom values.

To execute a command, double-click it in the command tree (or use the **Execute Command** button at the bottom of the window). The command executes in real time and a data trace appears automatically in the center and/or right-hand panels. Use the Clear Logs button to clear both panels.

## 8.2. Updating VP3320 Firmware

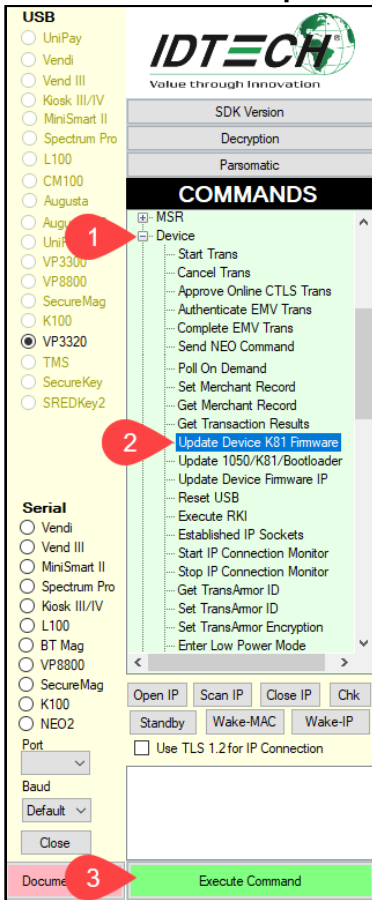
The steps below describe the process for updating VP3320 firmware via the Universal SDK Demo.

**Note:** Before you begin, contact your ID TECH representative to receive the most recent VP3320 firmware. Download the ZIP file and extract it to your computer.

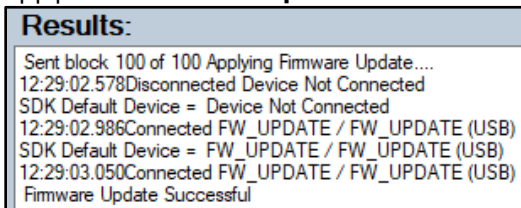
1. Connect the VP3320 to your PC via USB or serial port.
2. Download and install the latest [USDK Demo app](#) from the ID TECH Knowledge Base (if you cannot access the link, please [contact support](#)).
3. Open the USDK Demo app from the Windows Start menu.



4. Under **Device**, select **Update Device K81 Firmware**, then click **Execute Command**.



5. Navigate to and select the VP3320 firmware file you downloaded earlier and click **Open**.
6. The VP3320 reboots and enters the bootloader, at which point the USDK Demo app begins updating the device.
7. When the firmware update completes, the VP3320 reboots again and the USDK Demo app prints **Firmware Update Successful** in the **Results** panel.



## 9. For More Information

- To learn more about VP3320 and other ID TECH products, visit the [ID TECH Knowledge Base](#).
- To learn more about EMV app development with the Universal SDK, see [EMV Transactions with Universal SDK](#).
- Visit us online at <http://idtechproducts.com>.
- Find more Tech Support resources at the [ID TECH Tech Support home page](#).