



Value through Innovation

## VP8300 User Manual



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# FCC Regulatory Compliance

## Notices Class B Equipment

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. This device complies with part 15 of the FCC rules. Operation is subject to 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.

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 and 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.

Changes or modifications to the ViVOPay VP8300 not expressly approved by ViVOtech could void the user's authority to operate the ViVOPay VP8300.

RF exposure:

- To comply with the FCC RF exposure compliance requirements, this device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter.

## Cautions and Warnings

	<p><b>Caution:</b> The ViVOPay VP8300 should be mounted 1-2 feet away from other ViVOPay VP8300.</p>
	<p><b>Warning:</b> Avoid close proximity to radio transmitters which may reduce the ability of the reader.</p>

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## 1 Overview

The ViVOPay® VP8300 supports card swipe, contact and contactless payment information processing and authorization at mobile devices.

The unit can accept a variety of contactless credit cards, contactless key Fobs.

ViVOPay VP8300 supports the following contactless payment applications in the latest release of firmware:

- PayPass ISO/IEC
- PayPass Magstripe
- PayPass MChip
- PayPass MXI
- RBS Application (M/Flex)
- VisaWave
- qVSDC/MSD
- American Express – ExpressPay
- Discover Zip
- ViVOWallet
- ViVONFC
- Mifare ePurse

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

### Features

The ViVOPay VP8300 supports the following transaction types:

- Contactless RF devices such as ISO 14443 Type A and Type B, and Mifare devices

### 1.1 Additional Features

- Contactless: Accepts transactions from consumers using ISO/IEC 14443 Type A and B or NFC cards and key fobs.
- Speed: Enables quick transactions improving store productivity and operational efficiencies.
- Implementations: POS peripheral.
- Consumer Intuitive: Equipped with LEDs and sound to provide visual and audible cues to enable smooth and seamless transactions.
- Secure: Provides highly secure transactions whether financial, pre-paid, loyalty, or gift.

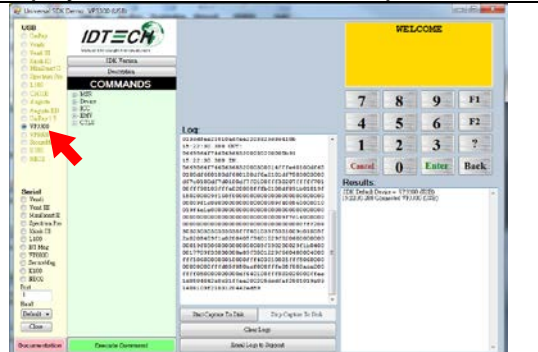
## 1.2 ViVOPay VP8300 Specifications

<b>Hardware</b>	
MTBF	200,000 hrs.
Transmitter Frequency	13.56 MHz +/- 0.01%
Transmitter Modulation	ISO 14443-2 Type A Rise/Fall Time: 2-3 $\mu$ sec. Rise, < 1 $\mu$ sec fall ISO 14443-2 Type B Rise/Fall Time: < 2 $\mu$ sec. each; 8% - 14% ASK ISO 18092
Receiver Subcarrier Frequency	847.5 KHz
Receiver Subcarrier Data	ISO 14443-2 Type A: Modified Manchester ISO 14443-2 Type B: NRZ-L, BPSK ISO 18092
Typical Read Range	4-6 cm (1.5 to 2.3 inches)
<b>Physical Dimensions</b>	
Height	45 mm (1.78 inches)
Width	141 mm (5.55 inches)
Depth	127 mm (5 inches)
<b>Environmental</b>	
Operating Temperature	0° C to 55° C (32° F to 131° F)
Storage Temperature	-20° C to 60° C (-4° F to 140° F)
Cold and Heat Shock	-20° C to 60° C (-4° F to 140° F) within 25 hrs.
Operating Humidity	5% to 95% non-condensing
<b>Electrical</b>	
Reader Input Voltage	USB 5VDC; MAX 0.4A ; 2 Watts

### 1.3 Installing ViVOPay VP8300

This section describes how to install the ViVOPay VP8300 on a Desktop.

Launch the USDK and get into the main screen, USDK will detect the VP8300 automatically(Share same tool with VP3300).



When VP8300 is standby, the far left LED will flash.



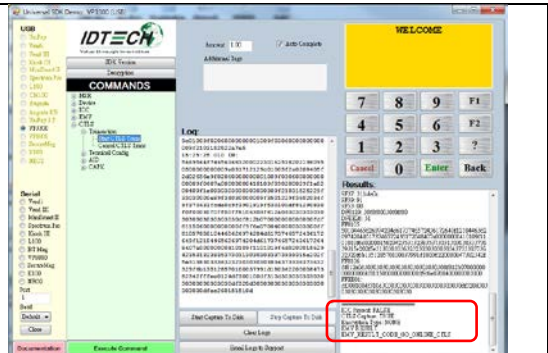
Contactless transaction:  
Select "CTLS"->"Transaction"->"Start CTLS Trans" to start a contactless transaction.



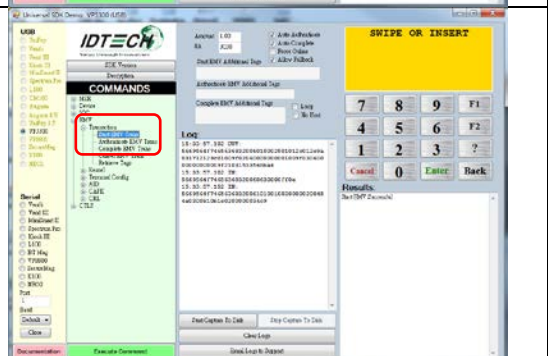
When VP8300 is ready to tap card, the first Green LED will be solid.  
Tap the card on VP8300, if reading card success, all four LEDs will blink once with one long beep; if reading card failure, only two short beeps be sounded.



The SDK will go online and get approval from acquire, once acquire approves, the transaction will be completed.



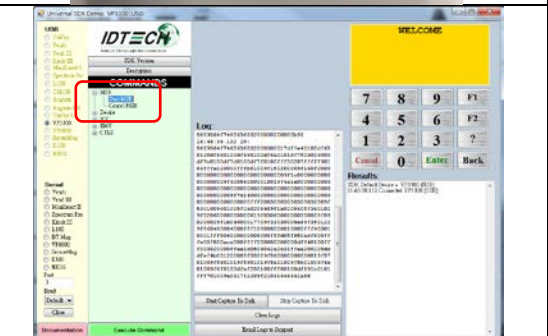
Contact transaction:  
Select "EMV" -> "Transaction" -> "Start EMV Trans" to start a contact transaction.



Insert Contact card to complete the transaction.



MSR transaction:  
Select "MSR" -> "Start MSR" to start a MSR transaction.





Swipe MSR card to complete the transaction.



## 2 Firmware Upgrade

The VP8300 can be upgraded using USB interfaces.

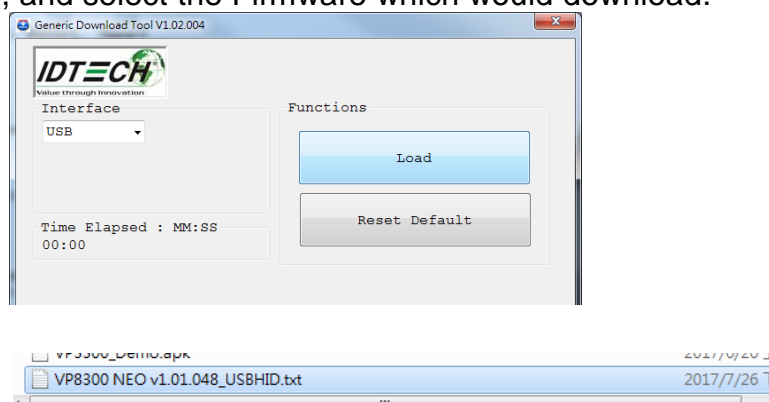
### 2.1 Preparation

To update the new firmware you will need:

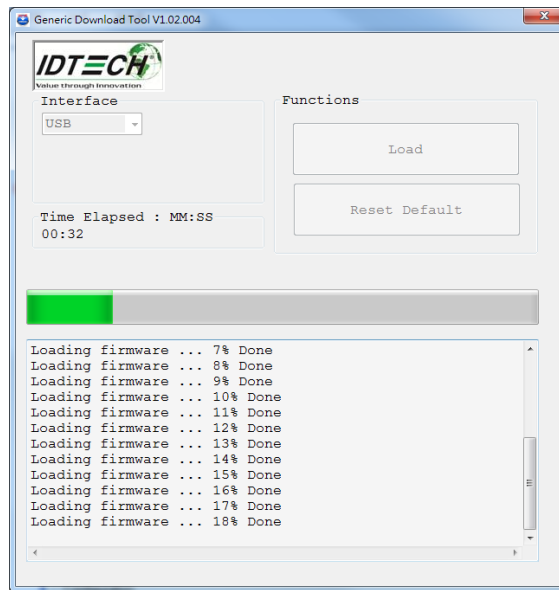
- PC with available USB port
- VP8300 unit
- USB to Micro USB B type cable
- VP8300 firmware update tool
- Firmware file for the desired firmware

### 2.2 Procedure

1. Copy the VP8300 update tool and firmware on the PC.
2. Plug in the micro-USB B type cable to VP8300, connect the USB cable to PC USB port.
3. There should be no beep, and all four LEDs blink once.
4. Launch the VP8300 firmware update tool.
5. Click "Load", and select the Firmware which would download.



6. It will download automatically.



7. Display “100% done” and device will reset.

### 3 ViVOPay VP8300 Troubleshooting

The ViVOPay VP8300 is reliable and easy to troubleshoot.

Symptom	Possible Cause	Remedy
General Issues		
ViVOPay VP8300 does not appear to be powered on (no LEDs light).	<ul style="list-style-type: none"> <li>• ViVOPay VP8300 no power.</li> </ul>	Check USB cable <ul style="list-style-type: none"> <li>• Ensure power level is correct.</li> </ul>
Reading Cards/Fobs/Phones		
LEDs do not light and beeper is not properly audible when Card/Fob/Phone is presented	<ul style="list-style-type: none"> <li>• Wrong firmware (contact your local support representative).</li> </ul>	Present card/fob/phone closer to the ViVOPay VP8300, and ensure it is parallel to the face of the ViVOPay VP8300. <ul style="list-style-type: none"> <li>• Ensure the card/fob is valid/current .</li> <li>• Check to see if card/fob/phone is damaged.</li> <li>• Ensure phone cover is correctly attached to phone.</li> <li>• Ensure correct firmware is loaded on ViVOPay VP8300 (local support representative only).</li> </ul>

## 4 Glossary

### **Electronic Cash Register (ECR)**

The combination of a traditional cash register and a POS terminal, often PC-based.

### **ExpressPay from American Express**

American Express contactless payment product that utilizes contactless technology.

### **Firmware**

Software that is embedded in a hardware device that allows reading and executing the software, but does not allow modification, e.g., writing or deleting data by an end user.

**Example:** Firmware is a computer program in a read-only memory (ROM) integrated circuit chip. A hardware configuration is usually used to represent the software.

**Example:** Firmware is a program embedded in an erasable programmable read-only memory (EPROM) chip, which program may be modified by special external hardware, but not by an application program.

### **Fob**

A key chain device or other non-standard credit card sized form factor that has an embedded radio frequency (RF) chip.

### **MasterCard PayPass**

MasterCard's contactless payment product that utilizes contactless technology.

### **MTBF**

Mean time between failure. MTBF is the average time a device will function before a failure.

### **NFC**

Near Field Communications.

### **NFC Phone**

Near Field Communications (NFC) phone. A technology where RFID chips are embedded in the back cover of a cell phone, such as the Nokia 3220, that enables communication with contactless readers to make credit payments.

### **POS**

Point of Sale.

**Point of Sale (POS)**

Refers to terminals used in retail stores with a magnetic stripe reader, keyboard, display and auto dialer modem or IP connection, connected to the telephone/internet network and used for on-line credit/debit authorization. Can also be connected to a host computer, which handles all transaction processing including item price look-up, data collection, and credit/debit authorization.

**Proximity Payments**

Payment method utilizing contactless technology such as RF, Infrared (IrDA) or Near Field Communications (NFC).

**Radio Frequency (RF)**

Any frequency that corresponds to radio signals, including those used by cellular telephones and wireless networks.







**RF Reader**

The Point of Sale device that receives the RF transmission from a card, fob or NFC phone.

**Visa Contactless**

Visa's contactless payment product that utilizes contactless technology.

**Symbols explanations**

	EMV Contactless Symbol
	ExpressPay from American Express
	Visa Contactless
	MasterCard PayPass
	Discover network.
	The symbol of the crossed out wheeled bin indicates that the product (electrical and electronic equipment) should not be placed in municipal waste. Please check local regulations for disposal of electronic products.

## **5 Customer Support**

Contact your local support representative for all support questions.