

V^x810 DUET

Installation Guide



V*810 DUET Installation Guide
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Use this guide as the primary source of information for setting up and installing the Vx810 DUET.

Audience

This guide provides a simple description of the Vx810 DUET's features as well as basic information for the device's installation and configuration.

Organization

This guide is organized as follows:

Chapter 1, Overview. Provides an overview of the Vx810 DUET.

Chapter 2, Setup. Explains the setup and installation of Vx810 DUET, selecting its location, and establishing connections with other devices.

Chapter 3, Specifications. Discusses power requirements and dimensions of the Vx810 DUET.

Chapter 4, Maintenance and Cleaning. Explains maintenance of the Vx810 DUET.

Chapter 5, Troubleshooting Guidelines. Provides troubleshooting guidelines for problem related to the Vx810 DUET's installation and configuration.

Chapter 6, Service and Support. Provides information for contacting your local VeriFone service provider and on how to order accessories or documents from VeriFone.

Related Documentation




To learn more about Vx810 DUET, refer to the following set of documents:

Vx810 DUET Quick Installation Guide	VPN 24968
Vx810 DUET Reference Guide	VPN 24970
Verix V Operating System Programmers Manual	VPN 23230
Vx810 DUET CTLS Quick Installation Guide	VPN 28601

Guide Conventions

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 references.	See Guide Conventions .
<i>Italics</i>	Italic typeface indicates book titles or emphasis.	You <i>must</i> not use this unit underwater.
NOTE 	The pencil icon is used to highlight important information.	RS232-type devices do not work on the V×810 DUET communication port.
CAUTION 	The caution symbol indicates hardware or software failure, or loss of data.	The unit is not waterproof or dustproof, and is intended for indoor use only.
WARNING 	The lighting symbol is used as a warning when bodily injury might occur.	Due to risk of shock do not use the terminal near water.

Acronym Definitions

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
DC	Direct Current
ECR	Electronic Cash Register
ITP	Internal Thermal Printer
LCD	Liquid Crystal Display
MSAM	Micromodule-size Security Access Module
MSR	Magnetic Stripe Reader
OS	Operating System
PC	Personal Computer
PIN	Personal Identification Number
POS	Point-of-Sale
RAM	Random Access Memory
RJ45	Registered Jack 45
RS232	Recommended Standard 232
SAM	Security Access Module
SDIO	Secure Digital Input/Output

Table 2 **Acronym Definitions** (continued)

Acronym	Definitions
SC	Smart Card (Integrated Chip Card)
UART	Universal Asynchronous Receiver-Transmitter
USB	Universal Serial Bus



Overview

This chapter provides a brief description of the Vx810 DUET.

Vx810 DUET

The Vx810 DUET is a complimentary solution for the Vx810. The Vx810 is a programmable PIN pad that runs on the VeriX V platform. It is VeriFone's high-end market solution that is further enhanced by the inclusion of contactless functionality in the form of an Secure Digital Input/Output (SDIO) module. The addition of the Vx810 DUET, which includes the base with the PIN pad, provides banking sector customers with a competitively-priced high-end countertop solution. It also provides merchants with a stable platform where they can place the PIN pad for handling PIN entry and contactless activity.

Features at a Glance

The following is a list of features of the Vx810 DUET:

Table 3 Vx810 DUET Features

Feature	Description
Thermal Printer	<ul style="list-style-type: none">• 18 lines per second (LPS).• Supports a 47mm wide by 25 meter long paper roll• Out-of-Paper Sensor• Double-height, double-width print and inverse printing• Print column width option for 24/32/42 characters/line• Supports existing Vx5xx/Vx6xx fonts• Supports Eurocurrency symbol• Supports up to ten user downloadable logos within a 16x16 to 240x384 size• Supports 256 Kbytes of user downloadable fonts
Terminal Interface Connector	<ul style="list-style-type: none">• 1 2-Wire Rx/Tx RS232 Port through a RJ45 connector• USB Host Port with a 5Vdc, 500mA power supply

Table 3 Vx810 DUET Features

Feature	Description
Communication	<ul style="list-style-type: none"> 14.4 Kbps Standard Dial up Modem (56 Kbps optional modem, Silicon Labs chipset solution same as Vx670) with RJ11 connector at the back of the base 10/100 Base T Ethernet (Asix chipset solution same as Vx570) with RJ45 connector at the back of the base
Power	<ul style="list-style-type: none"> Supplied by an external universal-input power supply (9VDC/4A)
Operating System	<ul style="list-style-type: none"> Ported Verix OS for maximum application portability
Printer Firmware	<ul style="list-style-type: none"> Ported from 3200SE printer firmware plus V5 printer mech. specific modification Maintains maximum compatibility for Integrated Thermal Printer (ITP) commands listed in the <i>Verix V Operating System Programmer's Manual (VPN 23230)</i>
Applications	<ul style="list-style-type: none"> Verix-Ported Applications SoftPay Custom developed applications
Firmware Upgrades	<ul style="list-style-type: none"> Printer firmware can be upgraded by downloading a new firmware file to the Vx810.
Tools	<ul style="list-style-type: none"> SDK: Compiler, linker, debugger, and other application tools
Modem Country Profile	<ul style="list-style-type: none"> Modem country profile should reside in OS and loaded to Silicon Lab's modem chip through USB upon power-up, same as Vx670 Verix-Ported.



CHAPTER 2

Setup

This chapter describes the setup procedure for V×810 DUET, in the following sections:

- [Select Location](#)
- [Unpack Shipping Carton](#)
- [Examine V×810 DUET Features](#)
- [Cable Connections](#)
- [Power Supply](#)

Select Location

Use the following guidelines to select a location for the V×810 DUET.

Ease of Use

- Select a location convenient for both merchant and cardholder.
- Select a flat support surface, such as a countertop or table.
- Select a location near a power outlet and the terminal, ECR, or computer connected to the V×810 DUET. For safety, do not string cables or cords across a walkway.

Environmental Factors

- Do not use the unit where there is high heat, dust, humidity, moisture, or caustic chemicals or oils.
- Keep the unit away from direct sunlight and anything that radiates heat, such as a stove or a motor.
- Do not use the V×810 DUET outdoors.



The V×810 DUET is not waterproof or dustproof, and is intended *for indoor use only*. Any damage to the unit from exposure to rain or dust can void any warranty.

Electrical Considerations

- Avoid using this product during electrical storms.
- Avoid locations near electrical appliances or other devices that cause excessive voltage fluctuations or emit electrical noise (for example, air conditioners, electric motors, neon signs, high-frequency or magnetic security devices, or computer equipment).
- Do not use the Vx810 DUET near water or in moist conditions.

WARNING



Due to risk of shock or damage, do not use the Vx810 DUET near water, including a bathtub, wash bowl, kitchen sink or laundry tub, in a wet basement, or near a swimming pool.

Unpack Shipping Carton

Open the shipping carton and carefully inspect its contents for possible tampering or shipping damage. The Vx810 DUET is a secure product and any tampering can cause it to cease to function or to operate in an unsecured manner.

- 1 Remove and inspect the contents of the shipping carton. The Vx810 DUET carton includes the the following components:
 - Vx810 DUET
 - Power pack
 - Power cord
- 2 Remove all plastic wrapping from the components.
- 3 Save the shipping carton and packing material for future repacking or moving of the device.

WARNING



Do not use a unit that has been tampered or damaged.

The Vx810 DUET comes equipped with tamper-evident labels. If a label or component appears damaged, please notify the shipping company and your VeriFone service provider immediately.

NOTE



The package can, or most likely will contain the PIN pad and possibly other accessories that are included in a standard terminal package.

Examine V^x810 DUET Features

Before you continue with the installation process, familiarize yourself with the V^x810 DUET features:

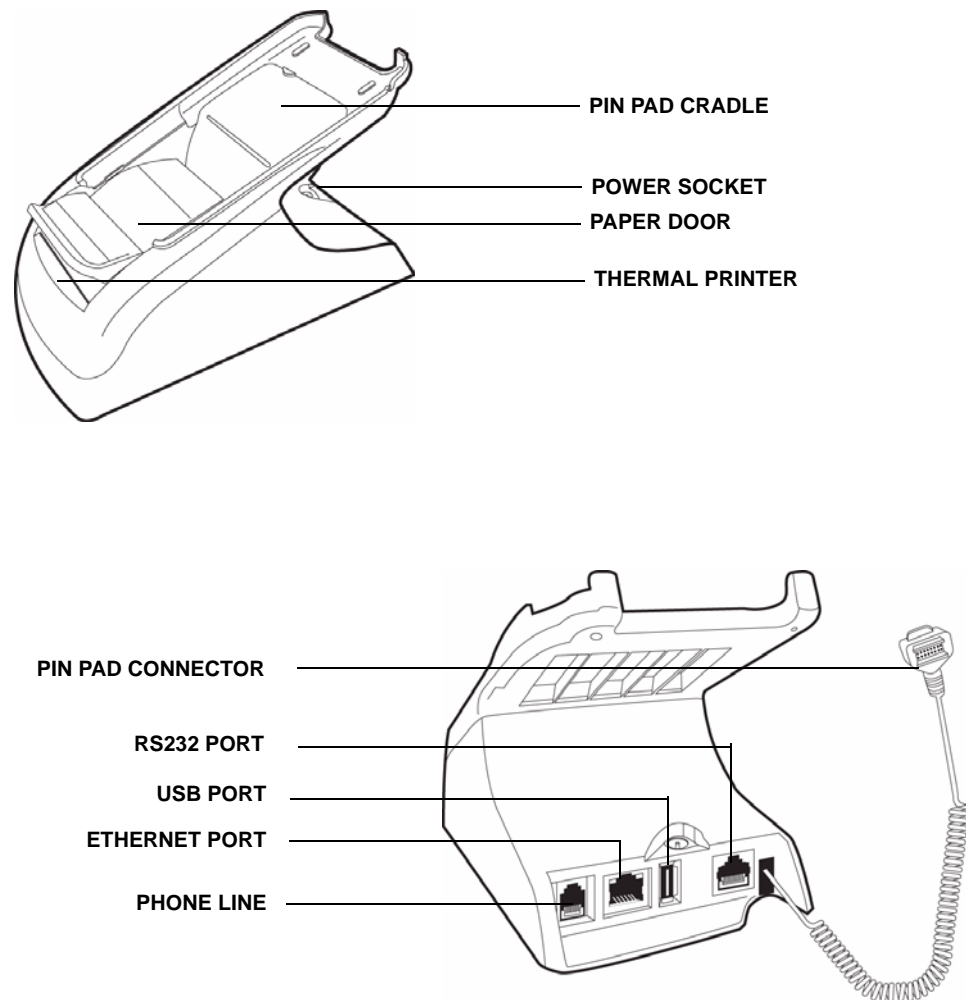


Figure 1 V^x810 DUET Features

The V^x810 DUET includes the following features:

- The **PIN pad Cradle** where the V^x810 is placed.
- A **Power Socket** where the power cable is plugged.
- A **Paper Door** where the paper roll is placed.
- An **Internal Thermal Printer** at the below the paper door for printing.
- A **PIN pad Connector** for connecting the DUET to the V^x810.
- A **Phone Line** port.
- An **Ethernet (10BaseT) Port**.
- A **USB Port**.
- An **RS232 Port**.

Connect the V^x810 DUET to a V^x810

Connect the V^x810 DUET to the V^x810 using the following steps:

- 1 Unscrew the latch on the upper-right corner of the rear V^x810's back then slide it open.

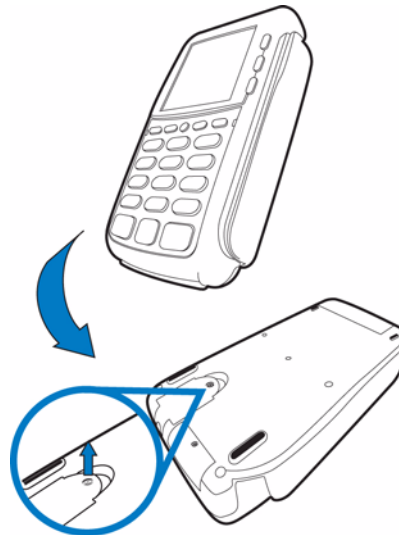


Figure 2 Removing the Latch

- 2 Attach the connector to the slot then screw the latch back on.

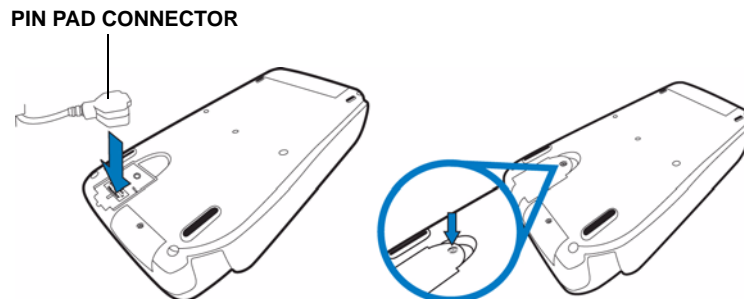


Figure 3 Attaching the Connector

- 3 Place the V^x810 on the V^x810 DUET.

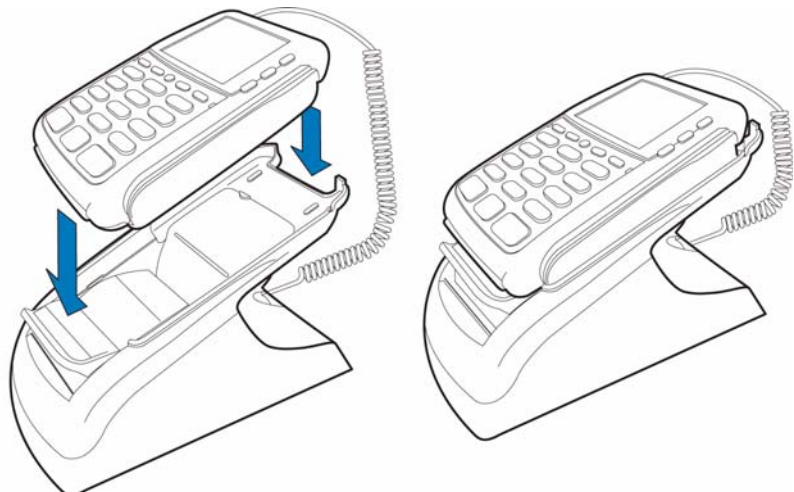


Figure 4 Mounting the V^x810

- 4 Connect the power cord.

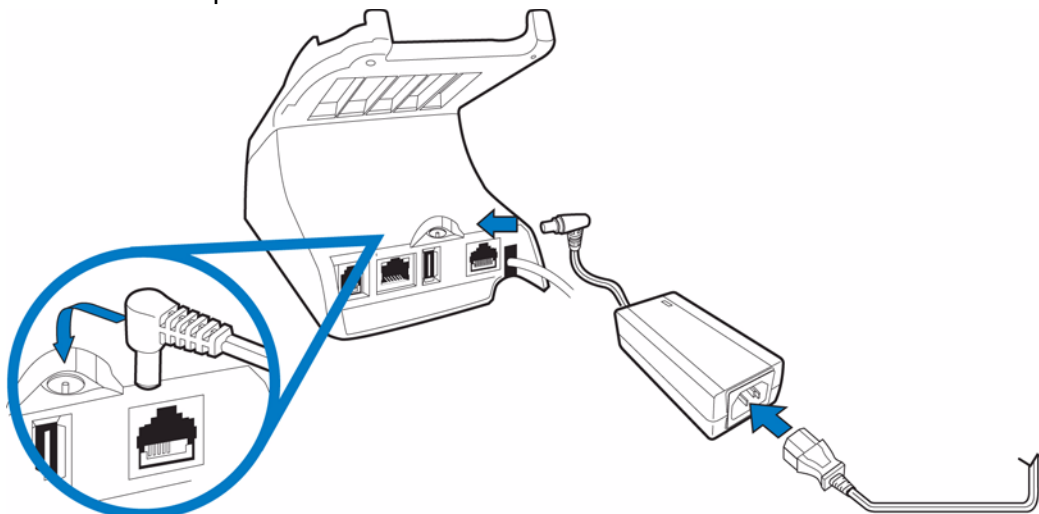


Figure 5 Connecting the Power Cord

NOTE



The cable from Vx810 DUET needs to be connected to the Vx810 PIN pad first before the power supply can be plugged in.

The Vx810 DUET does not have an LED to indicate if it is powered on. To verify if the connection is working and the unit is indeed powered on, use the backlight of the Vx810's LCD as a reference.

Mounting the Vx810 with a contactless module follows the same procedure.

CAUTION



Using an incorrectly rated power supply can damage the unit or cause it not to work properly. Use only a power pack with VPN CPS10936-3F-(R) (see [Specifications](#) for detailed power supply specifications).

Installing a Paper Roll

A fast, quiet integrated thermal printer (ITP) is built into the Vx810 DUET. Before you can process transactions in the Vx810 that require a receipt or record, you *must* install a roll of thermal-sensitive paper in the printer.

The ITP uses a roll of single-ply, thermal sensitive paper 47 mm (2.24 inches) wide by 25 meter long paper. A pink out-of-paper indicator line appears on the edge of the paper approximately 18 inches before the end of the roll. When this line appears, there is only enough paper remaining on the roll to complete at least one transaction.

CAUTION



Poor-quality paper can jam the printer and create excessive paper dust. To order high-quality VeriFone paper, refer to [Accessories and Documentation](#).

Store thermal paper in a cool, 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 paper with folds, wrinkles, tears, or holes at the edges in the print area.

To install a Paper Roll

- 1 Lift the paper door up.

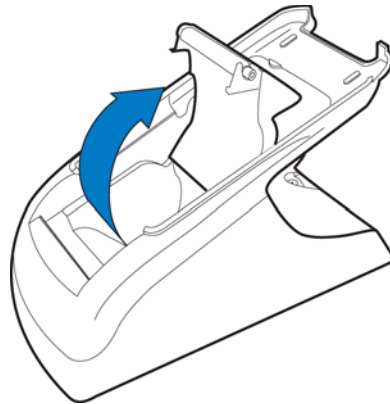


Figure 6 Opening the Paper Door

- 2 Lift the paper tray and remove any partial roll of paper.
- 3 Hold the roll so the paper feeds from the bottom of the roll.
- 4 Place the paper roll into the printer tray.

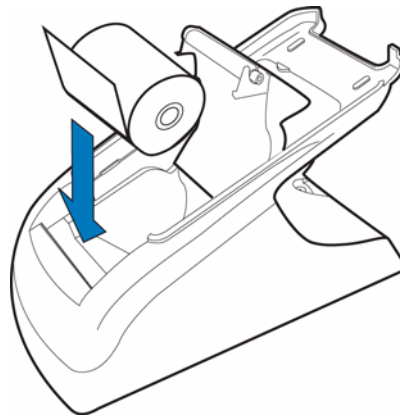


Figure 7 Loading Paper Roll

- 5 Pull the paper up past the glue residue on the paper roll.
- 6 Close the paper roll cover by gently pressing on the cover until it clicks, allowing a small amount of paper past the glue residue to extend outside the printer door.



To prevent damaging the print roller, always gently press down on the paper roll cover to close it.

- 7 Tear the paper off against the serrated plastic strip in the printer.

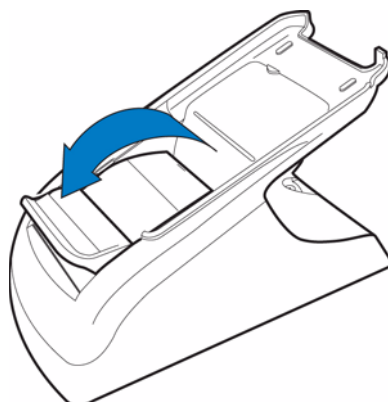


Figure 8 Closing Paper Door

Cable Connections

The V^x810 DUET has four ports to facilitate different types of cabling connections:

- 1 Phone Line Connection
- 2 Ethernet Connection
- 3 Direct USB Connection
- 4 RS232 Connection

Phone Line Connection

The DUET serves as the connection through which the mounted V^x810 can be connected to a phone line outlet using a standard phone line cable. Connect one end of the cable to the phone line port at the back of the DUET and the other into a any standard phone outlet.

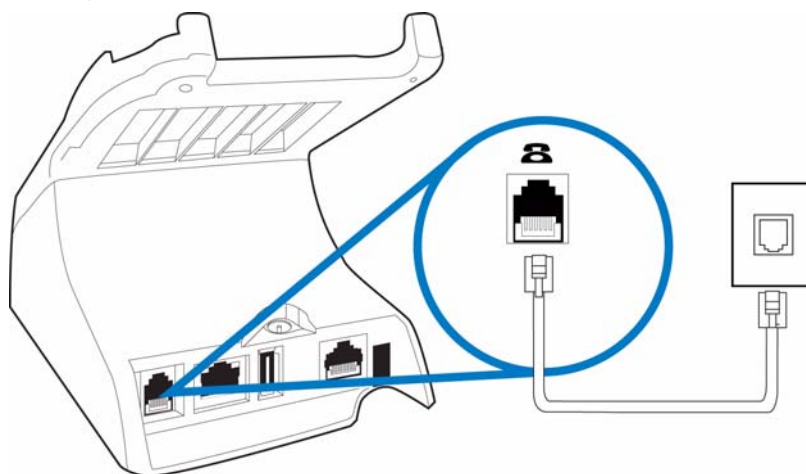


Figure 9 V^x810 DUET Connected via Phone Line

Ethernet Connection

A standard RJ-45 ethernet cable can be used when connecting the V×810 mounted on the DUET to a network or another device with an ethernet port. Connect one end of the ethernet cable to the appropriate port at the back of the DUET and the other into its corresponding socket.

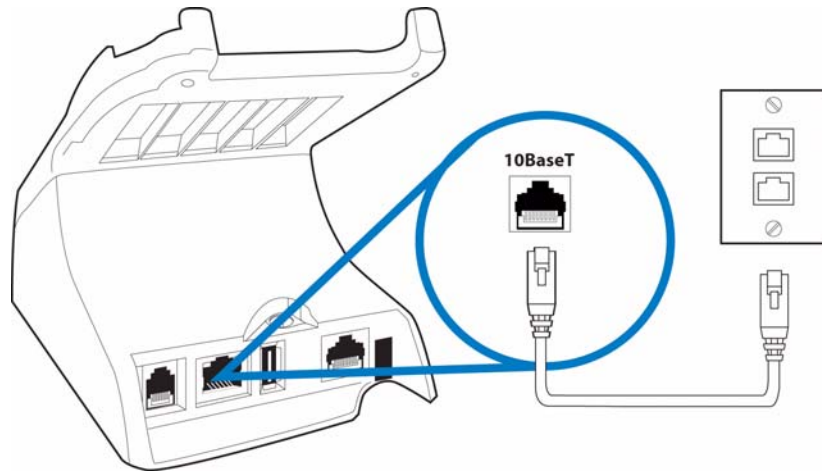


Figure 10 V×810 DUET Connected via Ethernet Cable

Direct USB Connection

A standard USB port is provided at the back of the DUET. This can be used to connect the mounted V×810 to other related USB enabled devices such as a bar code reader. Connect one end of the USB cable to the corresponding port at the back of the DUET and the other end to the desired device.

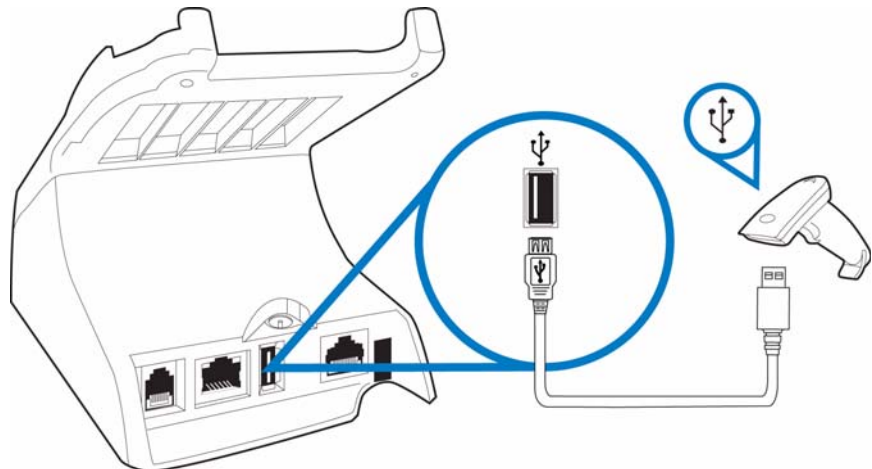


Figure 11 V×810 DUET Connected via USB Cable

RS232 Connection The RS232 port can be used to connect the mounted V^x810 on the DUET to another related device such as an electronic cash register. Connect one end of the RS232 cable to the corresponding socket at the back of the DUET and the other end to the desired related device, such as the cash register.

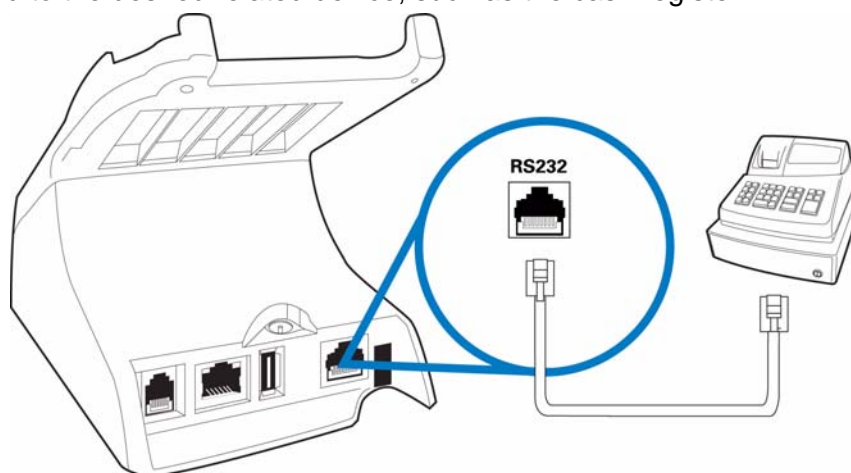


Figure 12 V^x810 DUET Connected via RS232 Cable to an ECR

Power Supply

Before connecting a power supply, disconnect the power pack cord from the power outlet.

Connect and route all cables between the V^x810 DUET, ECR, and PC before plugging the power pack cord into a wall outlet or surge protector.



WARNING Do not plug the power pack into an outdoor outlet or operate the V^x810 DUET outdoors. Also, disconnecting power during a transaction can cause transaction data files not yet stored in memory to be lost.



NOTE To protect against possible damage caused by lightning strikes and electrical surges, VeriFone recommends installing a power surge protector.



Specifications

This chapter discusses power requirements, dimensions, and other specifications of the Vx810 DUET.

Specifications

The following specifications describe the Vx810 DUET physical and electrical characteristics.

Model Vx810 DUET

Power Pack Input rated: 100 - 240V AC, 50/60 Hz; Output rated: 9V DC 4A

Printer Integrated thermal printer, 18 lines per second, Print Column width option for 24/32/42 characters/line; Paper roll 47mm wide by 25 meter long, single ply.

Modem Standard 14.4 Kbps (Optional 56 Kbps) Dial Up Modem.

Physical Length: 178 mm (7.01 in.). Width: 98mm (3.86 in.). Height: 109 mm (4.3 in.). Weight: terminal, 735g (1.62 lbs.); full shipping, 1800g (3.96 lbs.).

Voltage Input: AC 100-240V, 50-60Hz. Output: DC 5-12V. 2.5-W maximum consumption with backlight on.

Environmental, Regulatory, and Performance Specifications

The Vx810 DUET meets all the necessary environmental, regulatory, and performance standards for its intended use and expected market. VeriFone recognizes its responsibility to minimize the environmental impacts of its operations and products.

This device is *not* intended for outdoor use and is certified for indoor use only.

Temperature and Humidity

Operating Temperature and Humidity

- Temperature: 0°C to +40°C (+32°F to +104°F)
- Humidity: 5% to 90% RH, non-condensing

Storage Temperature and Humidity

- Temperature: -30°C to +60°C (-22°F to +140°F)
- Humidity: 5% to 90% RH, non-condensing

Compliance Emission Standards Certifications

This device is compliant to the following emission standards for information technology equipment: Radiated and Conducted Emissions (EN 55022:2006 / CISPR22 Class A).

Immunity Standards

This device is compliant to the following immunity standards for information technology equipment:

- EN 55024:1998+A1:2001+A2:2003
- IEC 61000-4-2: 2001
- IEC 61000-4-3: 2006
- IEC 61000-4-4: 2004
- IEC 61000-4-5: 2005
- IEC 61000-4-6: 2004+A1:2004+A2:2006
- IEC 61000-4-8: 2001
- IEC 61000-4-11: 2004
- EN 61000-3-2: 2006
- EN 61000-3-3: 1995+A1:2001+A2:2005

Safety Standards

This device is compliant to the following immunity standards for information technology equipment: UL 60950-1: 2003 (1st Ed.) and EN 60950-1: 2001 + A11: 2004.

Other Standards

This device is compliant to the following PTT certifications: CFR 47 Part 68 and CS-03.



Maintenance and Cleaning

The V^x810 has no user-serviceable parts.

Clean the V^x810

To clean the unit, 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. For best results, use a VeriFone Cleaning Kit (refer to the [Accessories and Documentation](#) section).



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 keypad or display.

Troubleshooting Guidelines

The troubleshooting guidelines provided in the following section are included to assist you to successfully install and configure your V^x810 device. If you have problems operating your V^x810 device, please read through these troubleshooting examples.

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. Typical examples of malfunction you may encounter while operating your V^x810 device and steps you can take to resolve them are listed.

NOTE

The V^x810 DUET comes equipped with tamper-evident labels. The device 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 warranty.

CAUTION

Use only a VeriFone-supplied power pack. 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 matches the requirements specified at the bottom of the device. (See [Chapter 3, Specifications](#) for detailed power supply specifications.) Obtain the appropriately rated power supply before continuing with troubleshooting.

Printer Does Not Print

If the printer does not work properly:

- Check the power connection.
- Check that the printer has paper and that the roll is properly installed. Open the paper door and install a new roll of printer paper if necessary. (See [Installing a Paper Roll](#).)
- Run the system mode printer diagnostic. Please refer to the *V^x810 DUET Reference Manual (VPN 24970)*.
- If the problem persists, contact your VeriFone distributor or service provider.

Printer Paper Jam

If paper jams inside the printer:

- 1 Lift the paper door at the bottom of the cradle.
- 2 Remove the damaged paper roll and clear the feed mechanism.
- 3 Install a roll of printer paper, as described in [Installing a Paper Roll](#).

If the problem persists, it may be due to poor paper quality. Install a new roll of higher-quality paper.

WARNING



Poor-quality paper may jam the printer. To order high-quality VeriFone paper, refer to [Service and Support](#).



Service and Support

For Vx810 DUET problems, contact your local VeriFone representative or service provider.

For Vx810 DUET product service and repair information:

- USA – VeriFone Service and Support Group, 1-800-834-4366, Monday - Friday, 8 A.M. - 8 P.M., eastern time.
- International – Contact your VeriFone representative.

Service Returns

Before returning the Vx810 DUET to VeriFone, you must obtain a Merchandise Return Authorization (MRA) number. The following procedure describes how to return one or more Vx810 DUET for repair or replacement (U.S. customers only).



International customers, please contact your local VeriFone representative for assistance with your service, return, or replacement.

- 1 Gather the following information from the printed labels (see [Figure 13](#)) on the bottom of each Vx810 DUET to be returned:
 - Product ID, including the model and part number. For example, “m108-xxx-xx” and “PTID xxxxxxxx.”
 - Serial number (S/N xxx-xxx-xxx).
- 2 Within the United States, call VeriFone toll-free at 1-800-834-4366.
- 3 Select the MRA option from the automated message. The MRA department is open Monday–Friday, 8 A.M.–8 P.M., eastern time.
- 4 Give the MRA representative the information gathered in [Step 1](#).
If the list of serial numbers is long, you can fax the list, along with the information gathered in [Step 1](#), to the MRA department at 1-727-953-4172 (U.S.).
 - Please address the fax clearly to the attention of the “VeriFone MRA Dept.”
 - Include a telephone number where you can be reached and your fax number.

- You will be issued MRA number(s) and the fax will be returned to you.

NOTE



One MRA number must be issued for each V×810 DUET you return to VeriFone, even if you are returning several of the same model.

- 5 Describe the problem(s) and provide the shipping address where the repaired or replacement unit must be returned.
- 6 Keep a record of the following items:
 - Assigned MRA number(s).
 - VeriFone serial number assigned to the V×810 DUET you are returning for service or repair (serial numbers are located on the bottom of the unit (see [Figure 13](#)).
 - Shipping documentation, such as air bill numbers used to trace the shipment.
 - Model(s) returned (model numbers are located on the VeriFone label on the bottom of the V×810 DUET).

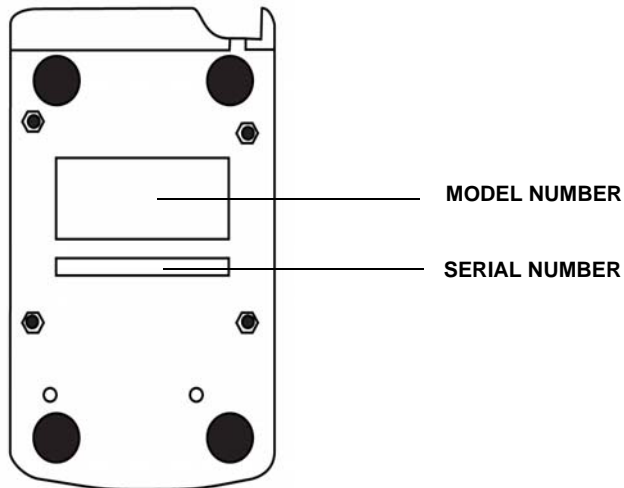


Figure 13 Information Label on Unit Bottom

Accessories and Documentation

VeriFone produces accessories and documentation for the Vx810 DUET. When ordering, please refer to the part number in the left column.

VeriFone Online Store at www.store.verifone.com

- USA – VeriFone Customer Development Center, 1-800-834-4366, Monday - Friday, 7 A.M. - 8 P.M., eastern time
- International – Contact your VeriFone representative

Power Supply

Power packs are optional, except in certain instances..

CPS10936-3F-R	DC power pack (universal)
07152-02-R	AC power cord (US)

Power Cord

07152-xx United States of America

Various others, by country: contact your local VeriFone representative or service provider to identify the best power cord for your needs.

Documentation

To learn more about Vx810 DUET, refer to the following set of documents:

Vx810 DUET Quick Installation Guide	VPN 24968
Vx810 Reference Guide	VPN 24964
Vx810 DUET Reference Guide	VPN 24970
Vx810 DUET CTLS Quick Installation Guide	VPN 28601.



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VX810 DUET

Installation Guide

