

Blackboard

# transaction *System*

*Blackboard PS4101 Reader*

*Installation Guide*





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 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.

Conformité aux normes FCC Cet équipement a été testé et trouvé conforme aux limites pour un dispositif numérique de classe B, conformément à la Partie 15 des règlements de la FCC. Ces limites sont conçues pour fournir une protection raisonnable contre les interférences nuisibles dans une installation résidentielle.

Cet équipement génère, utilise et peut émettre des fréquences radio et, s'il n'est pas installé et utilisé conformément ment aux instructions du fabricant, peut causer des interférences nuisibles aux communications radio.

Rien ne garantit cependant que l'interférence ne se produira pas dans une installation particulière. Si cet équipement provoque des interférences nuisibles à la réception radio ou de télévision, qui peut être déterminé en comparant et en l'éteignant, l'utilisateur est encouragé à essayer de corriger les interférence par une ou plusieurs des mesures suivantes:

- Réorienter ou déplacer l'antenne de réception.
- Augmenter la distance entre l'équipement et le récepteur.
- Branchez l'appareil dans une prise sur un circuit différent de celui auquel le récepteur est connecté.
- Consultez votre revendeur ou un technicien radio / TV pour assistance. Avertissement

Les changements ou modifications à cet appareil sans expressément approuvée par la partie responsable de conformité pourraient annuler l'autorité de l'utilisateur de faire fonctionner cet équipement.

Part 15.21: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

**NOTE:** The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

This device complies with Industry Canada license-exempt RSS standard(s).

Operation is subject to the following two conditions:

- (1) this device may not cause interference, and
- (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Cet appareil est conforme avec Industrie Canada exempt de licence Rss standard(s).

Son fonctionnement est soumis aux deux conditions suivantes :

- (1) cet appareil ne peut causer d'interférences, et
- (2) cet appareil doit accepter toute interférence, y compris des interférences qui peuvent provoquer un fonctionnement indésirable du périphérique.

**NOTE:** The PS4101 reader uses a modulated magnetic field for reading contactless cards. Avoid operating the PS4101 within 2 feet of sensitive electrical equipment.

# BLACKBOARD PS4101 CARD READER INSTALLATION GUIDE

## OVERVIEW

The Blackboard PS4101 Reader enables consumers to pay for purchases with a tap or wave of their Blackboard contactless smart card (Felica or Mifare Classic). The reader integrates with NCR™ POS devices running the Bb POS Application, and is also designed to integrate with other third-party POS devices.

Blackboard offers two versions of the PS4101 Card Reader:

- PS4101-USB
- PS4101-SERIAL



PS4101-USB Card Reader

The **PS4101-USB** Reader is out of the box ready-for-use with NCR Registers. The USB reader can also be used with any 3rd party system that accepts USB keyboard input. Default settings enable the reader to output Track 2 Data from the Bb data area on the smart card followed by an ENTER keyboard command. To customize the Data Output to communicate with other applications or devices, see: *the PS4101 Config Utility Guide, Doc #1308*.

**What's included:** PS4101 reader with USB cable.



PS4101-SERIAL Card Reader

Use the **PS4101-SERIAL** reader with Verifone terminals Vx570 or Vx610, or with any compatible 3rd party device that does not include USB ports. The reader outputs Track 2 Data from the Bb data area on the contactless card followed by a carriage return line feed <CR><LF>. The default Baud Rate is 9600. To customize the Data Output to communicate with other applications or devices, see: *the PS4101 Config Utility Guide, Doc #1308*.

**What's included:** PS4101 reader with serial and USB cables, and a USB power pack.

## Prerequisites:

- Blackboard Transaction System 3.10 or above
- Available USB or Serial port on the POS terminal
- Available A/C power outlet connection or power strip (PS4101-SERIAL)

## PS4101 CARD READER STAND INSTALLATION

To install the PS4101 Card Reader stand:

- 1 Locate the Key Hole Pins on the stand, and the Keyholes on the back of the reader.

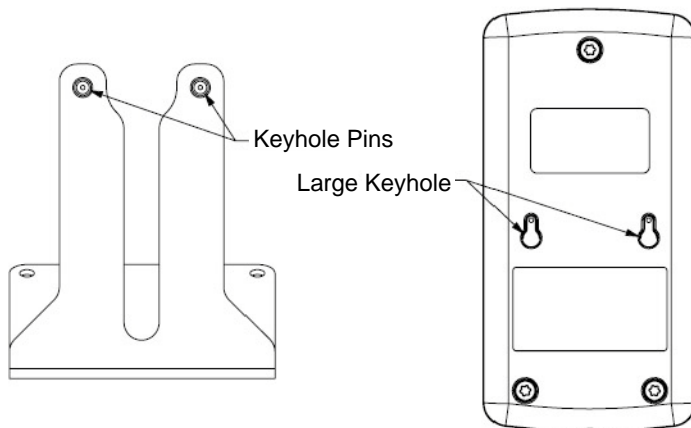


Figure 1-1 Key Hole Pins and Keyholes

- 2 Align the reader keyholes with the stand key pins, and then push in the direction shown.

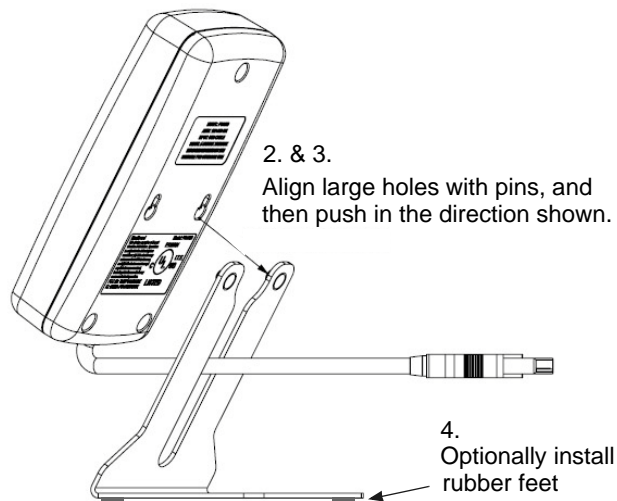


Figure 1-2 Reader and Stand Alignment

- 3 Push down to lock.
- 4 Optionally Install the rubber feet provided in the hardware kit to each corner of the reader stand bottom.

*The rubber feet are self-adhesive.  
Position the feet, and then press down firmly.*

## PS4101 CARD READER POS AND POWER CONNECTIONS

The **PS4101-USB** reader includes a single USB cable that provides data transfer and supplies power to the reader through the USB port on the POS.

- 1 Connect the USB cable to an available port on the POS.  
*A lit Bb logo determines that power is applied to the reader.*

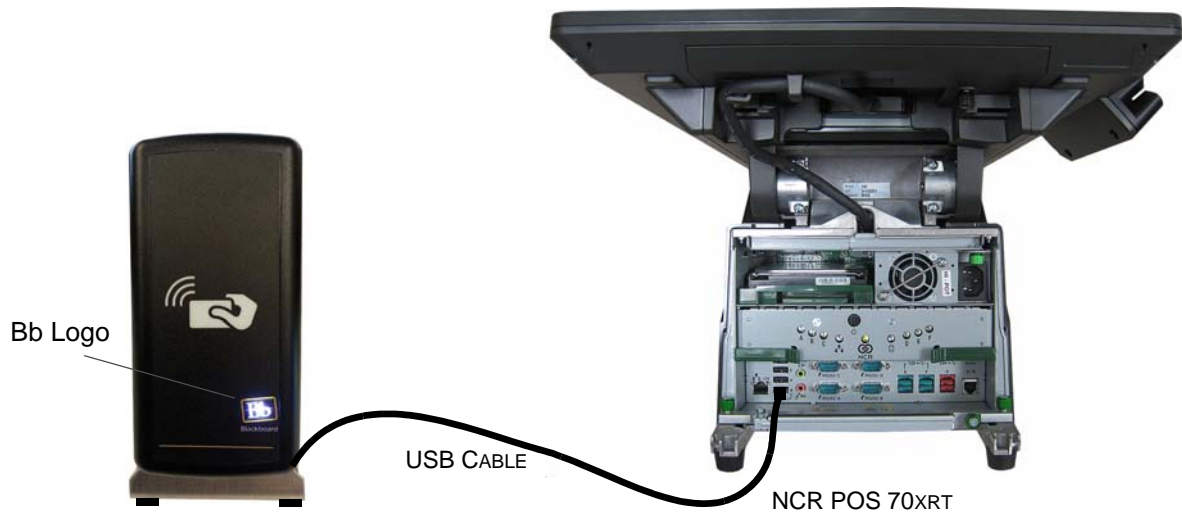


Figure 1-3 PS4101-USB Reader Connection

The **PS4101-SERIAL** reader includes two cables and a USB power pack. The serial cable provides data transfer, the USB cable provides power when connected to the power pack and an electrical outlet.

- 1 Connect the serial cable to the RS232 port on the POS.
- 2 Connect the USB cable to the power pack, and then plug the power pack onto an electrical outlet or A/C power strip.  
*A lit Bb logo determines that power is applied to the reader.*

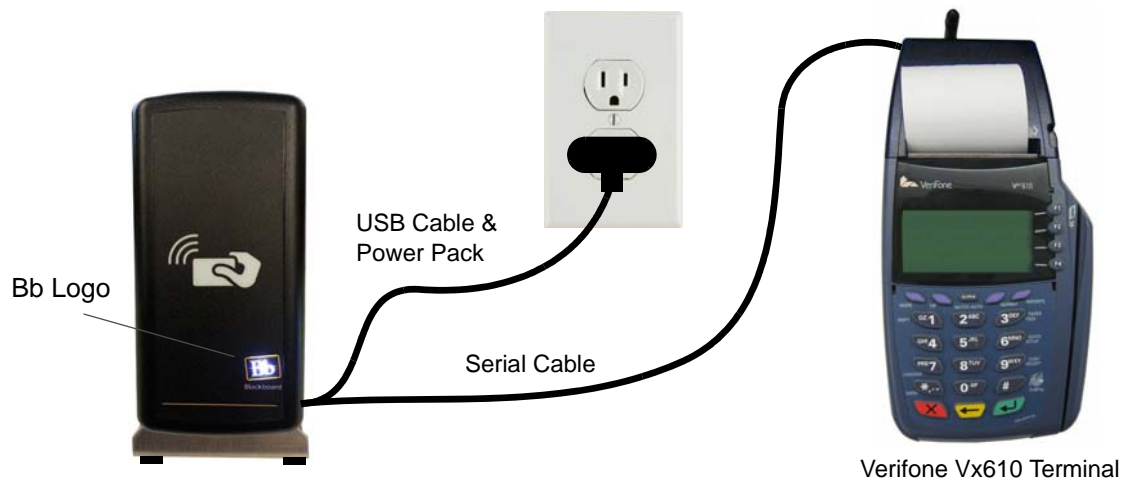


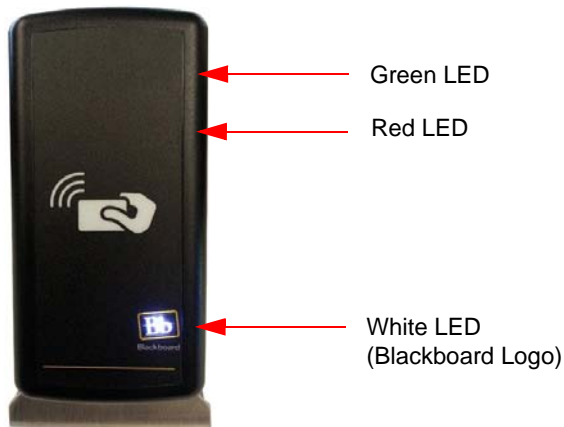
Figure 1-4 PS4101-SERIAL Reader Connection

## READER SPECIFICATIONS

Physical Size:	<b>Dimensions: 2.25" W x 4.5" H x 1.2" D</b> <b>Weight: 0.25 lbs</b>
Input Power:	<b>5VDC 150mA, 1.8 Watts Maximum</b>
Operating:	<b>Temperature: 0 to 60+ degrees Celsius</b> <b>Relative Humidity: 0 to 95 percent, non-condensing</b> <b>Altitude: 0 - 10,000 feet</b>
Non-Operating:	<b>Temperature: -20 to +70 degrees Celsius</b> <b>Relative Humidity: 0 to 95 percent, non-condensing</b> <b>Altitude: 0 - 35,000 feet</b>

### Reader LEDs and sound

The PS4101 Reader includes three LEDs (Red, Green, and White), and an audible alert feature that indicate reader status and whether a card is valid or invalid. Use the PS4101 Config Utility to assign LED actions and reader tones. To view or configure these actions, see: *the PS4101 Config Utility Guide, Doc #1308*. See the table below for LED descriptions.



**Note:** The Red & Green LEDs are located behind the reader label, and are only visible when lit.

Figure 1-5 PS4101 Reader LEDs

Table 1-1: LED Reference Table

LED	Description
GREEN	The Green LED blinks and the tone sounds for valid cards.
RED	The Red LED blinks and the tone sounds for invalid cards.
WHITE (Blackboard logo)	A lit Blackboard logo indicates that power is present to the reader. When there is no power, the LED is off.