



nPORT

Installation Instructions

Version 1.3



Novation Wireless Access Control Systems
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Installation Considerations

The Novation Wireless Access Control System lets you access your security network, using a wireless connection, from virtually anywhere within its operating range. Keep in mind, however, that the number, thickness and location of walls, ceilings, or other objects that the wireless signals must pass through, may limit the range. Typical ranges vary depending on the types of materials and background RF (radio frequency) noise in your home or business. The key to maximizing wireless range is to follow these basic guidelines:

1. Keep the number of walls and ceilings between the Novation wireless devices to a minimum - each wall or ceiling can reduce your Novation wireless devices range from 3-90 feet (1-30 meters.) Position your devices so that the number of walls or ceilings is minimized.
2. Be aware of the direct line between network devices. A wall that is 1.5 feet (.5 meters) thick, at a 45-degree angle appears to be almost 3 feet (1 meter) thick. At a 2-degree angle it looks over 42 feet (14 meters) thick! Position devices so that the signal will travel straight through a wall or ceiling (instead of at an angle) for better reception.
3. Building materials can impede the wireless signal – a solid metal door or aluminum studs may have a negative effect on range. Try to position wireless devices and computers with wireless adapters so that the signal passes through drywall or open doorways and not other materials.
4. Keep your product at least 3-6 feet (1-2 meters) away from electrical devices or appliances that generate RF noise.
5. Keep the nPORT a minimum of 10 feet away from nHUB.

Wireless Access Hub (nHUB)

The Wireless Access Hub (nHUB) is the “brains” of the system. The wireless access point uses an RS-232 serial port to communicate with the designated computer. The wireless access point also sends and receives data and commands that it gets from the Security Center software to the wireless locksets. Some facilities, depending on size, may require more than one wireless access point.

A single nHUB:

- ◆ Communicates with up to 64 wireless locksets
- ◆ Communicates with (nLOCK) Locksets within a maximum radius of 1000 feet, and a typical radius of 750 feet
- ◆ Communicates with (nPORT) Portals within a maximum radius of 300 feet, and a typical radius of 250 feet
- ◆ Stores a maximum of 10,000 cardholder records which are distributed to the designated devices
- ◆ Stores the last 20,000 transactions received from a lockset (the oldest transactions are overwritten when storage is full)



Mounting the nHUB

Mount the nHUB within 25 feet of the system computer. The nHUB is connected to any RS-232 serial communications port on the system computer. These ports are typically 9-pin male receptacles.

NOTE: A computer without a serial port can use a USB Serial Converter.

Connecting the nHUB:

1. Connect one end of an RS-232 cable to an unused COM port of the computer and the other end to J3 of the nHUB.
2. Plug the nHUB's AC adapter into a 120 volt receptacle and connect the opposite end to J1. Confirm that you are using a 5Volt output DC power source. **Applying 12Volts will damage the board.**

The following LED's are available for servicing/system status;

Power: The green LED is on when 5V power is present.

RF RxD: The red LED blinks when the nHub receives a signal from a remote device.

RF TxD; The red LED is blinks when the nHUB transmits a signal to a remote device.

Processor: The green LED (D8) flashes every two seconds to indicate

D7 (Programming): This red LED is used at the factory and will remain off during normal operation.

D9, D10: These red LED's are used at the factory and will remain on during normal operation.

3. If the antenna is not already attached, screw it into the receptacle at the top of the enclosure.
4. Document the RFID Serial Number for software programming. This is the sticker on the board that is below the switch block.

The nHUB is now ready to receive data from the computer and communicate with remote devices. No radio adjustments are available or required.

Installing the Wireless Portal Controller (nPORT) and/or the Wireless Input/Output Module (nPORT-I/O)

The Wireless Portal Controller (nPORT) and Wireless Input/Output Module (nPORT-I/O) are 12 volt DC powered.

To connect and mount the NPORT:

1. Mount the unit close to the external devices to which they are to control. The maximum range for a Wiegand Card reader is 500 feet.
2. Connect the Wiegand Card reader to bottom right hand corner of board as follows:
 - a. White: Data 0: J6 Pin 1
 - b. Green: Data 0: J6 Pin 2
 - c. Brown: LED: J6 Pin 3
 - d. Power: Red: J18 Pin 1
 - e. Ground: Black: J18 Pin 2
3. Connect other devices as required:
 - a. Door Strike (J3): Form "C": Connections
 - b. Exit Request (J12): Normally Closed Triggers
 - c. Door Status Contact (J8): Normally Closed Triggers
 - d. Tamper Switch (J9): Normally Closed Triggers
4. Connect the 12 volt DC power to the two screw terminals labeled '+' and '-' in the upper left of the circuit board, marked J1 (power).
5. If the antenna is not already attached, screw it into the receptacle at the top of the enclosure

NOTE 1: The Bolt-In input is not used at this time.

NOTE 2: Located on the PC Board is a label with a device serial number. This number is unique to this device and is used to identify this device to the nHUB. Document this device serial number and the location of this door. This information must be entered in the Security Center software.

The nPORT is now ready to communicate (both transmit and receive data) with any nHUB. No radio adjustments are required.

WIRING CONNECTIONS

Proximity Wiegand Reader

<u>Reader Wire</u>	<u>DESCRIPTION</u>	<u>nPORT PCB</u>
Red:	+5 or 12Vdc	J18-Pin 1
Black:	Ground	J18-Pin 2
White:	Data 0	J6 – Pin 1
Green:	Data 1	J6 – Pin 2
Brown:	LED	J6 – Pin 3



