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# Quick Installation Guide

## V1000 ACCESS CONTROLLER

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## Introduction

VertX™ CS is the first family of access controllers designed specifically for alarm dealers for direct connection to central stations. Because it was designed with central station in mind, VertX CS works with software from leading central station automation providers, including Bold Technologies, DICE, and GE MAS.

The V1000 is designed to control doors, reader contacts and relays through the RS-485 loop and any combination of up to 32 Interface Panels (V100 Door/Reader Interface, V200 Input Monitor Interface and/or V300 Output Control Interface). In addition, the V1000 Access Controller manages communications with the central station automated software.

## Parts List

Description	Quantity
VertX™ V1000 Access Controller <b>Note:</b> The V1000 controller has a plastic base and is covered with a Plastic or Mylar cover.	1
- Lithium Battery	1
- Mounting screws	4
- 2.2K EOL resistors	8
- HID Serial Adapter cable (P/N 70007)	1
- Quick Installation Guide	1
- Installation Wiring Diagram Example	1

**Note:** One or more VertX Interface panels are required.

**Note:** A modem and RS-232 Serial cable must be purchased separately if your installation includes a modem.

## Product Specifications

Description	Specification
Power Supply	12-16VDC
Maximum current at 12VDC per V1000	1 Amp
Average operating current at 12VDC	200mA
Operating temperature range	32°-122°F (0°-50°C)
Humidity	5% to 95% non-condensing

## Cable Specifications

Cable Type	Length	Specification
RS-485 *	4000 feet (1220 m) to host	Using Belden 3105A, 22AWG twisted pair, shielded 100Ω cable, or equivalent.
RS-232	6 inches (15.24 cm)	HID Serial Adapter cable, P/N 70007 (included).
Input Circuits *	500 feet (150 m)	2-conductor, shielded, using ALPHA 1292C (22AWG) or Alpha 2421C (18AWG), or equivalent.
Output Circuits *	500 feet (150 m)	2-conductor, using ALPHA 1172C (22AWG) or Alpha 1897C (18AWG), or equivalent.
Ethernet	328 feet (100 m)	Cat5, Cat5E, and Cat6
Power Supply +12 VDC IN	----	Refer to your Power Supply Installation Guide.

\* Minimum wire gauge depends on cable length and current requirements.

## Overview

The following outlines what is required to install the V1000.

### ① Preparations

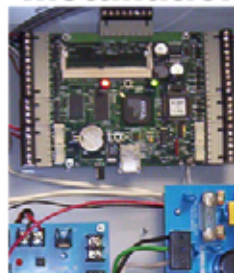


Preparations includes:

1. Reading through this document.
2. Gathering information found in the Pre-Installation Checklist.



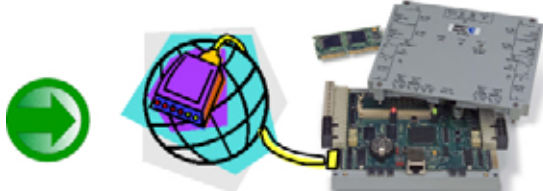
### ② Hardware Installation



Hardware Installation includes:  
Mounting and wiring the controller and panels.



### ③ Communication Configuration



Communication Configuration includes:  
Establishing communication so the central station automation software can push down the detailed configuration data.



### ④ Reboot and Test with the Central Station



Reboot and Test with Central Station includes:

1. Starting or rebooting (TCP/IP only) the controller to ensure that the configuration changes have taken affect.
2. Contacting the central station to verify that they can communicate with the VertX controller.

## Step 1 Preparations

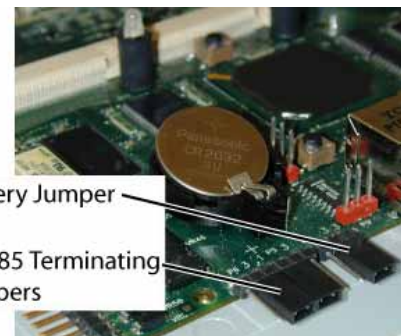
### 1.1 What you need before getting started

Prior to starting the installation, please completely read this guide.

**CAUTION:** The V1000 is sensitive to Electrostatic Discharges (ESD). Observe precautions while handling the circuit board assembly by using proper grounding straps and handling precautions at all times.

### 1.2 V1000

1. Remove the plastic or Mylar cover.
2. Verify the battery is installed. If the battery is not installed, complete these steps:
  - a. Remove the button cell battery from the accessory kit.
  - b. Install the button cell battery (+ side up) in the battery holder, BT1.
  - c. Verify that the battery jumper is in the ON position (or OUT position on old covers), P15 connector (V1000).
  - d. Replace the plastic or Mylar cover.
3. Verify that the V1000 has a termination jumper installed on each RS-485 Port; Port 1, 2, 3 and Port 4; depending on which ports are not being used. The V1000 is shipped with jumpers in the out positions.



## Step 2 Hardware Installation

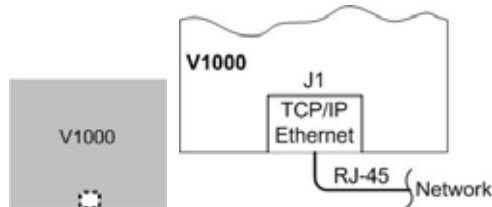
### 2.1 Mounting Instructions

1. The V1000 should always be mounted in a secure area.
2. Mount the V1000 using the four mounting screws (provided) or other appropriate fasteners. Place the fasteners in the corner holes of the base.
3. The V1000 can be stacked with or without the cover. Do not remove the plastic base. Make sure you position the V1000 in such a way as to provide room for wiring, air-flow and cable runs.

## 2.2 Wiring VertX

**CAUTION:** Connectors on the V1000 right and left sides are positioned to be mirror images and are not interchangeable once the installation is complete. Therefore, you cannot simply unplug a connector from one side of the board and plug it into the corresponding connector on the other side of the board.

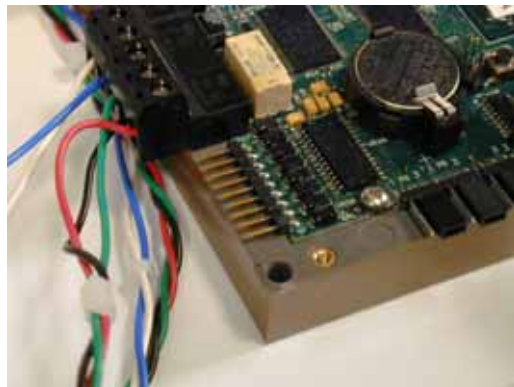
1. **Network Connection:** Connect the V1000 to the network using a standard Cat 5 network patch cable. Connect one end of the Cat 5 network patch cable to the **J1** (RJ-45) connector on the V1000 and the other end to the network connection point (network jack, hub, switch, or router) on your site.



2. **Serial (RS-232) Adapter cable (P/N 70007)** – The Serial Adapter cable is included with the V1000 controller.

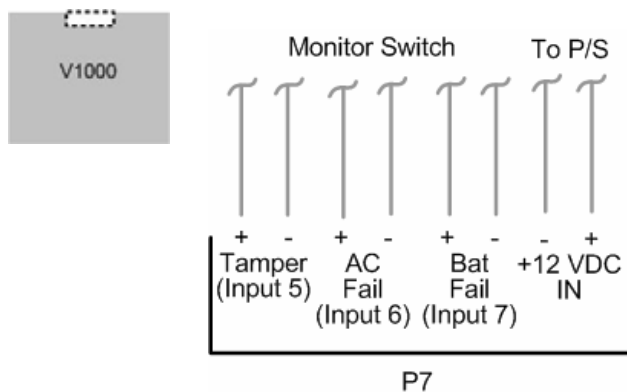
The Serial Adapter cable is a six inch adapter that converts the 9 pin MTA header to a standard DB-9 male connector. This adapter is to be utilized for attaching a standard serial modem cable (not included) to the VertX. This will allow one of the approved external modems (listed in 3.7.1 Modem Setup Requirements, page 19) to be attached to the VertX V1000.

The table shows the P17 pin settings.



Pin #	P17
1	DCD
2	RX
3	TX
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	RI

3. **Power and Alarm input connections:** Connect power by providing 12VDC to the **P7** connector. +12VDC goes to **Pin 1** and ground on **Pin 2**. Bat Fail, AC Fail, and Tamper switch inputs are wired as shown in the table. Connect the Bat Fail and AC Fail inputs to battery low/failure and AC failure contacts provided on the power supply. Connect the Tamper input to a tamper switch on the enclosure.



Pin #	P7
1	+12VDC
2	Ground
3	Bat Fail -
4	Bat Fail +
5	AC Fail -
6	AC Fail +
7	Tamper -
8	Tamper +

4. **RS-485 Connections** – The V1000 has two - RS-485 connectors. The V1000 uses the 10-pin, **P3** and **P4** for the RS-485 connections. Each RS-485 bus can support a maximum of 16 V100-Series panels using one or two ports.

Having two ports on each bus provides the option of splitting each RS-485 bus into two physical connections, allowing a total of four physical connections for the two busses.

RS-485 busses must be connected in a daisy chain topology and not a star topology.

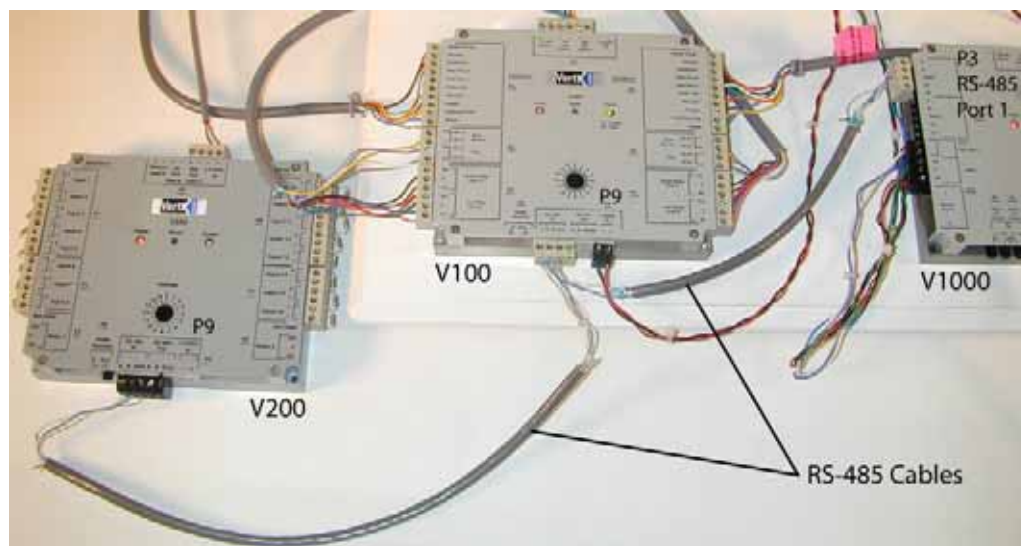
**Note:** Each V1000 port and the end V100-Series, whether it is single or a daisy-chain connection, requires a separate termination resistor jumper.



Pin #	V1000 P3 (port 1 and 2)	V1000 P4 (port 3 and 4)
1	A	Not in use
2	B	Not in use
3	Shield	Shield
4	Not in use	B
5	Not in use	A
6	A	Not in use
7	B	Not in use
8	Shield	Shield
9	Not in use	B
10	Not in use	A

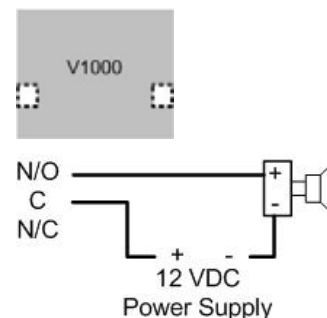


**CAUTION:** The V1000 RS-485 Ports 1 & 2 (P1) are a common bus and therefore cannot have panels with duplicate Interface Addresses assigned. The same is true of the V1000 RS-485, Ports 3 & 4 (P4). For example, two panels, both with Interface Address 0 (factory default), cannot be connected to Ports 1 and/or 2 (P1).



5. **Output Connections** – All Output connections are used for general purpose controls. The following table shows where the various outputs are located among the various VertX types. Pin numbers shown use the convention “NO/C/NC”. For example, Output 1, V2000: P3 Pin1 is NO (Normally Open) and Pin 2 is C (Common) and Pin 3 is NC (Normally Closed).

**Note:** Relay contacts are rated for 2Amps @ 30VDC.



Output number	V2000	V1000	V100	V200	V300
1	P3 Pins 1/2/3 <i>Strike(lock) Relay 1</i>	P14 Pins 2/3/4	P3 Pins 1/2/3 <i>Strike (lock) Relay 1</i>	P3 Pins 2/3/4	P1 Pins 1/2/3
2	P3 Pins 4/5/6 <i>Aux Relay 1</i>	P11 Pins 6/5/4	P3 Pins 4/5/6 <i>Aux Relay 1</i>	P6 Pins 3/2/1	P1 Pins 4/5/6
3	P6 Pins 6/5/4 <i>Strike (lock) Relay 2</i>		P6 Pins 6/5/4 <i>Strike (lock) Relay 2</i>		P1 Pins 7/8/9
4	P6 Pins 3/2/1 <i>Aux Relay 2</i>		P6 Pins 3/2/1 <i>Aux Relay 2</i>		P2 Pins 1/2/3
5					P2 Pins 4/5/6
6					P2 Pins 7/8/9
7					P4 Pins 9/8/7
8					P4 Pins 6/5/4



Output number	V2000	V1000	V100	V200	V300
9					P4 Pins 3/2/1
10					P5 Pins 9/8/7
11					P5 Pins 6/5/4
12					P5 Pins 3/2/1

- 6. Input Connections** – Input connections are used for a combination of specific functions such as Request-to-Exit (REX), Door monitor, etc. They can also be used as general purpose monitoring. Connect one side of the switch or contact to the + (plus) lead and the other to the – (minus) lead. The following table shows where the inputs are located among the different VertX units. Pin numbers shown on the cover use the convention +/-.

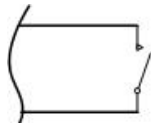
The default REX switch configuration is normally open (NO) unsupervised (no EOL resistors), while the default door switch (DS) configuration is Normally Closed (NC) unsupervised (no EOL resistors). All other input points are defaulted for NO switches and are unsupervised (no EOL resistors).

Any input can be configured as a supervised input. They can be configured for resistors of 1K – 6K Ohm. The setup of supervised inputs should be done during configuration of the VertX units via the central station automation software (host) or by using the Calibrate Input tool, see section 4.1 Calibrate Input.

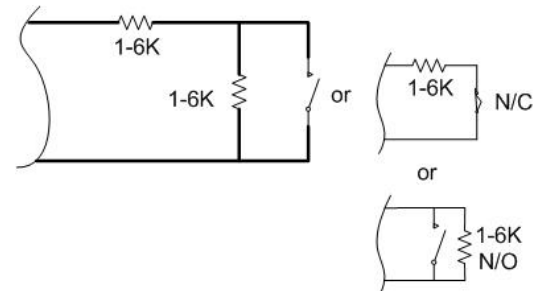
**Example:** Input 1, V1000 is: P14 Pin1 is + and Pin 2 is -.



All the default inputs will be:



Supervised inputs can be configured for:



Input number	V2000	V1000	V100	V200	V300
1	P2 Pins 1/2 <i>Door Monitor</i>	P14 Pins 1/2	P2 Pins 1/2 <i>Door Monitor</i>	P1 Pins 1/2	P6 Pins 2/1
2	P2 Pins 3/4 <i>REX Input</i>	P11 Pins 4/3	P2 Pins 3/4 <i>REX Input</i>	P1 Pins 3/4	P3 Pins 1/2
3	P5 Pins 4/3 <i>Door Monitor</i>	P7 Pins 8/7 <i>Tamper</i>	P5 Pins 4/3 <i>Door Monitor</i>	P1 Pins 5/6	P7 Pins 8/7 <i>Tamper</i>
4	P5 Pins 2/1 <i>REX Input</i>	P7 Pins 6/5 <i>AC Fail</i>	P5 Pins 2/1 <i>REX Input</i>	P1 Pins 7/8	P7 Pins 6/5 <i>AC Fail</i>
5	P7 Pins 8/7 <i>Tamper</i>	P7 Pins 4/3 <i>Batt Fail</i>	P7 Pins 8/7 <i>Tamper</i>	P1 Pins 9/10	P7 Pins 4/3 <i>Batt Fail</i>
6	P7 Pins 6/5 <i>AC Fail</i>		P7 Pins 6/5 <i>AC Fail</i>	P2 Pins 1/2	
7	P7 Pins 4/3 <i>Batt Fail</i>		P7 Pins 4/3 <i>Batt Fail</i>	P2 Pins 3/4	

Input number	V2000	V1000	V100	V200	V300
8				P2 Pins 5/6	
9				P4 Pins 10/9	
10				P4 Pins 8/7	
11				P4 Pins 6/5	
12				P4 Pins 4/3	
13				P4 Pins 2/1	
14				P5 Pins 6/5	
15				P5 Pins 4/3	
16				P5 Pins 2/1	
17				P7 Pins 8/7 <i>Tamper</i>	
18				P7 Pins 6/5 <i>AC Fail</i>	
19				P7 Pins 4/3 <i>Batt Fail</i>	

## Step 3 Communications Configuration

This section describes the communications configuration.

There are three methods of communication possible on a V1000 controller:

- Dynamic Host Configuration Protocol (DHCP) TCP/IP Addressing
- Static TCP/IP Addressing
- Modem

Follow only the communication instructions that relates to your sites specific installation.

### 3.1 Firewall Configuration

If the VertX controller is being installed where it communicates through a firewall, then the firewall must be configured to allow TCP data transfer on the specified port(s).

The port(s) that must be opened on the firewall for the VertX controller are the “**connection\_port**” and “**listen\_port**” specified in the **CommCfg** configuration file (/mnt/flash/TaskConfig/CommCfg) as well as the [Pre-Installation Checklist](#).

If you are **not** familiar with configuring a firewall for the network, contact the Network/IT administrator or manager.

**CAUTION:** If the firewall is not configured properly the controller will not be able to communicate with the host.

## 3.2 Computer to VertX Controller Connection

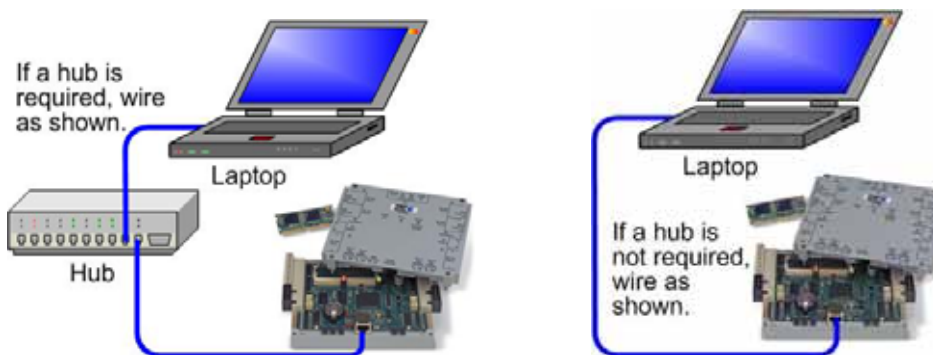
**Note:** This step is necessary if you are configuring your communications for DHCP or Static TCP/IP. If configuring for Modem communications (skip to 3.7 Modem).

### 3.2.1 Hardware Requirements

The following outlines the hardware requirements for configuring a static TCP/IP connection.

- Computer with administration rights and an Internet browser, Internet Explorer 5.0 (or greater), or equivalent.
- Ethernet cable
- Optional Hub – Required if primary communication channel is Ethernet.

Connect the computer to the VertX controller using an Ethernet cable.



## 3.3 Windows TCP/IP Configuration

**Note:** This step is only necessary if you are configuring your communications for DHCP or Static TCP/IP. If configuring for Modem communications (skip to **Error! Reference source not found. Error! Reference source not found.**).

Prior to proceeding with either DHCP or Static TCP/IP Configuration, you must configure your computers TCP/IP configuration to communicate with the controller. We recommend that you document your current **Network Connections** settings. These settings will provide you the ability to change your settings back to their original configuration.

**CAUTION:** During the timeframe in which you have changed the TCP/IP settings on your computer, you will not have access to the Internet or E-mail.

Depending on your operating system, follow one of the listed procedures.

- Windows XP Computers
- Windows 2000 Computers
- Windows Millennium Computers

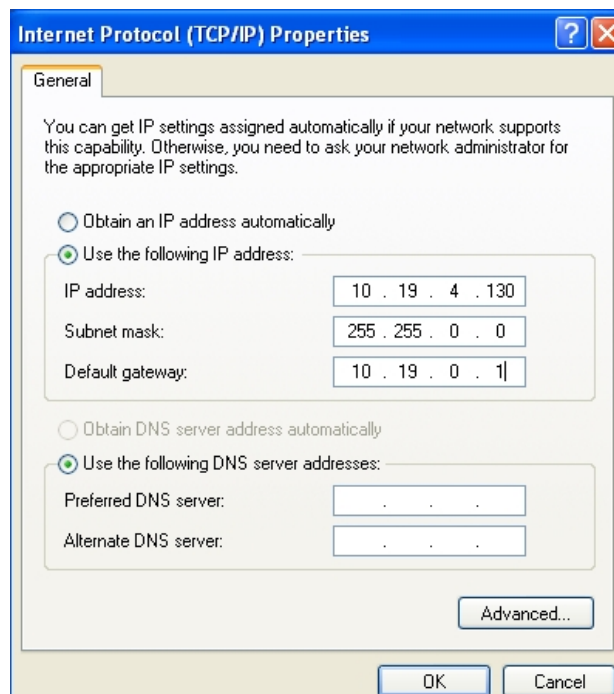
### 3.3.1 Windows XP Computers

Set the computer IP address.

1. Click the Windows **Start** menu > **Settings** > **Network Connections**. The **Network Connections** screen displays.



2. Double-click **Local Area Connection**. The **Local Area Connection Status** dialog displays.
3. Click **Properties**. The **Local Area Connection Properties** dialog displays.
4. Within the **This connection uses the following items:** window, click **Internet Protocol (TCP/IP)**, and click **Properties**. The **Internet Protocol (TCP/IP) Properties** dialog displays.
5. Select the **Use the following IP address** radio button. This action will enable the fields **IP address**, **Subnet mask** and **Default gateway**. Use the space bar to tab between fields, the tab key will not work.
6. Enter the IP address **10.19.4.130**. If the VertX board's IP address is different than what is shown, the computer IP address must be modified accordingly. The two IP addresses need to be in line with each other and separated by one digit (for example: 10.19.4.130 is one digit greater than 10.19.4.129).
7. Enter the Subnet mask: **255.255.0.0**.
8. Enter the Default gateway: **10.19.0.1**.
9. Click **OK**.
10. Click **Close** to complete the computer configuration.
11. Restart your computer.



### 3.3.2 Windows 2000 Computers

1. Go to the **Network** screen by clicking the **Start** button. Click **Settings** and then **Control Panel**. From there, double-click the **Network Connections** icon.
2. Select the **Local Area Connection** icon for the applicable Ethernet adapter (usually it is the first Local Area Connection listed). Double-click the **Local Area Connection**. Click the **Properties** button.
3. Select **Internet Protocol (TCP/IP)**, and click the **Properties** button.
4. Select the **Use the following IP address** radio button. This action will enable the fields **IP address**, **Subnet mask** and **Default gateway**. Use the space bar to tab between fields, the tab key will not work.

5. Enter the IP address **10.19.4.130**. If the VertX board's IP address is different than what is shown, the computer IP address must be modified accordingly. The two IP addresses need to be in line with each other and separated by one digit (for example: 10.19.4.130 is one digit greater than 10.19.4.129).
6. Enter the Subnet mask: **255.255.0.0**.
7. Enter the Default gateway: **10.19.0.1**.
8. Click **OK**.
9. Click the **OK** button again to complete the computer configuration.
10. Restart your computer.

### 3.3.3 Windows Millennium Computers

1. Go to the **Network** screen by clicking the **Start** button. Click **Settings** and then **Control Panel**. From there, double-click the **Network** icon.
2. On the **Configuration** tab, select the **TCP/IP line** for the applicable Ethernet adapter. Do not choose a TCP/IP entry whose name mentions DUN, PPPoE, VPN, or AOL. If the word **TCP/IP** appears by itself, select that line. Click the **Properties** button.
3. Click the **IP Address** tab and select **Use the following IP address**. Enter the IP address **10.19.4.130**.
4. Now click the **Gateway** tab to enter the **Installed Gateway** content. Enter the Default Gateway **10.10.0.1**. Click the **OK** button.
5. Click **OK** again. Windows may ask you for the original Windows installation disk or additional files. Supply them by pointing to the correct file location, e.g., D:\win98, D:\win9x, c:\windows\options\cabs, etc. (if "D" is the letter of your CD-ROM drive).
6. Restart your computer.

## 3.4 How to Edit Configuration Files

Before configuring a VertX controller to communicate through DHCP or Static TCP/IP Addressing, learning the following conventions is necessary.

First, you must become familiar with editing conventions to successfully configure the VertX controller.

### 3.4.1 Conventions

The rules described are basic guidelines for editing the configuration files successfully.

- Lines beginning with **"#"** are comments and are ignored.
  - The term "uncomment" means that you should remove the **"#"** symbol from the referenced line in the configuration file.
  - The term "comment" means to add a **"#"** symbol to the referenced line in the configuration file.
- White spaces must be space characters, and not tabs.

- In the Installer Tools, by default the **Convert CRLF to LF** box is checked, do **not** uncheck this checkbox (found at the top of the **Edit** screen). This checkbox ensures that Carriage Returns are converted correctly to line feeds for the VertX controller.

**CAUTION: Currently there is minimal error checking on configuration data. If errors occur during startup, you must verify that all configuration data is within valid ranges.**

### 3.4.2 Accessing the Installer Tools

When configuring for a DHCP or Static TCP/IP connection, access the **Installer Tools** to edit the configuration files.

1. Open your Internet Browser.
2. Enter the URL of the controller into the **Address** field.
  - Static TCP/IP Communication, *Assigned VertX IP/InstallerTools.html*
  - DHCP TCP/IP Communication, *VertX\_Controller.yourdomain.suffix/InstallerTools.html*

**Note:** The URL is case sensitive and must be entered precisely as shown.

3. Click . The **Installer Tools** menu will display.



## Installer Tools

[View Connected V100-Series Panels](#)  
[View V100-Series Panel Status](#)  
[Configure V100-Series Panel](#)  
[View Event Log](#)  
[Test/Restore Controller Configuration](#)  
[Setup Host Communication](#)  
[Save/Restore V100-Series Panel Configuration](#)  
[Calibrate Input](#)  
[Download V100-Series Panel Firmware](#)  
[Installer Tools Documentation](#)

### 3.5 DHCP TCP/IP Addressing

The VertX controller's default communication configuration is DHCP addressing. When a DHCP address is not provided, the controller will default to a static IP address of 10.19.4.129. When the controller successfully obtains an IP address from a DHCP server, the V1000 communications will use the controller's hostname. The default hostname of a V1000 is "VertX\_Controller." Access the controller by completing the following steps:

1. Connect an Ethernet cable from the controller connecting it to the computer or Ethernet Hub. See 3.2.1 Hardware Requirements.
2. Open your Internet Browser.
3. Enter the URL of the controller into the **Address** field.

The default DHCP URL is VertX\_Controller.yourdomain.suffix/InstallerTools.html.

Domain names identify one or more IP addresses. For example, the domain name microsoft.com represents about a dozen IP addresses. Domain names are used in URLs to identify particular Web pages. Every domain name has a suffix, examples of a suffix include .com, .net, .org etc.

**Note:** If access to the controller is not successful, use the default static IP address (10.19.4.129).

**CAUTION:** For the DHCP communications to function properly the network must have a functioning DNS (Domain Name Server) or you will be unable to communicate with the controller.

The following configuration files require editing to enable DHCP.

- /mnt/flash/TaskConfig/CommCfg
- /mnt/flash/TaskConfig/CommHosts

### 3.5.1 Configuration File Edits

The **Setup Host Communication** screen will take you to the **Edit Configuration Files** screen. The configuration files described in this section will enable DHCP TCP/IP host communications. See sections 3.2, 3.3, and 3.4 for instructions on how to start.

Select a file from the list the appropriate configuration file and click **Edit File**. If you need to clear the selection, click **Clear Selection**.

While following these instructions edit the circled areas shown.

**Note:** In addition to these configuration file edits, you may be interested in changing the “hostname”. See /mnt/flash/etc/conf.d/hostname for instructions on changing the host name.

#### 3.5.1.1 /mnt/flash/TaskConfig/CommCfg

From the **Edit Configuration Files** screen, then edit the /mnt/flash/TaskConfig/CommCfg configuration file.

1. Select /mnt/flash/TaskConfig/CommCfg from the list.
2. Click **Edit File**. The **Edit File** window will display.
3. Enter the appropriate configuration data, **see the Pre-Installation Checklist – Ref #4, [page 25](#)**, for the VertX controller to communicate to the host.

#### Example:

```
#
# commtask configuration parameters
# -----
# Connect to host on startup (1=>yes)
connect_on_start 1
# If contacted by a host, maintain connection without callback (1=>yes)
maintain_host_connection 0
# Call the host machine on this port
connection_port 4070
# Listen on this port for host connection requests
listen_port 4050
```



```
# If a connect attempt fails, wait this interval (~secs)

# before attempting to connect to the next host in CommHosts
reconnect_interval 15

# If no messages are received from the host within this interval (~min)
# then disconnect. (timeout = 0 => no timeout, continuous connection)
timeout 0

# Encrypt host communications (0=no, 1=yes)
use_encryption 0

# If a response to a host request is not received within this time (~secs),

# then disconnect.
message_response_time 20
```

### 3.5.1.2 /mnt/flash/TaskConfig/CommHosts

Finally, edit the /mnt/flash/TaskConfig/CommHost configuration file to communicate with the central station automation software (host).

This is the last configuration file requiring edits for Ethernet setup.

1. From the Edit Configuration Files screen, select /mnt/flash/TaskConfig/CommHost from the list.
2. Click **Edit File**. The **Edit File** window will display.

For Static TCP/IP configuration edit the first two lines (lines 1 and 2 shown in the example).

Change “10. 19. 4. 130” and/or “VertXProducti onTest” to include the IP Address or host name of the host(s) in which you are working. See the Pre-Installation Checklist – Ref #5, [page 25](#).

#### Example of Ethernet primary only:

```
# commtask connection file
# cmi d WaitTime MaxPings Username Script IPAddress(or Hostname) CommChannel (1-3)
1      1      2      *      *      10. 19. 4. 130      1
2      1      2      *      *      VertXProducti onTest  1
#3     20     4     router1 Router  10. 10. 10. 2      2
#4     20     4     modem1  Modem  10. 19. 4. 131     2
```

## 3.6 Static TCP/IP Addressing

The following outlines hardware requirements and provides a detailed configuration procedure to aid you in connecting to the V1000 through the static TCP/IP addressing configuration only.

See sections 3.2, 3.3, and 3.4 for instructions on how to start.

### 3.6.1 Configuration File Edits

The **Setup Host Communication** screen will take you to the **Edit Configuration Files** screen. The configuration files available for editing will enable TCP/IP Static host communications using the Static TCP/IP addressing communications method.

Select a file from the list and click **Edit File**. If you need to clear the selection, click **Clear Selection**.

While following these instructions edit the circled areas shown.

### 3.6.1.1 /mnt/flash/etc/conf.d/net.eth0

First, edit the /mnt/flash/etc/conf.d/net.eth0 configuration file.

1. Select /mnt/flash/etc/conf.d/net.eth0 from the list.
2. Click **Edit File**. The **Edit File** window will display.

Modify the following lines to match the controller's specified configuration.

See the **Pre-Installation Checklist – Ref #1**, [page 25](#).

1. IP (IP Address)
2. NETMASK (Subnet Mask)
3. Gateway (Network Gateway)

#### Example:

```
# Network configuration:
# Valid boot protocols are "dhcp" (anything else implies "none")
# DHCP is configured to fail after a single server connection attempt,
# we will then revert to the statically configured address.
BOOTPROTO="dhcp"
DHCP_CLIENT="/bin/dhclient -1 -cf /etc/conf.d/dhclient.conf -lf /etc/dhclient.leases"

# Valid media types are "auto", "10baseT-HD", "10baseT-FD", "100baseTX-HD",
# "100baseTX-FD" and "" (nothing).
MEDIA="auto"

# If you are using DHCP the following variables will not be used.
IP="10.19.4.129"
NETMASK="255.0.0.0"
BROADCAST="10.255.255.255"
GATEWAY="10.19.0.1"
```

*If using static TCP/IP, change the "dhcp" to "none".*

### 3.6.1.2 /mnt/flash/etc/conf.d/hostname

From the **Edit Configuration Files** screen, continue by editing the /mnt/flash/etc/conf.d/hostname configuration file.

1. Select /mnt/flash/etc/conf.d/hostname from the list.
2. Click **Edit File**. The **Edit File** window will display.
3. Modify the "Hostname" (shown in the example as "V1000\_Demo") with the specified Hostname.

See the **Pre-Installation Checklist – Ref #2**, [page 25](#).

#### Example:

```
HOSTNAME="V1000_Demo"
```

### 3.6.1.3 /mnt/flash/etc/resolv.conf.def

From the Edit Configuration Files screen, edit the /mnt/flash/etc/resolv.conf.def configuration file.

1. Select `/mnt/flash/etc/resolv.conf.def` from the list.
2. Click **Edit File**. The **Edit File** window will display.
3. Modify the “aaitg.com”, “10.7.2.220” and “10.7.2.221” values with the specified DNS IP addresses.

See the **Pre-Installation Checklist – Ref #3**, [page 25](#).

#### Example:

```
search aaitg.com 1000
nameserver 10.7.2.220
nameserver 10.7.2.221
```

#### 3.6.1.4 /mnt/flash/TaskConfig/CommCfg

From the **Edit Configuration Files** screen, then edit the `/mnt/flash/TaskConfig/CommCfg` configuration file.

1. Select `/mnt/flash/TaskConfig/CommCfg` from the list.
2. Click **Edit File**. The **Edit File** window will display.
3. Enter the appropriate configuration data, see the **Pre-Installation Checklist – Ref #4**, [page 25](#), for the VertX controller to communicate to the host.

#### Example:

```
#
# commtask configuration parameters
# -----
# Connect to host on startup (1=>yes)
connect_on_start 1
# If contacted by a host, maintain connection without callback (1=>yes)
maintain_host_connection 0
# Call the host machine on this port
connection_port 4070
# Listen on this port for host connection requests
listen_port 4050
# If a connect attempt fails, wait this interval (~secs)

# before attempting to connect to the next host in CommHosts
reconnect_interval 15
# If no messages are received from the host within this interval (~min)
# then disconnect. (timeout = 0 => no timeout, continuous connection)
timeout 0
# Encrypt host communications (0=no, 1=yes)
use_encryption 0
# If a response to a host request is not received within this time (~secs),
```

```
# then disconnect.
```

```
message_response_time 20
```

### 3.6.1.5 /mnt/flash/TaskConfig/CommHosts

Finally, edit the /mnt/flash/TaskConfig/CommHost configuration file to communicate with the central station automation software (host).

This is the last configuration file requiring edits for Ethernet setup.

1. From the Edit Configuration Files screen, select /mnt/flash/TaskConfig/CommHost from the list.
2. Click **Edit File**. The **Edit File** window will display.

Change "10. 19. 4. 130" and/or "VertXProducti onTest" to include the IP Address or host name of the host(s) in which you are working. **See the Pre-Installation Checklist – Ref #5, [page 25](#).**

#### Example of Ethernet primary only:

```
# commtask connection file
# cmd WaitTime MaxPings Username Script IPAddress(or Hostname) CommChannel (1-3)
1      1      2      *      *      10. 19. 4. 130      1
2      1      2      *      *      VertXProducti onTest      1
#3     20     4      router1  Router  10. 10. 10. 2      2
#4     20     4      modem1   Modem   10. 19. 4. 131      2
```

### 3.6.1.6 Reconfigure your computer to the original Windows TCP/IP Settings

As discussed in 3.3 Windows TCP/IP Configuration, return your computers TCP/IP settings to their original configuration.

## 3.7 Modem

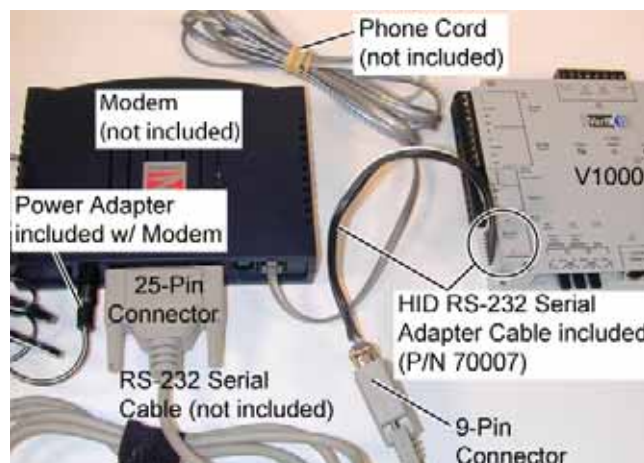
The VertX controller will automatically answer incoming calls when an external serial modem is attached to the RS-232 port 1.

### 3.7.1 Modem Setup Requirements

- External Modem (not included). The modem must be selected from the following approved HID modem list:
  - Zoom V.90 56 K Fax Modem, Model 2949 (external modem uses phone jack).
  - U.S. Robotics V.92 56K Fax Modem, Model 5686 (external modem uses phone jack).
  - Telular GSM 850/1900, Model 1C02A160 (external cellular modem).
- RS-232 Serial cable (not included)
- HID Serial Adapter cable (included with the VertX controller)
- AC electrical outlet or surge protector for supplying power to the modem
- Analog phone line included with the modem
- VertX controller

### 3.7.2 Physical Modem Setup

1. Connect the RS-232 Serial cable (purchased separately) 25-pin connector into the back of the modem.
2. Connect the other end of the RS-232 Serial cable (9-pin connector) into the HID Serial Adapter cable (P/N 70007). In addition, connect the HID RS-232 Serial Adapter cable into P17 RS-232 Port 1.
3. Connect one end of the phone cord (included with the modem) into the TELCO or LINE jack on the back of the modem and plug the other end into an analog telephone wall jack.
4. Plug the power adapter (included with modem) into a surge protector or electrical outlet. Make sure you use the power adapter that came with the modem, as others may be of different voltages and could damage your modem.
5. Turn on the modem. This is usually done by using a switch located next to the status lights. There may also be a power switch located on the back of the modem.



## Step 4 Reboot and Test with the Central Station

**NOTE:** Dependant on the central station automation software that is being utilized, proceed to [Central Station Automation Provider Instructions](#) on page 21 before continuing with Step 4 Reboot and Test with the Central Station.

Now that the V1000 is installed and configured.

1. Reboot the controller by removing and reconnecting the power supply to the controller. The controller should be functional within 20-60 seconds.
2. Contact the Central Station to test communications.

### 4.1 Calibrate Input

The Calibrate Input tool is available for calibrating the input devices through the Installer Tools.

**CAUTION:** Only use the Calibrate Input tool if instructed to use it by the central station.


1. Find the **Installer Tools** by opening a browser and entering the controllers URL into the **Address** field. **See the Pre-Installation Checklist – Ref #5, [page 25](#).**

2. Enter the following URL depending on your communication configuration:
  - Static TCP/IP Communication, *Assigned VertX IP/InstallerTools.html*
  - DHCP TCP/IP Communication,  
*VertX\_Controller.yourdomain.suffix/InstallerTools.html*
3. Select **Calibrate Input**
4. If more information is required, click **Installer Tools Documentation**

## Central Station Automation Provider Instructions

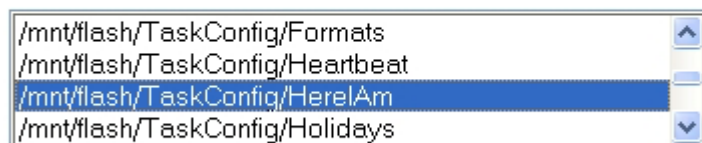
### Dice Corporation

Perform the following steps if the central station uses Dice software.

1. Open your Internet Browser.
2. Enter the V1000 URL into the **Address** field. The URL is gathered from the central station.  
**See the Pre-Installation Checklist – Ref #5, [page 25](#).**
3. Click .
4. Click **Edit Configuration Files**
5. From the **Edit Configuration Files** screen, click **Here I am**. Then, click **Edit File** to modify the file.

### Edit Configuration Files

Select the File to Edit



**Edit File**

**Clear Selection**

6. From within the **Here I am** configuration file, on the third line, change **0** to **60**.

```
# HereIAm configuration file
# Here I Am time in seconds (range 20-86400, 0=disabled)
0
```

**BEFORE**

**Save file**

```
# HereIAm configuration file
# Here I Am time in seconds (range 20-86400, 0=disabled)
60
```

**AFTER**

7. Click **Save File**, when complete and the change will become activated once the controller is rebooted.
  8. Close the browser window(s) when completed.
- Continue to Step 4 Reboot and Test with the Central Station.

## GE MAS

If using GE Monitoring Automation Systems (MAS) as a central station automation software, no additional steps are necessary for configuring the V1000 controller.

## Bold Technologies

If using Bold Technologies as a central station automation software, no additional steps are necessary for configuring the V1000 controller.

## Contact Information

HID Corporation	929274 Jeronimo Road, Irvine, CA 92618-1905
Web Site	<a href="http://www.hidcorp.com">http://www.hidcorp.com</a>
Main Phone	(949) 598-1600
Fax	(949) 598-1698
Sales	(800) 210-4744
Technical Support	(800) 237-7769



**All National and local Electrical codes apply.**

- **This equipment is intended to be powered from a limited power source output of a previously certified power supply.**
- **Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.**

**Class A Digital Devices**

**FCC Compliance Statement:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

**Class B Digital Devices**

**FCC Compliance Statement:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to 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.

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## Pre-Installation Checklist

Hardware				
	Name	Source	Part Number	
<input type="checkbox"/>	Ethernet Cable			
<input type="checkbox"/>	Computer with Web Browser			
<input type="checkbox"/>	Hub (Optional)			
<input type="checkbox"/>	Modem (Optional)			
<input type="checkbox"/>	VertX Modem Cable (Optional)	HID	70007	
<input type="checkbox"/>	AC Electrical Outlet or Surge Protector (Optional)			
Configuration Data				
	Doc Ref	File Name/Data	Configuration Data	Collected Data
<input type="checkbox"/>	1	/mnt/flash/etc/conf.d/net.eth0	Bootproto (for DHCP)	
			IP Address	
			Netmask	
			Gateway	
<input type="checkbox"/>	2	/mnt/flash/etc/conf.d/hostname	Hostname	
<input type="checkbox"/>	3	/mnt/flash/etc/resolv.conf.def	Domain Name for Search	
			DNS IP Address (Primary)	
			DNS IP Address (Secondary)	
<input type="checkbox"/>	4	/mnt/flash/TaskConfig/CommCfg	Connect_on_start	
			Maintain_host_connection	
			Connection_port	
			Listen_port	
			Reconnect_interval	
			Timeout	
			Use_encryption	
			Message_response_time	
<input type="checkbox"/>	5	/mnt/flash/TaskConfig/CommHost	Host Name ("john.abc.com")	
			Host IP Address	
			Connection Type(s)	

**Intentional Blank**

## Installation Worksheet

This installation worksheet is provided for you to have a historical record of your system settings. Complete each appropriate field, and keep this worksheet in a safe location.

Record if the input is wired: 1) **N/O** or **N/C**, 2) **Unsupervised** or **Supervised** (resistor values), and 3) what type of device is attached.

Record if output is wired: 1) **N/O** or **N/C** and 2) what type of device is attached.

<b>V1000/V2000 Information:</b>			
Customer Name:		Contact:	
Installed Location:		MAC Address:	
Modem Model:		RS232 Port #:	Phone #:
Hostname:		IP Address:	
Tamper:	AC Fail:		BATT Fail:
Input 1:	Input 2:	Relay 1:	Relay 2:
<b>V100-Series Information (If V2000, there is a V100 at Interface Address 0 built-in):</b>			
Interface Address: (0-31)		Interface Type: (V100, V200, V300, V2000)	
Tamper:	AC Fail:		BATT Fail:
<b>V100 Door / Reader Interface</b>			
Reader 1:		Reader 2:	
Door Switch 1:	REX 1:	Door Switch 2:	REX 2:
Strike Relay 1:	Aux Relay 1:	Strike Relay 2:	Aux Relay 2:
<b>V200 Input Monitor Interface</b>			
Input 1:	Input 2:	Input 3:	Input 4:
Input 5:	Input 6:	Input 7:	Input 8:
Input 9:	Input 10:	Input 11:	Input 12:
Input 13:	Input 14:	Input 15:	Input 16:
Relay 1:	Relay 2:		
<b>V300 Output Control Interface</b>			
Relay 1:	Relay 2:	Relay 3:	Relay 4:
Relay 5:	Relay 6:	Relay 7:	Relay 8:
Relay 9:	Relay 10:	Relay 11:	Relay 12:
Input 1:	Input 2:		

V100-Series Information (If V2000, there is a V100 at Interface Address 0 built-in):			
Interface Address: (0-31)		Interface Type: (V100, V200, V300, V2000)	
Tamper:	AC Fail:		BATT Fail:
Reader 1:		Reader 2:	
Door Switch 1:	REX 1:	Door Switch 2:	REX 2:
Strike Relay 1:	Aux Relay 1:	Strike Relay 2:	Aux Relay 2:
Input 1:	Input 2:	Input 3:	Input 4:
Input 5:	Input 6:	Input 7:	Input 8:
Input 9:	Input 10:	Input 11:	Input 12:
Input 13:	Input 14:	Input 15:	Input 16:
Relay 1:	Relay 2:		
Relay 1:	Relay 2:	Relay 3:	Relay 4:
Relay 5:	Relay 6:	Relay 7:	Relay 8:
Relay 9:	Relay 10:	Relay 11:	Relay 12:
Input 1:	Input 2:		