

InterChangeVS™ 1000

InterChangeVS 1100

Installation Reference Card

Installation Overview

Use this *Reference Card* to install the InterChangeVS 1000 base unit and InterChangeVS1100 port extenders. To install the VS1000/VS1100 series, perform the following procedures:

- Install the VS1000/VS1100 hardware and the asynchronous RS-232 devices that you are connecting to the VS1000/VS1100 serial ports
- Install the VS-Link software
- Configure your operating system to work with the devices connected to the VS1000/VS1100

This is only an *Installation Reference Card*. See the [Installation and Configuration Guide](#) for information about installing the VS-Link software and other topics not discussed in this card.

Installing VS1000 Hardware

Use the following procedure to connect the VS1000.

1. Record the model and serial numbers of the VS1000 in the event that you need to call technical support.

VS1000 Model and Serial Numbers

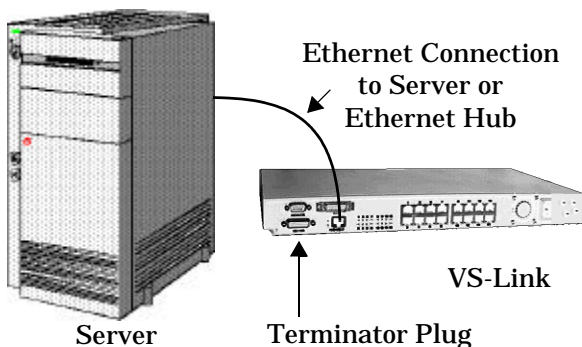
Serial Number*	Network Address*
	00 C0 4E

* *The identification tags are located on the back of the unit. You can write this information on the blank sticker shipped with the VS1000/VS1100. The VS1100 has a serial number only.*

2. Optionally, mount the VS1000 into the rack using the enclosed mounting brackets. The unit is designed to install in the rack with the front or back of the unit facing the front of the rack.

Warning: *If mounting the VS1000 into a rack mount unit, make sure the rack is not top heavy.*

3. Connect the cable from the appropriate Ethernet connection (10Base-T or AUI) on the VS1000 to your server or Ethernet hub.



Note: Do not connect two VS1000 base units together. If connecting the VS1000 directly to the server, an **Ethernet crossover** cable is required. See the Installation and Configuration Guide for details.

4. If installing only a VS1000, put the terminator plug in the VS1100 connector of the VS1000 base unit. Then go to the **Power-On Diagnostics** discussion.
5. If installing one or more VS1100 expansion units, go to the **Installing VS1100 Hardware** discussion.

Installing VS1100 Hardware

Use the following procedure to connect InterChangeVS 1100 port extenders to the VS1000 base unit.

1. Record the serial numbers of the VS1100 units.

VS1100 Model and Serial Numbers

VS1100	Serial Number*
1	
2	
3	

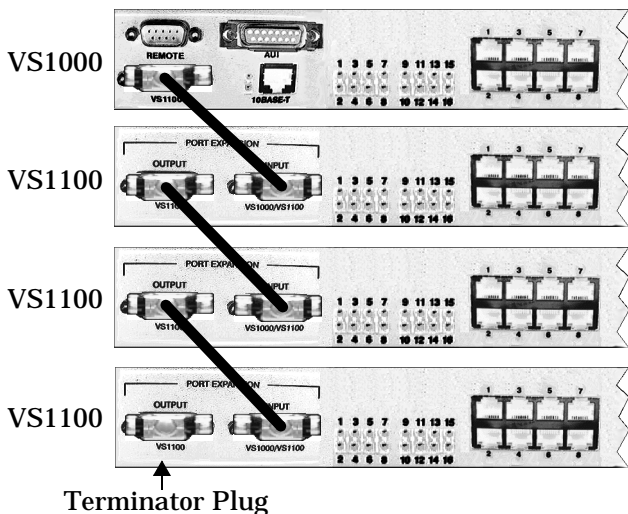
* The identification tag is located on the back of the unit.

2. Optionally, mount the VS1100 port extenders into the rack using the enclosed mounting brackets.

Warning: *If mounting the VS1100 into a rack mount unit, make sure the rack is not too heavy.*

3. Connect the VS1100 device or devices to the VS1000 virtual server:
 - Connect the cable shipped with the VS1100 from the connector labeled VS1100 on the VS1000 unit to the INPUT connector on the VS1100.
 - To connect additional VS1100 units, connect the cable from the OUTPUT of one unit to the INPUT of the next unit.

Note: *You can connect up to three VS1100 port extenders to one VS1000 base unit.*



Note: *The VS1100 cannot be connected directly to the LAN. Remember, Ports 1 through 16 are RS-232 ports.*

4. Install the terminator plug in the OUTPUT connection of the last VS1100 in the installation.
5. Go to the **Power-On Diagnostics** discussion.

Power-On Diagnostics

All VS1000 units include autoswitching power supplies. You may need to select the appropriate power cable for your location, but the VS1000 automatically senses and switches to the correct line voltage and cycle frequency.

The VS1100 expansion unit draws its power from the host VS1000 base unit and does not contain a power supply or cooling fan.

After you have connected the VS1000 to the network, and the VS1100 to the VS1000, connect the power cord to the VS1000 and switch the VS1000 on. Then use the following information to determine if your VS1000/VS1100 units are working correctly.

1. If the LEDs for Ports 1 through 16 flash during power up, the VS1000/VS1100 hardware is working properly.
2. If using the 10Base-T connection and the polarity is correct, the lower LED remains on.

Note: *After the power-up tests, the VS1000 waits for the server PC to download the VS-Link software. The Port 1 LED blinks while the VS1000 is waiting and goes out when the server initiates normal program activity.*

3. If the LEDs do not display an error condition, go to the *Installation and Configuration Guide* for instructions on installing and configuring VS-Link for your operating system.

The following tables illustrate other LED patterns for diagnosing hardware problems



10Base-T LED Descriptions

LED	Indicator	Description
Upper	Flashes Briefly	During the power on cycle (first few seconds after power turned on), this turns on briefly to display link polarity on the 10Base-T connection.
Upper	Flashing	The light flashes briefly during transmissions as a general indicator of activity.
Lower	On	VS1000 is correctly attached to the LAN by the RJ45 10Base-T connector.
Lower	Off	VS1000 is not connected to the LAN properly or it is connected to the AUI port.

Note: *If using an AUI connection to the server, you can determine proper polarity by using an AUI to 10Base-T converter box.*



Ports 1 Through 16 LED Descriptions

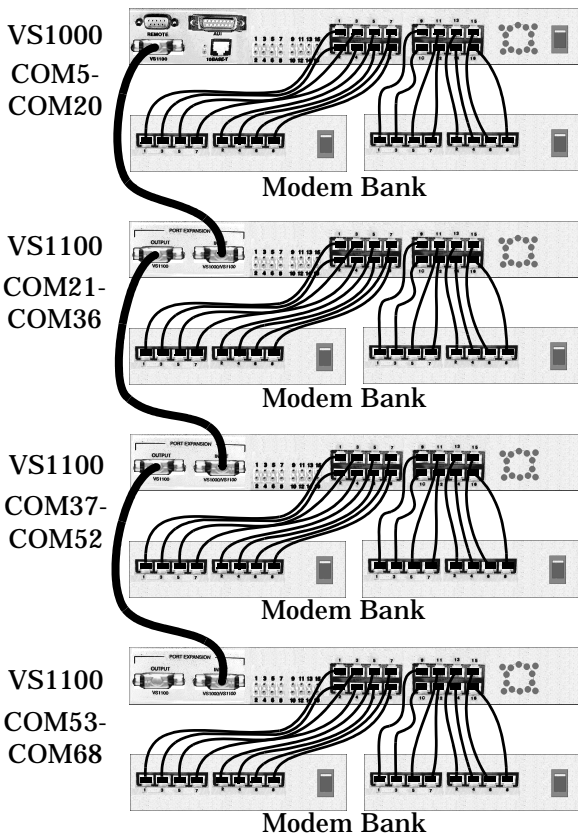
Indicator	Description
Flash Briefly	All LEDs light briefly during the power-on sequence and then turn off.
1 LED Lit*	A RAM self-test failure or other mainboard error.
2 LEDs Lit*	Ethernet hardware initialization failure.
3 LEDs Lit*	A hardware self-test failure.
4 LEDs Lit*	A flash memory configuration error.

* *The LEDs light up for a about a minute and then the hardware resets and the same cycle repeats.*

Connecting Devices

Use the following discussion to connect RS-232 asynchronous devices to the VS1000/VS1100 ports. The following figure illustrates a modem bank environment.

1. Connect your RS-232 devices to Ports 1 through 16, for each VS1000/VS1100. RJ45 to DB25 cables are available from Control.



Note: Use the hardware manufacturer's documentation if you need help with connector pinouts or cabling.

2. Install or reconfigure VS-Link.

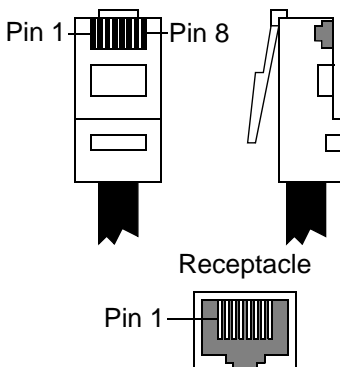
RS-232 Cabling

For information about building modem, null modem, RJ45-to-DB25, and other custom RS-232 cables, see the VS1000 *Installation and Configuration Guide*.

Use the following for pinout information on the RJ45 serial port connectors on the VS1000/VS1100.

RJ45 Connectors

Pin	RS-232 Signals
1	RTS
2	DTR
3	GND
4	TxD
5	RxD
6	DCD
7	DSR
8	CTS



Windows NT Configuration

The following procedures apply to Window NT installations only. For more information, see the *Installation and Configuration Guide*.

Adding VS1100 Expansion Units

Follow these steps to add VS1100 expansion units to an existing installation.

1. Switch off the VS1000 base unit.
2. Connect the VS1100 expansion unit to the VS1000 base unit, as described under **Installing VS1100 Hardware**.

3. Switch on the VS1000 base unit and verify that the system passes the power-on diagnostics.
4. Start the VS-Link Setup program.
5. Highlight the VS1000 that you have attached the VS1100 to and click the **Properties** button.
6. Enter the new number of ports, including the VS1000 and all attached VS1100 expansion units. Acceptable values include 16, 32, 48, and 64.
7. Save the new configuration and exit from the Setup program.
8. Shut down and restart the NT server so that your changes take effect.

Adding VS1000 Base Units

Follow these steps to add VS1000 base units to an existing installation.

1. Connect the new VS1000 to the network, as described under **Installing VS1000 Hardware**.
2. Switch on the VS1000 and verify that it passes the power-on diagnostics.
3. Start the VS-Link Setup program.
4. Click the **Add** button.
5. If desired, enter a new device name.
6. Use the **Network Address** droplist to select the address of the new VS1000.
7. Use the **Number of Ports** droplist to select the number of ports on this VS1000 and any associated VS1100 expansion units.
8. Use the **Starting COM Port** droplist to set the number of the first COM port on this VS1000, or set this value to Auto-Select to let the port numbering follow in sequence from previous VS1000 units.

Note: For information about the Backup Server option, see the Installation and Configuration Guide.

9. Save the new configuration and exit Setup.
10. Shut down and restart the NT server so that your changes take effect.

“Hot-Swapping” Units in Service

Existing and configured VS1000 units can be replaced with identical units without downing the server or reconfiguring ports. To do so, follow these steps:

1. Shut off the VS1000 to be replaced, transfer all cables to the corresponding ports on the new VS1000, and power up the new VS1000.
2. Note the Network Address of the new VS1000.
3. Start the VS-Link Setup program.
4. Highlight the VS1000 to be replaced and click the **Configure** button.
5. Use the **Network Address** droplist to select the network address of the new VS1000. *Leave all other properties the same.*
6. Save the new configuration and exit from the Setup program.
7. The new VS1000 immediately replaces the old one under the old unit's device name. Restarting the system is not needed.

Note: *Do not add or remove VS1100 expansion units while swapping VS1000 units.*

Novell NetWare Configuration

The following procedures apply to Novell NetWare installations only. For more information, see the [Installation and Configuration Guide](#).

Adding VS1100 Expansion Units

Follow these steps to add VS1100 expansion units to an existing installation.

1. Switch off the VS1000 base unit.
2. Connect the VS1100 expansion unit to the VS1000 base unit, as described under **Installing VS1100 Hardware**.
3. Switch on the VS1000 base unit and verify that the system passes the power-on diagnostics.

4. *NetWare Connect*: find the line in **autoexec.ncf** that initializes the VS1000 base unit and change the **nports** command in the **load aiovs1** line to reflect the added ports.

MPR: use the `inetcfg` **Boards** option to change the number of AIO ports on the VS1000 base units and the **Network Interfaces** option to configure the new ports.

5. *NetWare Connect*: down and restart the server so that your changes take effect.

MPR: use the `inetcfg` **Reinitialize System** option to put the new configuration into effect.

6. *NetWare Connect only*: use `nwcon` to configure the new ports.

7. Resume normal operations.

Adding VS1000 Base Units

Follow these steps to add more VS1000 base units to an existing installation.

1. Connect the new VS1000 to the network, as described under **Installing VS1000 Hardware**.
2. Switch on the VS1000 and verify that it passes the power-on diagnostics.
3. *NetWare Connect*: at the system console, enter the **load aiovs1** command for this unit, as described in the *Installation and Configuration Guide*.
MPR: use the `inetcfg` **Boards** option to add the unit.
4. Configure the new ports as needed.
5. *NetWare Connect*: edit **autoexec.ncf** and add the load line for the new VS1000.
MPR: use the `inetcfg` **Reinitialize System** option to put the new configuration into effect.
6. Resume normal operations.

“Hot-Swapping” Units in Service

Under Novell, “hot-swapping” is handled through the **vs1man.nlm** utility. For more information, see the *Installation and Configuration Guide* or `vs1man help`.

Technical Support

If you have questions about your VS1000/VS1100 or need technical support, contact Control using one of the following methods.

The *Installation and Configuration Guide* and online help systems contain substantial troubleshooting information. Also, see the *Guide* for information about obtaining software and/or documentation updates.

Corporate Headquarters:

- email: support@control.com
- FAX: (612) 631-8117
- Phone: (612) 631-7654
- FTP Site: <ftp://ftp.control.com>
- Web Site: <http://www.control.com>

Control Europe:

- email: support@control.co.uk
- FAX: +44 (0) 1 869-323-211
- Phone: +44 (0) 1 869-323-220
- Web Site: <http://www.control.co.uk>

Control has a staff of hardware and software engineers, technicians, and managers available to help you.

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