

VMETRO VANGUARD VME
Bus Analyzers
Installation Guide

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1 *Before You Begin*

Inspection

Make sure that the Vanguard you have received is according to your purchase order with respect to model.

The Vanguard package consists of the following:

- Installation Guide (this document).
- Busview[®] CD-ROM with License Key (Authorization Code).
- Anti-static wrist strap.
- The Vanguard VME assembly inside an anti-static bag.
- A Trigger Output cable with BNC Coax connector (4945-K-24).
- 8 patch leads of various colors for pin header I/O and 4 micrograbber test clips (401-VG-TL).
- External Temperature Probe (401-VG-ETS).
- USB cable (401-VG-USB).
- Ethernet Cable (401-VG-ETH).

Note – You should also inspect the board to verify that no mechanical damage has occurred. Please report any discrepancies or damage to your distributor or to VMETRO immediately.

Precautions in Handling and Storage



Static electricity can permanently damage your Vanguard. Prevent electrostatic damage by taking proper precautions.

- Make sure your body is grounded when coming into contact with the board by wearing the provided anti-static wrist strap.
- If an anti-static wrist strap is not available, touch a grounded surface, such as the bare metal chassis, before touching the Vanguard.
- Only leave the board on surfaces with controlled static characteristics, i.e. specially designed anti-static table covers.
- When handing the board to another person, first touch this person's hand, wrist etc. to discharge any static potential.
- Always store the board in an anti-static bag or other static resistant container.
- If an electric screwdriver is used, it should be grounded and shielded to prevent sparks.

2 Vanguard VME board layout

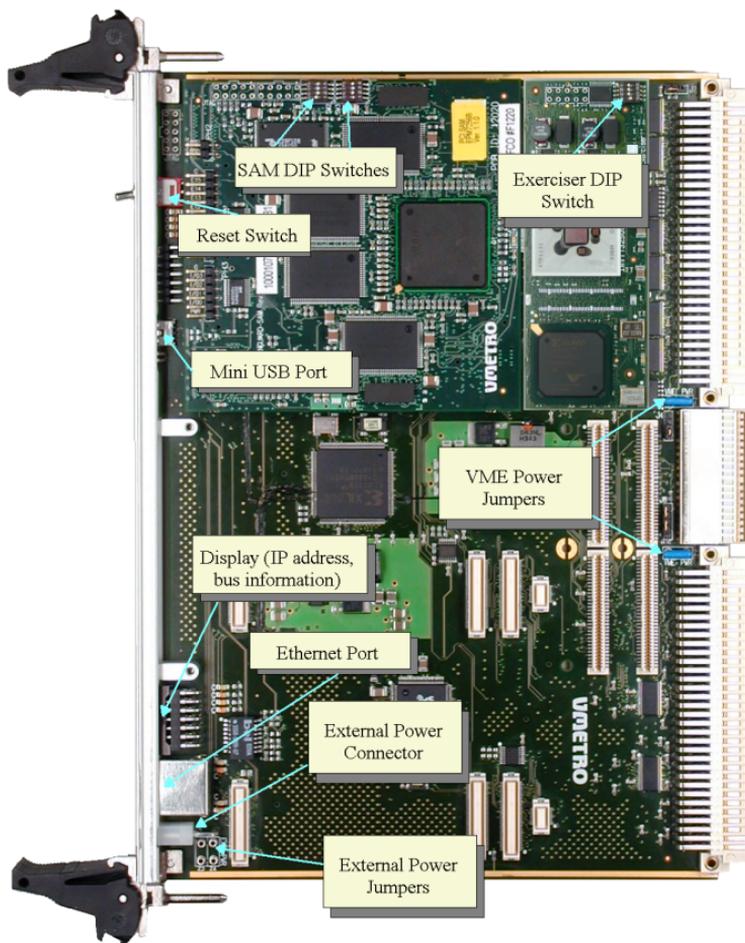


FIGURE 1. Vanguard VME board layout

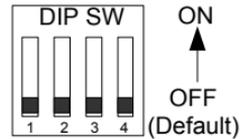
3 *Installing the Hardware*

Slot Selection

- The Vanguard can be installed in any slot in a VME rack, however the Vanguard can only be used as a system controller if the Exerciser module (optional) is present.
- It is recommended that the Vanguard is located as far to the left (closest to slot 1) as possible. This will ensure that the Bus Grants (BG3-0IN/OUT*) and IACKIN/OUT* daisy-chains pass the Vanguard and can be captured by the Analyzer.

Default Configuration

SAM DIP switches



Before installing the Vanguard, ensure that all SAM DIP switches indicated in Figure 1 are in the default ‘off’ position.

Exerciser DIP switch

If you have purchased the Exerciser option, then the Exerciser module will already be mounted onto the VME carrier board.

The DIP switch located on the Exerciser module is factory shipped with switch 4 ON (Auto System Controller enabled); meaning that the Exerciser will act as a system controller if BG3IN is low at power-up. If another device drives BG3IN high, then the Vanguard Exerciser will not be system controller.

For more details about the Exerciser DIP switch settings see the User Guide.



Warning! Do not install the board into a powered system!

Inserting the Vanguard VME

1. Ensure the power is disconnected to the system in which the Vanguard is to be installed.
2. Wear an anti-static wrist strap or follow the instructions on “Precautions in Handling and Storage” on page 5.
3. Remove the Vanguard from its anti-static bag and hold it by the brackets only.
4. Release the ejection levers from their locked position and slide the Vanguard VME into the selected slot using firm steady pressure to seat the board in the connectors properly.
5. Push the upper lever down and the lower lever up to lock the board into position.

Power Consumption

It is important to make sure that the power supply has sufficient capacity to power the board. Current consumption is dependent on operating mode. See Table 1 .

TABLE 1. Power consumption, Vanguard 5.0 V

Min(Idle)	Max
1.52A Without Exerciser	1.68A State mode without Exerciser
1.52A Without Exerciser	2.78A 133MHz Timing Mode without Exerciser
2.12A With Exerciser	TBD (Consult VMETRO)

Installing the Software

System Requirements

- Computer with Pentium 400 MHz or higher processor; Pentium III recommended.
- 256 MB RAM recommended (64 MB minimum supported; may limit performance).
- CD-ROM drive.
- Super VGA (1024x768) or higher resolution is recommended.
- Windows 2000 or Windows XP operating system.
- Minimum of 250 MB of free hard disk space.
- USB port or Ethernet network.

Installing BusView

1. Insert the CD-ROM into the CD-ROM drive.
2. If the installation program does not start automatically, run the file Setup.exe on the BusView CD-ROM.
3. Follow the instructions given by the Installation Wizard.
4. When the installation is finished, the BusView icon will be found on the desktop and in the Windows Start menu.

Note – License Agreement: By selecting “I accept the terms of the license agreement” and clicking Next, you agree to and accept the terms listed.

5 Connecting to the Vanguard

BusView can communicate with the Vanguard using an Ethernet or a USB (Universal Serial Bus) connection.

Connecting via Ethernet

1. Connect the Ethernet cable from the front panel of your Vanguard to your network.
2. If your network includes a DHCP server, then the Vanguard is listed in the Device Information window after BusView has been started.

If the Vanguard is not listed, or if your network does not use a DHCP server, see “Getting Started with BusView[®]” in the Vanguard User Guide for instructions on how to configure your Vanguard with a static IP address.

Note – A Crossover Ethernet cable (not supplied) is required if you are connecting to the Vanguard Ethernet port directly from your PC.

Connecting via USB Cable

1. Connect a USB cable from the USB port on the front panel of your Vanguard to a free USB port on your PC.
2. Once connected, let the “New Hardware Wizard” install the necessary drivers automatically.

If the New Hardware Wizard does not start, you can start it manually.

Windows 2000 - Click Start, Settings, and Control Panel and double-click Add/Remove Hardware. In the Add/Remove Hardware dialog box, click Next. Then choose “Add/Troubleshoot a device” and click Next again.

Windows XP - Click Start, Control Panel, Add Hardware. In the Found New Hardware Wizard dialog box, click Next.

3. The operating system may ask you to confirm the driver because it has not been digitally signed by Microsoft. Choose accept.

If a driver cannot be found, refer to “Troubleshooting” on page 14.

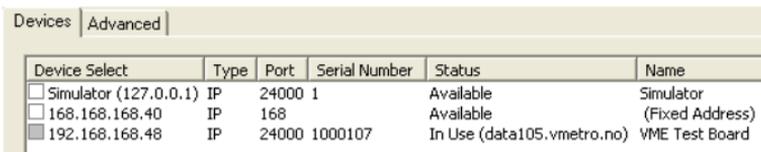
Once the driver is installed, BusView is ready to run.

6 Starting BusView®

Start BusView by double-clicking on the BusView icon on the desktop.

1. BusView will begin by performing a scan to find available connections and will display these in the Device Information dialog.

The scan can be started manually by selecting “Hardware Connection” from the “Tools” menu or by pressing the Scan button  from the toolbar.



Device Select	Type	Port	Serial Number	Status	Name
<input type="checkbox"/> Simulator (127.0.0.1)	IP	24000	1	Available	Simulator
<input type="checkbox"/> 168.168.168.40	IP	168		Available	(Fixed Address)
<input checked="" type="checkbox"/> 192.168.168.48	IP	24000	1000107	In Use (data105.vmetro.no)	VME Test Board

FIGURE 2. Device Information dialog

2. Select the required device and click OK.
3. You will then be presented with an Authorization dialog box in which you must enter the license key for your Vanguard. This can be found on the DVD case.
4. BusView should now automatically connect to the Vanguard. Connection status is shown in the Status window.

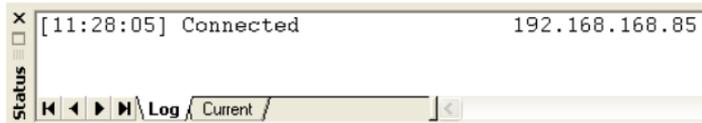


FIGURE 3. Connection Status

Troubleshooting

Connection Problems

There are several reasons why a connection attempt may fail, but incorrect cabling and communication settings are the most common.

- Reset the Vanguard by pressing the Reset button on the front panel and try connecting manually by entering its IP address in the Advanced tab of the Device Information dialog.
- Check that the Vanguard is booting by performing the following test:
 1. Remove all cabling from the Vanguard.
 2. Press the Reset button on the front panel of the Vanguard.
 3. Once the Vanguard has booted, the green LED on the Vanguard should flash slowly and the dot matrix display will show IP: Invalid.
If this is not the case, then the analyzer is not booting due to a hardware malfunction or insufficient power.
- Verify that the cables used are correct and not damaged.
- Check that the PC runs a compatible version of Windows (**Window 2000** or **Windows XP**).

General Problems

- Verify that the software key issued is correct for the modules ordered. You can do this by viewing the Authorization dialog box opened from the Tools menu in BusView.

USB Related problems

- Is the USB driver properly installed? The driver should be installed automatically when Windows detects the Vanguard as a new USB device. Follow the instructions from the Windows driver installation Wizard. If Windows fails to locate the USB driver, direct the New Hardware Wizard to the following directory on the BusView CD-ROM: `Busview-Driver-USB`.
- Try using a different USB device (Such as a mouse or keyboard), to verify that the USB port is functioning properly. If not, check that USB is enabled in the BIOS.
- After installing the driver, verify that the files **vang_usb.sys** and **windrvr6.sys** are present in the directory `/windows/system32/drivers`.

BusView Problems

To begin a new session once BusView has started right click on the appropriate folder in the Workspace window and select New.

Be sure to read the readme.txt file for the latest release information.

8 Accessories

Vanguard Cables and Accessories:

Part Number	Description
401-VG-ETH	Ethernet cable
401-VG-ETS	External Temperature Sensor
401-VG-USB	USB cable
401-EPSU	External Power Supply (cable included)
401-325-EPC	External Power Supply cable
4945-K-24	Square pin receptacle to BNC male cable (0.6m/2ft)
401-VG-TL	8 patch leads of various colors for pin header I/O, 4 micrograbber test clips.
VG-VE	Exerciser Module

Notes

Warranty

VMETRO products are warranted against defective materials and workmanship within the warranty period of 1 (one) year from date of invoice. Within the warranty period, VMETRO will, free of charge, repair or replace any defective unit covered by this warranty, shipping prepaid. A Return to Manufacturer Authorization (RMA) number should be obtained from VMETRO prior to return of any defective product. With any returned product, a written description of the nature of malfunction should be enclosed. The product must be shipped in its original shipping container or similar packaging with sufficient mechanical and electrical protection in order to maintain warranty.

This warranty assumes normal use. Products subjected to unreasonably rough handling, negligence, abnormal voltages, abrasion, unauthorized parts replacement and repairs, or theft are not covered by this warranty and will if possible be repaired for time and material charges in effect at the time of repair. Any customer modification to VMETRO products, including conformal coating, voids the warranty unless agreed to in writing by VMETRO.

If boards that have been modified are returned for repair, this modification should be removed prior to the board being shipped back to VMETRO for the best possibility of repair. Boards received without the modification removed will be reviewed for reparability. If it is determined that the board is not repairable, the board will be returned to the customer. All review and repair time will be billed to the customer at the current time and materials rates for repair actions.

VMETRO's warranty is limited to the repair or replacement policy described above and neither VMETRO nor its agent shall be responsible for consequential or special damages related to the use of their products.

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