



## Artisan Technology Group is your source for quality new and certified-used/pre-owned equipment

- FAST SHIPPING AND DELIVERY
- TENS OF THOUSANDS OF IN-STOCK ITEMS
- EQUIPMENT DEMOS
- HUNDREDS OF MANUFACTURERS SUPPORTED
- LEASING/MONTHLY RENTALS
- ITAR CERTIFIED SECURE ASSET SOLUTIONS

### SERVICE CENTER REPAIRS

Experienced engineers and technicians on staff at our full-service, in-house repair center

### *InstraView*<sup>SM</sup> REMOTE INSPECTION

Remotely inspect equipment before purchasing with our interactive website at [www.instraview.com](http://www.instraview.com) ↗

### WE BUY USED EQUIPMENT

Sell your excess, underutilized, and idle used equipment. We also offer credit for buy-backs and trade-ins. [www.artisanng.com/WeBuyEquipment](http://www.artisanng.com/WeBuyEquipment) ↗

### LOOKING FOR MORE INFORMATION?

Visit us on the web at [www.artisanng.com](http://www.artisanng.com) ↗ for more information on price quotations, drivers, technical specifications, manuals, and documentation

**Contact us:** (888) 88-SOURCE | [sales@artisanng.com](mailto:sales@artisanng.com) | [www.artisanng.com](http://www.artisanng.com)

# Adept Graphics Board (VGB)

---

---

# 6

Introduction . . . . .	132
Connections and Indicators . . . . .	133
DIP Switch Settings . . . . .	134
VME Bus Address . . . . .	134
Monitor Video Interface . . . . .	135
Keyboard Interface . . . . .	136
Pointer Interface (Mouse, Trackball, or Touchscreen) . . . . .	137
VGB Board Specifications . . . . .	137

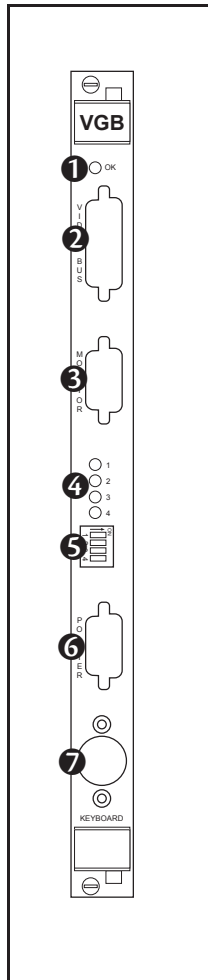
---

## Introduction

---

The Adept Graphics board (VGB) provides graphics capability for Adept controllers. (You may also use a PC and the AdeptWindowsPC software as a graphical operator interface. AdeptWindowsPC is a functional replacement for the VGB, allowing the use of a PC to display graphics.) The VGB is a single-slot 6U VME board that serves as the graphics processor and controls the video output to the color monitor. The VGB has connectors for the monitor, keyboard, and pointing device (mouse, trackball, etc.). The VGB also has a direct video bus connection to the EVI board in AdeptVision systems.

## Connections and Indicators



- ❶ **OK LED** indicates that this board has passed its start-up test.
- ❷ **Video Bus** connector — a 26-pin mini D-sub connector for installing one end of the video bus connector in AdeptVision systems. The other end of the connector connects to the EVI board. (Not used in nonvision systems.)
- ❸ **Monitor** connector — a 15-pin female mini D-sub connector for the color monitor. See [page 135](#).
- ❹ LEDs 1 to 4 are for Adept Service use only.
- ❺ DIP Switch (4 position) — see [Table 6-1](#) for functions.
- ❻ **Pointer** connector — a 9-pin male D-sub connector for the pointer cable from the Adept integrated keyboard/trackball. Can also be used for a mouse or touchscreen. See [page 137](#) for details.
- ❼ **Keyboard** connector — a 5-pin female DIN connector for the keyboard cable from the Adept integrated keyboard/trackball. See [page 136](#) for details.

**NOTE:** On a graphics-based system, the V<sup>+</sup> system monitor window is normally displayed on the monitor connected to the VGB board. However, you can redirect the system monitor input/output to the RS-232/Term port on the processor board.

## DIP Switch Settings

Table 6-1. VGB Board Front Panel DIP Switch Functions

Switch	Function
1	OFF – enables Adept logo display at boot-up ON – disables logo display
2	OFF – the pointer is a mouse (Microsoft serial mouse protocol, 1200 bps) ON – the pointer is a touchscreen (ELO TouchSystems protocol, 1200 bps)
3	OFF – U.S. keyboard ON – Japanese keyboard
4	Adept internal use only, should be set to OFF
If you change the settings, you must reboot (turn controller off, then on) before the changes take effect.	

---

## VME Bus Address

---

The VGB board has a fixed address that should not be modified by the customer.

## Monitor Video Interface

The VGB board supports a color monitor with a resolution of 1024 by 768. See [Table 6-3](#) for the monitor compatibility specifications. The pin assignments for the Monitor connector are shown in [Table 6-2](#).

Table 6-2. Monitor Connector Pin Assignments

Pin	Signal	Pin	Signal
1	Red Video Output	9	Not connected
2	Green Video Output	10	Ground
3	Blue Video Output	11	Ground
4	Ground	12	Not connected
5	Self Test (Ground)	13	Horizontal Sync
6	Red Video Ground	14	Vertical Sync
7	Green Video Ground	15	Not connected
8	Blue Video Ground		

Table 6-3. Monitor Compatibility Specifications

Video Display Resolution	1024 x 768 pixels
Frame Rate	60 Hz
Format	Noninterlaced
Line Rate	48.363 kHz
Dot Rate	65.000 MHz
Video signal	Analog RGB
Signal level	0 - 0.7 Vp-p
Input Impedance	75 ohm $\pm$ 5% at 100 kHz

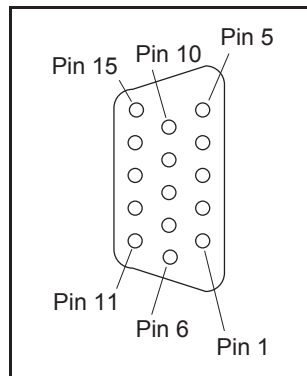


Figure 6-1. Monitor Connector Pin Locations on VGB Board

## Keyboard Interface

The VGB board supports an AT-style extended keyboard with an integrated trackball. The keyboard interface is a bidirectional, synchronous, serial interface. The keyboard communicates with the UART on the VGB via the clock and data lines. The keyboard input uses a standard 5-pin DIN connector. The Keyboard connector pin assignments are shown in [Table 6-4](#).

Table 6-4. Keyboard Connector Pin Assignments

Pin	Signal
1	Clock
2	Data
3	not connected
4	Ground
5	+5 VDC

## Pointer Interface (Mouse, Trackball, or Touchscreen)

The VGB board supports a standard Microsoft serial mouse-protocol compatible pointer. The pointer input uses a standard 9-pin D-sub connector. The pointer interface is serial, not parallel. Pin assignments for the Pointer connector are shown in **Table 6-5**. This port can alternatively be used for a touchscreen using ELO TouchSystems protocol. When installing a touchscreen, disconnect the trackball or mouse. Only one pointing device is usable at a time. This port operates at 1200bps. See “**Connections and Indicators**” on page 133 for configuration and compatibility.

Table 6-5. Pointer Connector Pin Assignments

Pin	Signal	Pin	Signal
1	Shield	6	not connected
2	Transmit Data (from pointer)	7	+12 VDC (RTS)
3	Receive Data (to pointer)	8	not connected
4	not connected	9	not connected
5	Signal Ground		

## VGB Board Specifications

Table 6-6. Technical Specifications<sup>a</sup>

Electrical Power Consumption	5 V at 2.3 A +12 V at 2 mA -12 V at 2mA
Pointer Input	For mouse or trackball, Microsoft serial mouse protocol, 1200 bps For touchscreen, ELO TouchSystems protocol, 1200 bps
Keyboard input	AT-compatible, DIN-5 connector
Width	Occupies one backplane slot

<sup>a</sup> Specifications subject to change.





## Artisan Technology Group is your source for quality new and certified-used/pre-owned equipment

- FAST SHIPPING AND DELIVERY
- TENS OF THOUSANDS OF IN-STOCK ITEMS
- EQUIPMENT DEMOS
- HUNDREDS OF MANUFACTURERS SUPPORTED
- LEASING/MONTHLY RENTALS
- ITAR CERTIFIED SECURE ASSET SOLUTIONS

### SERVICE CENTER REPAIRS

Experienced engineers and technicians on staff at our full-service, in-house repair center

### *InstraView*<sup>SM</sup> REMOTE INSPECTION

Remotely inspect equipment before purchasing with our interactive website at [www.instraview.com](http://www.instraview.com) ↗

### WE BUY USED EQUIPMENT

Sell your excess, underutilized, and idle used equipment. We also offer credit for buy-backs and trade-ins. [www.artisanng.com/WeBuyEquipment](http://www.artisanng.com/WeBuyEquipment) ↗

### LOOKING FOR MORE INFORMATION?

Visit us on the web at [www.artisanng.com](http://www.artisanng.com) ↗ for more information on price quotations, drivers, technical specifications, manuals, and documentation

**Contact us:** (888) 88-SOURCE | [sales@artisanng.com](mailto:sales@artisanng.com) | [www.artisanng.com](http://www.artisanng.com)