

1U Military Grade RACKMOUNT

19" Industrial-/Military-Grade, 1U Rack Mount, Standard/High Brightness, Flip-up LCD Monitor/Keyboard/Trackball w/ 1000nits

MODEL: Gmil-119HB Series



ENCLOSURE

- Rugged, All-Metal Construction Designed to Satisfy Industrial or MIL-STD-810E and -810F and TEMPEST Level 2 Requirements
- Continuous-Friction Hinges Permit Display to be Adjusted > 90°
- Ultra-Low Profile, 1U (1.75" High) Rack Mount Enclosure
- Easily Mounts in Rack Chassis via 20" or 24" Slides (Provided)
- Spring Coil Latch Secures Display in Stowed Position

DISPLAY

- 15.0" / 17.0" / 17.3" / 19.0" Active Matrix TFT LCD Displays
- XGA (1024 x 768 pixels) to WUXGA (1920 x 1080 pixels) Resolution
- Wide Viewing Angle (Horizontal & Vertical)
- High Brightness & Contrast Enhances Display Quality
- Designed to Satisfy MIL-STD-461E, UL and FCC Standards
- Fast Response Time Ideal for Real-Time and Video Applications

VIDEO CONTROLLERS

- Support for Interlaced and Non-Interlaced Video Sources
- Support for Separate, Composite Sync-On-Green, and DVI-D Standards » Support for NTSC, SECAM, PAL, RS-170 Video with Input Format of Composite Video, S-Video and Component Video (YCrCb) [Opt.]
- Resolutions to 1920 x 1200 @ 60 Hz; Sub-resolutions to 75 Hz
- Intuitive On-screen Menus for Display Calibration and User's Control
- Advanced Imaging Features
 - Auto Adjust, Brightness/Contrast/Color Adjustments, Image Expansion, Image Zoom, Foreign Languages, PIP, PBP, More

KEYBOARD / POINTING DEVICE

- Commercial-, Industrial- or Military-Grade Keyboards
- Many Sealed Keyboards Available that Meet MIL-STD-810F, MIL-STD-901D and MIL-STD-167B Shock and Vibration Req's.
- 1-3/8" Diameter Sealed Trackball

POWER

- +12 VDC Operation
- Low Power Consumption (<50 Watts)

OPTIONS

- NVIS-Compatible Displays Compliant with MIL-STD-3009
- Sunlight Readable Displays and Other Optical Enhancements
- Separate 1U Power Supply Mounts to Rear of Rack in Same Vertical Rack Space
- Support for DVI-D Video, HDMI Video, NTSC Video (Composite)
- Audio Add-on Board Provides Volume Control of Stereo Speakers
- Protective Glass Display Overlay
- Cable Management Systems
- Serial Calibration, Gamma Control or Remote On/Off
- Front-mounted CD/DVD-RW or Blu-ray Drive
- Integrated 4-Port USB Hub

SPECIFICATIONS

| DISPLAY | | | | | | | | | | | |
|------------|-----------------|----------------------|---------------------|------------------|---------------------|-----------------|----------------------------|--------------------------|------------------------|-------------------------|-------------------|
| | Size (Diagonal) | Viewing Area (W x H) | Resolution (Pixels) | Number of Colors | Luminance (0° Max.) | Contrast (Max.) | Response Time (Rise/Decay) | Horizontal Viewing Angle | Vertical Viewing Angle | Shock [1] | Vibration [1] |
| Gmil-115HB | 15.0" | 11.97" x 8.98" | 1024 x 768 | 16.7 Million | 600 Nits | 600:1 | 3/5 ms | ±80° | ±80° | 30 G, 11 ms ½ Sine Wave | 1.0 G (5–100 Hz) |
| Gmil-117HB | 17.0" | 13.30" x 10.64" | 1280 x | 16.7 Million | 932 Nits [2] | 813:1 [2] | 3.5/1.5 ms | ±85° | ±85° | 50 G, 20 ms ½ Sine Wave | 1.5 G (10–200 Hz) |
| Gmil-119HB | 19.0" | 14.81" x 11.85" | 1280 x | 16.7 Million | 1000 Nits | 700:1 [2] | 3.6/1.4 ms | ±85° | ±80° | 50 G, 11 ms ½ Sine Wave | 1.5 G (10–300 Hz) |

1 Shock and Vibration data reflect parameters for baseline industrial monitors. Military-grade monitors could sustain even greater shock and vibration levels. Please inquire with a Sales Engineer for more information.

2 Brightness and Contrast values reflect measurements obtained with a Minolta® CS100 photometer; these values are nominal and may vary.

3 This model has been designed and tested to be NVIS compatible to MIL-STD-3009. Inquire with a Sales Engineer about obtaining other night vision goggle-compatible models.

| MTBF | | | | |
|------------|------------------------|------------------------|-------------------------|----------------------------|
| | Display | LED Backlight [4] | LED Controller | Power Supply (Optional) |
| Gmil-115HB | 50,000 Hours (Minimum) | 70,000 Hours (Minimum) | 182,000 Hours (Minimum) | Depends on Supply Selected |
| Gmil-117HB | 50,000 Hours (Minimum) | 50,000 Hours (Minimum) | 182,000 Hours (Minimum) | Depends on Supply Selected |
| Gmil-119HB | 50,000 Hours (Minimum) | 50,000 Hours (Minimum) | 182,000 Hours (Minimum) | Depends on Supply Selected |

4 The hours for LED Backlight refer to the half-life of the backlight; that is, the point at which the LEDs reach half of their original brightness. It does not indicate the life expectancy of the backlight.

| ENVIRONMENTAL | | | | | | |
|---------------|------------------------|----------------------|-----------------------------|-----------------------------|---------------------|-------------------|
| | Temperature, Operating | Temperature, Storage | Humidity, Operating | Humidity, Storage | Altitude, Operating | Altitude, Storage |
| Gmil-115HB | -20° C to 70° C | -30° C to 80° C | 8% to 90% RH Non-condensing | 8% to 90% RH Non-condensing | 10,000 Feet | 30,000 Feet |
| Gmil-117HB | -30° C to 85° C | -30° C to 85° C | 8% to 90% RH Non-condensing | 8% to 90% RH Non-condensing | 10,000 Feet | 30,000 Feet |
| Gmil-119HB | -30° C to 85° C | -30° C to 85° C | 8% to 90% RH Non-condensing | 8% to 90% RH Non-condensing | 10,000 Feet | 30,000 Feet |

| MECHANICAL | | | | | |
|------------|------------------------------|-------------------------|---|-----------------------|----------------------|
| | Dimensions (H x W x D) | Construction | Finish | Weight, Operating [5] | Weight, Shipping [5] |
| Gmil-115HB | 1.75" (1U) x 19.00" x 20.00" | 5052-H32 Aluminum/Steel | Black Matte Powder Coat & Clear Iridite | 20–22 Pounds | 28–30 Pounds |
| Gmil-117HB | 1.75" (1U) x 19.00" x 24.00" | 5052-H32 Aluminum/Steel | Black Matte Powder Coat & Clear Iridite | 21–23 Pounds | 29–31 Pounds |
| Gmil-119HB | 1.75" (1U) x 19.00" x 24.00" | 5052-H32 Aluminum/Steel | Black Matte Powder Coat & Clear Iridite | 22–24 Pounds | 30–32 Pounds |

5 Operating and Shipping Weight vary depending on selected keyboard and options/accessories



Close-up of Optional Front-mounted CD/DVD Drive

| VIDEO CONTROLLER | | | | | | | | | |
|-------------------|------------------|-------------------|-------------------|---------------------|---------------------|----------------------|---------|---------------------------------------|---|
| Display Supported | 640 x 480 VGA | 800 x 600 SVGA | 1024 x 768 XGA | 1280 x 1024 SXGA | 1600 x 1200 UXGA | 1920 x 1200 WUXGA | Scaling | NTSC / SECAM / PAL / RS-170 | Video Supported |
| All | 60, 72, 75 Hz | 56, 60, 72, 75 Hz | 60, 70, 75 Hz | 60, 75 Hz | 60 Hz | 60 Hz | On/Off | - | Separate, Composite, Sync-On-Green, DVI-D |
| All | 60, 72, 75 Hz | 56, 60, 72, 75 Hz | 60, 70, 75 Hz | 60, 75 Hz | - | 60 Hz | On/Off | - | Separate, Composite, Sync-On-Green, DVI-D |
| All | 60, 72, 75 Hz | 56, 60, 72, 75 Hz | 60, 70, 75 Hz | 60, 75 Hz | - | 60 Hz | On/Off | Digital Processor, Picture-In-Picture | Separate, Composite, Sync-On-Green, DVI-D |

1 Most common video inputs listed. See below for a comprehensive list of supported video standards. Speak with a Sales Engineer for more information.

2 Most common video modes listed. Other video modes supported. Speak with a Sales Engineer for more information.

3 Supports advanced features such as Live Video, Picture-In-Picture (multiple user-selectable sizes), and Picture-By-Picture.

4 Video controller 115 is obsolete and shown for reference only.

| VIDEO STANDARDS SUPPORTED | | | | |
|--|------------------------------|---|--------------|--|
| Analog Computer Video | Digital Computer Video | Composite (Live) Video | HD Video | Others |
| VGA, SVGA, ARGB, RGB, Separate Sync, Composite Sync, Sync-On-Green, DVI-A, STANAG 3350 A / B / C | DVI-D, DVI-I, SD-SDI, HD-SDI | NTSC, PAL, SECAM, RS-170, S-Video, CCTV | HD-SDI, HDMI | CGI, CCIR, EGA, RS-343A, EIA-343A, Custom Sync |

| CALIBRATION | | |
|---|--|---|
| Interface | Functions | Advanced |
| On-screen Displays Navigated by 8-button Membrane Pad | Volume, Brightness, Contrast, Saturation, Hue, Sharpness, Input Signal, Aspect Size (Scaling), Image Position (Horizontal & Vertical), Utilities | Auto Source Seek, Auto Picture Setup, Auto Color Gain, Auto Power Off, Picture-In-Picture, Color Temperature, Hot Keys, OSD (Position, Timeout, Language [English, Chinese], Transparency), Manual Clock & Phase, Video Standard, Image Orientation, Gamma |
| On-screen Displays Navigated by 8-button Membrane Pad | Brightness, Contrast, Saturation, Backlight Brightness, Input Signal, Aspect Size (Scaling), Image Position (Horizontal & Vertical), Utilities | Picture-In-Picture (PIP), PIP Size, PIP Position, PIP Transparency, Auto Picture Setup, Auto Color Gain, Wide Screen Mode Detection, Manual Clock/Phase, Auto Source Seek, Auto Power Off, Video Standard, OSD (Position, Timeout, Language [English, Spanish, French, German, Chinese], Transparency, Display Input), Image Freeze, Image Zoom & Pan, Color Temperature, Hot Keys, Backlight Setup |
| On-screen Displays Navigated by 8-button Membrane Pad | Brightness, Contrast, Saturation, Hue, Sharpness, Backlight Brightness, Input Signal, Aspect Size (Scaling), Image Position (Horizontal & Vertical), Utilities | Picture-In-Picture (PIP), PIP Size, PIP Position, PIP Transparency, Auto Picture Setup, Auto Color Gain, Wide Screen Mode Detection, Manual Clock/Phase, Auto Source Seek, Auto Power Off, Video Standard, OSD (Position, Timeout, Language [English, Spanish, French, German, Chinese], Transparency, Display Input), Image Freeze, Image Zoom & Pan, Color Temperature, Hot Keys, Backlight Setup, Image Orientation (Normal, Horizontal Flip, Vertical Flip, Rotate) |

| I/O CONNECTIONS | | | | | | |
|-----------------|---------------------|--------------------------|-----------------|--------------------|----------------------------|-----------------------|
| Power (DC) | Analog Video | Keyboard/Pointing Device | On/Standby (DC) | S-Video (Optional) | Composite Video (Optional) | Audio (Optional) |
| 6-pin Circular, | High Density 15-pin | 6-pin Mini DIN | Membrane Pad | 4-pin Mini DIN | BNC Socket | 3.5 mm Headphone Jack |

Signal for the Keyboard/Pointing Device (DE-9 Socket on enclosure) provided separately via external cable.

OPTIONS

| KEYBOARD | | | | | | |
|-----------------------|--------------------|-------------|------------------------------|------------------|-----------------------------------|------------------------------|
| Grade | Keyboard Enclosure | Keyboard | | | Pointing Device | |
| | | No. of Keys | Compatibility | Special Features | Type | Compatibility |
| Heavy-Duty Industrial | Metal | 82 | PS/2 | - | 1-3/8" Trackball/ 3 Mouse Buttons | PS/2 |
| Heavy-Duty Industrial | Metal | 82 | PS/2 | Backlit Keys | 1-3/8" Trackball/ 3 Mouse Buttons | PS/2 |
| Heavy-Duty Industrial | Metal | 82 | Sun® Type 5 (8-pin Mini DIN) | - | 1-3/8" Trackball/ 3 Mouse Buttons | Sun® Type 5 (8-pin Mini DIN) |
| Heavy-Duty Industrial | Metal | 82 | Sun® Type 5 (8-pin Mini DIN) | Backlit Keys | 1-3/8" Trackball/ 3 Mouse Buttons | Sun® Type 5 (8-pin Mini DIN) |
| Military [7] | Metal | 82 | PS/2 | Backlit Keys | 1-3/8" Trackball/ 3 Mouse Buttons | PS/2 |
| Military [7] | Metal | 82 | Sun® Type 6 (USB) | Backlit Keys | 1-3/8" Trackball/ 3 Mouse Buttons | Sun® Type 6 (USB) |
| Military [7] | Metal | 82 | PC USB | Backlit Keys | 1-3/8" Trackball/ 3 Mouse Buttons | PC USB |
| Military [7] | Metal | 82 | Sun® Type 5 (8-pin Mini DIN) | Backlit Keys | 1-3/8" Trackball/ 3 Mouse Buttons | Sun® Type 5 (8-pin Mini DIN) |
| Military [7] | Metal | 121 | Sun® Type 6 (USB) | Backlit Keys | 1-3/8" Trackball/ 3 Mouse Buttons | Sun® Type 6 (USB) |



| POWER SUPPLY | | | | | | |
|---------------------------|---|---------------------------|-----------------|---|-----------------|-------------------------|
| | Mounting Style | Input Voltage | Input Frequency | Output Voltage | Power (Maximum) | Power Factor Correction |
| | 1U Rack Mount | 85-264 VAC (Auto-Sensing) | 47-63 Hz | +12 VDC | 75 Watt | 0.95 |
| | Standalone/Rack Mount Bracket | 90-264 VAC | 50-60 Hz | +12 VDC | 100 Watt | Yes |
| | Internal | 90-264 VAC | 50-60 Hz | +12 VDC | 66 Watt | Yes |
| | None | +12V | | Filtering and regulation provided by customer | | |
| Standalone Power Supplies | Consult with a Sales Engineer to select from a multitude of AC switching or DC-DC supplies that can be mounted within the customer's rack. We can assist in specifying a commercial, industrial or military power supply that will meet your specific requirements. | | | | | |

| OTHER | |
|------------------------|--|
| NVIS Compatibility | Night Vision Displays Compliant to MIL-STD-3009 |
| Sunlight Readable LCDs | High Brightness Displays to 1000+ Nits |
| Optical Enhancements | Bonding of Filter and Display Using Indice-Matched Optical Materials; Brightness and Contrast Enhancing Films and Laminations |
| Video Accessories | Video Cables, Signal Extenders, NTSC/PAL/SECAM/RS-170/S-Video/DVI-D/HD-SDI/ SD-SDI/HDMI/HD Component Support, Picture-In-Picture, Picture-By-Picture |
| Remote Control | IR or Serial Calibration/Control Interface |
| Customization | Custom Mechanical and Electrical Modifications; Custom Finishing; Custom Software and Performance Modifications; Private Labeling |



**1U 19 Shown in
deployed position
in transit case**



**Optional military
grade keyboard**