

# 1U Military Grade RACKMOUNT

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

MODEL: Gmil-115 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-115   | 15.0"           | 11.97" x 8.98"       | 1024 x 768          | 16.7 Million     | 400 Nits            | 600:1           | 3/5 ms                     | ±80°                     | ±80°                   | 30 G, 11 ms ½ Sine Wave | 1.0 G (5-100 Hz)  |
| Gmil-115-A | 15.0"           | 11.97" x 8.98"       | 1024 x 768          | 16.2 Million     | 400 Nits            | 700:1           | 5.7/2.3 ms                 | ± 80°                    | +60°, -80°             | 50 G, 20 ms ½ Sine Wave | 1.5 G (10-200 Hz) |
| Gmil-117   | 17.0"           | 13.30" x 10.64"      | 1280 x 1024         | 16.7 Million     | 350 Nits            | 1000:1          | 3.5/1.5 ms                 | ±85°                     | ±85°                   | 50 G, 20 ms ½ Sine Wave | 1.5 G (10-200 Hz) |
| Gmil-W117  | 17.3"           | 15.03" x 8.46"       | 1920 x 1080         | 16.7 Million     | 400 Nits            | 600:1           | 37/3 ms                    | ±80°                     | +60°, -80°             | 50 G, 20 ms ½ Sine Wave | 1.5 G (10-200 Hz) |
| Gmil-119   | 19.0"           | 14.81" x 11.85"      | 1280 x 1024         | 16.7 Million     | 350 Nits            | 1000:1          | 3.6/1.4 ms                 | ±85°                     | ±80°                   | 50 G, 20 ms ½ Sine Wave | 1.5 G (10-200 Hz) |
| Gmil-119-A | 19.0"           | 14.82" x 11.85"      | 1280 x 1024         | 16.7 Million     | 350 Nits            | 1000:1          | 3.6/1.4 ms                 | ±85°                     | ±80°                   | 50 G, 20 ms ½ Sine Wave | 1.5 G (10-200 Hz) |

| MTBF       |                        |                         |                         |                            |
|------------|------------------------|-------------------------|-------------------------|----------------------------|
|            | Display                | LED Backlight [2]       | LED Controller          | Power Supply (Optional)    |
| Gmil-115   | 50,000 Hours (Minimum) | >50,000 Hours (Typical) | 182,000 Hours (Minimum) | Depends on Supply Selected |
| Gmil-115-A | 50,000 Hours (Minimum) | 50,000 Hours (Minimum)  | 182,000 Hours (Minimum) | Depends on Supply Selected |
| Gmil-117   | 50,000 Hours (Minimum) | 50,000 Hours (Minimum)  | 182,000 Hours (Minimum) | Depends on Supply Selected |
| Gmil-W117  | 50,000 Hours (Minimum) | 50,000 Hours (Minimum)  | 182,000 Hours (Minimum) | Depends on Supply Selected |
| Gmil-119   | 50,000 Hours (Minimum) | 50,000 Hours (Minimum)  | 182,000 Hours (Minimum) | Depends on Supply Selected |
| Gmil-119-A | 50,000 Hours (Minimum) | 50,000 Hours (Minimum)  | 182,000 Hours (Minimum) | Depends on Supply Selected |

| ENVIRONMENTAL |                        |                      |                             |                             |                     |                   |
|---------------|------------------------|----------------------|-----------------------------|-----------------------------|---------------------|-------------------|
|               | Temperature, Operating | Temperature, Storage | Humidity, Operating         | Humidity, Storage           | Altitude, Operating | Altitude, Storage |
| Gmil-115      | -20° C to 70° 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-115-A    | -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-117      | -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-W117     | 0° C to 70° C          | -20° C to 70° C      | 5% to 95% RH Non-condensing | 5% to 95% RH Non-condensing | 10,000 Feet         | 40,000 Feet       |
| Gmil-119      | 0° C to 50° C          | -20° C to 60° C      | 8% to 90% RH Non-condensing | 8% to 90% RH Non-condensing | 10,000 Feet         | 30,000 Feet       |
| Gmil-119-A    | 0° C to 50° C          | -20° C to 60° C      | 5% to 90% RH Non-condensing | 5% to 90% RH Non-condensing | 10,000 Feet         | 30,000 Feet       |

| MECHANICAL |                              |                         |   |                       |                      |
|------------|------------------------------|-------------------------|---|-----------------------|----------------------|
|            | Dimensions (H x W x D)       | Construction            | Finish                                  | Weight, Operating [3] | Weight, Shipping [3] |
| Gmil-115   | 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-115-A | 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-117   | 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-W117  | 1.75" (1U) x 19.00" x 22.00" | 5052-H32 Aluminum/Steel | Black Matte Powder Coat & Clear Iridite | 21-23 Pounds          | 29-31 Pounds         |
| Gmil-119   | 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         |
| Gmil-119-A | 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         |



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

| VIDEO CONTROLLER  |                  |                   |                   |                     |                     |                      |         |                                       |   |
|-------------------|------------------|-------------------|-------------------|---------------------|---------------------|----------------------|---------|---------------------------------------|---|
| Display Supported | 640 x 480<br>VGA | 800 x 600<br>SVGA | 1024 x 768<br>XGA | 1280 x 1024<br>SXGA | 1600 x 1200<br>UXGA | 1920 x 1200<br>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<br>Navigated by 8-button<br>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<br>Navigated by 8-button<br>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<br>Navigated by 8-button<br>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**