**Hope Industrial Systems, Inc.**

# *User Manual*

## 19” Universal Mount Industrial Monitor

Model No. HIS-UM19-___D

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# Safety and Regulatory Information

## Warning

**To prevent fire or shock hazard, do not expose the unit to rain or moisture. Dangerously high voltages are present inside the unit. Do not disassemble the unit. Refer servicing to qualified personnel only.**

**This equipment is not intended for use in critical applications where its failure to operate would create immediate life threatening circumstances. Applications including, but not limited to, nuclear reactor control, aerospace navigation systems and life support systems are not appropriate for this product.**

**This product is a UL Listed Component and must be used with a listed computer.**

**A readily accessible disconnect device shall be incorporated in the building installation wiring. Installation shall be in accordance with the National Electric Code and authorities having jurisdiction.**

## FCC Notice

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the device.

# Using the LCD Display

## Setting the Timing Mode

Setting the timing mode of your computer graphics adapter (or other video source) is important for maximizing the quality of the screen image and for minimizing eye strain. The timing mode consists of the resolution (example 1280 x 1024) and refresh rate (or vertical frequency; example 60 Hz). After setting the timing mode, use the OSD (On-screen Display) controls to adjust the screen image.

For the best picture quality set your LCD display timing mode to:

**VESA 1280 x 1024 @ 60Hz**

Please refer to the computer graphics adapter manufacturer's manual for instructions on setting the resolution and timing mode. In Microsoft Windows ME/200/XP, these settings may be found at this location:

Control Panel > Display > Settings

**WARNING**: Do not set the graphics card in your computer to exceed the maximum refresh rate of 75Hz; doing so may result in permanent damage to your LCD display.

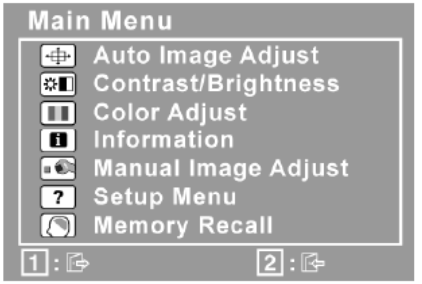
## OSD and Power Lock Settings

- **OSD Lock:** Press and hold [1] and the up arrow for 10 seconds. If any buttons are pressed the message *OSD Locked* will display for a few seconds.
- **OSD Unlock:** Press and hold [1] and the up arrow again for 10 seconds.
- **Power Button Lock:** Press and hold [1] and the down arrow for 10 seconds. If the power button is pressed the message Power Button Locked will display for 5 seconds. With or without this setting, after a power failure, your LCD display's power will automatically turn ON when power is restored.
- **Power Button Unlock:** Press and hold [1] and the down arrow again for 10 seconds.

# Adjusting the Screen Image

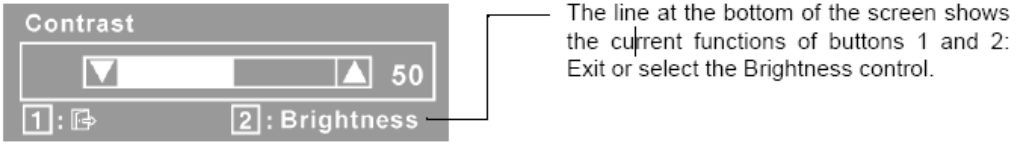
Use the buttons on the rear control panel to display and adjust the On-Screen Display (OSD) controls which display on the screen. Do the following to adjust the screen image:

1. To display the Main Menu, press button [1].




**NOTE:** All OSD menus and adjustment screens disappear automatically after about 15 seconds. This is adjustable through the OSD timeout setting in the Setup Menu

2. To select a control you want to adjust, press ▲ or ▼ to scroll up or down the Main Menu.
3. After the control is selected, press button [2]. A control screen like the one shown below appears.




4. To adjust the control, press the up ▲ or ▼ buttons.
5. To save the adjustments and exit the menu, press button [1] twice

### The following tips may help you optimize your display:

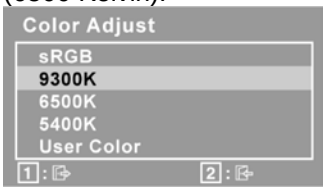
- Adjust your computer's graphic card so that it outputs a video signal 1280 x 1024 @ 60 Hz to the LCD display. (Look for instructions on "changing the refresh rate" in your graphic card's user guide.)

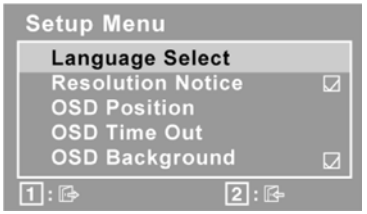
- If necessary, make small adjustments using H POSITION and V POSITION until the screen image is completely visible. (The black border around the edge of the screen should barely touch the illuminated "active area" of the LCD display.)

# Main Menu Controls

Adjust the menu items shown below by using the up ▲ and down ▼ buttons.

| Control | Explanation |
|---|---|
| | **Indicator Light** The indicator light on the rear of the monitor glows blue when the display is powered on and receiving a valid video signal; yellow when the display is in power-save mode. |
| | **Auto Image Adjust** automatically sizes, centers, and fine tunes the video signal to eliminate waviness and distortion.<br><br>This feature may also be accessed by pressing [2] outside of the OSD menu.<br><br>**NOTE**: Auto Image Adjust works with most common video cards. If this function does not work on your LCD display, lower the video refresh rate to 60 Hz and set the resolution to 1280 x 1024 (or other compatible resolution listed in this manual). |
| | **Contrast** adjusts the difference between the image background (black level) and the foreground (white level).<br><br>This feature may also be accessed by pressing ▲ outside of the OSD menu.<br><br>**Brightness** adjusts background black level of the screen image.<br><br>This feature may also be accessed by pressing ▼ outside of the OSD menu. |

| Control | Explanation |
|---|---|
| | **Color Adjust** provides several color adjustment modes, including preset color temperatures and a User Color mode which allows independent adjustment of red (R), green (G), and blue (B). The factory setting for this product is 6500K (6500 Kelvin).<br>  <br>o **sRGB** – This is quickly becoming the industry standard for color management, with support included in many of the latest applications. Enabling this setting allows the LCD display to more accurately display colors the way they were originally intended. Enabling the sRGB setting will cause the Contrast and Brightness adjustments to be disabled.<br>o **9300K** – Adds blue to the screen image for cooler white (used in most office settings with fluorescent lighting).<br>o **6500K** – Adds red to the screen image for warmer white and richer red.<br>o **5400K** - Adds green to the screen image for a darker color.<br>o **User Color** – Individual adjustments for red (R), green (G), and blue (B).<br>o To select color (R, G or B) press button [2]<br>o To adjust selected color, press ▲ or down ▼ |
| | **Information** displays the timing mode (video signal input) coming from the graphics card in the computer.<br><br>See your graphics card's user guide for instructions on changing the resolution and refresh rate (vertical frequency). |
| | **Manual Image Adjust** displays the Manual Image Adjust menu.<br> <br>o **H./V. Position** moves the screen image left or right and up or down.<br>o **Horizontal Size** adjusts the width of the screen image.<br>o **Fine Tune** sharpens the focus by aligning text and/or graphics with pixel boundaries. **NOTE:** Try the Auto Adjust function before using the Fine Tune control.<br><br>o **Sharpness** adjusts the clarity and focus of the screen image. |

| Control | Explanation |
|---|---|
| | **Setup Menu** displays the menu shown below.<br>  <br><br>o **Language Select** allows you to choose the language used in the menus and control screens.<br>o **Resolution Notice** advises of the optimal resolution to use.<br>o **OSD Position** allows you to move the on-screen display menus and control screens<br>o **OSD Timeout** sets the length of time an on-screen display screen is displayed. For example, with a “15 second” setting, if a control is not pushed within 15 seconds, the display screen disappears.<br>o **OSD Background** allows you to turn the On-Screen-Display background on or off. |
| | **Memory Recall** returns the adjustments back to factory settings if the display is operating in a factory Preset Timing Mode listed in the Specifications of this manual. Note: This control does not affect changes made with the User Color control, Language Select or Power Lock setting. |

# Installation Instructions

## Preparing for Installation

**Important! Perform the following steps BEFORE Installation of the monitor**

1. Ensure that sufficient power is available.

2. Ensure that sufficient space is available to allow for proper airflow around the enclosure.

3. Ensure that the air temperature around the unit (top and bottom) will not exceed the rated specifications of the unit.

   → **The maximum rated temperature of the HIS-UM19 is 45°C (113°F).**

   → ***Also, remember that even though this product is designed to operate at 45°C, the life span of any electronic device is shortened when it is consistently operated at high temperatures. Therefore it is wise to take steps to keep the temperature of the ambient air around the unit as low as possible.***

4. Ensure that the ambient humidity of the air around the unit does not exceed the rated specifications for the unit

   → The maximum rated humidity for the HIS-UM19 is 90% non-condensing

5. If the display will be mounted far from the computer using long cables or extender devices, the full configuration should be bench-tested prior to final installation for easy trouble-shooting.

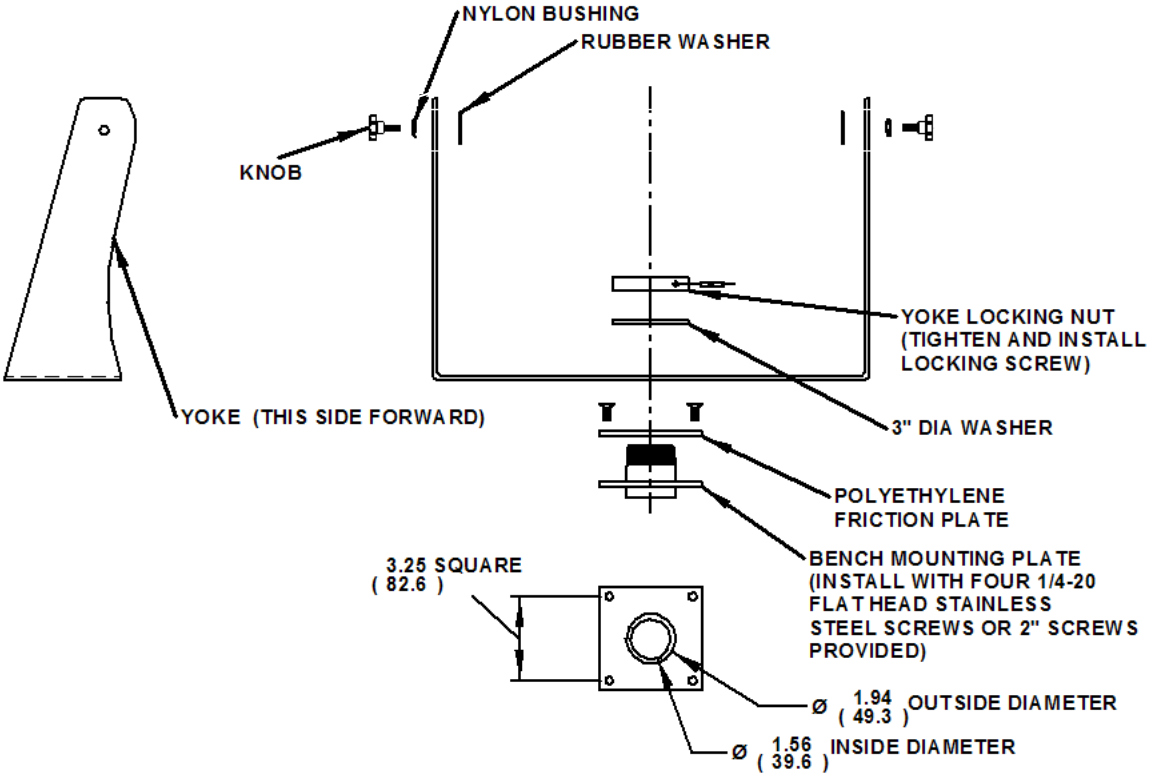
## Installation using VESA mounting

All units come standard with a 100mm square VESA mounting pattern with M4 threads. If this mounting method is used, consider the following:

- o M4 screws should not protrude into the rear cover by more than ¼ ".
- o The capacity of the arm or mounting plate selected should take into account the total weight of the monitor and its center of gravity.
- o For NEMA 4/4X applications, the mounting interface should be properly sealed to prevent ingress of water. Sealing washers are provided for this purpose.

**VESA Mounting Holes**

## Installation using the bench top mounting option




1. Insure mounting surface is smooth enough to seal with gasket and create mounting pattern in surface per the above diagram.

2. Install first two opposing ¼-20 flat head screws (two different lengths provided)

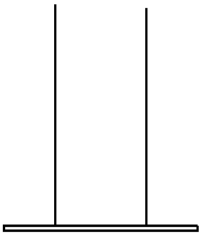
3. Rotate yoke 90 degrees to gain access to install remaining two screws.

4. Remove cap from end of threads if routing cables through the center of the plate.

## Installation using yoke and pedestal mounting option

1. Prepare the mounting surface for installation of the pedestal by referring to the illustration.

2. Install the pedestal using appropriate hardware and methods for the mounting surface selected taking strength, cable routing and sealing into consideration.



3. Position and support the yoke assembly near the top of the pedestal.

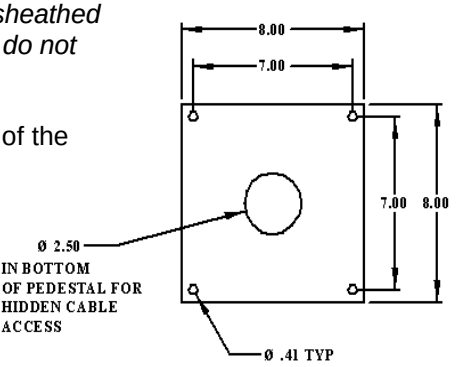
4. Thread monitor cables through the yoke assembly (the ends of the cables opposite the cover plate that joins to the monitor).

5. Connect all cables from the monitor into the pedestal. *Connectors that do not have a locking mechanism should be sheathed in heat shrink tubing or tie wrapped to insure that they do not come loose inside the pedestal.*

6. Feed all connectors and excess cabling inside the top of the pedestal.

7. Feed all cables into the space available inside pedestal.

8. Install pedestal top plate using the four ¼-20 x ¾" long screws provided. *Access to the screws is gained by the clearance notches in the yoke.*



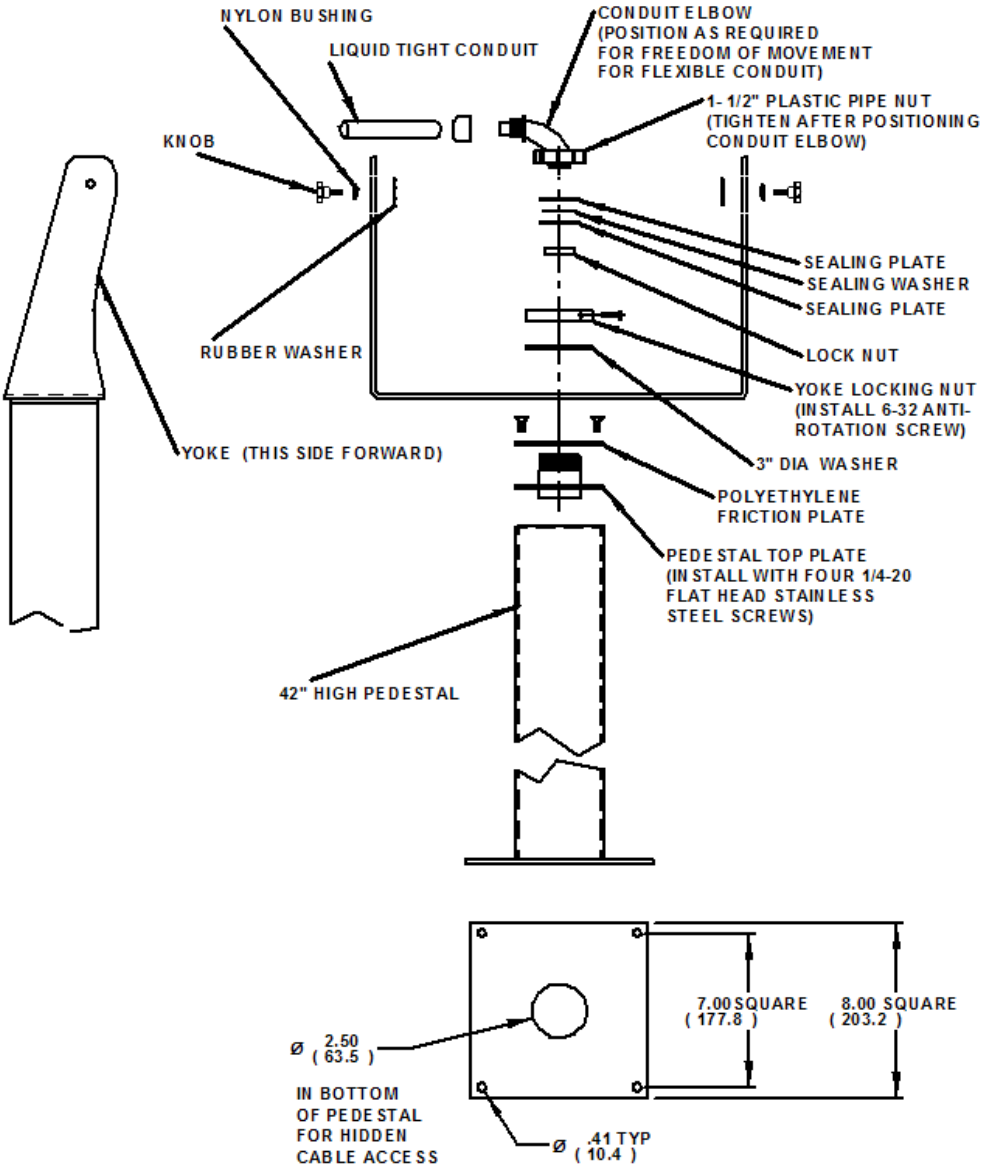

9. Feed remaining cable into the pedestal and screw the conduit elbow onto the top of the pedestal taking care to position the direction of the conduit to allow free tilting of the monitor without interference. *Conduit elbow will pivot somewhat even after pipe nut is tightened.*

10. Install monitor onto yoke with the Yoke Hardware Installation Guide provided.

11. Install cables into the monitor securing video cable and touch serial cable with screwlocks.

12. Remove and reuse screws to install cover plate onto monitor. Tighten all eight screws of cover plate fully then back off one full turn.

**Installation using yoke and pedestal mounting option** (continued from previous page)




***Note**: The ¾" conduit and other sealing hardware are not required for NEMA 12 monitors or NEMA 4/4X monitors with the 4-cable gland.*

## Installation using fixed pedestal mounting option

1. Prepare the mounting surface for installation of the pedestal by referring to the illustration.

2. Install the pedestal using appropriate hardware and methods for the mounting surface selected taking strength, cable routing and sealing into consideration.

3. Install cables into the monitor securing video cable and touch serial cable with screw locks.

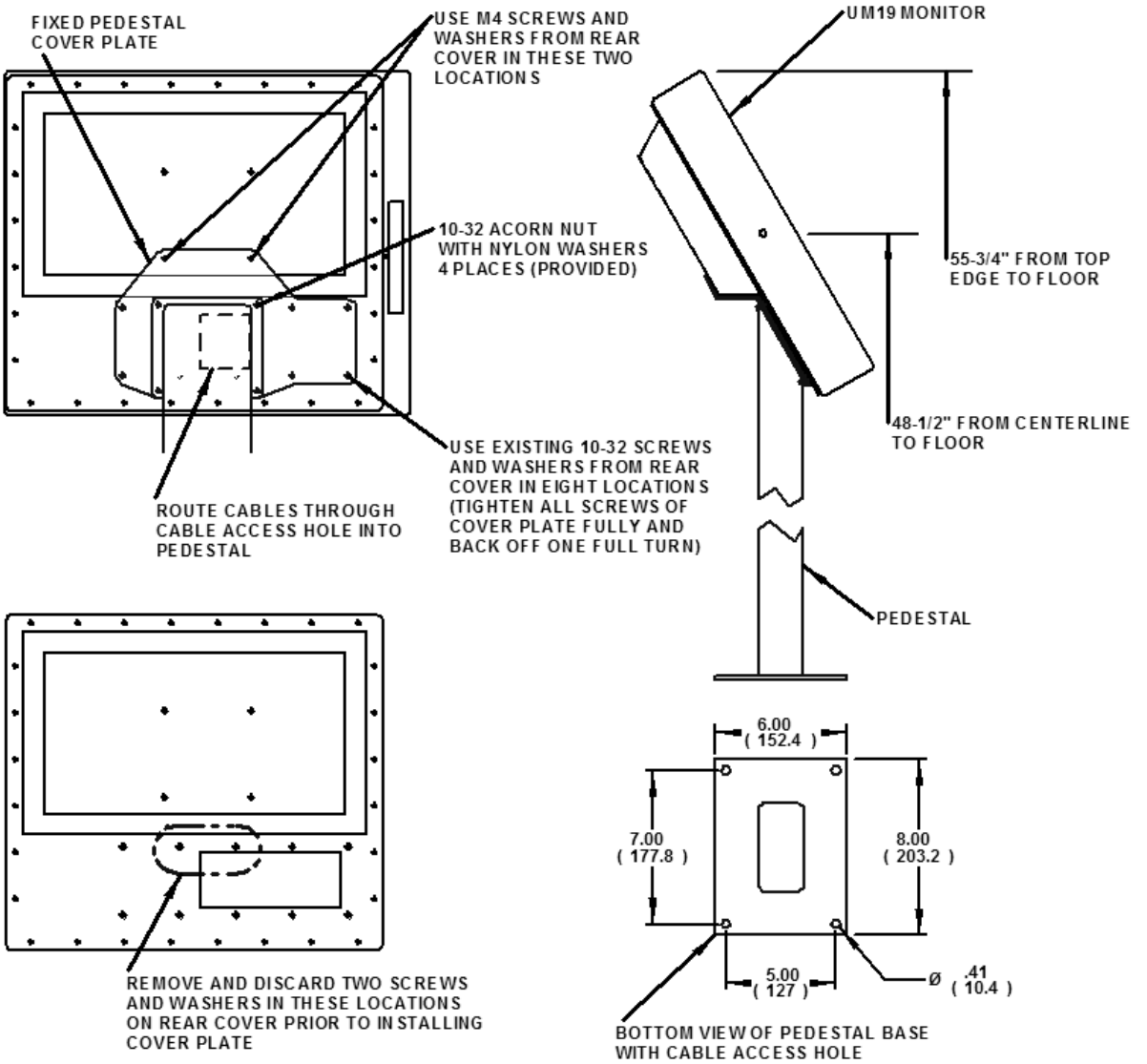
4. Remove and discard hardware shown in the illustration.

5. Remove and reuse hardware shown in the illustration to install the cover plate.

6. Position and support the monitor so that the cables exiting from the monitor can be easily routed into the top of the pedestal.

7. Remove and reuse the acorn nuts and sealing washers to install the monitor onto the pedestal feeding cables into the pedestal.

**Installation using fixed pedestal mounting option** (continued from previous page)



# Touchscreen Driver Installation

The enclosed CD-ROM contains documentation and drivers for all major operating systems (touchscreen models only). To assure you have the most current information, check the following Internet address:

**http://HISmonitors.com/Touchscreen_Drivers.htm**

# Cleaning

**CAUTION! DO NOT USE ABRASIVE MATERIALS SUCH AS PAPER TOWELS OR DIRTY SHOP RAGS ON THE DISPLAY AS IT WILL SCRATCH THE PROTECTIVE COATING. ALWAYS USE A SOFT CLOTH, PREFERABLY MADE OF COTTON.**

## Resistive Touchscreen model

Any standard glass cleaner can be used to clean the touchscreen. Always spray the glass cleaner on the cloth or towel and then clean the touchscreen. Glass cleaner sprayed directly on the monitor could possibly leak inside a non-sealed unit and cause damage. Vinegar or ammonia will not hurt the touchscreen. Again, spray the cloth and then clean the touchscreen.

## Tempered Anti-Reflective Glass Window

Use any standard glass cleaner as long as there is no abrasive or oily content. The anti-reflective coatings are physically part of the surface of the glass and resist degradation to the Military Specifications.

## Acrylic Window

The acrylic front window can be cleaned in the same manner as the touchscreen or glass window.

# Video Troubleshooting

***Note: The following steps apply when unit does not come with a KVM extender.***

***For troubleshooting with a KVM extender installed, please refer to the Installer/User Guide that comes with that equipment.***

**Blank Screen** After installing the power cable and connecting video cable to a PC, the monitor displays a blank screen.

- Press the power button and check to see if the power LED is lit.
- If the LED is not lit, make sure the PC is powered on. Make sure all cables are connected.
- If the LED stays yellow, check to see if the PC is in the power saving mode by pressing any keys on the keyboard. When the display is powered on and receiving a video signal, the LED will be blue.

**Rolling / Unstable Screen**

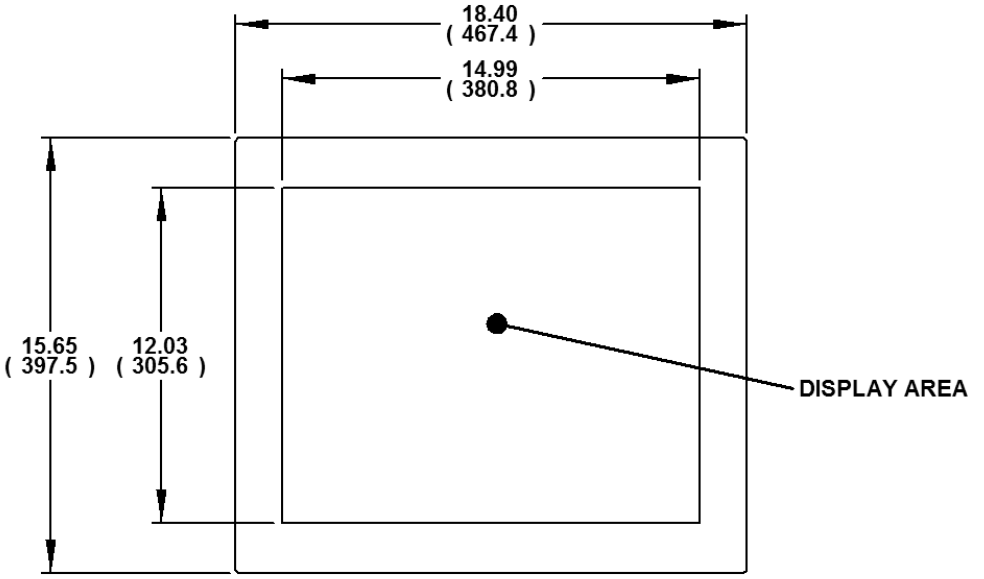
- Press "Auto Adjust" function on OSD menu.
- Make sure the PC display resolution is not set greater than 1280x1024 at 60hz.
- Make sure the PC display resolution matches one of the factory-preset timings in this manual.
- Change the PC display resolution to 1280x1024 at 60hz.
- Reset the monitor to the factory setting.

**Screen is not perfect**

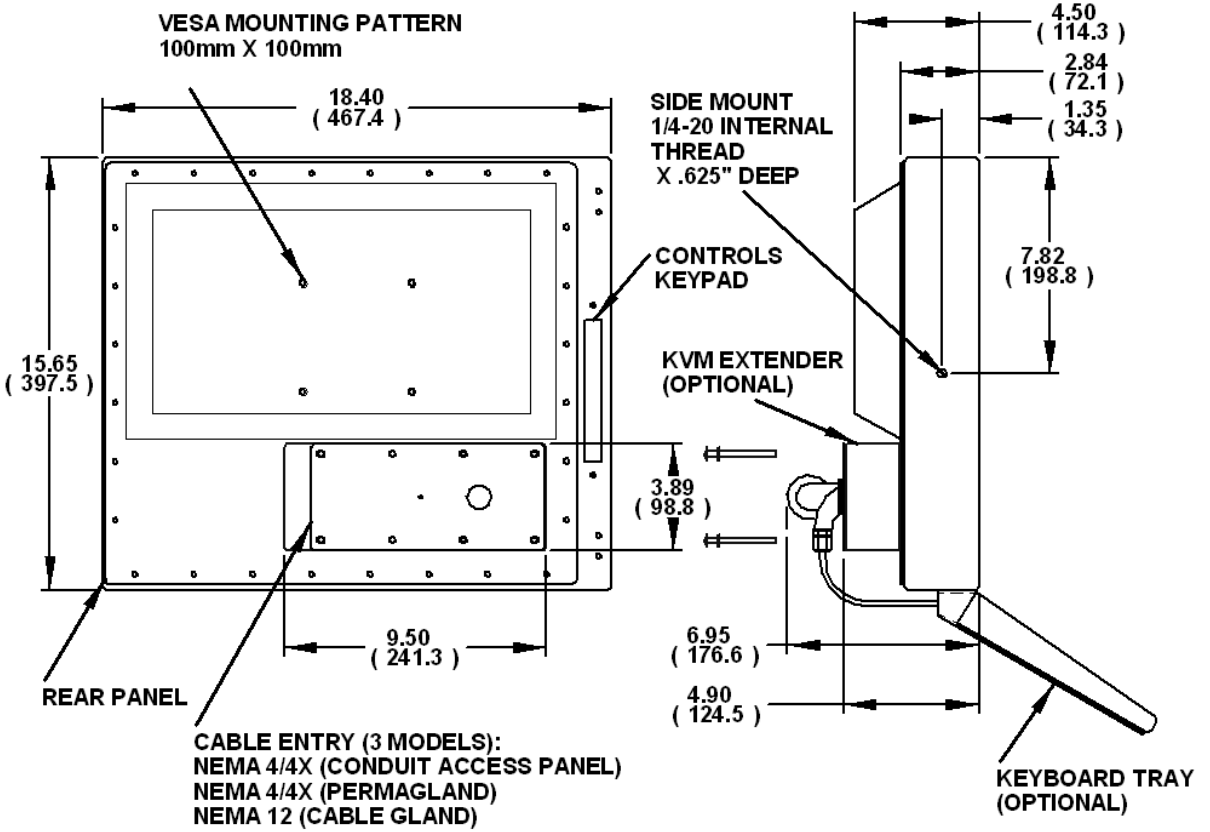
- Make sure the PC display resolution matches one the factory preset timings shown in this manual.
- Recall factory setting. Refer to panel controls and OSD functions in this manual.
- Fine-tune the picture by performing Manual Image Adjustments. Refer to OSD functions in this manual.

# Drawings

## Front View



## Side and Rear View



# Specifications

## Display

| | |
|---|---|
| Type | Thin-film transistor (TFT) Active Matrix Liquid Crystal |
| Size | 19.0” diagonal |
| Image size | 14.81” (376.32mm) x 11.87” (301.06mm) |
| Native resolution | SXGA (1280 x 1024) @ 60 Hz |
| Plug and Play | DDC1/2B compatible |
| Minimum resolution | VGA (640 x 480) |
| Pixel pitch | 0.294mm (H) x 0.294 mm (V) |
| Number of colors | 16.7M (24 bit) |
| Viewing Angle (Hori/Vert) | 170° / 160°, typical |
| Brightness (white) | 300 nits (cd/$m^2$) min |
| Contrast ratio | 1000:1 min. |
| Back light | 4 CCFTs (Cold Cathode Fluorescent Tube);<br>50,000 hours, half-life; replaceable |
| Screen protector (when not shipped with touch-screen) | Tempered glass to ANSI-Z97.1 SPEC; AR coated on both sides; 98% Transmission of light; 99% Reduction of glare; 53% UV blocking; 30% NIR Blocking |

## Video

| | |
|---|---|
| Input connector | HD-15 |
| Input signal format | RGB analog (0.7/1.0 Vp-p, 75 ohms), separate sync |
| Horizontal scan | 30kHz – 82kHz |
| Vertical scan | 50 Hz – 75 Hz |
| Supported Video Standards | 1280 x 1024 @ 60, 75 Hz<br>1024 x 768 @ 60, 70, 75 Hz<br>800 x 600 @ 56, 60, 72, 75 Hz<br>640 x 480 @ 60, 75 Hz<br>720 x 400 @ 70 Hz |
| Response rate (typical) | 5 ms, typical |

## Electrical

| | |
|---|---|
| Power Input | 100–240 VAC, 50-60 Hz (autoswitch) |
| Power consumption | 35 watts, typical |
| Power management | DPMS/energy star, < 1W |

## Environmental

| | |
|---|---|
| Temperature | 0-45°C (consult factory for installation instructions when continuous 24/7 operation exceeds 40°C) |
| Humidity | 20% to 90% non-condensing |
| Shock | 30g (1/2 sine, 11 msec.) |
| Vibration | 0.006 inch p-p 15-57Hz, 1.0g 57-640Hz sine |
| Altitude | Operating: up to 10,000 feet; Non-operating: up to 40,000 feet |

## Functional

| | |
|---|---|
| Panel controls (rear access) | Power (soft), 1, DOWN, UP, 2 |
| OSD (On Screen Display) controls | Auto Image Adjust, Contrast, Brightness, Color Adjust, Information, Manual Image Adjust, Setup, Memory Recall |
| Touch screen option | Elo Touch Systems AccuTouch 5-wire resistive system; emulates a mouse; Serial RS-232 or USB interface to host computer (both interfaces included) |

## Compliance

| | |
|---|---|
| Electrical | UL 60950 3rd Edition / cUL recognized component; FCC Class A; CE |
| Environmental | RoHS |

## Enclosure

| | |
|---|---|
| Type | Self-contained, stainless steel or powder coated carbon steel |
| Environmental rating | NEMA 12, 12/4, or 12/4/4X (built to IP65 standards) |
| Seal | NEMA 12 gland, NEMA 4 gland, ¾" conduit, or 4-cable gland |
| Mounting | VESA pattern 100mm square, M4 threads<br>Optional Yoke mounting with ¼-20 internal thread interface |

## Physical

| | |
|---|---|
| Dimensions | 18.40" (467.4mm) W x 15.65" (397.5mm) H x 2.7" x 4.50" (114.3 mm) D |
| Net weight | Standard Model, Black Carbon Steel – 19 lbs<br>Standard Model, Stainless Steel – 22 lbs |
| Shipping weight | Standard Model, Black Carbon Steel – 24 lbs<br>Standard Model, Stainless Steel – 27 lbs |

## VGA Pin assignment

| Pin No. | Signal | Pin No. | Signal |
|---|---|---|---|
| 1 | Red | 9 | No pin |
| 2 | Green | 10 | Ground |
| 3 | Blue | 11 | Ground |
| 4 | Ground | 12 | SDA |
| 5 | Ground | 13 | H. sync |
| 6 | Ground | 14 | V. sync |
| 7 | Ground | 15 | SCL |
| 8 | Ground | | |

# Warranty Statement

**Who is Covered?**
This warranty covers the purchaser of this product only and is not transferable without our written consent.

**What Does This Warranty Cover and What is the Period of Coverage?**
The warranty remains in force for a three year period beginning on the date we invoice you for the product unless it is a keyboard, for which the warranty period is one year. If HIS repairs or replaces a product under warranty, its warranty term is not extended.

**What Will We Do to Correct Problems and How Do You Get Service?**
We will repair or replace (at our sole option) any part of the unit which proves to be defective. Replacement parts may be new or refurbished and will meet the same specifications of the original parts or unit. We will return the product to you, by the shipping method we choose in the U.S.A. at our expense. You must pay for shipments to locations outside of the U.S.A. In order to receive warranty service you must get prior approval from HIS. To request warranty service you can telephone us at 678-762-9790 or send an email to service@HISmonitors.com. If we determine that warranty service is needed we will give you a Return Material Authorization (RMA) number. This RMA number must be conspicuously marked on the outside of the shipping box. HIS will not accept shipments not accompanied by the RMA number. You must ship or deliver the product to HIS Freight prepaid.

**Pixel Faults**
Permanently dark or bright pixels can happen to TFT displays. Five or less permanently dead pixels (out of 1.3 million) do not make a good case for exchanging the unit. Please contact our Customer Service Department if the number of pixel faults exceeds the above-mentioned figure.

**What Does This Warranty Not Cover?**
This warranty does not cover equipment which has been damaged due to misuse, abuse or accident such as: operating the equipment outside of published specifications; exposure to chemicals or gases not covered by specified NEMA standards; displaying fixed images for long periods of time resulting in afterimage effects; improper or unauthorized repair by anyone other than HIS or a service agency authorized by HIS to perform such repairs; fire, flood, “acts of God”, or other contingencies beyond the control of HIS.

HIS' RESPONSIBILITY FOR MALFUNCTIONS AND DEFECTS IN HARDWARE IS LIMITED TO REPAIR AND REPLACEMENT AS SET FORTH IN THIS WARRANTY STATEMENT. HIS SHALL NOT BE LIABLE FOR DIRECT, INDIRECT, INCIDENTAL, CONSEQUENTIAL, OR OTHER TYPES OF DAMAGES RESULTING FROM THE USE OF ANY HIS PRODUCT OTHER THAN THE LIABILITY STATED ABOVE. THESE WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SOME STATES DO NOT ALLOW THE EXCLUSION OF IMPLIED WARRANTIES OR THE LIMITATION OR EXCLUSION OF LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES SO THE ABOVE EXCLUSIONS OR LIMITATIONS MAY NOT APPLY TO YOU. YOU ARE CAUTIONED THAT THE PERFORMANCE OF THIS PRODUCT CAN BE AFFECTED BY MANY FACTORS, SUCH AS SYSTEM CONFIGURATION, SOFTWARE, APPLICATION, AND OPERATOR CONTROL OF THE SYSTEM. IT IS YOUR RESPONSIBILITY TO DETERMINE SUITABILITY OF THIS PRODUCT FOR YOUR PURPOSE AND APPLICATION.

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