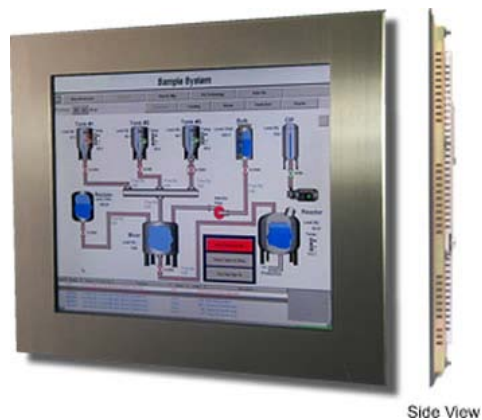# Hope Industrial Systems, Inc.

User Manual

21.3" Panel Mount Industrial Monitor

Model No. HIS-ML21-CGBC, -CTBC, -SGAC, -STAC

Side View

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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 intended to be mounted in a suitable cabinet or other enclosure. The NEMA 4, 4x or 12 ratings are applicable only when properly installed in a like rated enclosure.

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

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 on the PC is important for maximizing the quality of the screen image and minimizing eye strain. The **timing mode** consists of the **resolution** (example 1600 x 1200) and **refresh rate** (or vertical frequency; example 60 Hz). After setting the timing mode, use the controls to adjust the screen image.

For the best picture quality set your LCD display timing mode to: **VESA 1600 x 1200 @ 60Hz.**

To set the Timing Mode:
1 Set the resolution: Right-click on the Windows desktop > **Properties** > **Settings** > set the resolution.
2 Set the refresh rate: See your graphic card's user guide for instructions.

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.

Self-Test Feature Check (STFC)

Your monitor provides a self-test feature that allows you to check whether the monitor is functioning properly.

1.   Turn off both your computer and the monitor.
2.   Unplug the video cable from the back of the computer.
3.   Turn on the monitor.

      If the monitor is functioning properly, you will see a white box with a large blue oval logo and an error message "CHECK SIGNAL CABLE."

      This box also appears during normal operation if the video cable becomes disconnected or damaged.

4.   Turn off your monitor and reconnect the video cable; then turn on both your computer and the monitor.

If your monitor screen remains blank after following the previous procedure, check your video controller and computer system; your monitor is functioning properly.

User Controls

Your LCD monitor allows you to easily adjust the characteristics of the image being displayed. All of these adjustments are made using the control buttons on the rear of the monitor. While you use these buttons to adjust the controls, an OSD shows you their numeric values as they change.

Rear Control Buttons and Indicators

Button / Indicator	Functions
LED	This light glows green during normal operation, and blinks green once as the monitor saves your adjustments.
POWER	Use this button to turn the monitor on and off. (When the power is turned on, a message appears in the center of the screen displaying the current mode – analog, digital, or video input signal.
MENU	Use this button to open the OSD and activate a highlighted menu item.
+ , -	These buttons allow you to highlight and adjust items in the menu.
ENTER	Use this button to Exit the active menu or the OSD. When you push the ENTER button while the OSD is off, the input source (analog/digital/video/s-video) is alternated.
AUTO	Use this button to automatically adjust the display to sync with the computer's video signal (analog mode only).
PIP	Use this button to turn the PIP (picture-in-picture) screen On/Off.

Automatic Save

Whenever you open the OSD and allow an adjustment window to remain active for about 3 seconds without pressing other buttons, the monitor automatically saves any adjustment you have made. These changes are saved into a user area in the monitor.

The monitor can save adjustments for up to 4 user modes. It has 13 factory preset or preload modes, one for each signal frequency. If you have made no adjustments, the on screen display disappears and the monitor does not save anything.

Direct Access Features

Brightness Adjustment

1. With the menu off, push the "+" button to display the brightness adjustment menu.
2. Push the "-" button again to circle through settings
   a. While in Analog/Digital(DVI) mode: Custom > Entertain > Internet > Text
   b. While in Video/S-Video mode: Dynamic > Standard > Movie > Custom

Video Mode

1. With the menu off, push the "-" button to display the video mode adjustment menu.
2. Push the "-" button again to circle through settings

OSD Functions

Accessing the menu system

1. Push the **Menu** button to display the main OSD menu.

2. Use the "– , +" buttons to move from one function to another. As you move from one icon to another, the Function Name changes. See the Table starting on the next page to view a complete list of all of the functions available for the monitor.

3. Press the **Enter** button once to activate the highlighted function and then follow the Tool Tips to select the function and adjust the value.

4. Use "–" and "+" buttons to select the sub-menu, and press the **Enter** button once to activate the selected sub-menu.

5. After selecting a function, use the "–" and "+" buttons to make necessary adjustments. The setting bar moves and the numeric value indicator changes to reflect your adjustments.

   NOTE: The numeric value indicator is provided as a point of reference only and has nothing to do with a real measurement.

6. Push the **Menu** button a couple of times to return to the main menu to select another function or to exit from the OSD.

OSD: Input
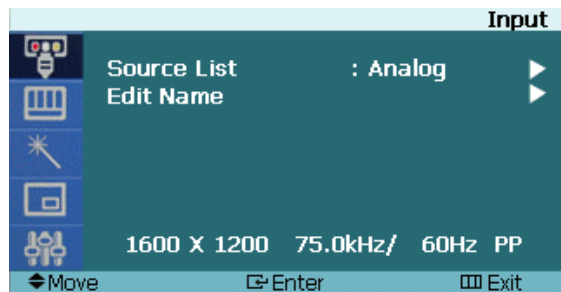
Menu	Description
Source List	Use to select PC or other external input sources connected to the Monitor. Use to select the screen of your choice. 1. Analog 2. Digital 3. Video 4. S-Video
Edit Name	Name the input device connected to the input jacks to make your input source selection easier. 1. Analog 2. Digital 3. Video 4. S-Video

OSD: Picture (Analog / Digital : PC)

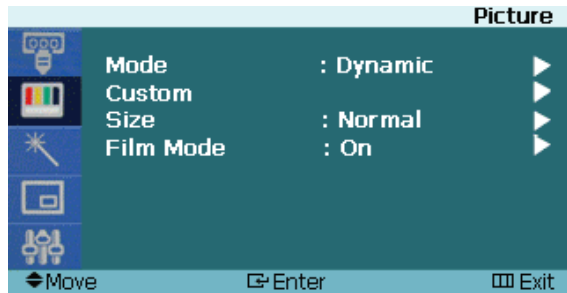| Menu	Description
MagicBright	MagicBright is a new feature providing the optimum viewing environment depending on the contents of the image you are watching. Currently four different modes are available: Text, Internet, Entertain and Custom. Each mode has its own pre-configured brightness value. You can easily select one of four settings by simply pressing "-" button. 1. **Entertain:** High Brightness - For watching motion pictures such as a DVD or Video CD. 2. **Internet:** Medium brightness - For working with a mixture of images such as text and graphics. 3. **Text:** Medium brightness - For documentations or works involving heavy text. 4. **Custom:** Although the values are carefully chosen by our engineers, the pre-configured values may not be comfortable to your eyes depending on your taste. If this is the case, adjust the brightness and contrast by using the OSD menu.
Custom	You can use the on-screen menus to change the contrast and brightness according to personal preference. 1. **Contrast**: Adjust the Contrast. 2. **Brightness**: Adjust the Brightness.

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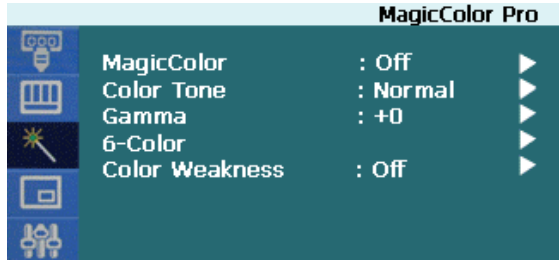| Menu	Description
Image Lock	Image Lock is used to fine-tune and get the best image by removing noise that creates unstable images with jitter and shimmer. If satisfactory results are not obtained using the Fine adjustment, use the Coarse adjustment and then use Fine again. **Available in Analog Mode Only** 1. **Coarse**: Removes noise such as vertical stripes. Coarse adjustment may move the screen image area. You may relocate it to the center using the Horizontal Control menu. 2. **Fine**: Removes noise such as horizontal stripes. If the noise persists even after Fine tuning, repeat after adjusting the frequency (clock speed, Hz). 3. **Sharpness**: Adjusts the Sharpness. 4. **H-Position**: Adjusts the screen location horizontally. 5. **V-Position**: Adjusts the screen location vertically.
Auto Adjustment	The values of Fine, Coarse, and position are adjusted automatically. If you change resolution in the control panel, Auto function will be executed. **Available in Analog Mode Only**
PIP Picture	When PIP (Picture In Picture) is on, you can adjust the PIP screen setting. 1. **Contrast**: Adjusts the Contrast of the PIP window on the screen 2. **Brightness**: Adjusts the Brightness of the PIP window on the screen. 3. **Sharpness**: Adjusts the Sharpness of the PIP window on the screen 4. **Color**: Adjusts the Color of the PIP window on the screen 5. **Tint**: Adds a natural tone to the PIP window. This function is only available for DVD titles supporting NTSC. (The broadcasting system is marked with "NTSC" or "PAL" above the DVD title)

OSD: Picture (Digital : Digital DVD)

Menu	Description
Mode	The Monitor has four automatic picture settings ("Dynamic", "Standard", "Movie" and "Custom") that are preset at the factory. You may also select "Custom" which automatically recalls your personalized picture settings. 1. **Dynamic**: Select this mode to view a sharper image than in "Standard" mode. 2. **Standard**: Select this mode when the surroundings are bright. This also provides a sharp image. 3. **Movie**: Select this mode when the surroundings are dark. This will save power and reduce eye fatigue. 4. **Custom**: Select this mode when you want to adjust the image according to your preferences.
Custom	You can use the on-screen menus to change the contrast and brightness according to personal preference. 1. **Contrast**: Adjust the Contrast. 2. **Brightness**: Adjust the Brightness. 3. **Sharpness**: Adjust the Sharpness. 4. **Color**: Adjust the picture Color.
Size	1. **Normal** 2. **Zoom1** 3. **Zoom2** 4. **Wide**

OSD: Picture (Video/S-Video)

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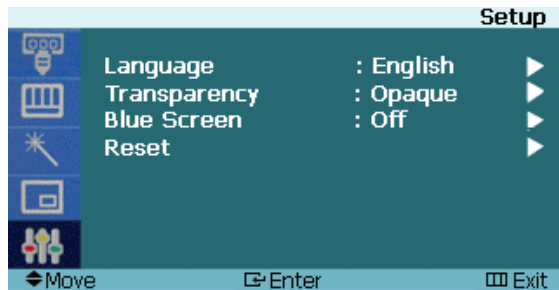| Menu	Description
Mode	The Monitor has four automatic picture settings ("Dynamic", "Standard", "Movie" and "Custom") that are preset at the factory. You can activate either Dynamic, Standard, Movie, or Custom. You may also select "Custom" which automatically recalls your personalized picture settings. 5. **Dynamic**: Select this mode to view a sharper image than in "Standard" mode. 6. **Standard**: Select this mode when the surroundings are bright. This also provides a sharp image. 7. **Movie**: Select this mode when the surroundings are dark. This will save power and reduce eye fatigue. 8. **Custom**: Select this mode when you want to adjust the image according to your preferences.
Custom	You can use the on-screen menus to change the contrast and brightness according to personal preference. 5. **Contrast**: Adjust the Contrast. 6. **Brightness**: Adjust the Brightness. 7. **Sharpness**: Adjust the Sharpness. 8. **Color**: Adjust the picture Color.
Size	5. **Normal** 6. **Zoom1** 7. **Zoom2** 8. **Wide**
Film Mode	The Film Mode feature offers you a theater-quality viewing experience.

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OSD: MagicColor Pro

Menu	Description
MagicColor	Implements the natural color chroma according to the display screen. Automatically adjusts to the display screen. Can improve the tones. 1. **Off** 2. **Intelligent**: Enhance natural color except skin tone. 3. **Full**: Displays both natural skin tones and enhanced colors. 4. **Demo**: Displays the improved image on the left and the original on the right.
Color Tone	Adjusts color tones to the preference of the user. **Analog/Digital(PC)** - Cool4 / Cool3 / Cool2 / Cool1 / Normal / Warm1 / Warm2 **Digital(Digital DVD)/Video/S-Video** - Cool2 / Cool1 / Normal / Warm1 / Warm2
Gamma	Can implement the grayscale gradient to the preference of the user. **Increased Mode number** - Displays the full screen more naturally and softer and sharpens the dark scale. **Decreased Mode number** - Displays the full screen sharper and improves the bright scale. **Available in Analog/Digital(PC) Mode Only**
6-Color	6 types: Red, Green, Blue, Cyan, Magenta and Yellow - Can adjust each of them to the preference of the user. 1. **Saturation**: Adjusts the color saturation. 2. **Hue**: Adjusts the color tones. 3. **Reset**: Returns to the original screen mode. **The 6-Color function is only available when the Color Weakness function is turned Off.**
Color Weakness	Enables those with color weakness to view the screen as easily as those with normal vision. 1. **Off** 2. **Custom1** 3. **Custom2**

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OSD: PIP (Analog / Digital : PC)

Menu	Description
PIP	Turn the PIP Screen on or off. 1. **On** 2. **Off**
Source	Select the input source for the PIP. **Analog / Digital(PC)** - Video / S-Video Mode
Size	Change the Size of the PIP window. ▣ / ▣ / ▢ / ▭ **If you select ▢ or ▭ in Size, Position will not be activated.**
Position	Change the Position of the PIP window. ▪ / ▪ / ▪ / ▪

OSD: Setup

Menu	Description
Language	You can choose one of 11 languages. 1) English 2) Deutsch 3) Français 4) Español 5) Italiano 6) Svenska 7) Português 8) Русский 9) 한국어 10) 中国语 11) 日本語
Transparency	Changes the opaqueness of the background of the OSD. 1. **High** 2. **Medium** 3. **Low** 4. **Opaque**
Blue Screen	If no signal is being received or the signal is very weak, a blue screen automatically replaces the noisy picture background. If you wish to continue viewing the poor picture, you must set the "Blue screen" mode to "Off".
Reset	Picture parameters are replaced with the factory default values. 1. **Image Reset**: Image parameters are replaced with the factory default values. **Available in Analog Mode Only** 2. **Color Reset**: Color parameters are replaced with the factory default values. **Available in Analog/Digital(PC) Mode Only**

Troubleshooting

If you have a problem setting up or using your LCD monitor, you may be able to solve it yourself. Before contacting customer service, try the suggested actions that are appropriate to your problem.

Symptom	Checklist	Solution
No images on the screen, I cannot turn on the monitor.	Is the power cord connected properly?	Check the power cord connection and supply.
	Can you see **"Check Signal Cable"** on the screen?	**(When connecting D-sub cable)** Check the signal cable connection. **(When connecting DVI cable)** If you still see an error message on the screen when the monitor is connected properly, check to see if the monitor status is set to analog. Press '**ENTER**' button to have the monitor double-check the input signal source.
	If the power is on, reboot the computer to see the initial screen (the login screen), which can be seen.	If the initial screen (the login screen) appears, boot the computer in the applicable mode (safe mode for Windows ME/XP/2000) and change the frequency of the video card to a compatible mode. Note: If the initial screen (the login screen) does not appear, contact HIS support.

Symptom	Checklist	Solution
	Can you see **"Not Optimum Mode"**, **"Recommended mode : 1600 X 1200 60Hz"** on the screen?	You can see this message when the signal from the video card exceeds the maximum resolution and frequency that the monitor can properly handle. Adjust the maximum resolution and frequency that the monitor can handle properly. If the display exceeds UXGA or 75Hz (In case of UXGA, 60Hz), a **"Not Optimum Mode"**, **"Recommended mode : 1600 X 1200 60Hz"** message is displayed. If the display exceeds 85Hz, the display will work properly but the **"Not Optimum Mode"**, **"Recommended mode : 1600 X 1200 60Hz"** message appears for one minute and then disappears. Please change to the recommended mode during this one-minute period. (The message is displayed again if the system is rebooted.)
	There is no image on the screen, power indicator on the monitor blinking at 1 second intervals.	The monitor is in PowerSaver mode. Press any key on the keyboard to activate the monitor and restore the image on the screen. If there is still no image, press the '**ENTER**' button. Then press any key on the keyboard again to activate the monitor and restore the image on the screen.
	Is the monitor connected using the DVI cable?	You may get a blank screen if you boot the system before you connect the DVI cable, or disconnect and then reconnect the DVI cable while the system is running. Connect the DVI cable then reboot the system.

Symptom	Checklist	Solution
I cannot see the On Screen Display.	Have you locked the On Screen Display (OSD) Menu to prevent changes?	Unlock the OSD by pressing the MENU button for at least 5 seconds.
The screen shows strange colors or just black and white.	Is the screen displaying only one color as if looking at the screen through colored cellophane?	Check the signal cable connection or try using a different signal cable. Make sure the video card is fully inserted in it's slot inside the computer.
	Have the screen colors become strange after running a program or due to a crash between applications?	Reboot the computer.
	Has the video card been set properly?	Set the video card by referring to the video card manual.
The screen suddenly has become unbalanced.	Have you changed the video card or the driver?	Adjust screen image position and size using the OSD.
	Have you adjusted the resolution or frequency on the monitor?	Adjust the resolution and frequency of the video card to one of the preset timing modes.
	The screen can be unbalanced due to the cycle of the video card signals. Readjust Position by referring to the OSD.	
The screen is out of focus or OSD cannot be adjusted.	Have you adjusted the resolution or frequency on the monitor?	Adjust the resolution and frequency of the video card to a compatible preset timing frequency.
Power Indicator is blinking but no images on the screen.	Is the frequency properly adjusted when checking the Display Timing on the menu?	Adjust the frequency properly by referring to the video card manual and the monitor preset timing modes.

Display Modes

If the signal from the computer system is the same as one of the monitor's standard signal modes, the screen is adjusted automatically. If the signal from the computer is not the same as one of the standard signal modes, the screen may not display properly or it may not display at all. In this case adjust the mode on the computer system. For the display modes listed below, the screen image has been optimized during manufacture.

Table: Preset Timing Modes

Display Mode	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)	Sync Polarity (H/V)
IBM, 640 x 350	31.469	70.086	25.175	+/-
IBM, 720 x 400	31.469	70.087	28.322	-/+
IBM, 640 x 480	31.469	59.940	25.175	-/-
VESA, 640 x 480	37.861	72.809	31.500	-/-
VESA, 640 x 480	37.500	75.000	31.500	-/-
MAC, 640 x 480	35.000	66.667	30.240	-/-
MAC, 832 x 624	49.726	74.551	57.284	-/-
VESA, 800 x 600	35.156	56.250	36.000	+/-, +/-
VESA, 800 x 600	37.879	60.317	40.000	+/+
VESA, 800 x 600	48.077	72.188	50.000	+/+
VESA, 800 x 600	46.875	75.000	49.500	+/+
VESA, 1024 x 768	48.363	60.004	65.000	-/-
VESA,1024 x 768	56.476	70.069	75.000	-/-
VESA, 1024 x 768	60.023	75.029	78.700	+/+
VESA, 1280 x 1024	63.981	60.020	108.00	+/+
VESA, 1280 x 1024	79.976	75.025	135.00	+/+
VESA, 1600 x 1200	75.000	60.000	162.00	+/+

Information for Resistive Touchscreen Monitors

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

http://www.hismonitors.com/Touchscreen_Drivers.htm

Installation Instructions

Preparing for Installation

Important! Perform the following steps BEFORE Installation of the monitor into the panel.

1. Ensure that sufficient power is available.

2. Ensure that <u>sufficient space</u> is available to allow for <u>proper airflow</u> into and out of the unit.

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

> → *The maximum rated temperature of the HIS-ML21 is 50℃ (122℉)*

> → *Remember that heat rises – the temperature at the top of the cabinet will be much hotter than at the bottom when the air is not circulating.*

> → *Also, remember that even though this product is designed to operate at 50℃ with proper ventilation, the life span of any electronic device is short-ened 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 <u>does not exceed the rated specifications for the unit</u>

> → *The maximum rated humidity for the HIS-ML21 is 90% non-condensing*

Installation into Panel

1.   Refer to the drawing below.

2.   Locate position in panel for mounting of the monitor. Assure that there is adequate space begin the panel. Allow extra space (0.5 in. behind and on each side) for air ventilation.

3.   Cut a rectangular hole in the panel. Clean and deburr.
      Dimensions: 21.13" (536mm) W x 16.70" (424mm) H ; +/- .020"

4.   Separate the rear collar from the unit by removing the 14 nuts.

5.   Insert the unit into the front of the panel and re-attach the collar.

6.   Tighten all 14 nuts to a torque of 24 inch-pounds to assure a water-tight seal between the poron bezel gasket on the monitor and equipment panel. *HIS will not assume liability for damage to internal electronics due to improper installation.*
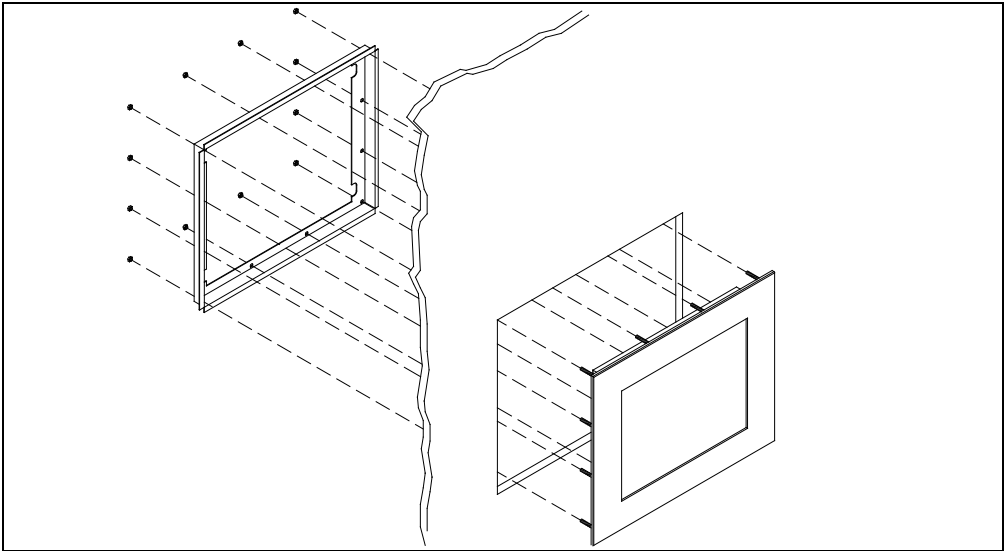
Cleaning

Any standard glass cleaner can be used to clean the touchscreen or protective safety glass window. 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.

Drawings

Front View

566 mm
(22.28 in)

454 mm
(17.87 in)
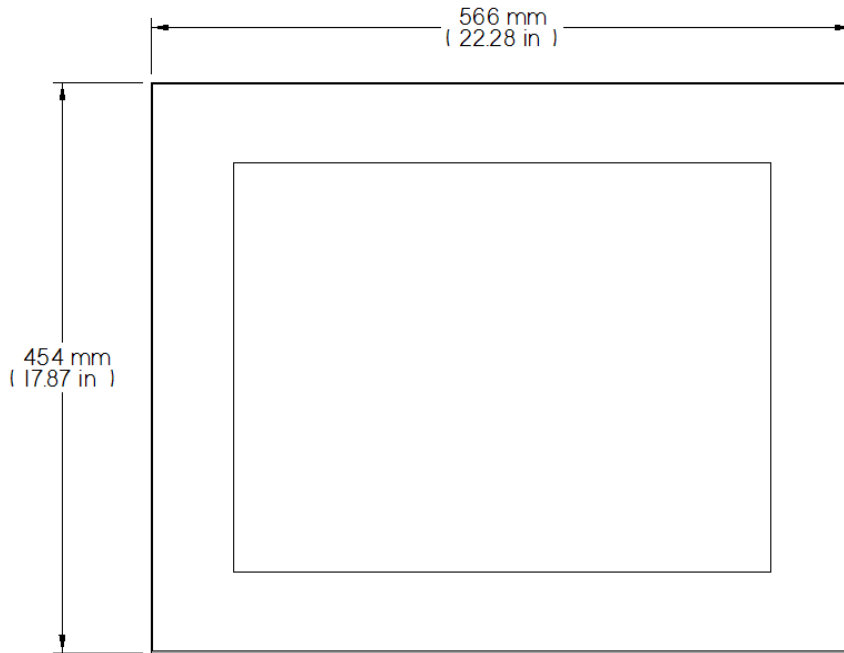
Bottom and Rear View
(Showing cutout dimensions)

536.7 mm
(21.13 in)

424.2 mm
(16.7 in)

S- VIDEO INPUT

VIDEO INPUT

ANALOG VIDEO INPUT

DIGITAL VIDEO INPUT

POWER INPUT AND SWITCH

58.4 mm
(2.30 in)

7.1 mm
(0.28 in)

TOUCHSCREEN
INTERFACE

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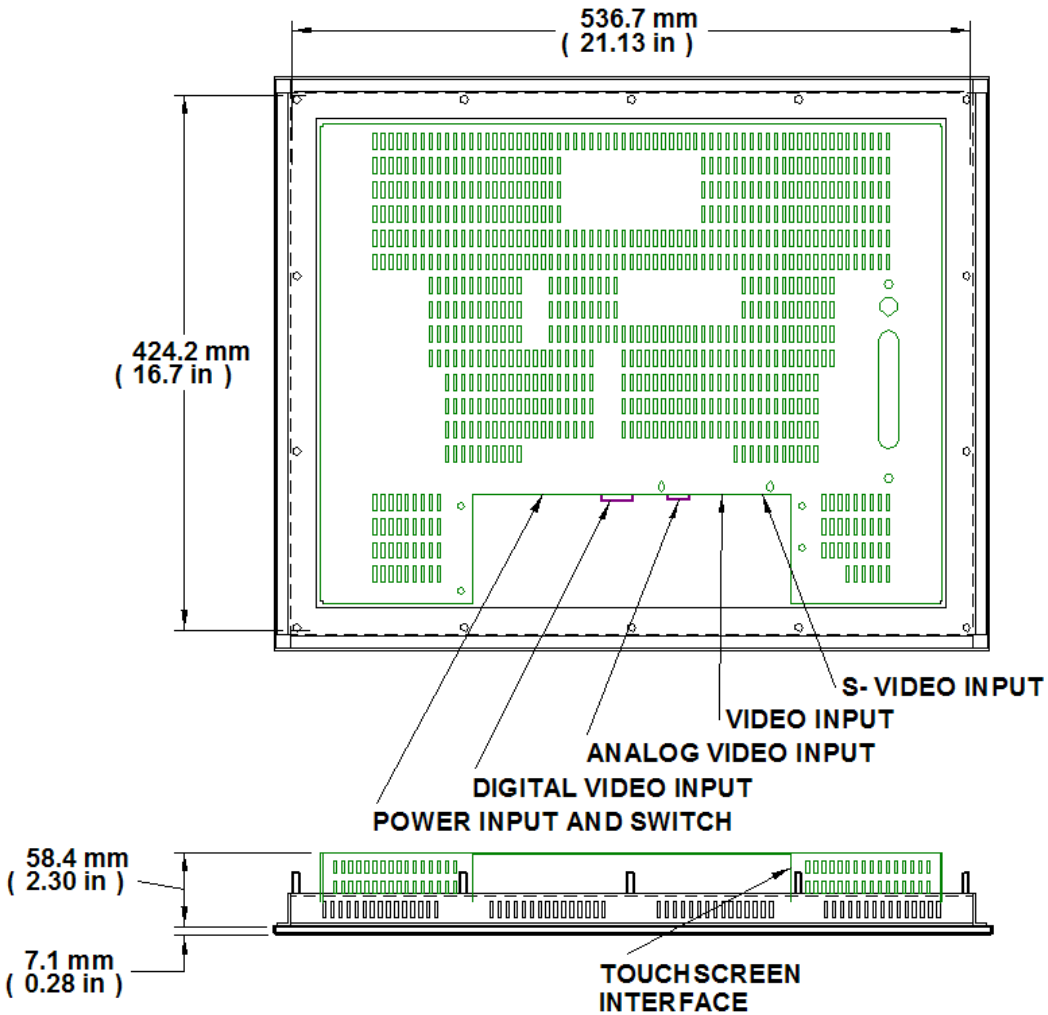
Specifications

Display

Type	Thin-film transistor (TFT) Active Matrix Liquid Crystal
Size	21.3" diagonal
Image size	17.00" (432mm) x 12.75" (324mm)
Native resolution	SXGA (1600 x 1200) @ 60 Hz
Plug and Play	DDC1/2B compatible
Minimum resolution	VGA (640 x 480), operation in native resolution will ensure best results
Pixel pitch	0.27mm (H) x 0.27 mm (V)
Number of colors	16M (24 bit)
Viewing Angle (Hori/Vert)	170° / 170°, typical
Brightness (white)	300 nits (cd/m^2)
Contrast ratio	900:1
Back light	6 CCFTs (Cold Cathode Fluorescent Tube)
Screen protector (when not shipped with touchscreen)	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; proprietary hydrophobic coating on outside reduces fingerprint smears, repels liquid spills and makes glass easy to clean.

Video

Input connector	HD-15 plus DVI-D, RCA, Mini-DIN input
Input signal format	Analog RGB signals (Sync-on-Green, Composite Sync, Separate Sync), DVI Analog/Digital, CVBS, S-Video
Horizontal scan	30kHz – 81kHz
Supported Video Standards	VGA (640 x 480), SVGA (800 x 600), XGA (1024 x 768), SXGA (1280 x 1024), UXGA (1600 x 1200) Note: Native mode is 1600 x 1200
Vertical scan	56 Hz – 75 Hz
Response rate (typical)	8ms
Sync Type	Separate H/V, composite H/V, Sync on Green

Electrical

Monitor input	85-132 VAC / 170-265 VAC (47-63 Hz)
Power consumption	63 watts (max.)
Power management	DPMS/energy star, < 2W
Compliance	UL 60950 3rd Edition / cUL recognized component; FCC Class A

Environmental

Temperature	0-50°C
Humidity	10% 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, Menu, +, -, Enter, Auto, PIP
OSD (On Screen Display) controls	Input source, picture adjust, auto adjustment, PIP, color adjust, setup, language
Touch screen option	5-wire resistive system; emulates a mouse; DB-9, RS-232 interface to host computer. Or USB (services "B" high speed receptacle)

Enclosure

Type	Panel mount; rear collar compresses gasket against panel, held by 14 10-32 studs
Panel rating	NEMA 12/4/4X (with proper installation) – built to IP65 standards

Physical

Depth	2.2" (56mm) MAX behind panel
Bezel	Stainless Steel
Front bezel outside dimensions	22.28" (566mm) W x 17.87" (454mm) H x 0.28" (7mm) thick (not including gasket)
Cutout dimensions	21.13" (537mm) W x 16.70" (424mm) H ; +/- .020"
Net weight	Black Carbon Steel Model – 24.20 lbs. Stainless Steel Model – 24.40 lbs.
Shipping weight	38 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		

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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 gasses 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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