

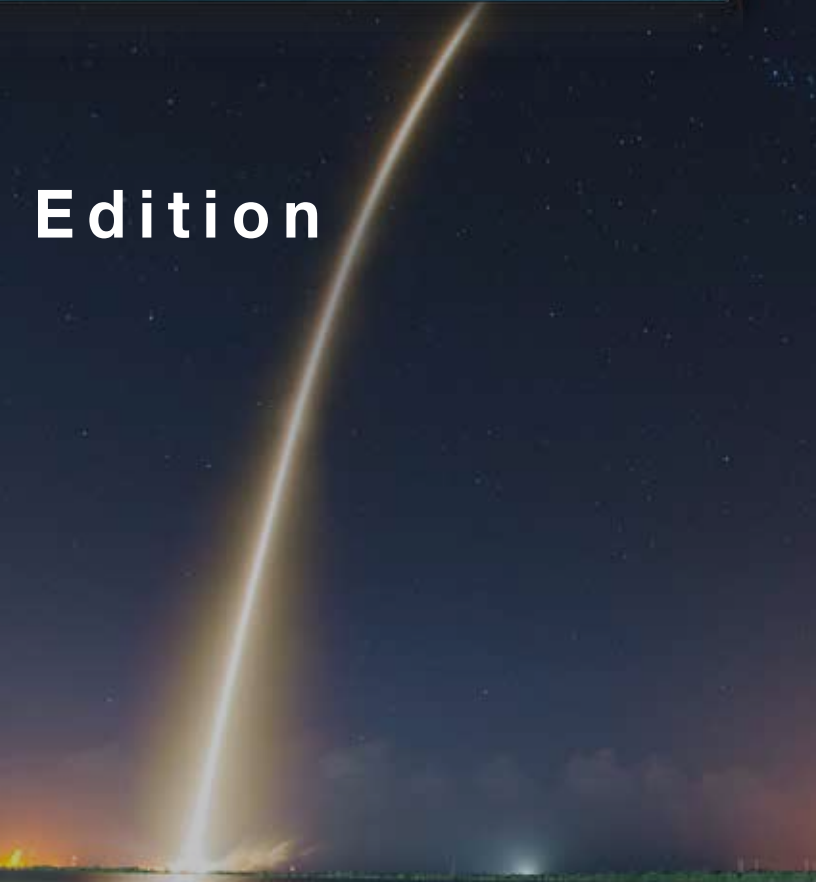


# PRODUCT CATALOG

2023



## Military Edition



# WELCOME



Born in the IT and commercial broadcasting space, DITHD quickly expanded into rugged military displays and solutions. Today, DITHD has built over 20,000 units over 25 years, for military applications all over the world.

We believe the value of a company is determined by its utility. At DITHD we don't simply build rugged display products, we build solutions.

If you have a need (demand?), we have a solution.

*Benjamin G. Chapman*

Benjamin G. Chapman | CEO | DITHD

# CONTENT



4-5

## Capabilities

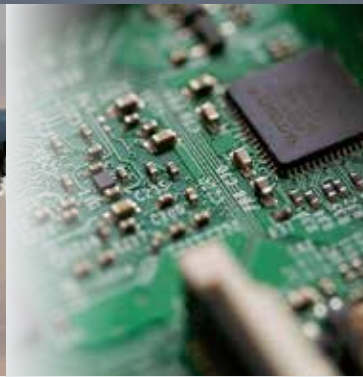
Extensive company history in rugged display integrations for Military and other environmentally-demanding industries.



6-7

## MILSPEC

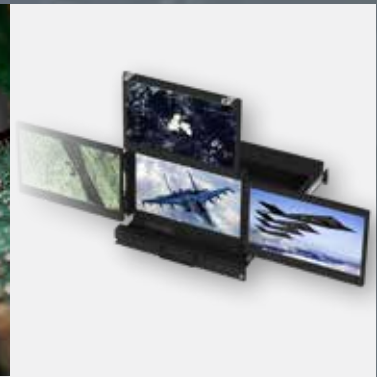
DITHD products are designed to meet or exceed environmental factors as outlined.



8-9

## Enhancements

Overview of hardware enhancement options available for your needs.



10-

## Products

MR Series, MP Series, MD Series, MU Series, MM Series, MT Series

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We are happy to provide customized solutions. If you do not see the product for your specific needs, feel free to contact [sales@dithd.com](mailto:sales@dithd.com) to discuss your exact requirements.



# Capabilities

**DITHD has been designing, manufacturing, and building rugged monitor solutions from the ground up, for over 25 years, all in the United States**

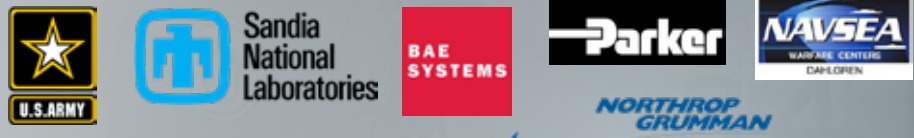
**With a streamlined manufacturing process and 3D solid modeling, DITHD is well-positioned to provide rapid prototyping, short run, high mix, and low volume as well as full-scale production.**

**Our products are designed to meet MIL SPEC requirements, and we specialize in MCOTS solutions for our clients.**

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**Our 3D solid modeling and modular manufacturing give us a clear market advantage in prototyping, short run, or full-scale production.**





**Defense Industry Experience**

DITHD has been providing service to some of the largest players in the military contracting industry.

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Our products are designed to meet MIL-SPEC requirements.



# MILSPEC

## Military Standards and Specifications for Environmental Conditions

### Military Standard

**Panels are DTM (Designed to Meet) the following Mil Standards. Mil Spec must be disclosed during the quoting process to pick the adequate components.**

\*Unit will meet Mil-Spec testing when Mil-Spec testing is purchased through 2s2/DITHD.

### Some Available Specifications

**Operational Temperature Range:** MIL-STD-810F/G, Method and Procedures TBD; -10°C to +50°C

**Storage:** MIL-STD-810F/G, Method and Procedures TBD; Procedures I/II; -20°C to +75°C

**Humidity:** MIL-STD-810F/G, Method and Procedures TBD; 48 hour, 95% RH 40-65

**Altitude:** MIL-STD-810F/G, Method and Procedures TBD; 12,500ft operation with 40,000ft transport

**Vibration:** MIL-STD-810F/G, MIL-STD-167, MIL-STD-516.2 Method and Procedures TBD; 4.43 GRMS, 5-20000Hzz, 60min/axi

**Shock:** MIL-STD-810F/G, MIL-STD-901E, 20g, 11msec functional shock; Method and Procedures TBD; 40g 11msec crash hazard shock

**EMI:** TBD, MIL-STD-461

**DISCLOSURE:** These are some of the MIL Standards we have built to meet for other customers. Your specific requirements must be disclosed for us to properly quote and build to those standards.





## MCOTS Part Numbering

Example Part Number:

**MM 550 Mx . XX 000X . XX**



\*Every monitor solution DITHD offers is a Modified Commercial Off The Shelf product and will follow our simplified parts numbering scheme.

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Since your product is unique, we require full disclosure in writing of your MILSPEC requirements prior to the quoting process.

# Enhancements



## Conformal Coating

Conformal Coating is a thin polymeric film which conforms to the contours of the printed circuit board.

This coating protects the board's components against moisture, dust, chemicals, and temperature extremes. A number of different materials can be used, each with its own unique characteristics and applications.

## High Bright Displays

Regular displays do not have the brightness to compete against harsh glare from the sun. When viewed outside, regular displays are dim and dark.

Our High Bright enhancement takes monitors over 1000 NITS



**M0- M6**

Our military LCDs have multiple enhancement options available. These enhancement options are numbered M0 to M6. Each M offers a different enhancement, such as PCAP, NVIS, etc.



## Optical Bonding

**Optical Bonding** refers to the material fused between the panel and the outer protective glass. Optically bonding a display enhances its readability in difficult viewing environments.

Optically bonding a display overcomes the common issue of condensation buildup, often referred to as 'fog'.

## PCAP Touch

**PCAP (Projected Capacitive) Touch Screens** work through the use of a conductive grid that recognizes changes in its electromagnetic field via the touch of your finger.

PCAP Touch is regarded as the superior touch screen technology over infrared, and is commonly used in responsive devices like smart phones and tablets.

# Building Blocks



### LCD Display

We have LCD displays ranging in all sizes from compact 5.6" displays, to premium, 75" 8K displays with high refresh rates. When part numbering, a 17.3" wide LCD display is represented as '173W'. A 23.8" 4K UHD display would be represented as 238U. For a full list of our available displays, please see our [LCD Matrix Guide](#).



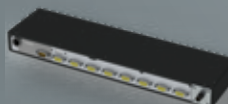
### AD Controller

Each board features particular input options. These include (but not limited to) HDMI 1.0, 2.0, 2.1; DisplayPort 1.2, 1.4; 3G & 12G SDI, DVI-D; fiber optic channel, and Legacy VGA, S-Video, and C-Video. Some AD controller options can support 60, 120, & 240 Hz panels.



### Keyboard & Pointing Devices

We offer mil-standard 461 keyboards as well as units with multiple options of keyboard and mouse configurations. Some are made from corrosion-resistant materials, designed rugged, and able to meet IP67. Other accessories mice, joysticks, and more.



### KVM Switch Back

We offer multiple enhanced KVM backs with four varieties of options: DVI, VGA, HDMI, DisplayPort, KVM over IP, and more.

We also offer multi-headed KVMs for our Hydra Series Multihead Rack Drawers.

We can also support your Cac Cards, NIAP, & Tempest Requirements. (Contact Sales Rep)



## Clam Shell Series

The MR Series is our popular clamshell concept. MR monitors open like a laptop, revealing keyboard and pointer. They slide along the mounted rails, and have an integrated KVM back.

The MR Series is available in 1U, 2U, 3U, 4U rack drawer monitor. Available as a single screen, or as a HYDRA multi-head unit (dual, triple, or quad displays).

# MR Series

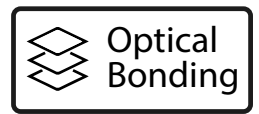
- Militarized Clamshell and Lay Flat RD1U, 2U, 3U and 4U Series
- Starting at 1U (1.75") unit height available
- Screen sizes in 17Mx, 173Mx, 19Mx
- Rack and transit case ready
- Integrated KVM back available
- Built-in Mil-Spec Friction Slide Rails
- Multi-Display Hydra Series available on 3U and 4U models
- Rugged, all-aluminium construction
- Conformally Coated Electronics
- Optically Bonded Lens



MRxx



Military Monitor



Optical Bonding







Conformal Coating







# Building Blocks

-  LCD (High Bright, Optically Bonded)
-  AD Controller Card (Conformally Coated)
-  Keyboard & Mouse Drawer
-  KVM Back (Optional)







**2U**   **3U**   **4U**







## Building Blocks

-  LCD (High Bright, Optically Bonded)
-  AD Controller Card (Conformally Coated)
-  Keyboard & Mouse Drawer
-  KVM Back



## MP Series

- Militarized PDD1, PDD2, and PDD3 Series
- 17.3", 19", and 20.1". 21.5", and 23.8" Screen Sizes
- Very thin 1U Height model available
- Rugged, All-Aluminium Construction
- Designed to meet Environmental MILSPEC Specifications
- Optically Bonded AR or AG Lens ITO 461
- Conformally Coated Electronics
- Multi-Display Hydra Series available on 3U and 4U models.



MPxx

## Layflat Series

The MP series is designed to fold down flat and stow away into a transit case or standard rack. The advantage of this folding mechanism is the ability to half-stow the unit while the screen is in use.

The MP Series is available in 1U, 2U, 3U, 4U rack drawer monitor. Available as a single screen, or as a HYDRA multi-head unit.

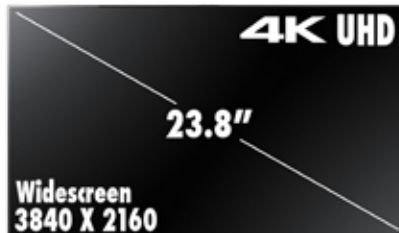
2U

3U

4U



4K



# MD Series

- **Military-Grade Direct Panel mount series**
- **10.4", 15", 15.6", 17", 17.3", 19", 21.5", 23.8", 27", 32", 43", and 55", 65", and 75" Screen Sizes**
- **Direct mount solution**
- **Rugged, all-aluminium Construction, Milled Front Face**
- **Designed to meet 901D Shock and 167 Vibration, 810 Military Environmental Specifications, 461 EMI.**
- **Optically enhanced AR or AG Lens**
- **Conformally Coated Electronics**
- **Up to 4K panels**



## Building Blocks

LCD (High Bright, Optically Bonded)



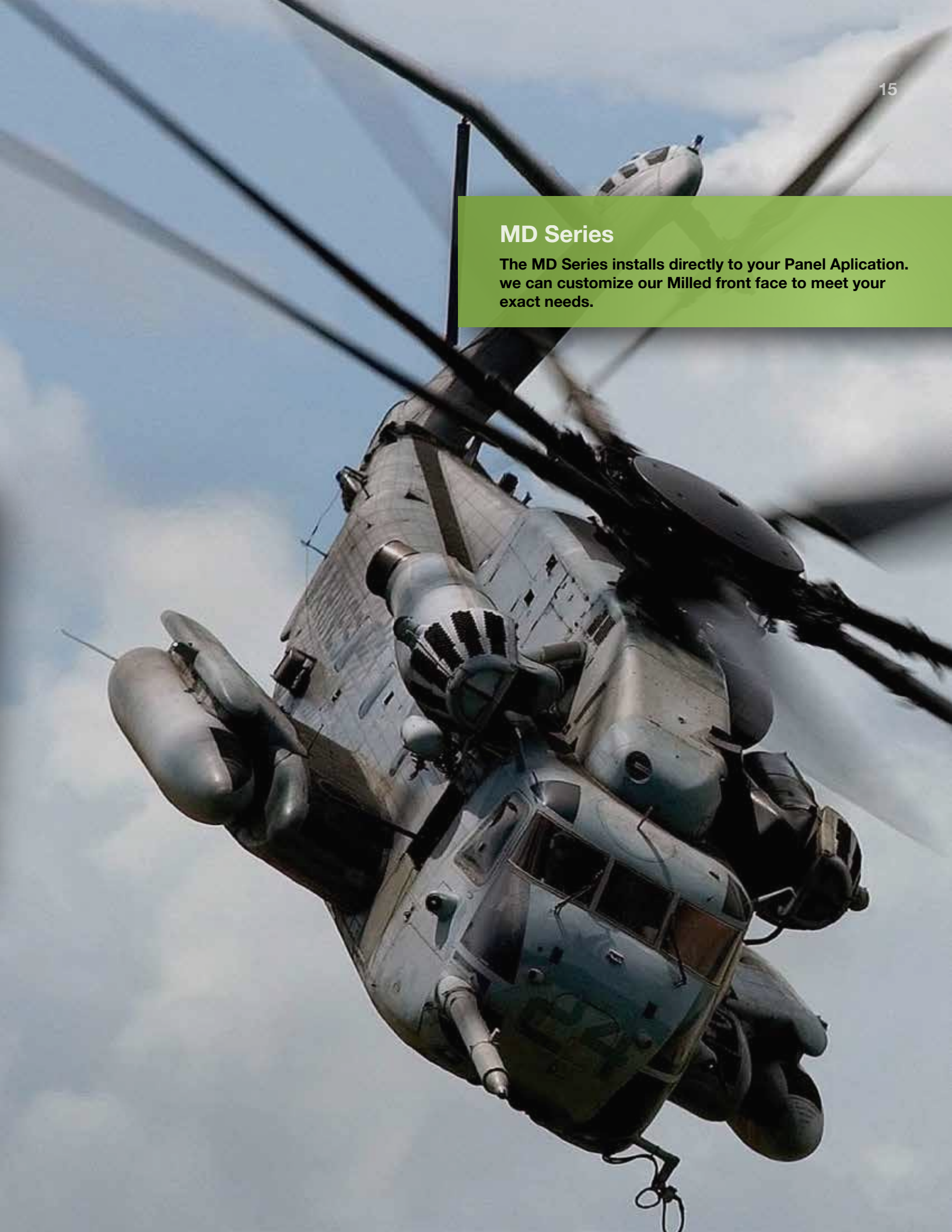
AD Controller Card (Conformally Coated)





## MD Series

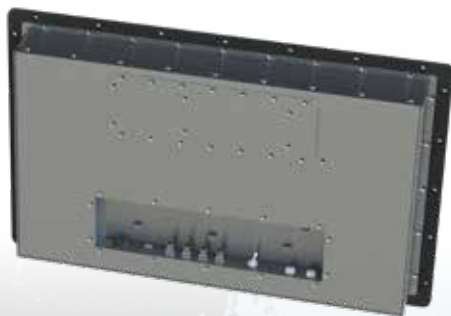
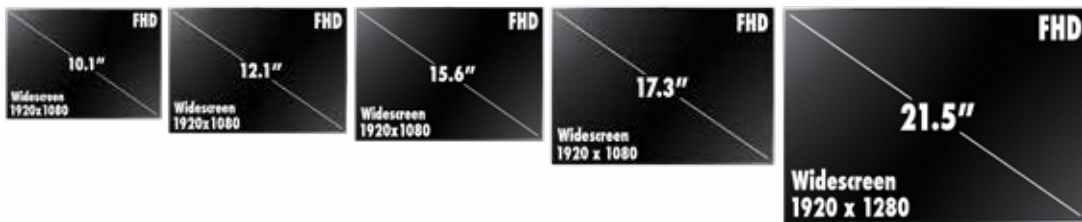
The MD Series installs directly to your Panel Application. we can customize our Milled front face to meet your exact needs.



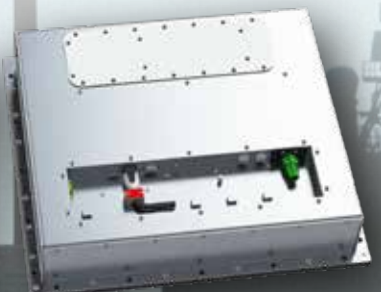


MD550M1 Shown

**FHD**

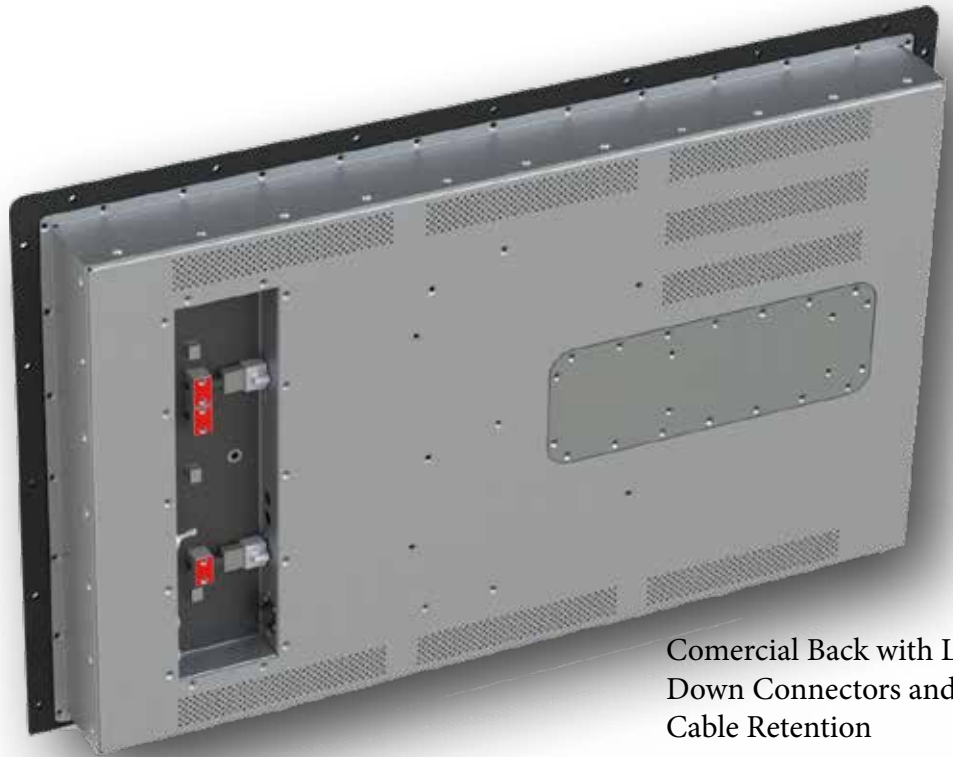
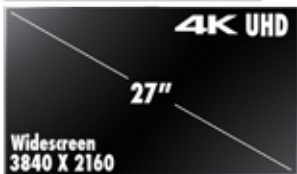
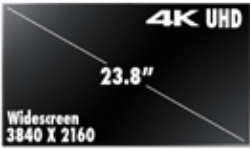


**5:4**





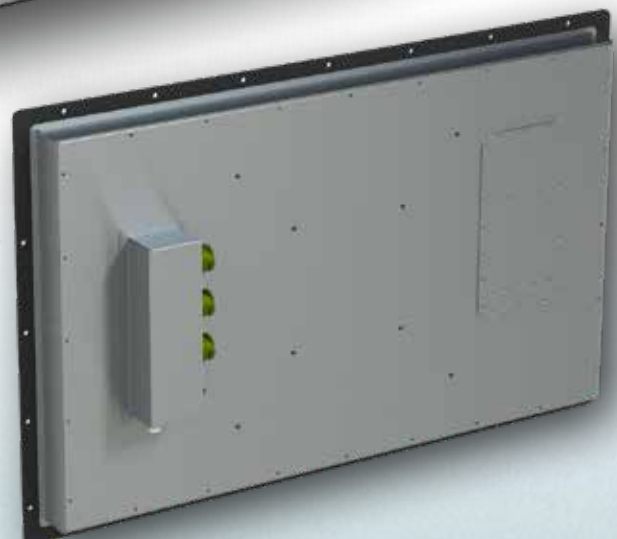
### 4K Available Sizes



Comercial Back with Lock Down Connectors and Positive Cable Retention



Optional Mil Spec Connectors and your Desired Orientation and Size





**FHD**



## Take Your Monitor Anywhere.

**Rugged, Battery-Capable Monitor Solutions for Any Environment!**

The MU Series represents our LCD Monitors housed in rugged, portable cases.

Our MU (Underwater Kinetics and Pelican Cases) consists of an LCD display housed in our Storm Case, and ready for a very wide range of customizations. These options range from phones, to antennas, to computer systems, and anything else you desire to be integrated into this splash-proof Storm Case.

The MU series is available in several different case and monitor sizes, and features Single, Dual or Triple screen configurations. Whatever the component, it can be integrated into our resilient MU!



**4K  
UHD**

**4K UHD**  
17.3"  
Widescreen  
3840 X 2160

**4K UHD**  
23.8"  
Widescreen  
3840 X 2160

# MU Series

## Features:

- Splash-Proof Underwater Kinetics and Pelican Storm Case Design.
- Wide Range of Controller Cards, Enhancements, Standard Bulding Blocks and Custom Featurs Features to Chose From.
- FHD Monitor Screen Sizes: 156W, 173W, 215W
- DITHD's Most Customizable Product Line
- MU HYDRA is Available in Double or Triple Screen Configurations
- Available 4K Panels, 173U and 238U
- High Bright, Optical Bonding and PCAP Touch Options available



## MM Series

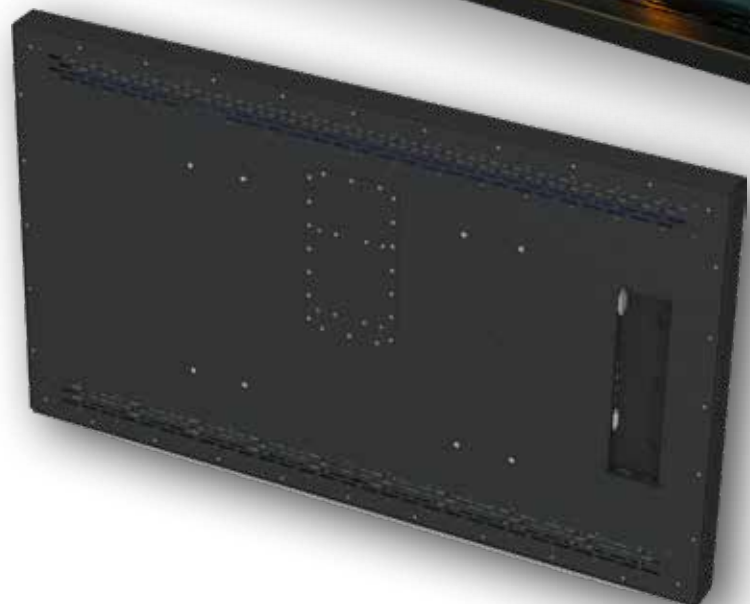
Our most flexible Military Monitor solution. These displays are available in a large range of sizes, from small field monitors, to medium-sized panel mounts, to large format bulkheads.

Our MM Series are very flexible thanks to designed to incorporate our highly-customizable VESA Flexmount system

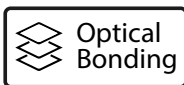
## MM Series



- Flex Mount System includes VESA Panel Mount and Flush Mounting Options
- Can be fully sealed to IP66 and Some to IP67
- Optically Bonded lens options
- Optional High Bright, PCAP Touch, ITO, Heated Lens, and NVIS Night Vision
- Available in 10.1", 10.4", 12.1", 15.6", 17", 17.3", 19", 20.1", 21.5", 23.8", 27", 32", 43", 55"
- ALL Aluminium with Milled Enhancement design
- Conformally Coated Electronics for Corrosion Prevention







# Building Blocks



LCD (High Bright, Optically Bonded)

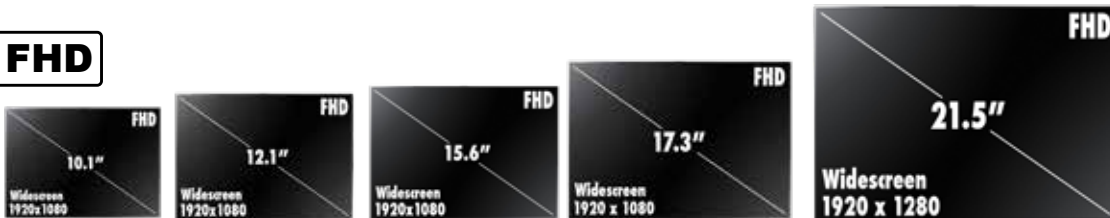


AD Controller Card (Conformally Coated)

## 5:4



## FHD

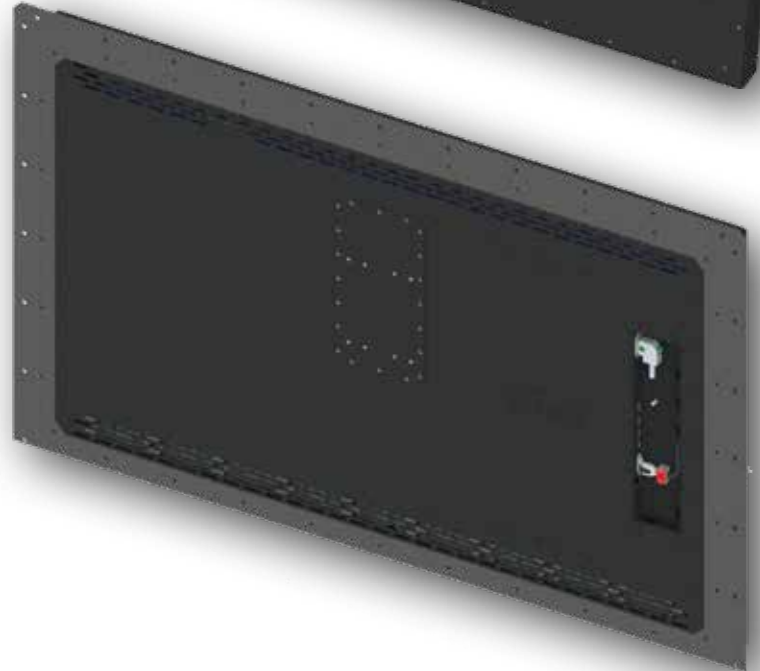
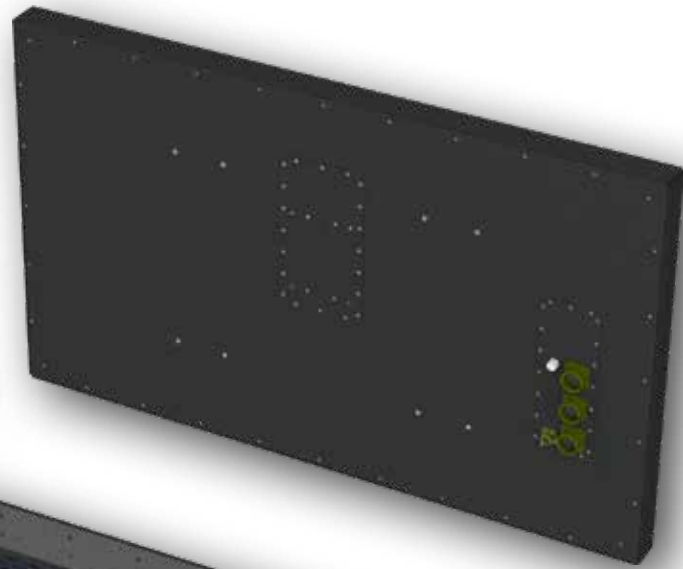
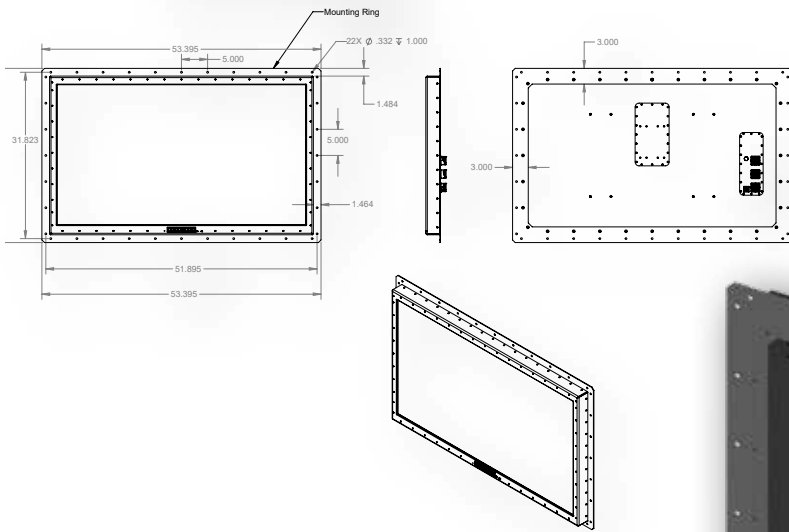


## 4K UHD



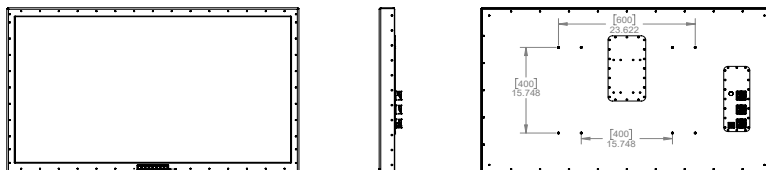
## 22 | MM Series (Continued)

Option 2: External Ring Mounting Option



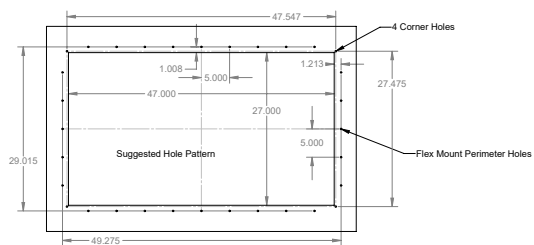
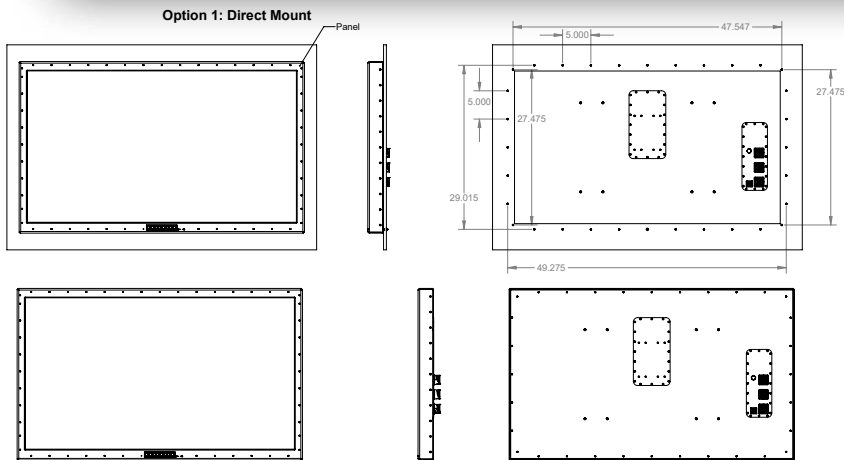
Option 3: 4 VESA Mount

VESA 400 x 400 Mounting Holes  
VESA 600 x 400 Mounting Holes

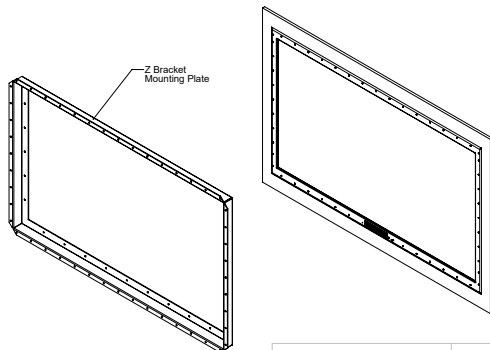
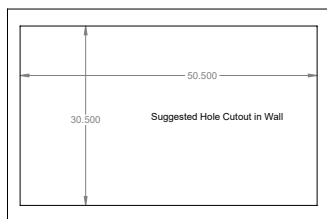
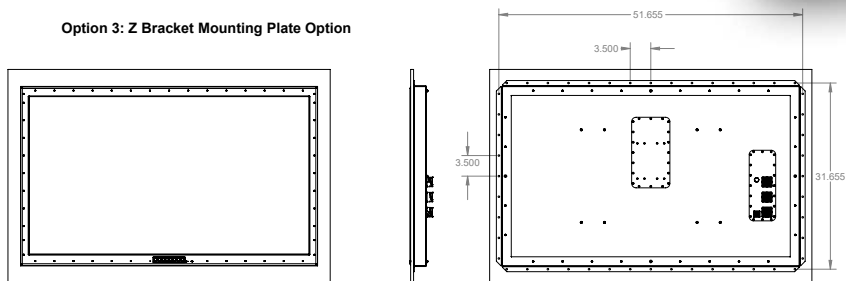




# FLEX Mounting System



**Option 3: Z Bracket Mounting Plate Option**



## MT Series

The MT Series encapsulates our Panel Mount and Bulkhead mounting solutions. We take these existing monitor solutions and enhance them with PCAP Touch Capabilities.

Not every product configurations may pass all 461 Requirements do to the nature of touch screen technology.

# MT Series

- Flex Mount System includes VESA Panel Mount and Flush Mounting Options
- PCAP Touch enabled
- Front Bezel Can be fully sealed to IP66
- Optically Bonded lens
- Optional High Bright, PCAP Touch, ITO, Heated Lens, and NVIS Night Vision
- Available in 23.8", 32", 43", 55"
- Milled Aluminium design
- Conformally Coated Electronics for Corrosion Prevention



\*May not pass all 461 requirements given the nature of touchscreen.





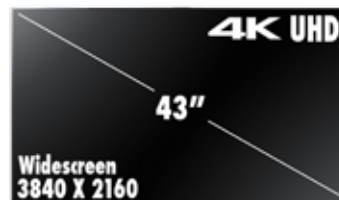
# Building Blocks



LCD (High Bright, Optically Bonded)



AD Controller Card (Conformally Coated)





# CONTACT US

If you have any questions or concerns, please feel free to contact us. We love discussing how to make your project possible.

[DITHD.com](http://DITHD.com)



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