

Manufacturer: **Jakob Hatteland Display AS**
 Product: **19.0 inch Maritime Multi Display (MMD) - Series 2 Console Version**
 Type Numbers: **HD 19T03 COBA** (Display module)
 HD MMD01-A0x (Backpack module)

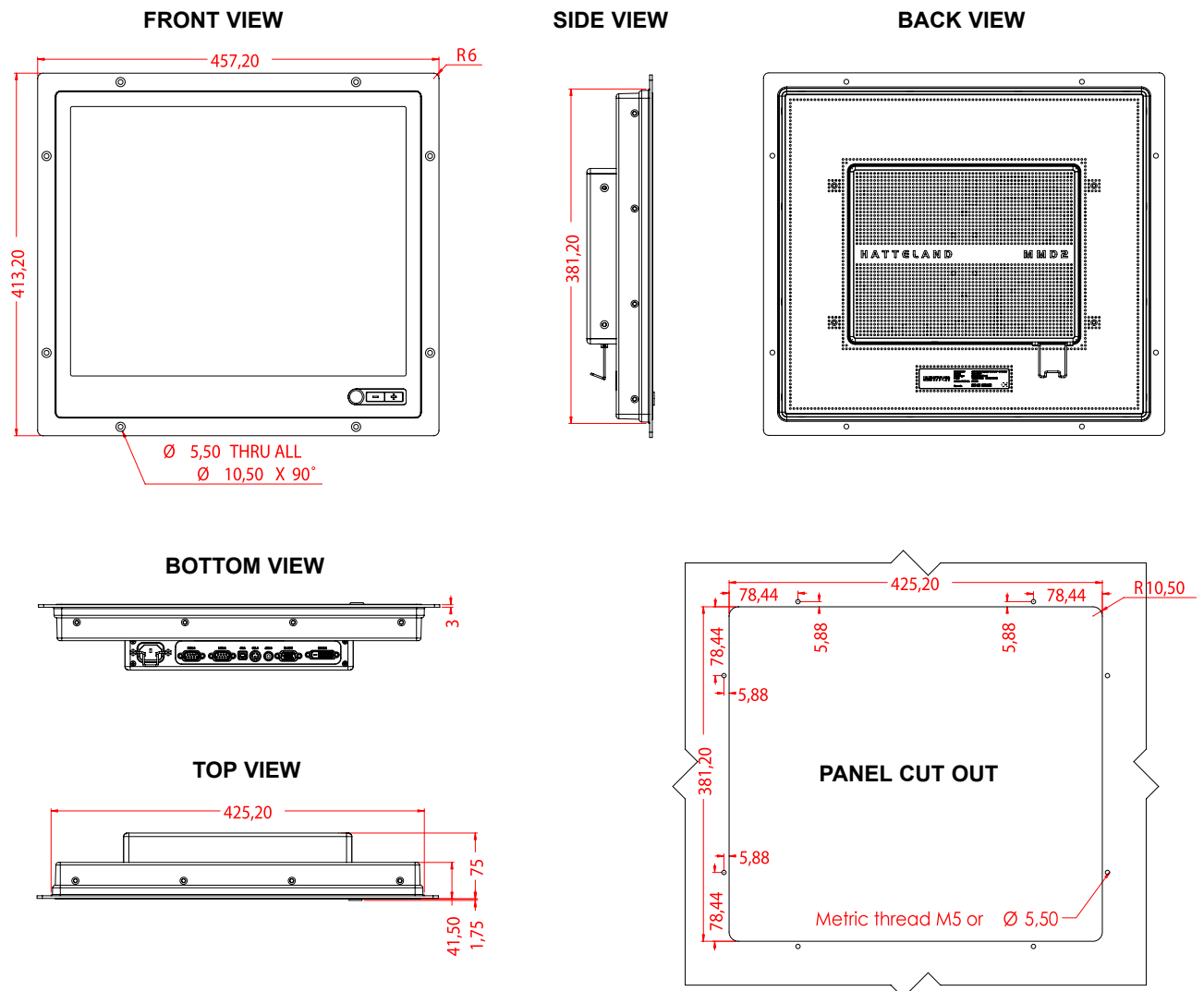
Last Revised: **07 Apr 2006**
 Revision#: **2**

19.0 inch Maritime Multi Display (MMD) - Series 2

Design meets Functionality:

The key features for the Maritime Multi Display (MMD) - Series 2 range are; optically bonded, modular backpack concept, easy operation with the 3-button user controls (IP66), slimmest design possible and PIP (Picture-In-Picture) functionality.

These products fulfil the functional needs for marine and industrial applications combined with outstanding appearance to offer widest flexibility. The high light intensity with high contrast combined with the Hatteland fully adjustable backlight (0 – 100%) makes the product ideal for most applications. It comes with mounting flange as standard.



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Note: All specifications are subject to change without prior notice!

TECHNICAL DESCRIPTION

TFT Characteristics:

- TFT Technology : Color Active Matrix LCD Module MVA Premium™ Technology (TFT)
- TFT Size : 19.0 inch
- Pixel number : 1280 x 1024
- Pixel pitch (RGB) : 0.294 (H) x 0.294 (V) mm
- Response Time : 12 ms (TYP) - black to white to black
- Contrast Ratio : 600:1 (TYP)
- Light Intensity : 450 cd/m² (TYP)
- Viewable Angle : 89° (Up/Down/Left/Right) (TYP)
- Active Display Area : 376.32 (H) x 301.056 (V) mm
- Max Colors : 16.7 millions

Synchronisation & Signals:

Analog RGB1 & RGB2:

- Separate, composite synchronisation & synchronisation on green.
- Interlaced and non interlaced
- Auto detects VGA -> UXGA
- VGA : 640 x 480 (including 640 x 350)
- SVGA : 800 x 600 (including 720 x 400)
- XGA : 1024 x 768
- SXGA : 1280 x 1024 (Recommended @ 60Hz)
- UXGA : 1600 x 1200
- Sync. Range Horizontal : Consult user manual.
- Sync. Range Vertical : Consult user manual.

DVI:

- Auto detects VGA -> XGA

Composite & S-Video:

- Interlaced PAL / NTSC / SECAM

Power Specifications:

Power Supply Options & Type Number:

- 115&230VAC - 50/60Hz : HD 19T03 COBA + HD MMD01-A01
- 24 VDC : HD 19T03 COBA + HD MMD01-A02

Power Consumption:

- Operating : TBD

MECHANICAL DESCRIPTION

Physical Dimensions:

- 457 (W) x 413 (H) x 75 (D) mm (with flange)
- Weight: TBD

User I/O Ports:

Backpack:

- DVI-I Signal IN : 1 x 24Pin DVI-I (or as RGB IN with adapter)
- RGB Signal IN : 1 x 15Pin HD D-SUB (female)
- Comp. Video IN: 1 x RCA Phono (female)
- S-Video IN : 1 x SVHS S-Video (female)
- USB OUT : 1 x USB TYPE B (for loophrough)
- COM1 RS232 : 1 x D-SUB 9P (female) (Serial Contr. Interface)
- If AC Power IN : 1 x Std IEC Inlet (female)
- If DC Power IN : 1 x Screw Terminals

Optional Solutions:

- COM2 : 1 x D-SUB 9P (female) (Feature Connector)

User Controls / OSD Menu:

- Navigator Push Function : On/Off, OSD Menu, Hotkeys
- Navigator +/- Buttons Function : Brightness, Menu Navigator
- Navigator Indicator : Mode Status LEDs

Environmental Considerations:

- Operating : Temperature -15 deg. C to +55 deg. C
Humidity 20% to 85% (non condensing)
- Storage : Temperature -20 deg. C to +60 deg. C
Humidity 5% to 85% (non condensing)

Safety Considerations:

Even although the test conditions for bridge units provide for a maximum operating temperature of 55°C, continuous operation of all electronic components should, if possible, take place at ambient temperatures of only 25°C. This is a necessary prerequisite for long life and low service costs.

To prevent heat to build up inside the display we recommend installing the unit in a vertical position +/- 40 degrees maximum. We also recommend adding forced cooling in applications where; *Vertical mounting angle is above +/- 40 degrees -- Operating temperature is above 25C -- Ventilation area around unit is restricted.* Fans should be mounted to enhance natural airflow directed upwards through the unit.

Compass Safe Distance: HD 19T03 COBA + HD MMD01-A01
HD 19T03 COBA + HD MMD01-A02

Standard: TBD Steering: TBD
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APPROVALS & CERTIFICATES

This product have been tested / type approved by the following classification societies:

EN60945 4th (IEC945 4th)
IACS E10