DATA SHEET

HATTELAND®

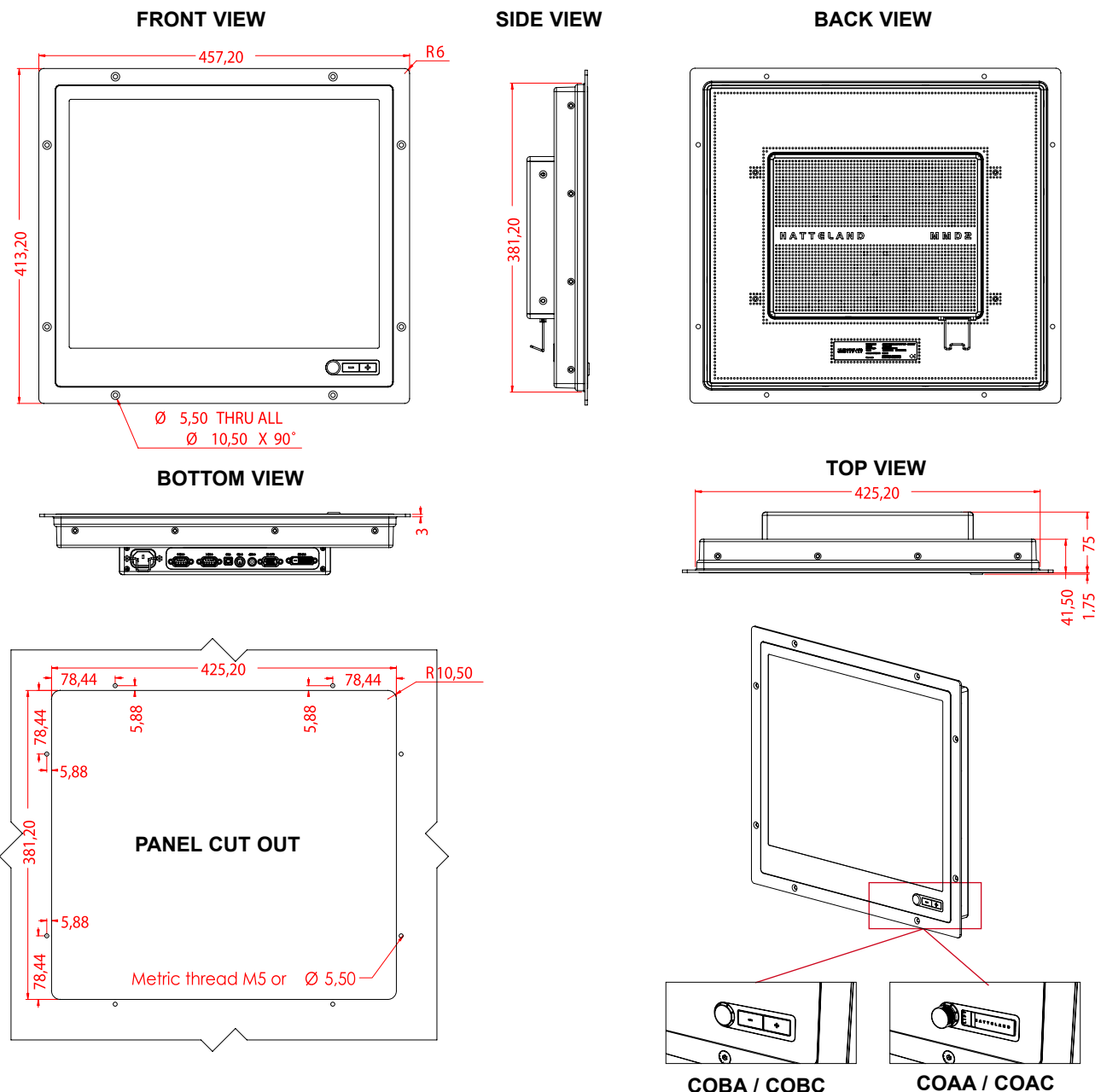|	
Manufacturer:	**Hatteland Display AS**
Product:	**19.0 inch Maritime Multi Display (MMD) - Series 2**
	Console Models
Type Numbers:	**HD 19T03 COxx** (Display module)
	HD MMD01-xxx (Backpack module)

Last Revised:	**16 Jul 2007**
Revision#:	**7**

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 backpacks, slimmest design possible, PIP (Picture-In-Picture) functionality, easy operation with either the IP66 3-button controls (COBA/COBC models) or the IP22 1-button user controls+USB Connector in front (COAA/COAC models) and touch screen optionally (COAC/COBC models).

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. COBA model is shown in this drawing, but measurements generally apply for all COxx models.

FRONT VIEW

457,20
R6
413,20
Ø 5,50 THRU ALL
Ø 10,50 X 90°

SIDE VIEW

381,20

BACK VIEW

HATTELAND MMD2

BOTTOM VIEW

3

TOP VIEW

425,20
75
41,50
1,75

PANEL CUT OUT

425,20
78,44
78,44
R10,50
78,44
5,88
5,88
5,88
381,20
5,88
78,44
Metric thread M5 or Ø 5,50

COBA / COBC   **COAA / COAC**

Dimensions might be shown with or without decimals. Tolerance on drawings is +/- 1mm. For accurate measurements, use relevant DWG file available from Hatteland Display AS

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/m^2 (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 & synchonisation 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 Numbers:
- 115&230VAC - 50/60Hz   : HD 19T03 COxx + HD MMD01-xx1
- 24 VDC   : HD 19T03 COxx + HD MMD01-xx2

Power Consumption:
- Operating   : 66W (Max) (Brightness @ 100%)

MECHANICAL DESCRIPTION

Physical Considerations:

- 457 (W) x 413 (H) x 75 (D) mm (with flange)
- Weight: 9kg (approx)

User I/O Ports:

Behind Rubber Hatch - Front (COAA / COAC only):
- USB IN   : 1 x USB TYPE A (for loopthrough)

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 loopthrough)
- 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 - COBA / COBC:

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

User Controls - COAA / COAC:

- Navigator Push Function   : On/Off, OSD Menu, Hotkey
- Navigator Rotary 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)
- IP Rating   : IP22 (COAA/COAC) or IP66 (COBA/COBC) models
- Compass Safe Dist. : HD 19T03 COxx + HD MMD01-xxx
                     Standard: 80cm   Steering: 50cm

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.

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.

Available Options/Accessories:

- Resistive Factory Mounted Touchscreen (COAC/COBC+Cxx Backpack)4wire
- VSD100507-1 Split Cable RS422/485 - MALE to 2 x FEMALE 9P D-SUB

TESTING/APPROVALS & CERTIFICATES

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

EN60945 4th (IEC945 4th)   **DNV** - Det Norske Veritas
IACS E10