

DREDGER MONITORING UNIT



WHAT IT IS?

The Dredge Monitoring Unit(DMU) enables the dredging master to verify and control the position of the cutter or wheel in relation to the channel's centerline, the working depth and profile set points.

Following Parameters can be determined using DMU

- 1) Position in LATITUDE, LONGITUDE and ALTITUDE
- 2) Present Depth of Cutter
- 3) Width of cutter from CENTER LINE

The DMU is an independent system but can also be incorporated into larger systems – usually as a signal source for the automation of the dredging process, such as the automatic cutter or wheel controller.

Has provision to integrate more Dredger Parameters like Pressure, Voltage, Vacuum etc making a total Dredger Supervisory Unit.

HOW IT WORKS?

To derive the DEPTH AND WIDTH we need to measure the following parameters

- ladder angle with the perpendicular
- compass course related to true North
- Position of the dredger

And we need to know the following Dredger Parameters

- Ladder Length
- depth of the ladder pivot related to the waterline;
- position of the spud carriage related to the ladder pivot
- Distance over Pontoon

Cont....

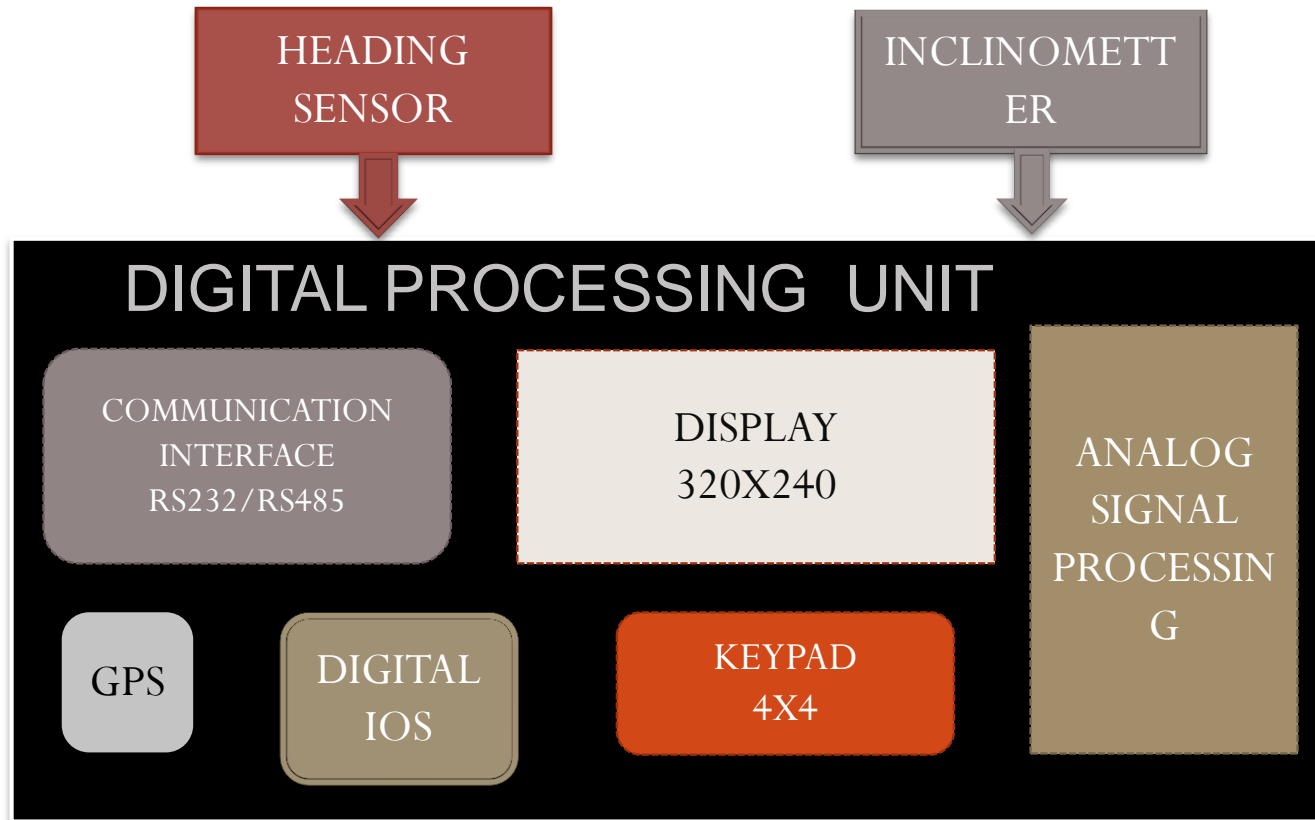
- Ladder angle is determined by the Inclinator. With measured Ladder Angle and given Cutter Length, the depth of cutter is calculated
- Yaw of Dredger w.r.t center line is determined by the Magnetometer. Width of cutting from center line is calculated by this measured angle and the given dredger parameters

COMPONENTS OF DMU

- DIGITAL PROCESSING UNIT(DPU) unit with 5 inch display and inbuilt GPS.
- INCLINOMETER sensor connected to Processor Unit used to measure the Depth of the Cutter.
- Tilt Compensated Magnetometer measures the HEADING value of the Dredger.

DPU processes signals received from Inclinator and Heading sensor and calculates the Depth and Width of cutter for given Dredger Parameters.

DMU BLOCK DIAGRAM





DREDGER MONITORING UNIT

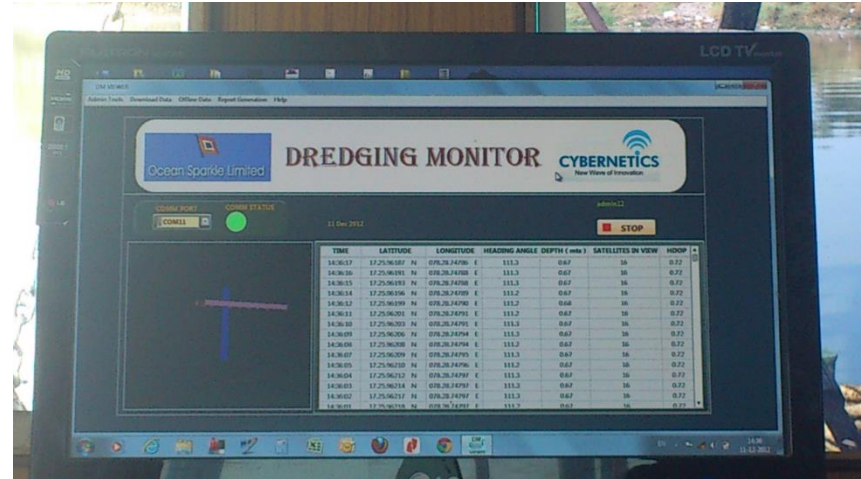
PRODUCT FEATURES

- 5 Inch Display with Day light visibility
- Position Accuracy of <3 mts
- Depth accuracy of 20cm
- Swing Accuracy of 1.2 mts
- NMEA Output for Integration with HYPACK and other third party tools
- Stores data of Dredging Operations
- DMU Software for report generation
- Keypad for entering Dredger Parameters
- Power Supply 24Vdc and Current Consumption 200mA

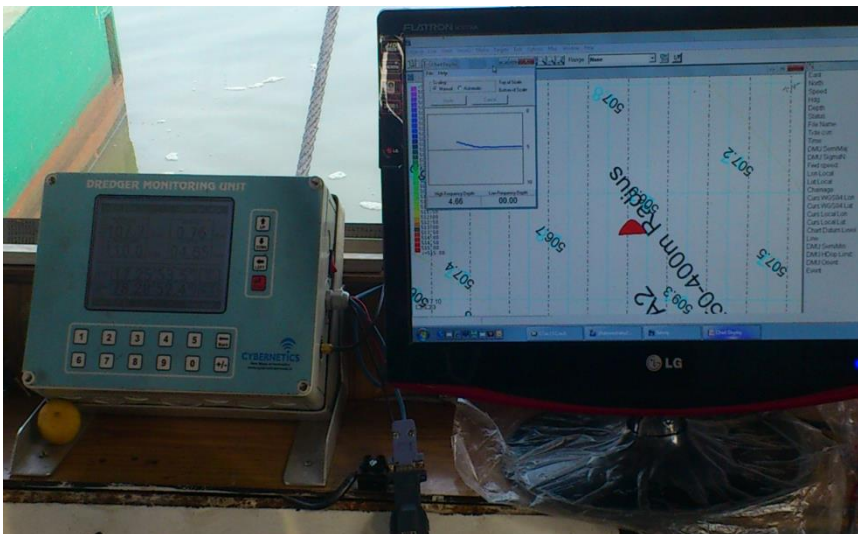
PRODUCT IMAGES IN FIELD



SENSOR FIXED ON CUTTER



DMU SOFTWARE



DMU INTERFACED WITH HYPACK SOFTWARE

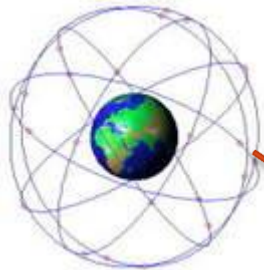
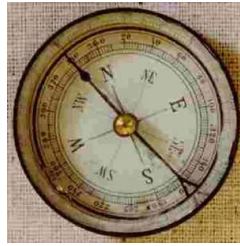
THANK YOU

For further queries please contact on

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COMPASS



GPS



DEPTH
SENSOR



HYPACK
SOFTWARE