



# DSM Series Displays

## NMEA 2000® Data Display

User's Guide

SW: 1.8.8.4

**Maretron®**  
Vessel Monitoring & Control

# Overview:

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- Overview
- Basic Navigation
- Alerts
- Configuration
- Display Settings
- Favorite Screens
- Units
- Advanced Features
- Maretron Website & Resources

# DSM SERIES DISPLAYS

## Overview - Features

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### Key Features

- Maretron's latest DSM Series displays offer a high-resolution sunlight viewable color display that interprets and displays NMEA 2000® instrument, navigation, and vessel monitoring data.
- A user friendly dedicated marine display with custom screen configurations and an easy-to-use five-key illuminated keypad.
- Unlike traditional single-display units, users can choose numeric, gauge, bar or graph formats in single or multiple displays, with cycling options possible for a wide range of favorite data. These multiple display options conserve mounting space and reduce overall system cost.



# DSM SERIES DISPLAYS

## Overview - Features

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### Key Features, cont.

- Connects directly with any NMEA 2000® network and, except for AIS data, will display nearly all information captured throughout the vessel. Various audio and visual alarms are also programmable.
- The DSM Series displays offer a multitude of information to view including AC power, anchor status, battery, depth, electrical distribution, engine, environment, fuel management, GPS, heading, navigation, pressure/vacuum, rudder, speed, status indicators, tanks, temperature, time, transmission, water makers, weather, wind and more.



# DSM SERIES DISPLAYS

## Overview - Models

### DSM Displays

Similar software and user interface can be found on a historical selection of our DSM series displays and are cross compatible with many features.



**DSM150**  
3.5" Multi-Function Color Display  
**\*DISCONTINUED\***



**DSM250**  
5.7" Multi-Function Color Display  
**\*DISCONTINUED\***



**DSM410**  
4.1" Multi-Function Color Display



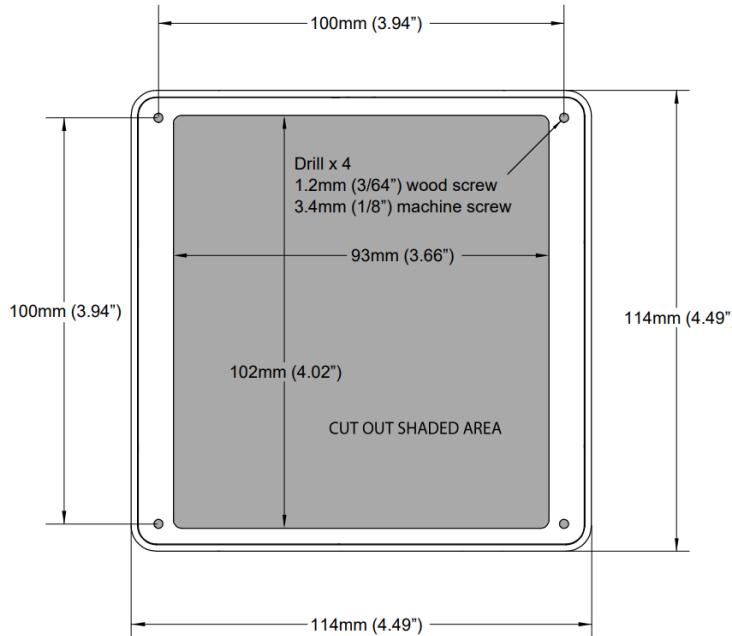
**DSM570**  
5.7" Multi-Function Color Display

# DSM SERIES DISPLAYS

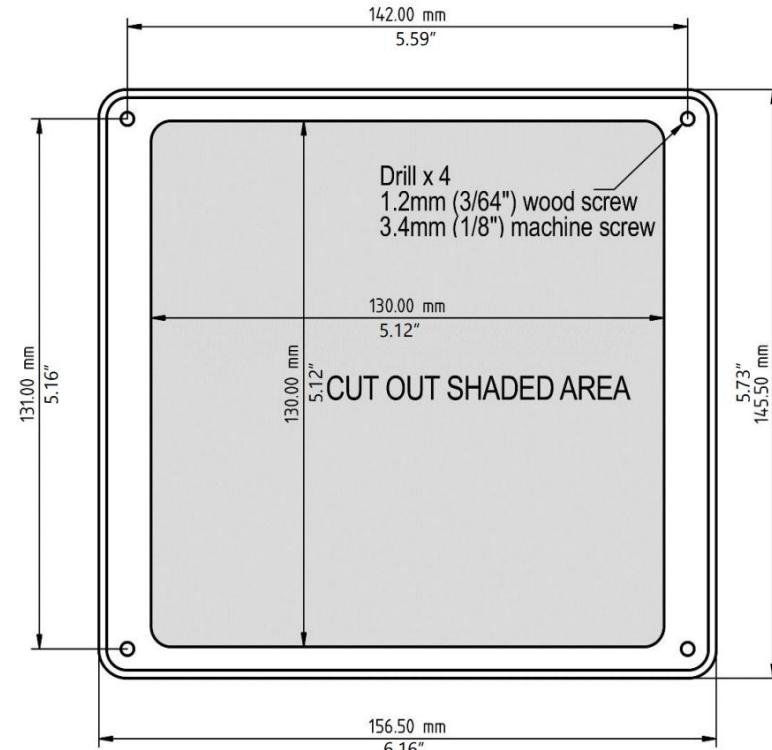
## Overview - Installation

### Installation Templates

**DSM410**



**DSM570**



# DSM SERIES DISPLAYS

## Overview - Power Up Screen

### Device Power Up

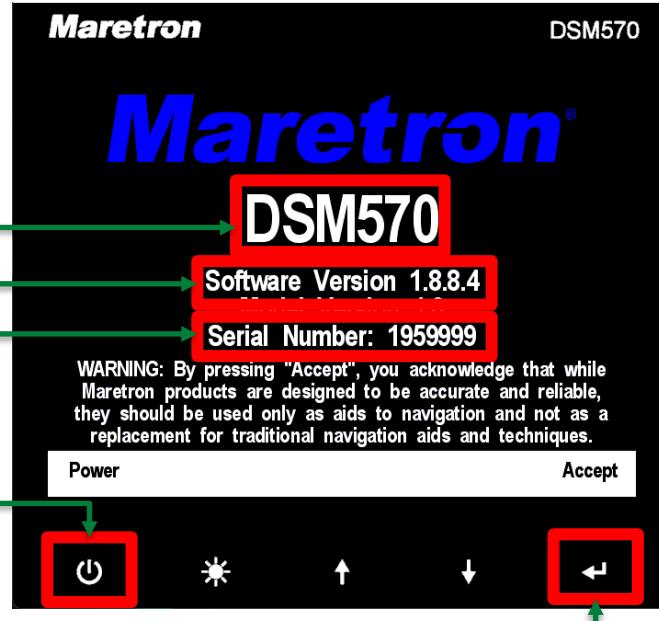
Connecting your DSM Series display to the NMEA 2000® network will also energize your display.  
No separate power needed!!

From the initial power on display we can identify multiple items about the display.

- DSM Model # 
- Current Software Version 
- Device Serial # 

There are only 2 active keys available on the landing screen.

- Power 
  - Pressing & holding this key for 3 seconds will power on / off the display
- Accept 
  - Pressing this key will enter the user into your Favorite Screens



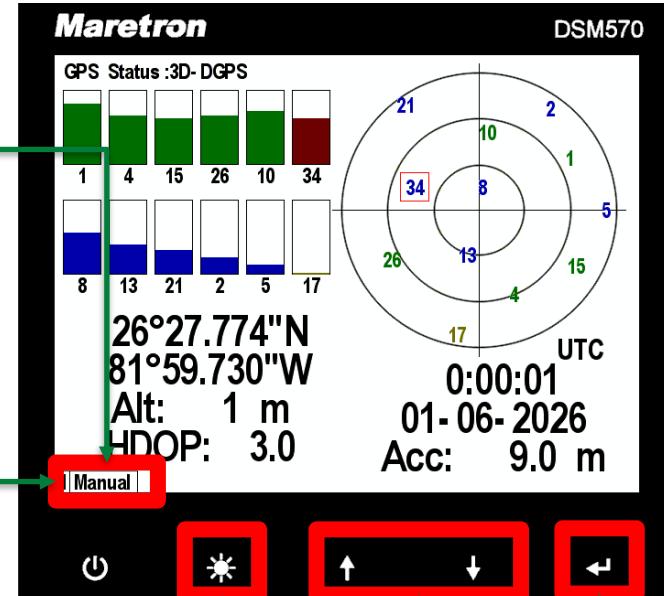
# DSM SERIES DISPLAYS

## Overview - Operations

### Favorite Screens

After pressing the Accept key on the Landing page will navigate the user to the 16-user configurable NMEA 2000® data screens.

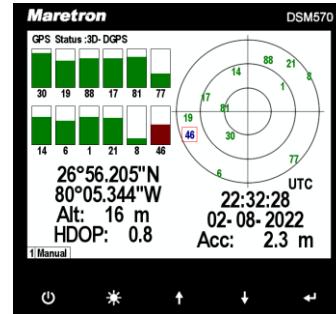
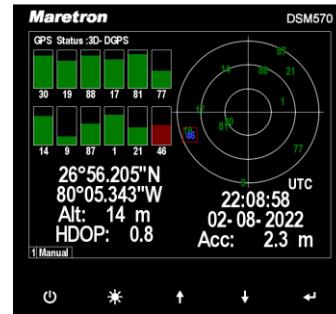
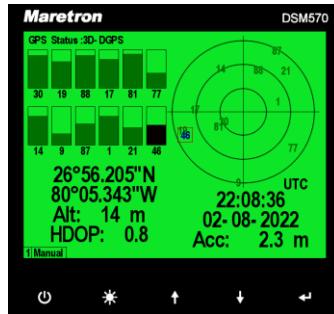
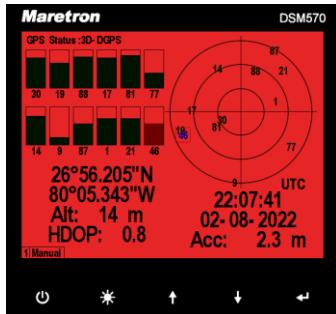
- Favorite Screen Operating Mode
- Current Favorite Screen page #
- Brightness and Background color adjustment
  - Single press to this key will adjust the brightness
  - Press & hold will cycle through different background color options
- Up/Down Arrow keys will cycle through the available Favorite Screens
- Enter key will provide access to the Settings menu



# DSM SERIES DISPLAYS

## Overview - Color Modes

### Color Options



# DSM SERIES DISPLAYS

## Settings Menu

The settings menu provides the following services, and this guide will begin navigating into each of these features.

- **Alert Setup**
  - Generate & manage NMEA2000® alerts
- **Alert Status**
  - Displays generated NMEA 2000® alert statuses from both local and remote devices
- **Configuration**
  - Provides access to Maretron device setup and NMEA 2000® connected device status
- **Display Settings**
  - Physical display settings
- **Favorite Screens Mode**
  - Auto and Manual
- **Favorite Screens Setup**
  - Accesses the setup menu for the 16 screens
- **Units**
  - Sets the defaults units through the DSM screens



# DSM SERIES DISPLAYS

## Settings - Alert Management

### Alert Management

- Add New Alert
  - Create an NMEA 2000® alert  
\*\* Note that alerts created by a DSM are currently only visible across Maretron products (DSM, N2KView & MConnect)
- Delete Alert
  - Delete an existing alert on the display.
- Edit Alert
  - Modify an existing alert on the display.
- Operating Mode
  - Allows users to create alerts respective to vessel's status (Underway, Moored, Anchored)
- SMS Phone Book
  - Contact listing for outputting via the SMS100/SMS200
- Advanced Configuration
  - Enabling/Disabling remote audible annunciation and Flashing Screen for all alerts
- Restore Alert Setup Factory Defaults
  - Wipes all existing alerts.



# DSM SERIES DISPLAYS

## Settings - New Alert Setup

### Add New Alert

This screen offers the user to create an alert monitoring the status of a desired NMEA2000® parameter. The source of the data does not have to be provided by a Maretron product, supports most standard NMEA 2000® PGNs.

- Enable/Disable
- Alert Type
  - Defines the profile type of the alert: Alarm or Warning
- Priority
  - Alarm or Warning #, list
- Description & Location
  - Open texts fields to provide user additional information in reference to the location and profile of the alert
- Trigger Source
  - Defines what type and source location of the data you are wanting to monitor, such as High Water, Low Fuel, etc
- Trigger Type
  - Varies depending on Source Type:  
High Alert, Low Alert, On Alert, Off Alert, No Data, Error State

**Maretron**

DSM570

#### Alert Detail

**Enable/Disable Control** : Enable

**Alert Type** : Alarm

**Priority** : -

#### Trigger Source

**Type** : -

**Data** : -

**Instance** : -

**Description** : -

**Location** : -

#### Trigger Configuration

**Trigger Type** : -

**Re-trigger Period** : 0:00 min:sec

**Local Audible** : Enable

**Local Tone** : Continuous

**Remote Annunciator(s)...**

**SMS (Text) Settings...**

**Operating Mode Moored** : Enable

**Operating Mode Underway** : Enable

**Operating Mode Anchored** : Enable

**Scope** : Global

**Test this alert now**

Power

Back

Scroll Up

Scroll Down

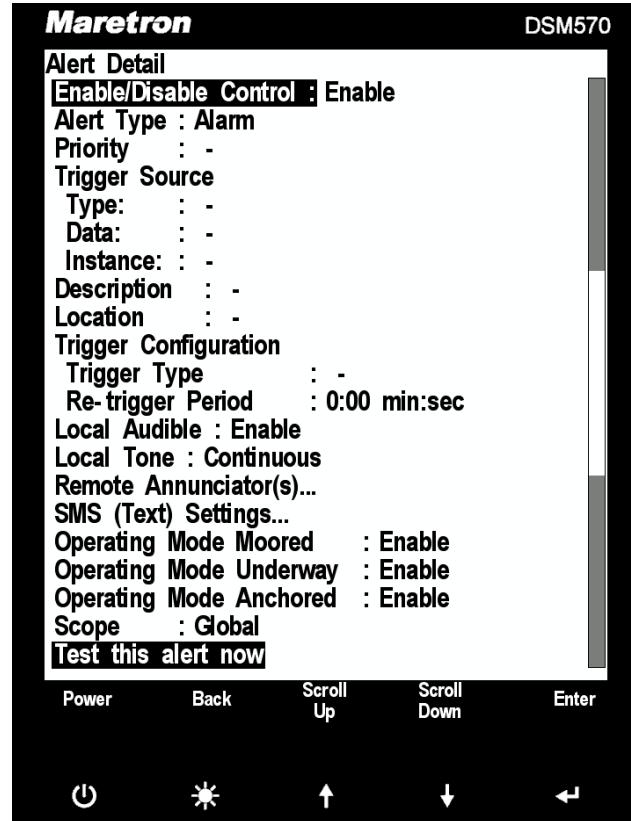
Enter



# DSM SERIES DISPLAYS

## Settings - New Alert Setup

- Re-trigger Period
  - When an alert is engaged, the user can “acknowledge” the alert to silence the annunciation and address the issue. You can apply a re-trigger time period to re-engage the alert if the status has not been corrected to alert users.
- Local Audible & Tone
  - Engage the internal buzzer within the DSM display and tones
- Remote Annunciators
  - ALM100 (audible) and/or a DCR100 channel (switch/relay)
- SMS Text Settings
  - Select from contacts to be notified via text/SMS of the alert
- Operating Mode
  - Vessel status of when to engage an alert  
Not going to monitor shore power loss while vessel is underway
- Scope
  - Global Broadcasts to entire NMEA2000® network
  - Local Local display only
- Test



# DSM SERIES DISPLAYS

## Settings - Delete Alert

### Delete Alert

Navigating back to the Alert Setup menu, the next option is Delete Alert.

This menu will populate a list of all of the created alerts organized by their priority number. Highlighting and selecting the Enter key will allow the user to remove the alert from the system.

#### Alert Setup...

#### Delete Alert...

Pri.	Ena.	Type	Description
0	No	Local Alarm	Anchor Watch
1	Yes	Global Alarm	Bilge High Water



# DSM SERIES DISPLAYS

## Settings - Edit Alert

### Edit Alert

Navigating back to the Alert Setup menu, the next option is Edit Alert.

This menu will populate a list of all of the created alerts organized by their priority number. Highlighting and selecting the Enter key will allow the user to modify the alert, gaining access to all the settings when setting up the alert.

#### Alert Setup...

#### Edit Alert...

Pri.	Ena.	Type	Description
0	No	Local Alarm	Anchor Watch
1	Yes	Global Alarm	Bilge High Water



# DSM SERIES DISPLAYS

## Settings - Operating Modes

### Operating Modes

Navigating back to the Alert Setup menu, the next option is Operating Mode. This defines the vessel's alert monitoring status.

There are four operating mode states to choose from:

- Underway
- Anchored
- Moored
- Disabled

Provides the user opportunity to establish alerts in the appropriate vessel operating mode / status.

- You would only monitor shore power status while moored/dockside.
- You would only monitor low oil pressure while underway/engine's running.



# DSM SERIES DISPLAYS

## Settings - SMS Alert Phone Book

### SMS Phone Book

Navigating back to the Alert Setup menu, the next option is SMS Phone Book directory.

Allows you to store up to 8 contacts for sending a text message if an alert engages, and if desired, clears.

### Alert Setup...

### SMS (Text) Phone Book...

Phone Number	Name
123456789	Captain
-	
-	
-	



# DSM SERIES DISPLAYS

## Settings - Alerts Adv Configuration

### Advanced Configuration

Navigating back to the Alert Setup menu, the next option is Advanced Configuration.

#### ➤ Remote Alert Audible

- If Remote Alerts are enabled, and an active alert is received from another device on the bus, the DSM will respond by adding the Alert to its list of Active Alerts and sounding the internal speaker.

#### ➤ Flashing Screen

- As an extra means to gain the operator's attention to an Active Alert, the DSM570 may be set up to flash the entire screen between Red (for Alarms) or Yellow (for Warnings) and Black.

**Alert Setup...**

**Advanced Configuration...**

**Remote Alert Audible : Enable**

**Flashing Screen : Disable**



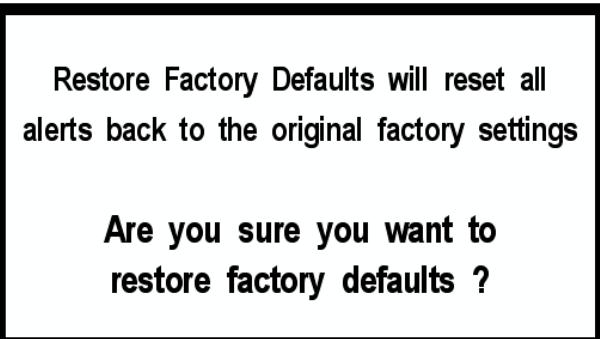
# DSM SERIES DISPLAYS

## Settings - Alerts Factory Settings

### Restore Alert Setup Factory Defaults

The Alert parameters of the DSM may be restored to the factory defaults by pressing the Enter button while this item is highlighted.

The operator will be prompted to confirm this action before it applies.



# DSM SERIES DISPLAYS

## Settings - Alert Status

### Alert Status

Jumping back to the Settings Menu, the next menu option is Alert Status.

This menu populates a list of active NMEA 2000® alerts, generated either locally or via a Remote Device.

Illustrates the status of each alert or warning whether it is currently engaged or have cleared but awaiting acknowledgement (U.S. Coast Guard Guideline)

Pressing the Power Key once will acknowledge the alert.



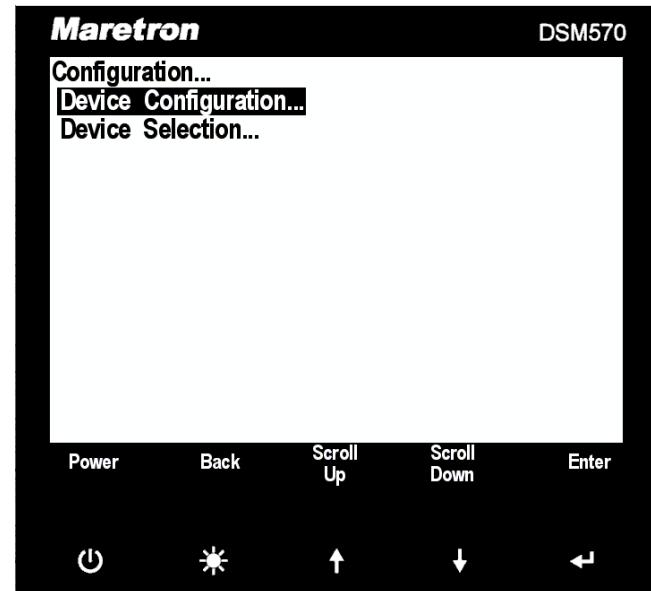
# DSM SERIES DISPLAYS

## Configuration Menu

### Configuration Menu

Configuration menu will populate 2 options

- Device Configuration
  - Lists all devices on the connected NMEA 2000® network that this display has configuration/setup tools for a majority of the Maretron branded and most of the D/S/T Series of Airmar NMEA 2000® devices.
- Device Selection
  - Provides a “history” list of NMEA 2000® connected devices



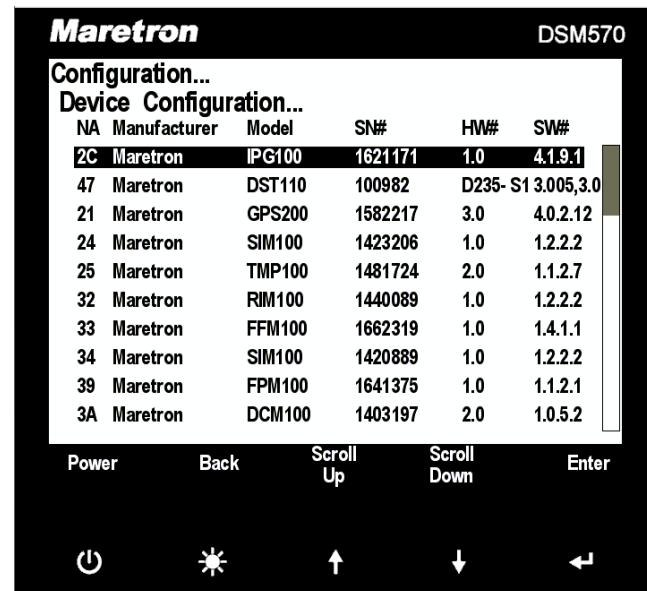
# DSM SERIES DISPLAYS

## Configuration - Device Configuration

### Device Configuration

This menu populates a list of all devices that the DSM display has support tools to adjust settings of that specific device, such as other Maretron components, select models of Airmar DSTs and select models of Trim Tab devices

Using the Up / Down arrow keys will allow you to navigate through the list, press the enter key on a desired unit you need to adjust. Each configuration menu will be unique to the product.



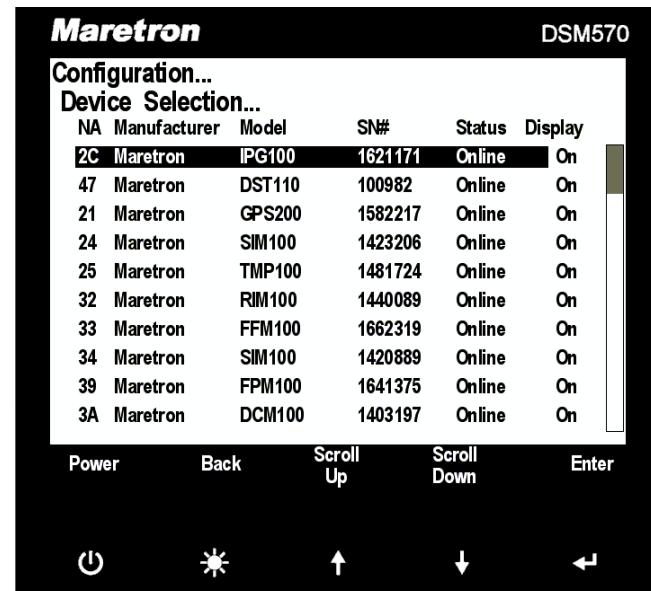
# DSM SERIES DISPLAYS

## Configuration - Device Selection

### Device Selection

The DSM will retain information on devices that have been connected to the NMEA 2000® network, all manufactures, and their current connection status.

Additionally, you are able to select whether to display data or ignore data from a particular device when populating values for a Favorite Screen.



# DSM SERIES DISPLAYS

## Display Settings

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### Display Settings

The next settings menu option is the display settings. This menu allows you to change parameters related to the user's interface operations.



# DSM SERIES DISPLAYS

## Display Settings - Menu

### Display Settings

- Advanced Configuration
  - Access to parameters such as Device Instance, Installation Description and Factory Reset
- Advanced Information
  - Displays information pertaining to the permanent setup and configuration of the DSM
- Backlight - Adjust the 3 brightness level values
- Color Setup - Programmable color palettes
- Demo Mode – On or Off
- Keypad Beep – On or Off
- Keypad Sensitivity - Increase/Decrease sensitivity
- Label - Station label
- Languages - English, French or Dutch
- Software Version – Current running

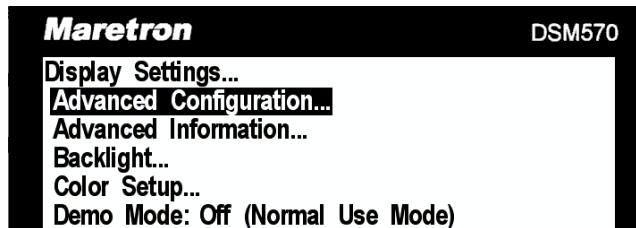
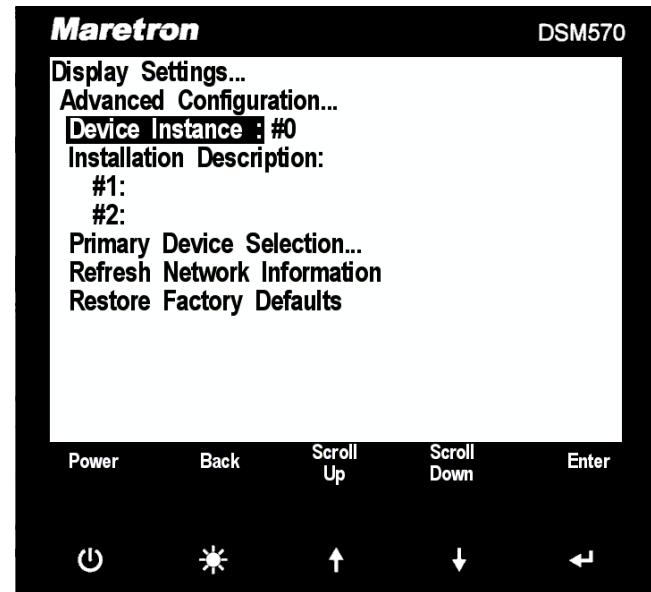


# DSM SERIES DISPLAYS

## Display Settings - Adv Configuration

### Advanced Configuration

- Device Instance
  - Unique Instance defined per DSM / N2KView / MConnect.
- Installation Description
  - Notes defined by installer, with install location details
- Primary Device Selection
  - Define preferred Instance source for select parameters
- Refresh Network Information
  - Clears lists of N2K devices under Device Configuration & Device Selection menus.
- Restore Factory Defaults



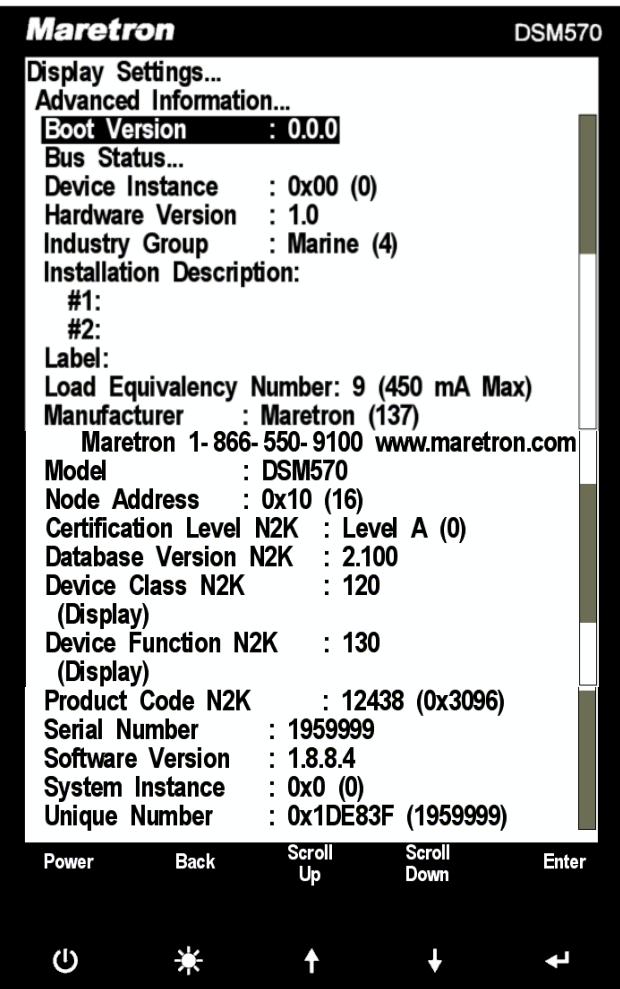
# DSM SERIES DISPLAYS

## Display Settings - Adv Info

### Advanced Information

The Advanced Information Page displays information pertaining to the permanent setup and configuration of the DSM Display.

Most of the items within the Advanced Information menu are straight forward details and not described further here, although a less obvious menu item (Bus Status) which is described next.



# DSM SERIES DISPLAYS

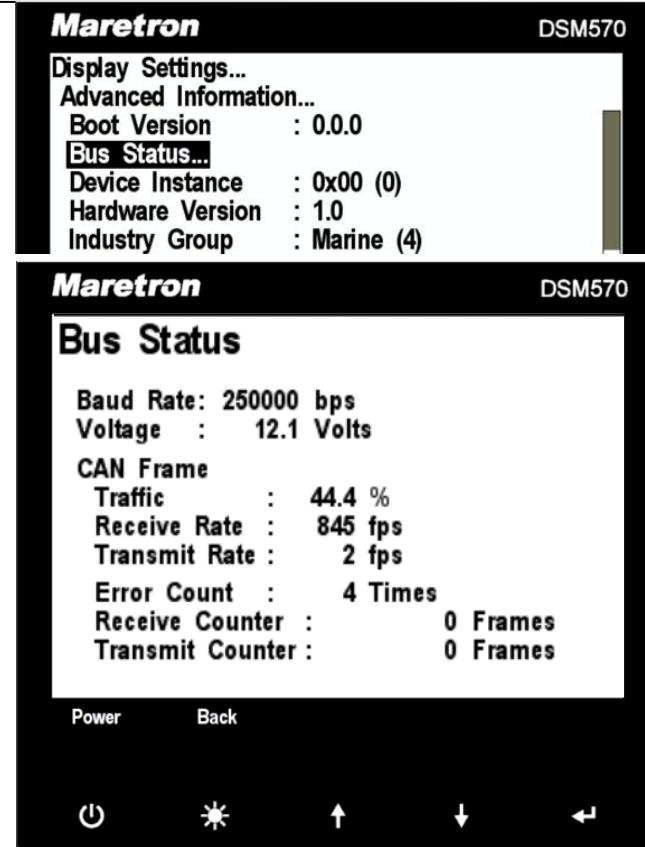
## Display Settings - Bus Status

### Advanced Information, cont.

#### Bus Status

The DSM Display is capable of monitoring the NMEA 2000® network and displaying certain statistics.

- Baud Rate: the speed capability of the connected network given in bits per second (bps)
- Voltage: the network voltage as measured by the DSM Display
- Traffic: the percent usage of the total available bandwidth
- Receive Rate: received rate in frames per second (fps)
- Transmit Rate: transmit rate in frames per second (fps)
- Error Count: error frames since entering the Bus Status screen
- Receive Counter: received frames counter
- Transmit Counter: transmitted frames counter



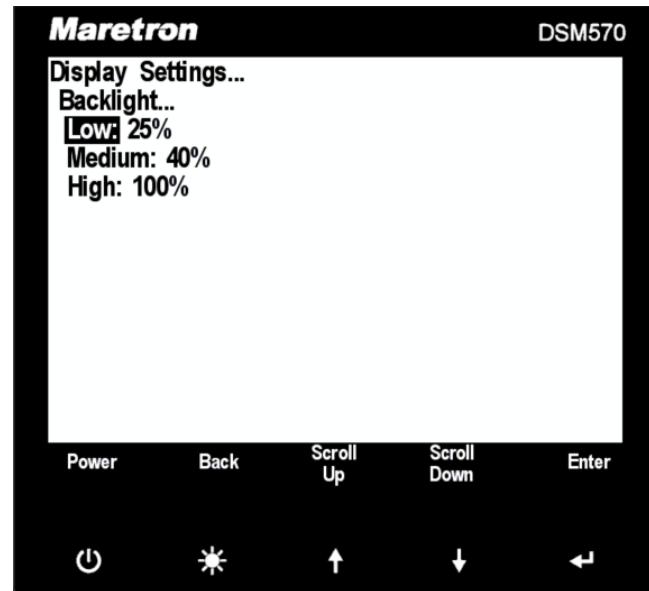
# DSM SERIES DISPLAYS

## Display Settings - Backlight

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### Backlight

The Backlight menu allows you to program the “Low”, “Medium”, and “High” brightness levels. The value that appears next to the appropriate setting is measured in percent of full brightness.



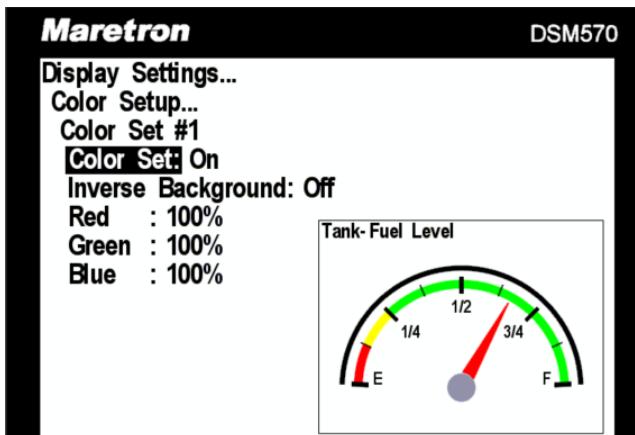
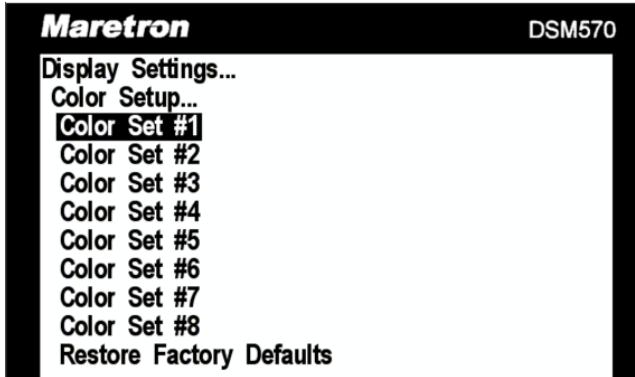
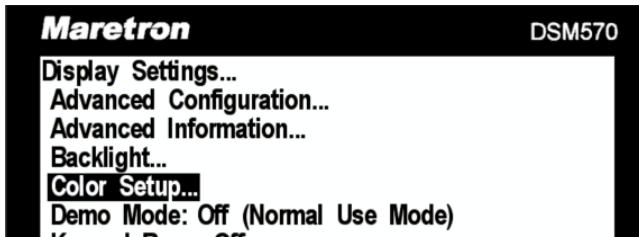
# DSM SERIES DISPLAYS

## Display Settings - Color Setup

### Color Setup

The DSM Displays offers eight user-programmable color palettes.

This allows the user to define a unique look of gauges while in different color modes.



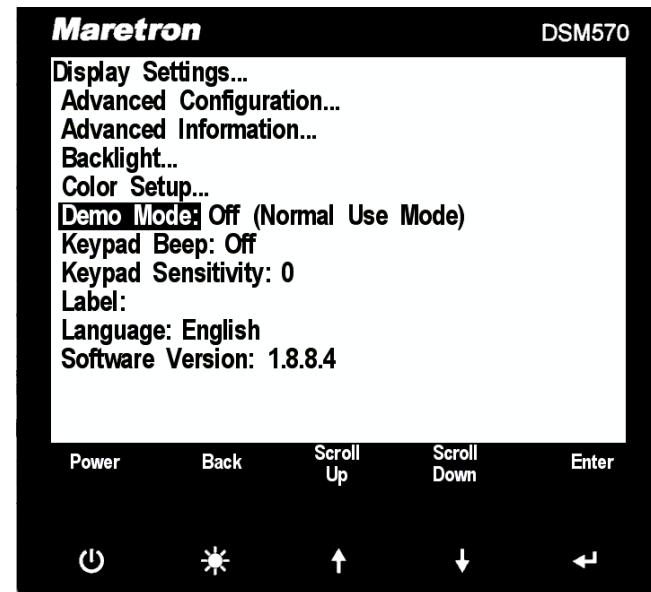
# DSM SERIES DISPLAYS

## Display Settings - Demo Mode

### Demo Mode

The DSM Display offers a demo mode suited for displaying the capabilities of the unit. It causes the Display to operate in a “simulated data” mode, coupled with a set of pre-defined favorite screens and ignore any data arriving over the NMEA 2000® bus.

- On (Show Room Mode)
  - Resets the data back to Demo settings after 5 minutes.
- On (Boat Show Mode, No Auto Reset)
  - Offers continuous Demo Data and configurations
- Off (Normal Use Mode)
  - Will return the DSM Display to using data from the NMEA 2000® bus.



# DSM SERIES DISPLAYS

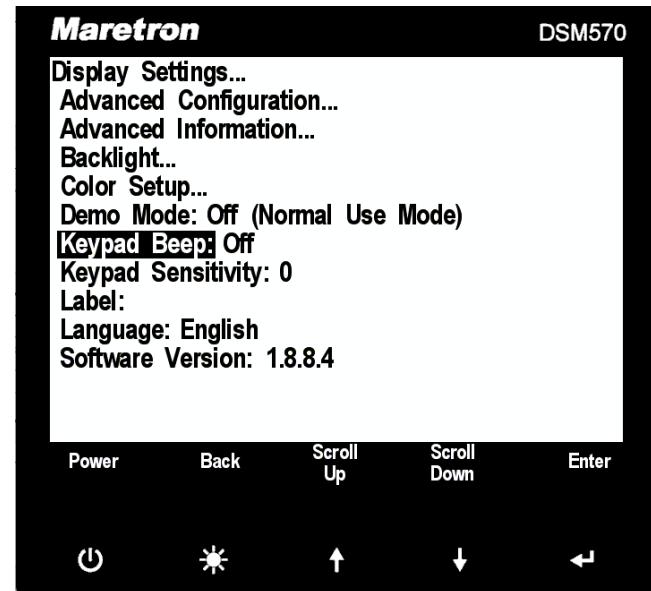
## Display Settings - Keypad Beep

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### Keypad Beep

The DSM Displays offer an annunciator that can be programmed to beep every time a key is pressed.

The keypad beep may be disabled if desired.



# DSM SERIES DISPLAYS

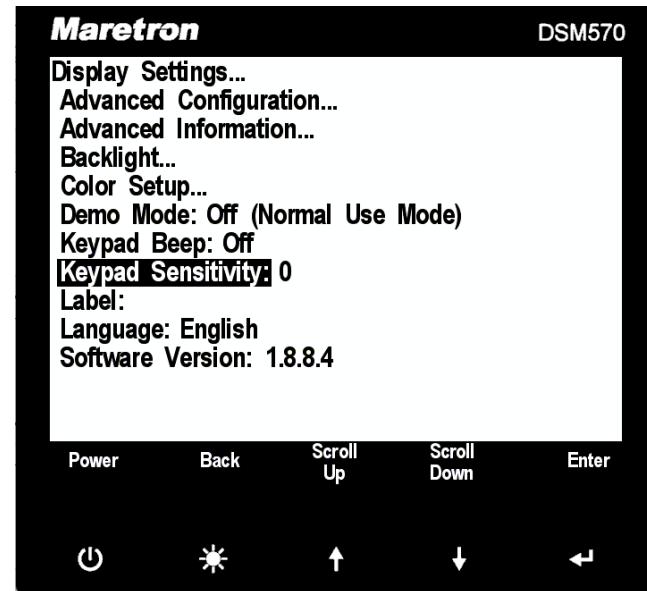
## Display Settings - Keypad Sensitivity

### Keypad Sensitivity

The DSM Series displays are available to use in a variety of installation environments both wet & dry locations.

The Keypad Sensitivity allows the user to adjust the responsiveness of the keypad controls to support the installation environment as needed.

\*Exclusive feature for DSM410 and DSM570

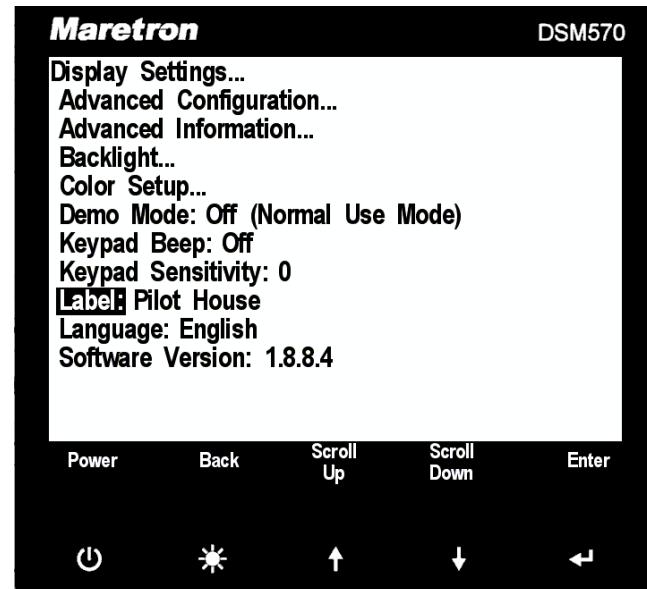
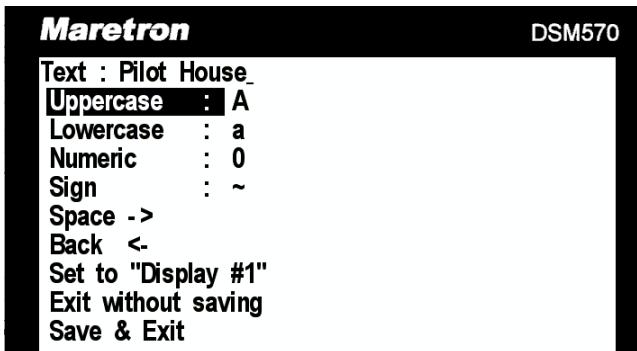


# DSM SERIES DISPLAYS

## Display Settings - Label

### Label

Each DSM Display can be given a software label. Normally this label will indicate the position/location of the Display and is used by the Alert System to identify one DSM Display from another on a network.



# DSM SERIES DISPLAYS

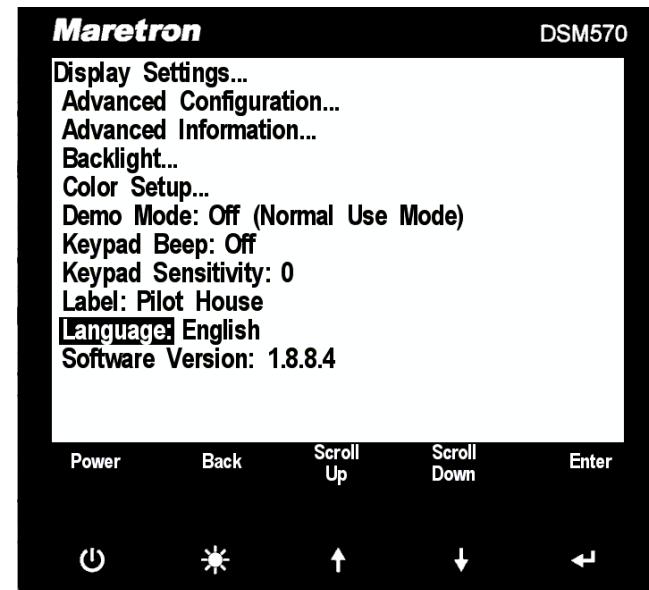
## Display Settings - Language

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### Language

The DSM Displays offers 3 languages of support.

- English
- Français (French)
- Dutch



# DSM SERIES DISPLAYS

## Display Settings - Software

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### Software

Displays the active Software Version running on the display.



# DSM SERIES DISPLAYS

## Settings - Favorite Screens

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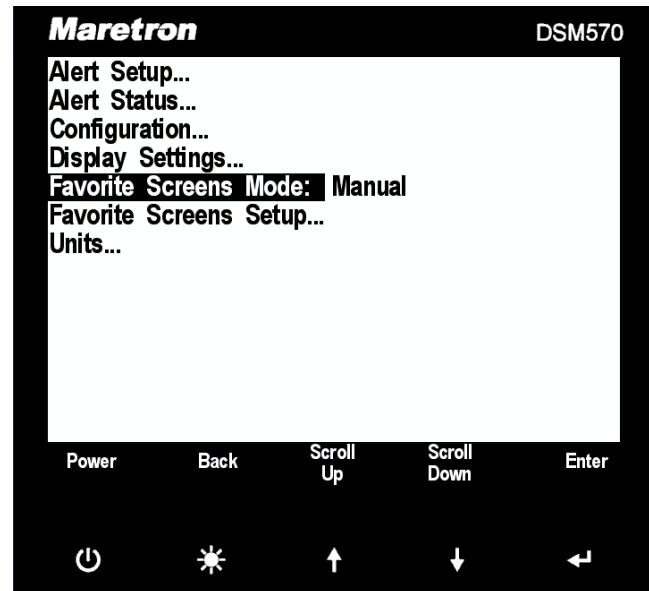
### Favorite Screens Mode

#### Manual

- A particular “favorite” screen remains on the display until you select another one

#### Auto

- The DSM automatically cycles between “favorite” screens, at time intervals which are individually programmable for each “favorite” screen.



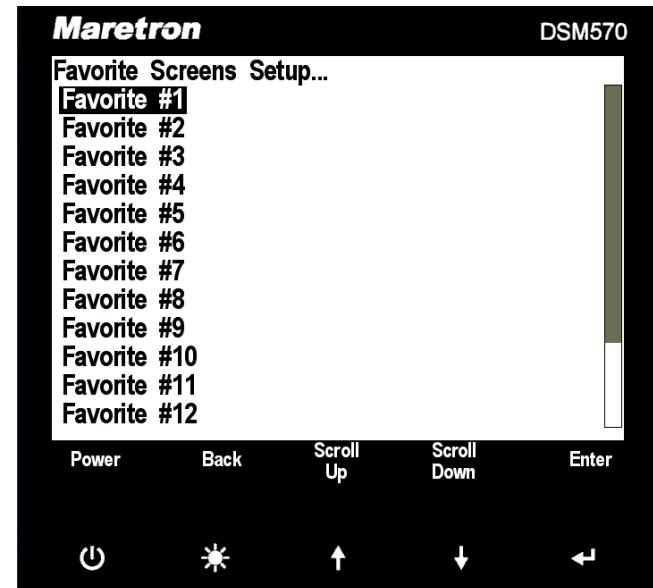
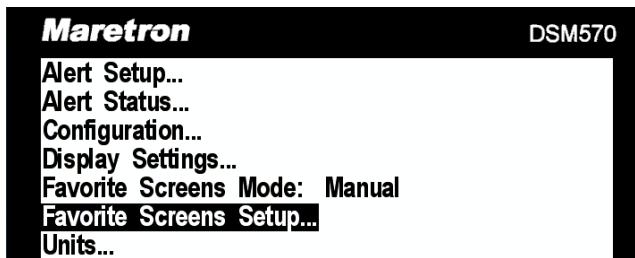
# DSM SERIES DISPLAYS

## Favorite Screens - Screens Setup

### Favorite Screens Setup

Supports the configuration of sixteen favorite screens.

The favorite setup screen allows you to select which of the sixteen favorite screens you wish to configure.



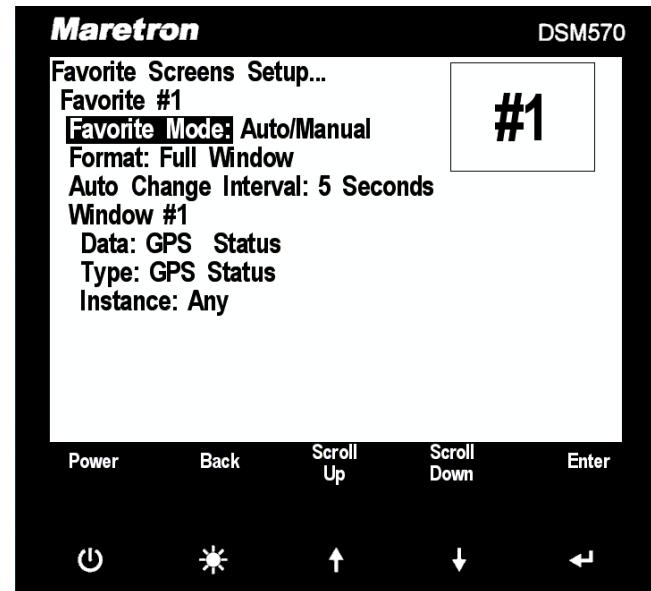
# DSM SERIES DISPLAYS

## Favorite Screens - Favorite Mode

### Favorite Mode

Illustrates which screen mode this page will be displayed

- **Auto/Manual**
- **Auto** Cycles through screen at set change interval
- **Manual** User manually toggles through screens
- **Off** Disables screen



# DSM SERIES DISPLAYS

## Favorite Screens - Format

### Format

Defines the layout of the Favorite Screen

- Full Window



- Half Left/Right



- 2/3 Top – 1/3 Bottom



- Half Top/Bottom



- 1/3 Top – 2/3 Bottom



- 2 Qtrs – Half Bottom



- Half Left – Qtr – Qtr



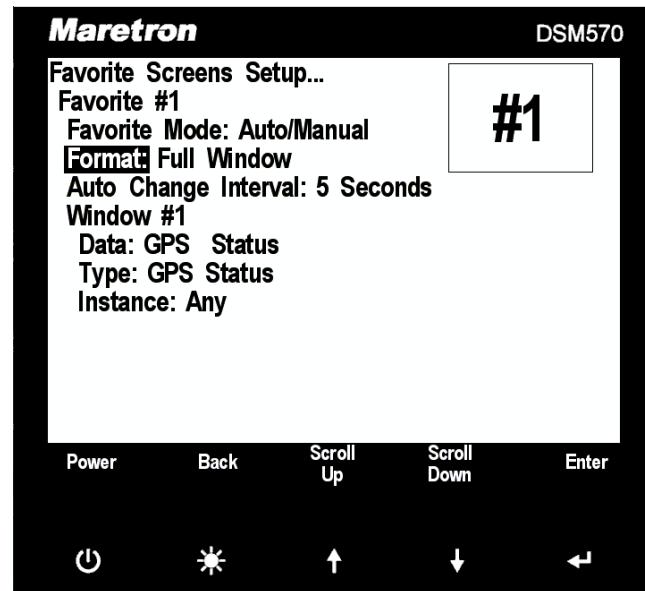
- Half Top – 2 Qtrs



- Qtr – Half – Qtr



- 4 Qtrs



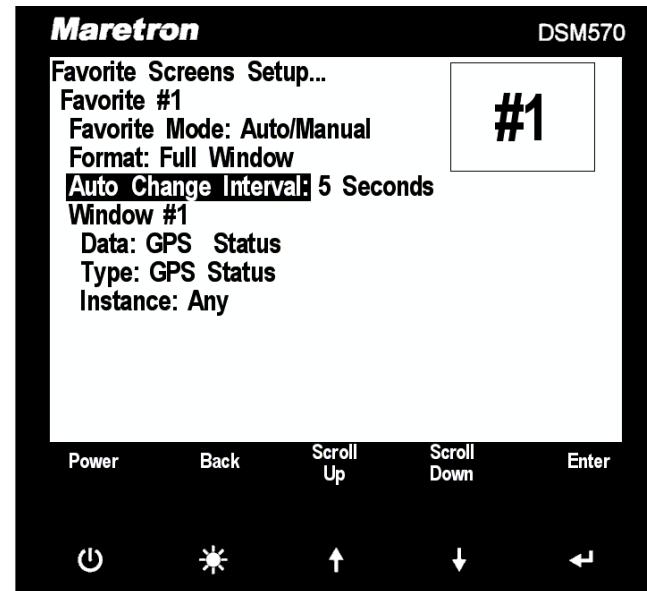
# DSM SERIES DISPLAYS

## Favorite Screens - Screen Change Interval

### Auto Change Interval

While in Auto mode, this parameter determines the amount of time this favorite screen is displayed before the DSM automatically cycles to the next higher numbered favorite screen.

This parameter is programmable between 1-180 seconds.



# DSM SERIES DISPLAYS

## Favorite Screens - Window Data

### Window Data

The Window Data section of the menu allows you to select a particular type of data to be displayed in each part of the screen.

Selecting the data to be displayed is a two-step process.

- First, press the Enter key and select the category of data to be displayed.
- Once you select the category, press the Enter key to accept this category, at which time the highlight will move to the data type field, where you can display the particular data type from the selected category to be displayed



# DSM SERIES DISPLAYS

## Favorite Screens - Data Categories

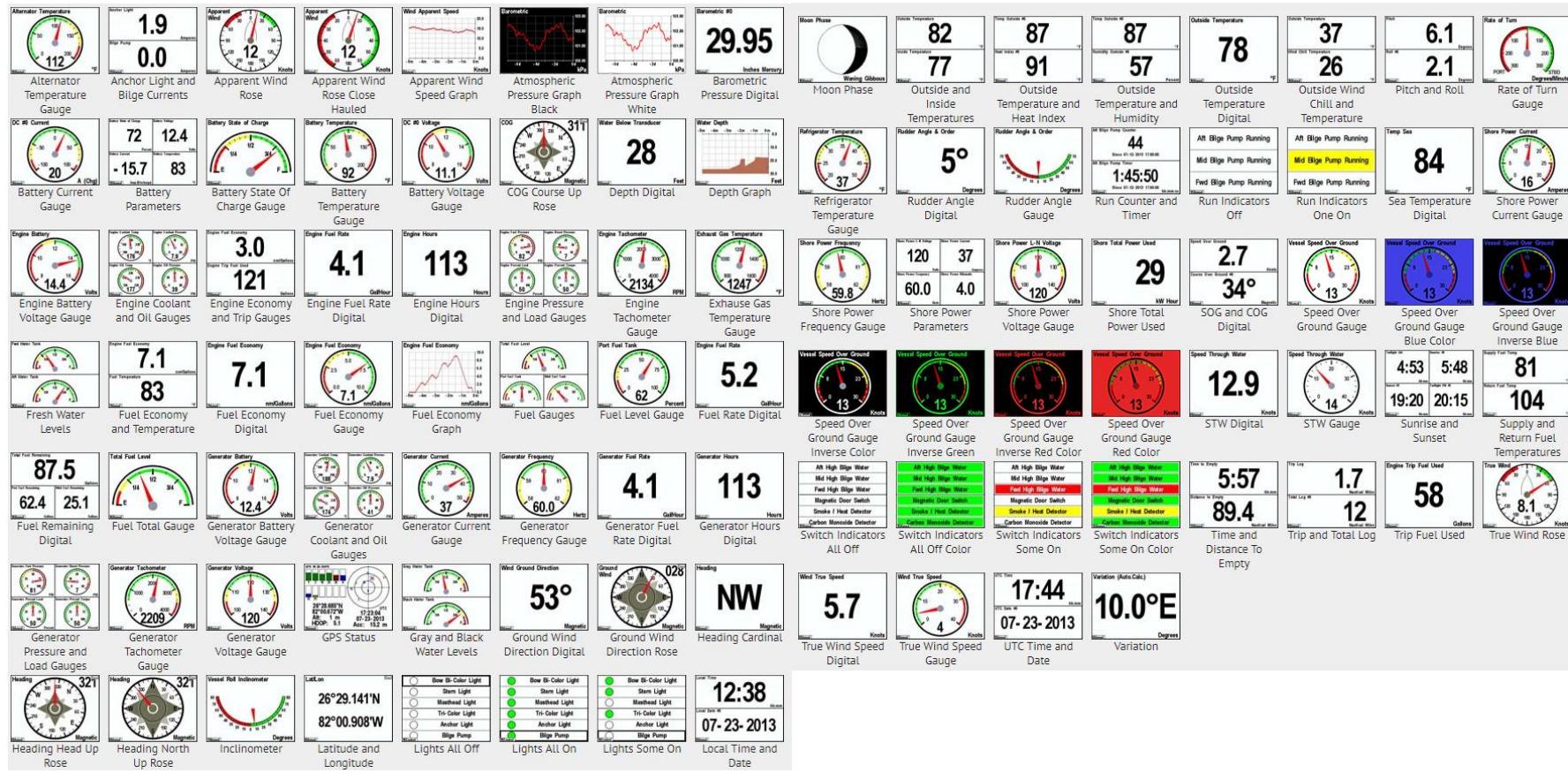
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### Window Data Categories

AC (Bus, Generator, Utility)	GPS	Special Device
Anchor Watch	Heading	Speed
DC	Humidity	Tank
Depth	Indicator	Temperature
Electrical	Mechanical	Time/Date
Elec. Distribution	Motion	Transmission
Engine	Navigation	VDR
Environment	Pressure/Vacuum	Vessel
Fluid Flow	Rudder	Wind
Fuel Management	SMS (Text) Status	

# DSM SERIES DISPLAYS

## Favorite Screens - Data Window Snapshot



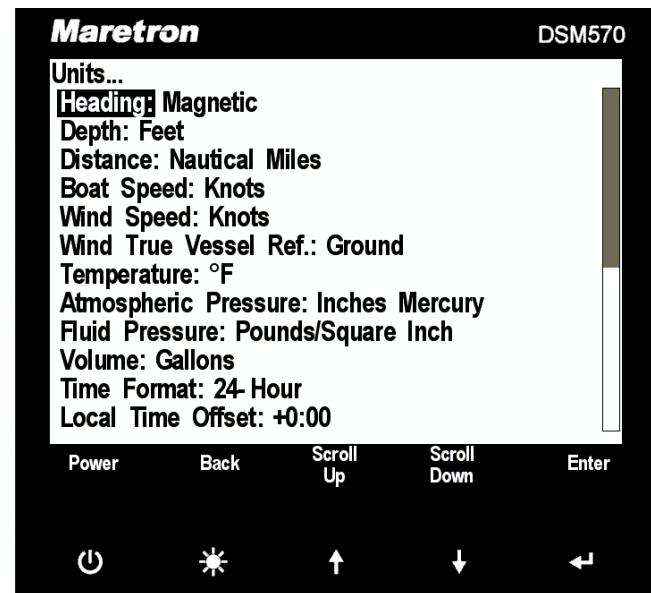
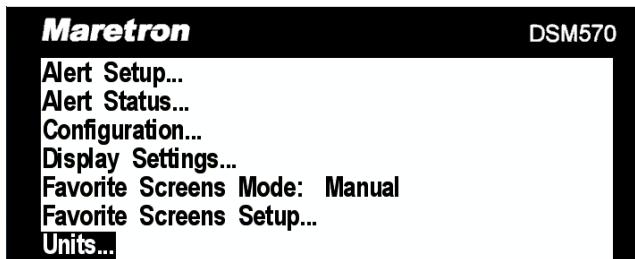
# DSM SERIES DISPLAYS

## Settings - Units

### Units

Allows you to set the desired profile of units for multiple parameters, such as:

- Depth
- Speed
- Temperature
- Volume
- etc.



# DSM SERIES DISPLAYS

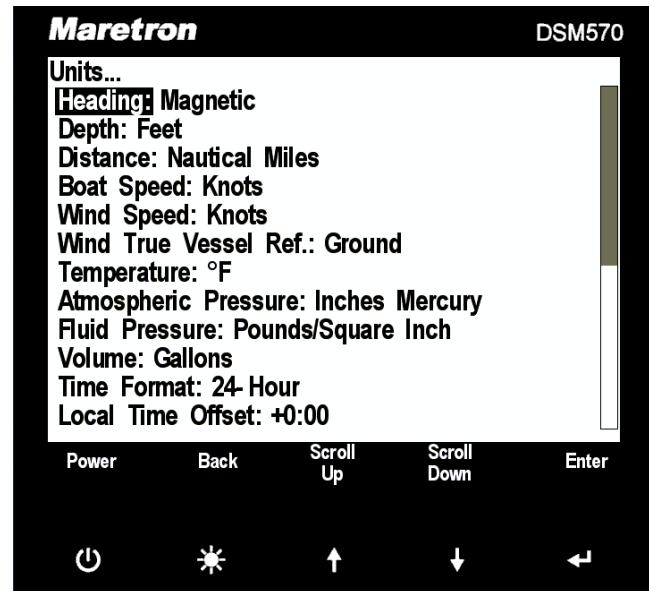
## Adv Features - Control Mode

### Control Mode

Control mode may be entered from the favorite screens mode of the display to perform certain control and reset functions.

The following functions may be performed in control mode:

- **Switch/Breaker** – may be switched on and off
- **Anchor Watch** – Anchor Drop position may be set to the current GPS position
- **Engine Trip Fuel Used** – may be reset to zero for fuel flow transducers that are capable of being reset via the 126208 NMEA 2000® command message, such as the Maretron FFM100
- **Trip Volume** – may be reset to zero for fluid flow transducers that are capable of being reset via the 126208 NMEA 2000® command message, such as the Maretron FFM100
- **Trip Log** – may be reset to zero for log transducers that are capable of being reset via the NMEA 2000® command message, such as the Maretron DST110, may be reset with the control mode of the display



# DSM SERIES DISPLAYS

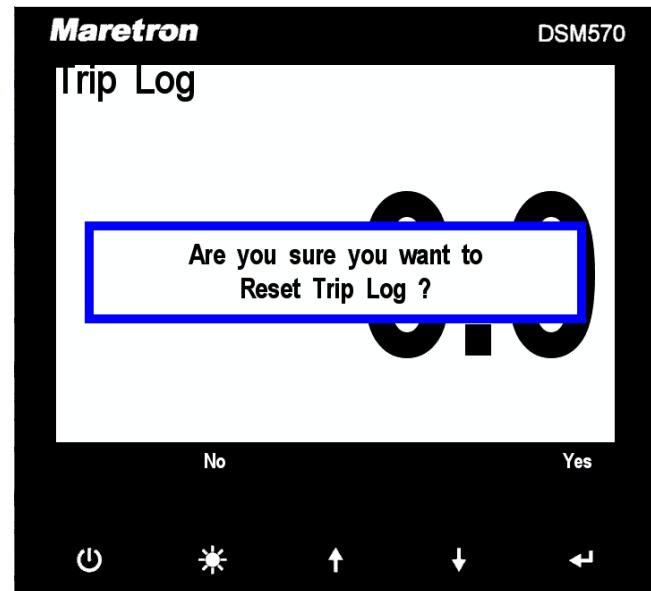
## Adv Features - Control Mode

### Control Mode

For resetting “Engine Total Fuel Used”, “Trip Volume”, or “Trip Log”, use the following procedure to reset the total in the transducer providing the value.

In normal operating mode, use the “Scroll Up” and “Scroll Down” keys to change to the screen containing the display to be reset. Once that screen is displayed, follow these steps to reset the appropriate display:

- Press the “Enter” key for approximately one second. This will place the display into “Control mode”, and one of the controllable items on the screen will be highlighted with a thick border.
- If there is more than one controllable item on the screen, you may use the “Scroll Up” and “Scroll Down” keys to change the highlight to the display to be reset.
- Once the display to be reset is selected, then press the “Power” key. You will then see a confirmation popup asking whether it is okay to set the Anchor Drop position to the current position. If you answer “Yes”, then the Anchor Drop position will be set to the current GPS position.
- To exit the control mode, press the “Lights” key to return to normal operating mode. The highlight will disappear.



# DSM SERIES DISPLAYS

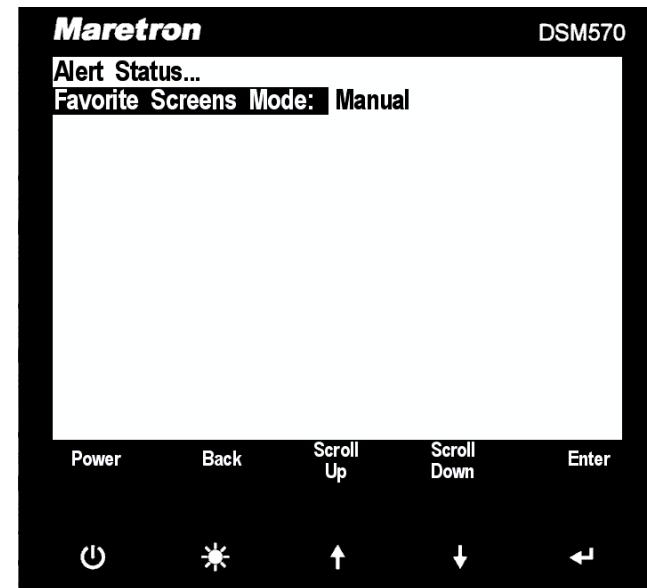
## Adv Features - Screen Lock

### Screen Lock

Sometimes, it is desirable to lock the settings of the DSM in order to keep them from being inadvertently changed. The DSM has a settings lock mode in which the settings of the DSM cannot be changed.

To enter the lock mode, do the following steps:

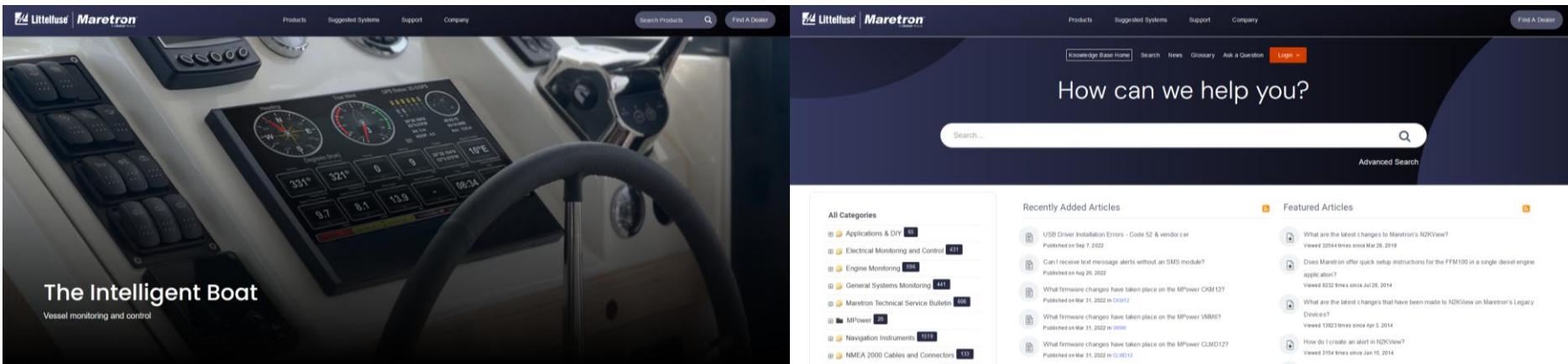
1. Begin with the DSM570 powered off.
2. Press and hold the Up and Enter buttons.
3. While you are holding these two buttons, press and release the Power button.
4. Once the DSM570 has powered on and is displaying the warning screen, you may release the two buttons you are holding.
5. The DSM570 is now in settings lock mode. You can verify this by pressing the Enter key to display the main menu. You should see only the “Alert Status” and “Favorite Screens Mode” menu entries.
6. Repeat to disable this feature.



# RESOURCES

## Website Resources

The Maretron website has been recently updated to offer our users access to all of the latest technical materials with the ease of navigation. Datasheets, Manuals, Training Videos, Software, Knowledge Base and Sample Systems and more at your fingertips!!



The image shows a screenshot of the Maretron website. The top navigation bar includes links for Products, Suggested Systems, Support, and Company, along with a search bar and a 'Find A Dealer' button. The main content area features a large image of a boat's helm with a digital display showing navigation and engine data. Below this image, the text 'The Intelligent Boat' and 'Vessel monitoring and control' is displayed. To the right, there are three columns: 'All Categories' (listing Applications & DIY, Electrical Monitoring and Control, Engine Monitoring, General Systems Monitoring, Maretron Technical Service Bulletin, MPower, and Navigation Instruments), 'Recently Added Articles' (listing several articles with their titles and publish dates), and 'Featured Articles' (listing several articles with their titles and view counts).

[www.Maretron.com](http://www.Maretron.com)

# RESOURCES

## Technical Support

### Maretron Technical Support (Maretron, MPower and OctoPlex Brands)

Monday – Friday 830am - 5pm (EST)

End-User Support: (603) 324-7900

#### Inquiries & RMAs



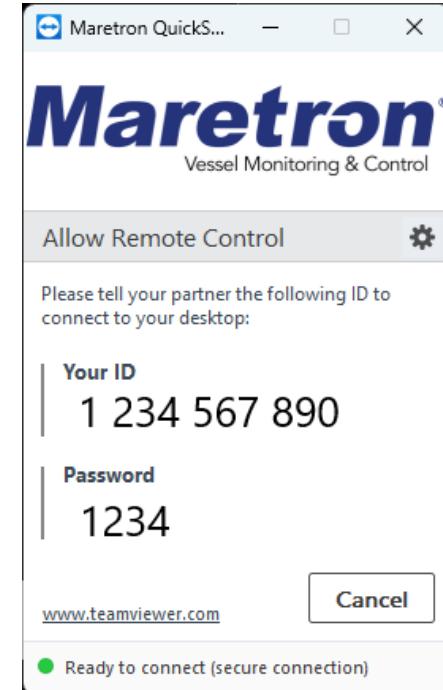
#### Add to Contacts



#### Knowledge Base

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