



# ***DMP MONITORING & CONTROL SYSTEM 1.0***



*Sea Ray*

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## 1.0 USING THE SEARAY NAVPANEL

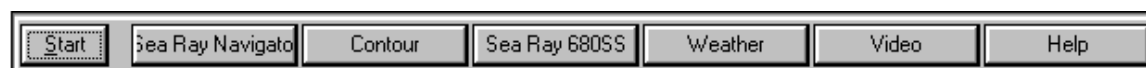
The Sea Ray NavPanel acts as your onboard computer's "desktop." The NavPanel provides access to all of Sea Ray Navigator's features and information, and also provides options for configuring how Sea Ray Navigator looks and operates. The following is a brief guide for using the NavPanel.

### **Sea Ray Navigator Desktop**



These six windows are actually buttons, serving as links to the different components of the Sea Ray Navigation System. Press any button for access to the related information or application.

### **NavBar**



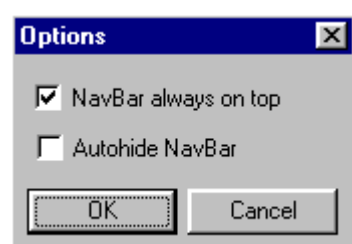
The NavBar is modeled after the familiar Windows Start bar. Its Start menu contains all the options you will need to configure the NavPanel to your liking.

The NavBar also includes six other buttons, corresponding to the larger button links in the center of your desktop. These NavBar buttons ensure that you will have access to all of Sea Ray Navigator's features, even when the desktop is hidden from view.

### **Moving ("Docking") the NavBar**

When you first start using Sea Ray Navigator, the NavBar is located at the top of your screen. If you like, you can move it to any other side of your screen: touch the gray area outside the buttons, and drag towards another edge. As you move, an outline will appear on your screen, indicating the NavBar's new location. Lift your finger and the NavBar will appear in its new location.

### **Hiding the NavBar from View**



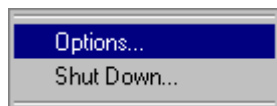
If you like, you can temporarily hide the NavBar from view. This maximizes the space available for showing other data (charts, weather, etc.). Choose **Options** from the Start menu, and check **Autohide NavBar**. The NavBar will disappear from view. When you need access to the NavBar, simply touch the part of the screen where the NavBar was, and it will reappear.

To undo the autohide, choose **Start, Options** and select **NavBar always on top**. This will keep the NavBar on top of any other windows, so it will always be visible.

### **The Start Menu**

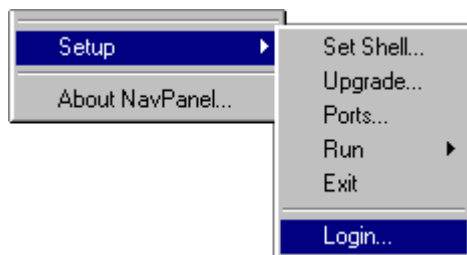


The first six items in the Start menu correspond to the six main components of the Sea Ray Navigator navigation system. These menu items match the buttons on the NavBar and the six large buttons on the Sea Ray Navigator desktop.



**Options:** Lets you temporarily hide the NavBar from view (Autohide), or ensure that it is always visible (Always on Top).

**Shut Down:** Shuts down Sea Ray Navigator and turns off the computer.



**Setup:** The Setup submenu provides configuration options. *Access to these options requires administrator login.*

**Set Shell:** The Default Windows Shell determines whether the computer opens to the Sea Ray Navigator interface and desktop, or to Microsoft Windows Explorer (Windows desktop and Start bar). Your choice will take effect the next time you turn on your computer. (When Microsoft Windows Explorer is the default shell, you will be able to start Sea Ray Navigator as you would any other program, by choosing it from the Start/Programs list or by clicking its desktop shortcut.)

**Upgrade:** Applies any available Sea Ray Navigator upgrades.

**Ports:** Lets you specify the COM ports being used for GPS signal and Autopilot signal.

**Run:** Lets you run Windows Explorer, or use Windows Hyperterminal to check connection status at specific COM ports.

**Exit:** Closes Sea Ray Navigator.

**Login:** Administrator login and password is required here for access to these Setup options.

**About NavPanel:** Gives the Sea Ray Navigator Nav Panel version number.



## 1.1 USING MONITORING & CONTROL SYSTEM SOFTWARE

### Step 1. Computer 1

From the Searay NavPanel click on the (Searay 680 SS) DMP Monitoring & Control System button.

This will start the Monitoring & Control program :



**Computer 1**

### Step 2. Computer 2.

When the Main Menu of the Monitoring & Control System of **Computer 1** appear, (or vice versa, (redundant)) then start the Monitoring & Control System Program on *Computer 2*.

The Monitoring & Control System Program will start on Computer 2.

The Main Menu of the Monitoring System of Computer 2 appears. After a few seconds the Computer will *Connect* to the Server Computer1: \_\_\_\_\_



At the top of the left side of the screen the following field appears: **Client.**



**Server Computer 1**



### Client Computer 2

**\* Do not start both Monitoring & Control System Software at the same time.**  
Wait until one Monitoring System software is started up and then start the other Monitoring System software.

**\* What to do if *both* Monitoring & Control Systems Software are *servers* or *both* Monitoring & Control Systems Software are *clients* ?**

**Quit** both Monitoring & Control Programs and follow step 1 and 2 again. (See 1.1)

## **CAUTION :**



***The unit should be left on continuously with the exception of the Lcd Touchscreens for reliability and smooth operation of the Searay 680 Monitoring & Control Software.***

***Turning off the unit (computers or junctionboxes) will cause serious problems:***

***No **Alarm** and no Trending !***



## 2.0 MAIN MENU

From the Searay NavPanel click on the DMP Monitoring System button.  
The Main Menu of the Monitoring System appears:



*Main Menu Monitoring System*

From the Main Menu any one of the screens of information's can be selected.  
The operator simply needs to touch the block labeled with the information wishes to view.

As indicated these are for the **Searay 680 SS** Monitoring System:

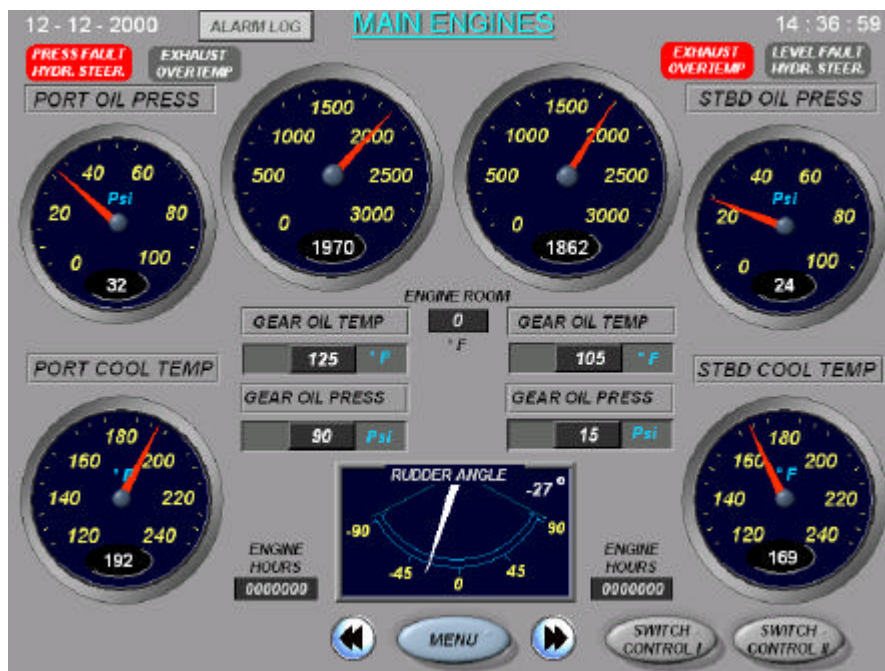
- MAIN ENGINES
- PORT ENGINE
- STBD ENGINE
- GENERATORS
- TANKS
- NMEA DATA
- SWITCH CONTROL I
- SWITCH CONTROL II
- FIRE ALARMS
- SECURITY
- BILGE PUMPS
- NAV LIGHTS
- ALARM LOG
- HISTORICAL TREND
- ABOUT SYSTEM
- DC MONITORING
- AC SHORE POWER
- AC II SHIPS POWER \*



## 2.1 MAIN ENGINES

### MAIN ENGINES

Touch from the **Main Menu** the block labeled **Main Engines**.  
The Main Engines screen appears :



### Main Engines

The Main Engines screen shows the most important information from two main engines:

#### Port & Stbd Engine

- ✓ RPM
- ✓ Engine Oil Pressure
- ✓ Engine Coolant Temperature
- ✓ Gear Oil Temperature
- ✓ Gear Oil Pressure
- ✓ Engine Hours
- ✓ Engine Room Temperature
- ✓ Rudder Angle Indicator
- ✓ Exhaust High Temp



Click on this button *Menu* to go back to the Main Menu of the Monitoring System.



Click on this button *Next Page* to select one page forward.



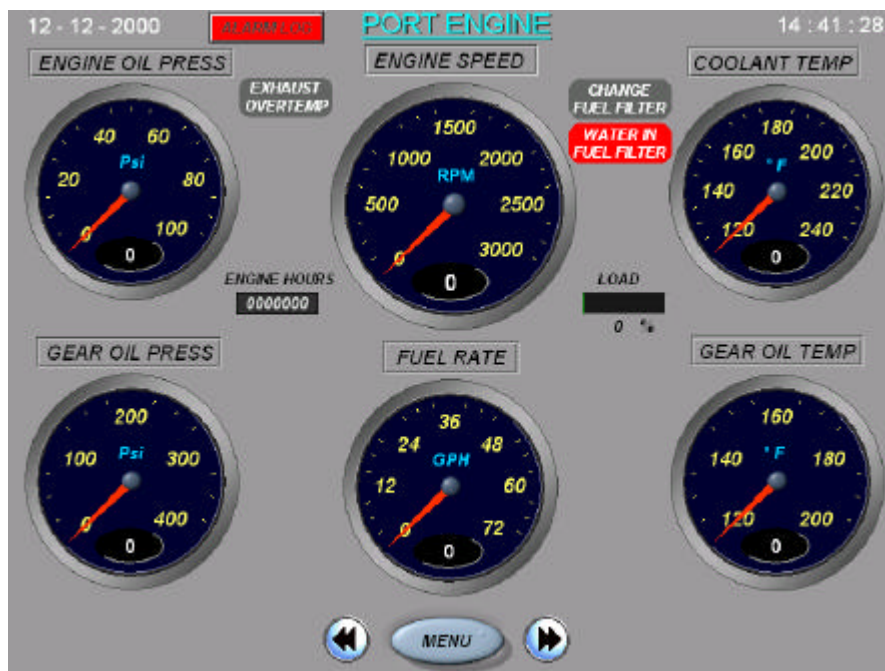
Click on this button *Previous Page* to select one page backward.



Click on this button *Alarm Page* to select the Alarm Logging page.

## 2.2 PORT ENGINE

Touch from the **Main Menu** the block labeled **Port Engine**.  
The Port Engine screen appears :



*Port Engine*

The following parameters displayed for the Port Engine Page :

### **Port Engine**

- ✓ RPM
- ✓ Engine Hours
- ✓ Engine Oil Pressure
- ✓ Engine Coolant Temp
- ✓ Gearbox Oil Pressure
- ✓ Gearbox Oil Temperature
- ✓ Engine Load
- ✓ Fuel Consumption
- ✓ High Exhaust Temp Indicator
- ✓ Change Fuel Filter Indicator
- ✓ Water in Fuel Filter Indicator



Click on this button **Next Page** to select one page forward.

## 2.3 STBD ENGINE

STBD ENGINE

The next screen Stbd Engine appears :



*Stbd Engine*

The Stbd Engine screen shows the following information:

### **Stbd Engine**

- ✓ RPM
- ✓ Engine Hours
- ✓ Engine Oil Pressure
- ✓ Engine Coolant Temp
- ✓ Gearbox Oil Pressure
- ✓ Gearbox Oil Temperature
- ✓ Engine Load
- ✓ Fuel Consumption
- ✓ High Exhaust Temp Indicator
- ✓ Change Fuel Filter Indicator
- ✓ Water in Fuel Filter Indicator



Click on this button **Menu** to go back to the Main Menu.

## 2.4 GENERATOR

Touch from the **Main Menu** the block labeled **Generator**.  
The Generator System screen appears :

GENERATOR



Generator Screen

The Generator screen shows the following information:

### Generator

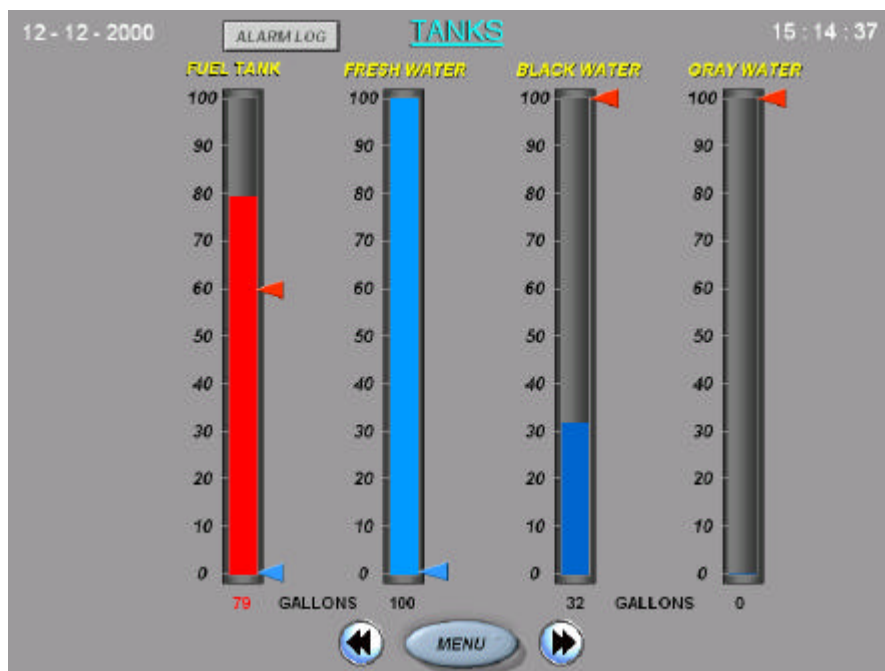
- ✓ Generator Oil Pressure
- ✓ Generator Coolant Temperature
- ✓ Generator Running Hours
- ✓ Generator Voltage
- ✓ Generator Frequency
- ✓ Generator Current L1-L2
- ✓ Generator Power
- ✓ Generator Water in Fuel Filter Indicator
- ✓ Generator Change Fuel Filter Indicator



Click on this button **Menu** to go back to the Main Menu.

## 2.5 TANKS

Touch from the **Main Menu** the block labeled **Tanks**.  
The Tanks screen appears :



*Tanks Screen*

The Tanks screen shows the following information:

### **Tanks**

- ✓ Fuel Day Tank
- ✓ Fresh Water Tank
- ✓ Black Water Tank
- ✓ Gray Water Tank \*

### **High / Low Alarm Tanks**

Use the Operation Tool (as shown in the following illustration), as the slider to change alarm values.

You can drag the slider to a new position to change a high or a low Alarm.

**H** **High Alarm**

**Low** **L Alarm**



Click on this button **Main Menu** to go back to the Main Menu.

\* Optional

## 2.6 NMEA DATA

NMEA DATA

Touch from the **Main Menu** the block labeled **Nmea Data**.  
The Nmea Data screen appears :



*Nmea Data Screen*

The Nmea Data screen shows the following information (See Section 4.5 'NMEA Data Protocol' for more NMEA Data information):

### **Nmea Data**

- ✓ Rudder Angle Indicator
- ✓ Ships Position (GPS)
- ✓ Outside Temperature
- ✓ Water Temperature
- ✓ Speed
- ✓ Water Depth



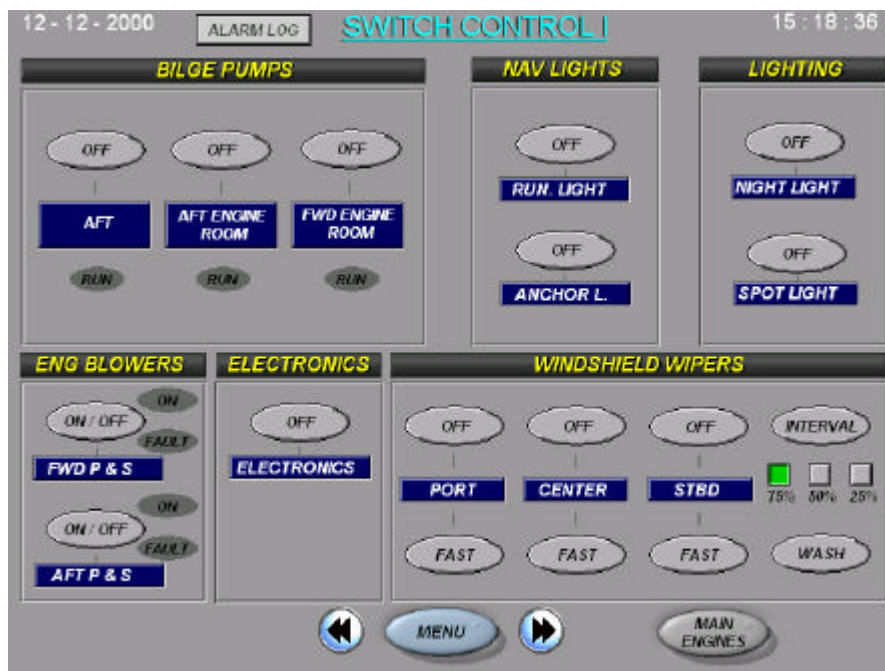
Click on this button **Main Menu** to go back to the Main Menu.



## 2.7 SWITCH CONTROL I

### SWITCH CONTROL I

Touch from the **Main Menu** the block labeled **Switch Control I**.  
The Switch Control I screen appears :



Switch Control Screen I

The following parameters displayed for the Switch Control Page I:

### Switch Control

- ✓ Bilge Pumps
- ✓ Navigation Lights
- ✓ Ships Lighting
- ✓ Engine Room Blowers
- ✓ Electronics
- ✓ Windshield Wipers



Click on this button **Main Engines** to go to the Main Engines Page.

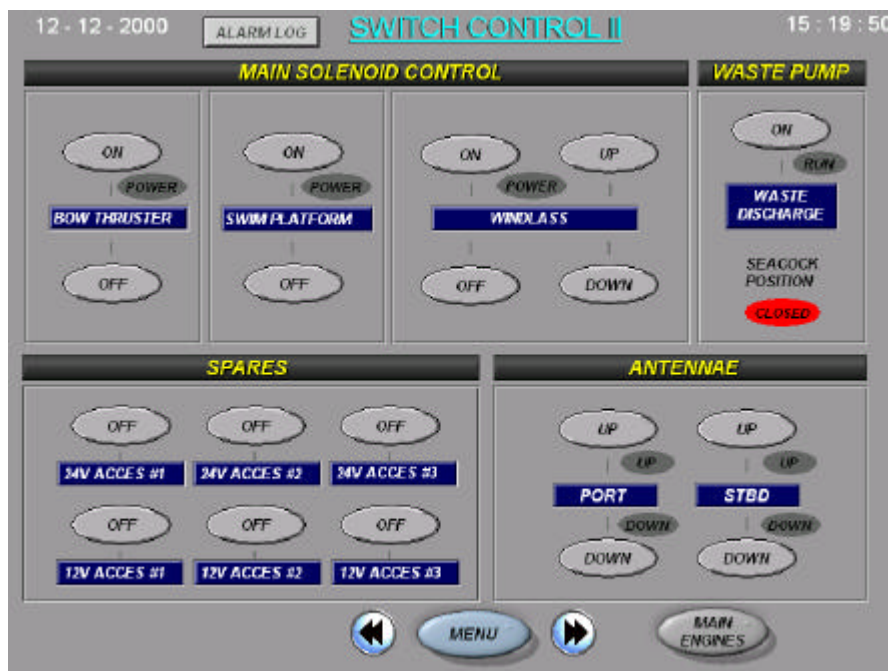


Click on this button **Main Menu** to go back to the Main Menu.

## 2.8 SWITCH CONTROL II

Touch from the **Main Menu** the block labeled **Switch Control II**.  
The Switch Control II screen appears :

SWITCH CONTROL II



*Switch Control Screen II*

This Switch Control II Screen shows the following information:

### **Switch Control**

- ✓ Main Solenoid Control
  - Bow Thruster
  - Swim Platform
  - Windlass
- ✓ Waste Discharge Pump
- ✓ Spares
  - 24V Accessory #1-3
  - 12V Accessory #1-3
- ✓ Antennae
  - Port & Stbd Antennae



Click on this button **Main Engines** to go to the Main Engines Page.

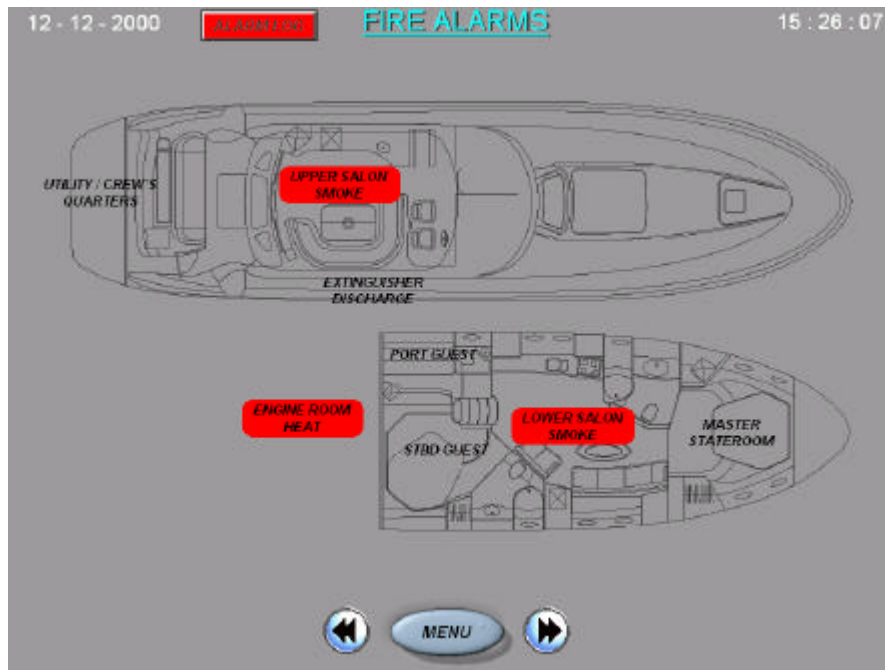


Click on this button **Main Menu** to go back to the Main Menu.

## 2.9 FIRE ALARMS

### FIRE ALARMS

Touch from the **Main Menu** the block labeled **Fire Alarms**.  
The Fire Alarm System screen appears :



*Fire Alarm Screen*

The Fire Alarm Screen shows the following information:

### **Fire Alarms**

- ✓ Upper Salon Smoke
- ✓ Utility / Crew's Quarters Smoke
- ✓ Extinguisher Discharge Alarm
- ✓ Port Guest Stateroom Smoke
- ✓ Stbd Guest Stateroom Smoke
- ✓ Lower Salon Smoke
- ✓ Master Stateroom Smoke
- ✓ Lower Salon Smoke
- ✓ Engine Room Heat

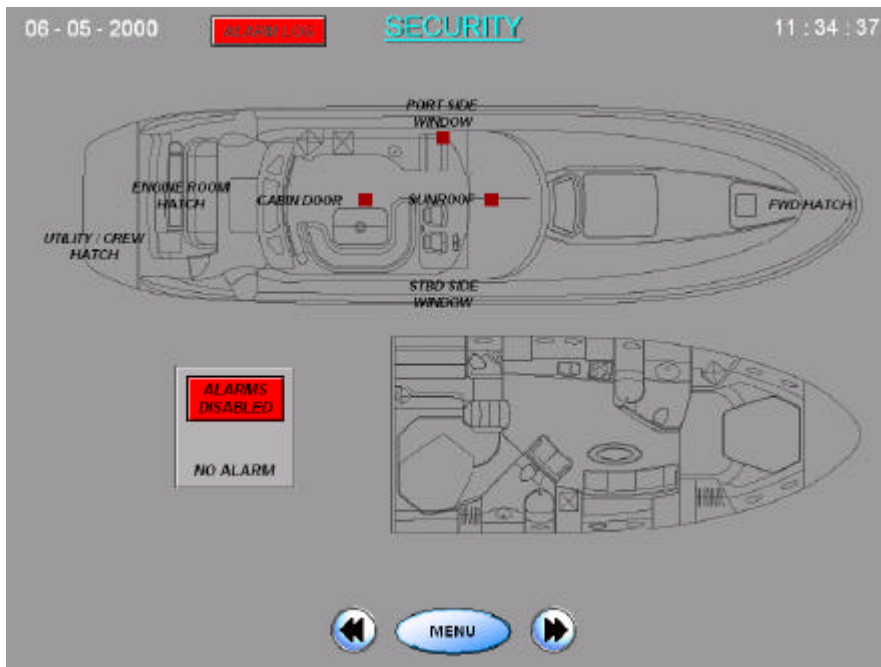


Click on this button **Main Menu** to go back to the Main Menu.

## 2.10 SECURITY

SECURITY

Touch from the **Main Menu** the block labeled **Security**.  
The Security Alarm System screen appears :

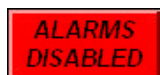


Security System Screen

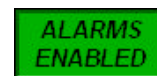
The Security Alarm System Screen shows the following information:

### Security System

- ✓ Cabin Door
- ✓ Engine Room Hatch
- ✓ Utility / Crew's Hatch
- ✓ Sunroof
- ✓ Port Side Window
- ✓ Stbd Side Window
- ✓ Fwd Hatch



Click on this button to **Enable / Disable** the *Security Alarm System*.  
When enabled the button will be highlighted green.



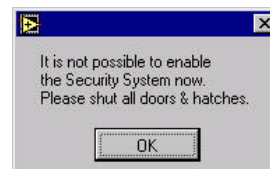
Pushing the Security System Alarm will set the intrusion alarm.

A delay of 30 seconds is incorporated in the Alarm sounding so the operator can disable Security System when re-entering / exit.

Once the Timer is set, alarm will sound after 30 seconds unless the operator *turns off* (alarms disabled) the alarm feature.

***All Alarms contacts need to be closed before Security System can be enabled !***

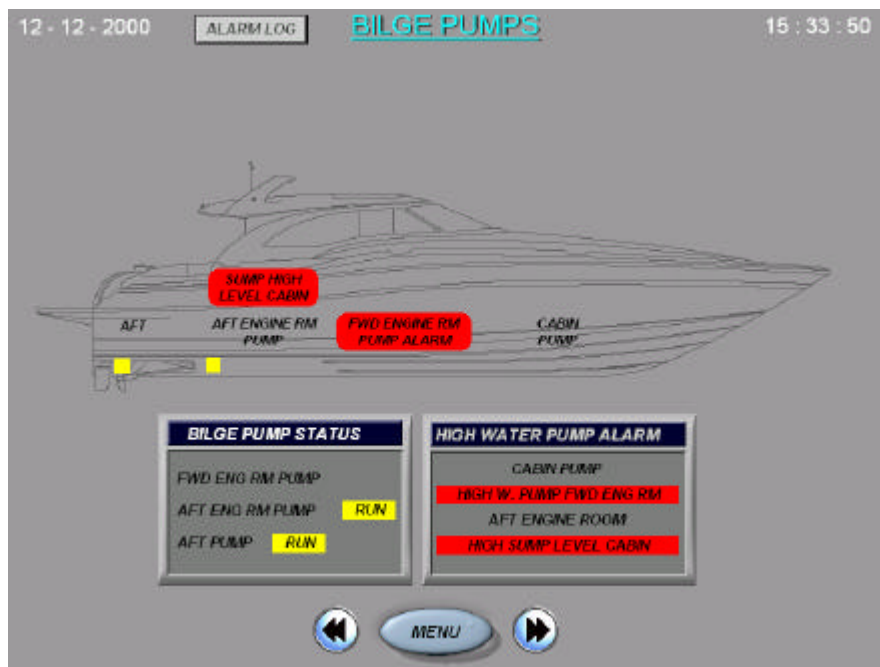
The Computer System gives the following message: *It is not possible to enable the Security System now. Please Shut all Doors & Hatches.*



## 2.11 BILGE PUMPS

### BILGE PUMPS

Touch from the **Main Menu** the block labeled **Bilge Pumps**.  
The Bilge Pumps System screen appears:



*Bilge Pumps Screen*

The Bilge Alarm Screen shows the following information:

### ***Bilge Pumps Status & Alarms***

- ✓ Bilge Pump Fwd Engine Run Indicator
- ✓ Bilge Pump Aft Engine Room Pump Run indicator
- ✓ Bilge Pump Aft Pump Run indicator
- ✓ High Water Pump Alarm Cabin
- ✓ High Water Pump Alarm Fwd Engine Room
- ✓ High Water Pump Alarm Aft Engine Room
- ✓ High Water Pump Alarm Sump Cabin

The High Water circuits are tied to the audible Alarm.

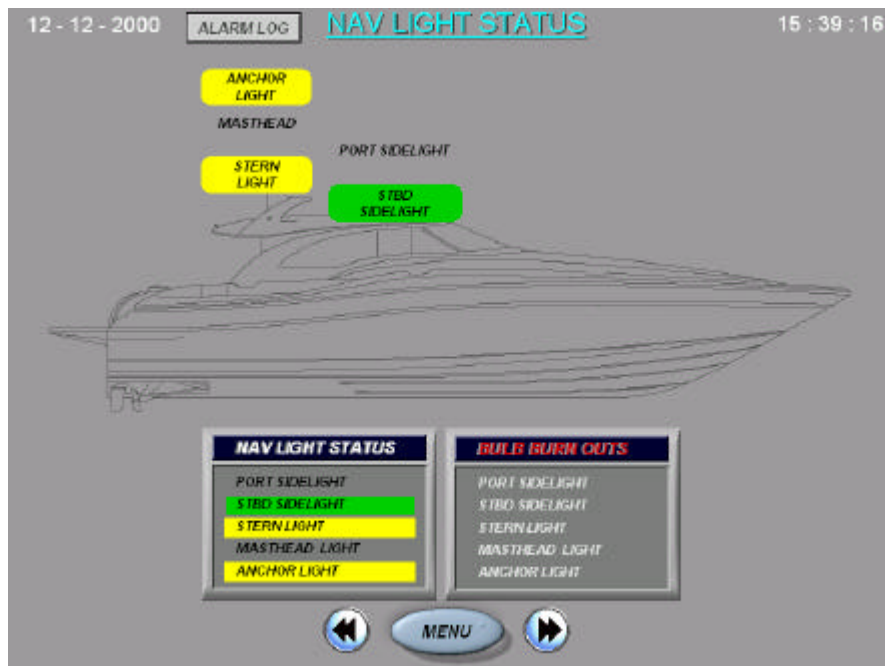


Click on this button **Main Menu** to go back to the Main Menu.

## 2.12 NAVIGATION LIGHTS

NAV LIGHTS

Touch from the **Main Menu** the block labeled **Nav Lights**.  
The Navigation Lights screen appears:



*Navigation Lights Screen*

The Navigation Lights Screen shows the following information:

### **Navigation Light Status & Bulb Burn Out**

- ✓ Port Sidelight
- ✓ Stbd Sidelight
- ✓ Stern Light
- ✓ Masthead Light
- ✓ Anchor Light
- ✓ Port Sidelight Bulb Burn Out Alarm
- ✓ Stbd Sidelight Bulb Burn Out Alarm
- ✓ Stern Light Bulb Burn Out Alarm
- ✓ Masthead Light Bulb Burn Out Alarm
- ✓ Anchor Light Bulb Burn Out Alarm



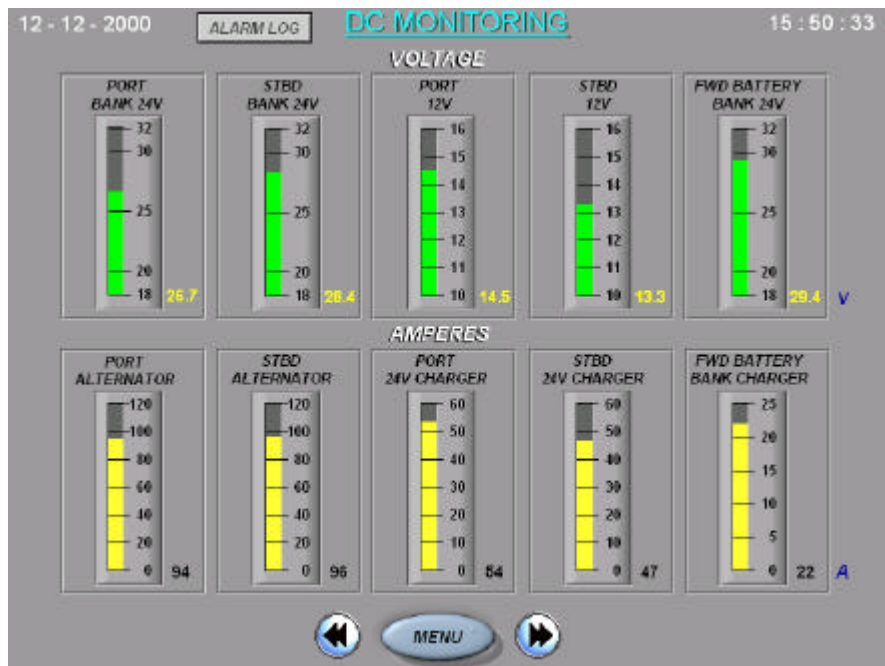
Click on this button **Main Menu** to go back to the Main Menu.



## 2.13 DC MONITORING

### DC MONITORING

Touch from the **Main Menu** the block labeled **DC Monitoring**.  
The DC Monitoring screen appears:



DC Monitoring Screen

The DC Monitoring Screen shows the following information:

### DC Monitoring System

#### Voltage

- ✓ Port Bank 24V
- ✓ Stbd Bank 24V
- ✓ Port 12V
- ✓ Stbd 12V
- ✓ Fwd Battery Bank 24V

#### Amperage Output

- ✓ Port Alternator
- ✓ Stbd Alternator
- ✓ Port 24V Charger
- ✓ Stbd 24V Charger
- ✓ Fwd Battery Bank Charger



Click on this button **Main Menu** to go back to the Main Menu.

## 2.14 AC SHORE POWER

### AC SHORE POWER

Touch from the **Main Menu** the block labeled **AC Shore Power**.  
The AC Shore Power System screen appears:



### AC Monitoring Shore Power

The AC Monitoring System Screen shows the following information:

### AC Monitoring Shore Power

- ✓ Shore Power 1 Voltage
- ✓ Shore Power 1 Current
- ✓ Shore Power 1 Frequency
- ✓ Shore Power 2 Voltage
- ✓ Shore Power 2 Current
- ✓ Shore Power 2 Frequency

This yacht is equipped with Isolation transformers.  
These parameters are monitored on the primary side of the transformers.

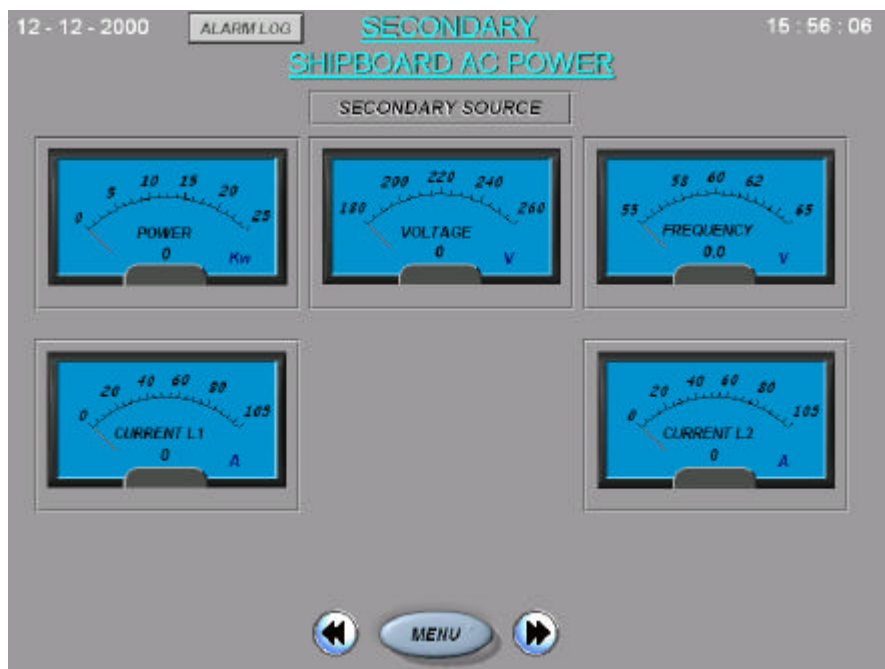


Click on this button **Main Menu** to go back to the Main Menu.

## 2.15 AC SECONDARY SHIPS POWER \*

AC II SHIPS POWER

Touch from the **Main Menu** the block labeled **AC II Ships Power**.  
The AC Monitoring Secondary Ships Power screen appears:



### AC Monitoring Secondary Shipboard

This AC Monitoring Secondary Shipboard AC Power Source shows the following information:

#### AC II Shipboard / Generator / Inverter

- ✓ Voltage
- ✓ Current L1
- ✓ Current L2
- ✓ Power
- ✓ Frequency



Click on this button **Main Menu** to go back to the Main Menu.

\* Optional

### 3.0 ALARM LOG

When an alarm occurs the Monitoring System displays a warning message.  
A warning bar displays an alarm message, or an audible alarm triggered.  
External Visual and Audible Alarm can be triggered at the same time.

ALARM LOG

Detected alarm conditions appear on the Alarm Log Display.

The Alarm Log Displays attributes as: *The Date & Time the Alarm was triggered.*

*The Time the Alarm was acknowledged.*

*A description of the Alarm condition.*

*The Alarm priority Level.*

If an alarm is triggered the Alarm Log Display will automatically appear on the screen  
\* (Optional !).

Touch from the **Menu** buttons the block labeled **Alarm Log**.

The Alarm Logging screen appears :

ACK ALL	ACK ALARM	ALARM HISTORY	CURRENT LAST ALARM : Sump High Water Alarm Cabin	CONFIG	EXIT
ALARM LOG					ACTIVE ALARMS - 18
Date	Time On	Time Ack	Description Alarm	Status	
12-12-00	15:18:52	15:19:39	Water in Fuel Filter Alarm Generator	Urgent	
12-12-00	15:18:52	15:19:39	Water in Fuel Filter Alarm Port Engine	Urgent	
12-12-00	15:18:52	15:19:39	Water in Fuel Filter Alarm Stbd Engine	Urgent	
12-12-00	15:18:52	15:19:39	Fuel Tank High Alarm	Urgent	
12-12-00	15:18:52	15:19:39	DC Monitoring Port 24V Bank Low Alarm	Urgent	
12-12-00	15:18:52	15:19:39	DC Monitoring Stbd 24V Bank Low Alarm	Urgent	
12-12-00	15:18:52	15:19:39	DC Monitoring Port 12V Low Alarm	Urgent	
12-12-00	15:18:52	15:19:39	DC Monitoring Stbd 12V Low Alarm	Urgent	
12-12-00	15:18:52	15:19:39	DC Monitoring Bow Thr. 24V Bank Low Alarm	Urgent	
12-12-00	15:23:23	15:33:45	Smoke Alarm Lower Salon	Urgent	
12-12-00	15:23:58	15:33:45	Smoke Alarm Upper Salon	Urgent	
12-12-00	15:25:54	15:33:45	Heat Alarm Engine Room	Urgent	
12-12-00	15:29:50	15:33:45	Smoke Alarm Crews Quarters	Urgent	
12-12-00	15:29:50	15:33:45	Change Fuel Filter Generator Engine	Urgent	
12-12-00	15:29:50	15:33:45	Exhaust Overtemp Port Engine	Critical	
12-12-00	15:29:50	15:33:45	Change Fuel Filter Port Engine	Urgent	
12-12-00	15:32:58	15:33:45	High Water Pump Alarm Fwd Eng Room	Urgent	
12-12-00	15:33:22	15:33:45	Sump High Water Alarm Cabin	Urgent	

#### Alarm Logging

ACK ALL

**Acknowledge All Button:** Click on this button to *acknowledge* all active Alarms.

ACK ALARM

**Ack Alarm Button:** Click on this button to *acknowledge* one alarm individual.

The user must select each alarm to acknowledge the specified alarm. Click on the *Description Alarm* to select

the alarm :

Date	Time On	Time Ack	Description Alarm	Status
08-06-00	09:46:39		DC Monitoring Port 24V Bank Low Alarm	Urgent
08-06-00	09:46:39		DC Monitoring Stbd 24V Bank Low Alarm	Urgent
08-06-00	09:46:39		DC Monitoring Port 12V Low Alarm	Urgent
08-06-00	09:46:39		DC Monitoring Stbd 12V Low Alarm	Urgent
08-06-00	09:46:39		DC Monitoring Bow Thr. 24V Bank Low Alarm	Urgent

When an Alarm occurs the text on the alarm condition is red. The Alarm Display contains a description of the alarm condition and recommends remedial action.

When the Alarm is inactive the alarm condition automatically cleared from the display, *once* the alarm is **inactive**, **acknowledged**, and **viewed** !



**Alarm History** : Click this button to go to the *Alarm History Display*.  
(See *Alarm History* 3.17)



**Exit Button**: Click this button to close the Alarm Logging Page.

### 3.1 ALARM HISTORY

CLEAR ALARMS		ALARM HISTORY		RETURN ALARM LOG	
		Date 12-12-2000 Time 15:43:08			
Date	Time On	Time Ack	Description Alarm Log	465	Status
12-12-00	14:10:27	14:10:36	Bulb Burn Out Anchor Light		Urgent
12-12-00	15:18:52	15:19:39	Water in Fuel Filter Alarm Generator		Urgent
12-12-00	15:18:52	15:19:39	Water in Fuel Filter Alarm Port Engine		Urgent
12-12-00	15:18:52	15:19:39	Water in Fuel Filter Alarm Stbd Engine		Urgent
12-12-00	15:18:52	15:19:39	Fuel Tank High Alarm		Urgent
12-12-00	15:18:52	15:19:39	DC Monitoring Port 24V Bank Low Alarm		Urgent
12-12-00	15:18:52	15:19:39	DC Monitoring Stbd 24V Bank Low Alarm		Urgent
12-12-00	15:18:52	15:19:39	DC Monitoring Port 12V Low Alarm		Urgent
12-12-00	15:18:52	15:19:39	DC Monitoring Stbd 12V Low Alarm		Urgent
12-12-00	15:18:52	15:19:39	DC Monitoring Bow Thr. 24V Bank Low Alarm		Urgent
12-12-00	15:22:47	15:22:57	Smoke Alarm Upper Salon		Urgent
12-12-00	15:23:23	15:33:45	Smoke Alarm Lower Salon		Urgent
12-12-00	15:23:58	15:33:45	Smoke Alarm Upper Salon		Urgent
12-12-00	15:25:54	15:33:45	Heat Alarm Engine Room		Urgent
12-12-00	15:29:50	15:33:45	Smoke Alarm Crews Quarters		Urgent
12-12-00	15:29:50	15:33:45	Change Fuel Filter Generator Engine		Urgent
12-12-00	15:29:50	15:33:45	Exhaust Overtemp Port Engine		Critical
12-12-00	15:29:50	15:33:45	Change Fuel Filter Port Engine		Urgent
12-12-00	15:32:58	15:33:45	High Water Pump Alarm Fwd Eng Room		Urgent
12-12-00	15:33:22	15:33:45	Sump High Water Alarm Cabin		Urgent

#### *Alarm History Display*

The Alarm History or Alarm Historical file is a record of alarm status which was previously save to the disk.



Click on these buttons to *scroll up/down* through the Alarm Data Record Log.



**Clear Alarms** . Click on this buttons to *clear* all alarms from the display. All previously alarms will be removed from the Alarm Log File.

The Alarms will be logged in the following format:

**[Datestamp] [Timestamp] [Timestamp Ack] [Description] [Priority]**

The default Alarm Data Record Log filename is *alarm.log*

The *Alarm Data Record Log* is written to file in the directory of the Monitoring & Control application.

Default C:\Searay\Sources.

A sample alarm record is shown below:

03-05-00	14:05:45	14:08:34	Fuel Day Tank Low Alarm	Urgent
03-05-00	14:05:45	14:08:34	Fuel Tank Aft Low Alarm	Urgent
03-05-00	14:05:45	14:08:34	Battery 24V Electronics Low Alarm	Urgent
07-05-00	16:02:15	16:03:04	Fuel Tank Aft Low Alarm	Urgent
07-05-00	16:05:18	16:06:02	Port Engine Low Oil Pressure	Critical



**Return** : Click on this button to return to the Alarm Log. (See *Alarm Log 3.0*).





### 3.2 CHANGE ALARM SETTINGS

From the **Alarm Log** touch the block labeled **Config**.  
The Alarm Configuration Settings is password protected.  
Enter a security code to access the alarm Configuration screen, and  
Press enter. The Alarm Configuration Screen appears:

**CONFIG**

#### Alarm Configuration screen

ALARM CONFIGURATION					OK
Alarm section	Alarm parameter	Low	Pre high	High	
Port Engine	RPM	----	2800.00	3000.00	▲
Port Engine	Coolant Temp	----	205.00	210.00	
Port Engine	Oil Pressure	10.00	----	----	
Port Engine	Engine Load	----	100.00	105.00	
Port Engine	Gear Oil Pressure	10.00	----	----	
Port Engine	Gear Oil Temp	----	190.00	210.00	
Stbd Engine	RPM	----	2800.00	3000.00	▲
Stbd Engine	Coolant Temp	----	205.00	210.00	
Stbd Engine	Oil Pressure	10.00	----	----	
Stbd Engine	Engine Load	----	100.00	105.00	
Stbd Engine	Gear Oil Pressure	25.00	----	----	
Stbd Engine	Gear Oil Temp	----	190.00	210.00	
Generator	Oil Pressure	10.00	----	----	
Generator	Coolant Temp	----	210.00	220.00	
Generator	Voltage	185.00	----	260.00	
Generator	Frequency	45.00	----	65.00	
Generator	Current L1	----	100.00	102.00	
Generator	Current L2	----	100.00	102.00	
Generator	Power	----	25.00	30.00	
Freshwater	Tank	0.00	----	----	
Fuel	Tank	0.00	----	59.72	
Blackwater	Tank	----	----	100.00	
Graywater	Tank	----	----	100.00	
AC Shore Power	1 Voltage	185.00	----	260.00	
AC Shore Power	1 Frequency	45.00	----	65.00	
AC Shore Power	1 Current	----	50.00	52.00	

The Alarm Configuration Page allows you to change the settings of an Alarm.  
For the Alarm values a **High**, **Pre High**, and a **Low** Alarm can be defined.

OK

Click on the Ok button to leave the Alarm Configuration Page, and  
Go back to the Alarm Log Screen

\* Double Click on the specified Alarm Parameter to change Alarm Setting.

A **Change Alarm Setting** dialog Box appears on the screen:

### CHANGE ALARM SETTING

Section **Port Engine**

Parameter **RPM**

Low

Pre High

High

-Inf

2800.0

3000.0

OK

Cancel

Click the Control box, (Low, Pre High, High) and enter a value  
(-keyboard),

200.0

A numeric keypad appears, to enter a value:

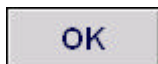


*Numeric Keypad*

Click on the **OK** Button to make any changes to the Alarm Control Box (Low – Pre- High Alarm).



**Cancel** button: Do **not** save any changes that have been made in the Alarm Settings Dialog Box.



**OK** button: Save any changes that have been made in the Alarm Settings Dialog Box and make it applicable to the Alarm Monitoring System.

### 3.3 CHANGE BACKGROUND COLOR

From the **Main Menu** touch the text labeled **About**.  
The About Box screen appears :



#### **Change Background Color Pages**

**Color Box** . The Color Box displays a color corresponding to a Specified value.  
The following colors can be selected : **Background - Main Front Pages (Screens)**.

Set the color of the Color Box by clicking on it, with either the Operating or Color Tool to Display a **Color Palette**, as shown in the following illustration.  
Releasing your mouse button on the color you want to select.



**Color Palette**

After Closing the About Box the selected colors are accepted by the System.

### 3.4 CHANGE ENGLISH / METRIC SELECTION

From the **Main Menu** touch the text labeled **About**.  
The About Box screen appears :



**Change Software Conversion**

**Selection Box.** Click on this button to select *US (English)* or *Metric* Mode.

A numeric keypad appears:



Enter the security code to access the US / Metric Selection box, and press **Enter**.  
Click on the 'Software Conversion Selection box' to change US / Metric Mode.



The Conversion Selection box change into 'Metric':

The password code is a security measure to restrict access to the US/Metric selection box by unauthorized users.



**Exit:** Click on this button to leave the About Box and return to the Main Menu of the Monitoring System.

### 3.5 HISTORICAL TRENDING

HISTORICAL TREND

Touch from the **Main Menu** buttons the block labeled **Historical Trend**. The Historical Trending screen appears:



#### Historical Trending

When the data record is logged, it is not immediately written to disk. The Data is temporarily stored in a buffer memory. The buffer is written to disk at a specified interval, or when the buffer is full.

The Historical Trending Display views *current* Data (Buffer Memory) on a Trend Display. The graphs that can be displayed for the Historical Trending Screen for the **Searay 680SS** Monitoring system:

**Port Engine**  
**Stbd Engine**  
**Shore Power**  
**Generator / Engine**  
**Generator / II Shipboard Power**  
**Bilge Pumps**  
**DC Monitoring Port**  
**DC Monitoring Stbd**

The buttons on the Historical Trending Display lets you :



**Load Data** : Load the Specified Data Log (Port Engine, Bilge Pumps, Tanks etc.), for view in the Historical Display.



**Data Field Buttons**: List of Data Fields (Engine Temp, Oil Pressure, etc) and let you load them into the display for viewing on the Trend Display.



**Refresh**: Click on this button to move to the end of the Log file Buffer (it gives you real-time data updates). The graph is redrawn at the new scale.



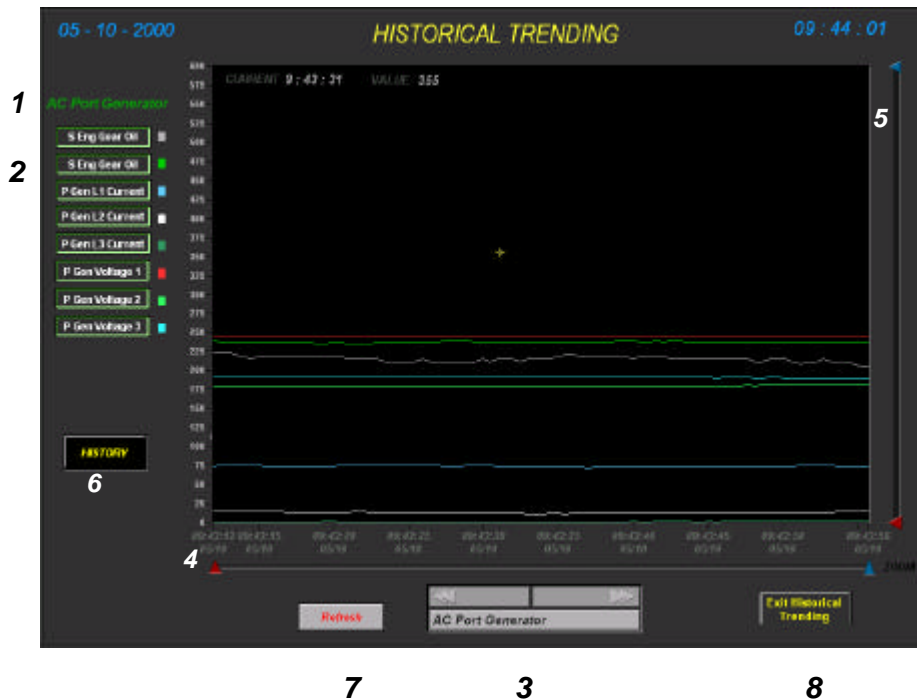
## HISTORY

**History Button:** Click on this button to go to the History Trend Charting Display. (See *History Chart Display 3.6*)

## Exit Historical Trending

**Exit HT Button:** Click on this button to leave the Historical Trending Display and return to the Main Menu of the Monitoring System.

### HISTORICAL TREND DISPLAY



- 1 - **Data Log** - The name of the Current data Log
- 2 - **Pen Assignments list** – This is a list of buttons representing all pens and their current assignments. A pen is labeled with the name of the data field it is assigned to. A pen is ON which means it will be displayed on the Trend Display, if the button is highlighted (green). Click on the data field button to toggle between On (green) and OFF (red).
- 3 - **Load Data** – Click on this button to load the Specified Data Log.
- 4 - **Decrease X Scale** – Zoom In option. Drag these buttons to a specified value to decrease the X scale of the graph ('frequency' of the graph).
- 5 - **Decrease Y Scale** – Zoom In option. Drag these buttons to a specified value to decrease the Y scale of the graph ('amplitude' of the graph).
- 6 - **History** – Click on this button to go to the History Trend Charting Display. (See 3.6)
- 7 - **Refresh** – Click on this button to move to the end of the Log file Buffer (it gives you real-time data updates). The graph is redrawn at the new scale
- 8 - **Exit Historical** – Click on this button leave the Historical Trending Display and return to the Main Menu of the Monitoring System.

### 3.6 HISTORY CHART DISPLAY

Touch from the **Historical Trending** the block labeled **History**.  
The History Chart Display screen appears :

**HISTORY**

05 - 10 - 2000 09 : 44 : 40

**HISTORICAL TRENDING**

Date	Time	RPM	Coolant Temp	Oil Pressure	Boost Pressure	Engine Hours
05/04/2000	08:05:32	9888.0	168.18.0	4975.5	88356.2	5377.8
05/04/2000	08:05:41	9933.5	15536.0	1046.0	87909.0	9213.5
05/04/2000	08:05:52	6732.0	15782.0	3296.0	87517.4	8063.9
05/04/2000	08:10:02	8868.5	16306.0	1232.0	88054.6	9122.9
05/04/2000	08:10:13	7117.0	16561.0	5296.0	88029.8	9122.5
05/04/2000	08:10:25	7246.0	16563.0	3296.8	85465.9	9122.2
05/04/2000	08:10:36	7118.2	16558.0	3297.5	85467.9	9067.5
05/04/2000	08:10:47	6990.0	16814.0	5253.2	86496.6	9067.5
05/04/2000	08:11:01	8928.5	16306.0	5164.8	88033.0	9096.8
05/04/2000	08:11:13	8999.8	15534.0	4976.8	88033.0	8953.2
05/04/2000	08:11:22	4186.2	-88268.0	8875.2	116506.5	12686.2
05/04/2000	12:01:05	64557.3	66225.0	12944.5	61642.0	8625.9
05/04/2000	12:01:26	63557.3	66488.0	12335.0	61642.0	8560.2
05/04/2000	12:01:36	64364.5	-56998.0	12188.5	62151.3	8309.2
05/04/2000	12:01:47	64364.5	-54434.0	12337.5	66629.2	8241.9
05/04/2000	12:01:57	64492.5	-55293.0	12364.8	61642.0	8240.5
05/04/2000	12:02:00	64237.8	-53688.0	12386.5	61642.0	8452.2
05/04/2000	12:02:09	64364.8	-52998.0	12188.8	59507.4	8405.2
05/04/2000	12:02:29	64621.7	-52896.0	12492.5	61134.6	8303.2
05/04/2000	12:25:40	88281.5	-25298.0	3463.5	107796.8	7505.9
05/04/2000	12:25:44	88549.8	-24952.0	3464.0	107727.7	7629.9
05/04/2000	12:25:50	88455.8	-24438.0	3436.0	106306.5	7723.5
05/04/2000	12:25:55	88549.8	-24955.0	3436.2	106822.9	7699.2
05/04/2000	12:26:00	88454.5	-25298.0	3555.8	106826.9	7595.5
05/04/2000	13:26:04	90582.8	-24954.8	3463.5	106830.9	7467.8
05/04/2000	13:26:09	90647.2	-24954.8	3463.5	106843.3	7467.2

04-05-00 Full Historical Trending

#### History Chart Display

The History Chart Display allows you to load a history data file and view the data in a chart format.

The buttons on the History Chart Display lets you :



**Load Data** : Load the Specified Data Log (Port Engine, Generator, Bilge Pumps etc.), for view in the History Chart Display.



**Data Log** : Select this button to go back in History by touching the Right arrow to increase the amount of days and the left arrow to decrease the amount of days.



**Start of Data Log** : Click on this button to go to the first record of the data Log.



**End of Data Log** : Click on this button to go to the last record of the data Log.



**Up Records** : Click on this button to move up through the data, 10 log records at a time.



**Down Records** : Click on this button to move down through the data, 10 log records at a time.

Each Data logging events records a snapshot of selected variables to a log file. Monitoring Data Log Files are created during run time. The Monitoring Data Log files consists of records containing data for up to 8 variables. The History Chart Display allows you to load a history data file and view the data in a chart format. Each record log file is marked with a time stamp, and a date stamp:

**[TimeStamp] [DataStamp] [value1] [Value2] [Value3] ...**

A sample data History Data Log is shown below :

Data	Time	Press	Temp	Level	RPM	Hours	..	..	Temp2
03-06-00	14:05:42	36.5	84.4	18.5	332.3	1.2	4.0	1.8	84.0
03-06-00	14:05:52	22.2	72.2	47.8	344.3	1.8	4.1	1.6	173.0
03-06-00	14:06:02	34.5	58.3	15.5	390.3	1.9	3.0	1.5	108.0
03-06-00	14:06:12	32.5	75.6	45.0	264.2	2.0	4.6	1.2	173.0
03-06-00	14:06:23	39.2	68.3	19.0	176.1	2.1	6.3	1.5	199.0
03-06-00	14:06:33	20.8	30.6	51.0	288.2	2.2	1.6	1.3	49.0
03-06-00	14:06:43	39.0	31.7	55.0	240.2	2.3	6.0	0.6	85.0
03-06-00	14:06:53	50.8	65.6	28.8	384.3	2.4	5.5	0.9	117.0

Data is logged to a log file named **[Day Month Year Hour]**for example *we 20 dec 2000 10*, Until a time interval *1:00* is met, then a file break occurs. At the time of the file break, the current log file is closed and a new one is opened for continued data logging.

The History Monitoring *Data Log* is written to file in the directory **/Logging** of the Monitoring & Control application. Default C:\Searay\Logging

## 4.0 CONFIGURATION OF THE I/O SYSTEM

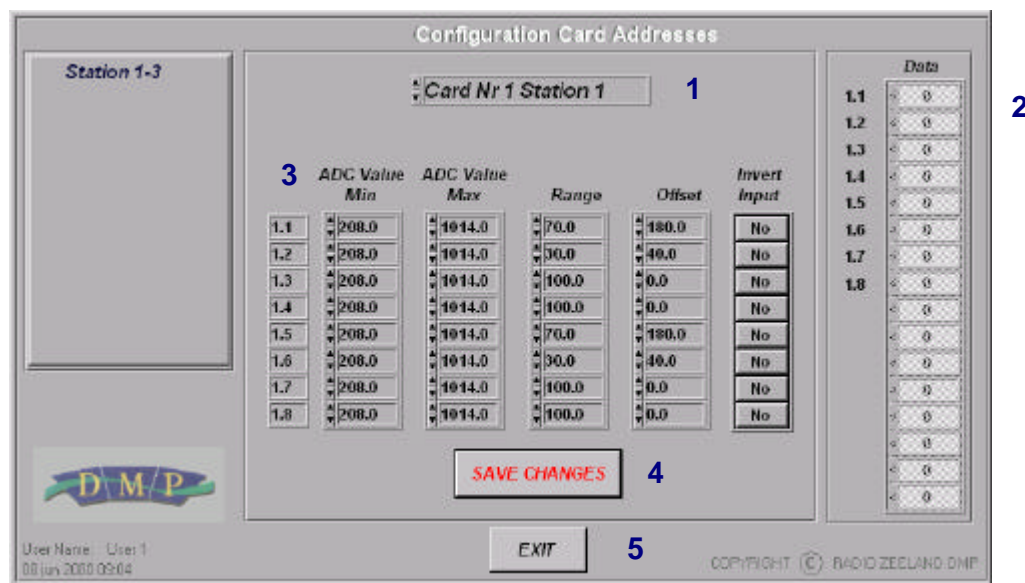
- A. From the Main Menu press (keyboard) **Ctrl - F12**.  
You will see now a numeric keypad :



- B. Enter your password to access the **Login Configuration** dialog box.

Your password code is a security measure to restrict access to the Configuration Box by Unauthorized users. If you do not want to log on with a password or if the password is incorrect the system disable the DMP Configuration Box.

- C. The DMP Configuration Box appear.



- 1 - **JB Address Selector** – This button used to display the Station card Addresses.
- 2 - **Communication Data Box** – This window used to display communication status.
- 3 - **Analogue / Digital Input Settings** – The various input settings can be changed with these configurations windows.
- 4 - **Save Changes** – Click on this button to save changes.
- 5 - **Exit** - Click on this button to leave the Configuration Dialog Box.

**Note :** The End-User must **not** modified the Configuration System.  
Changes to the Configuration Screen will take effect on the Monitoring System Software!

## 4.1 CHANGE ANALOGUE INPUT SETTING

- Click on the *JB Station Address Selector* to choose the specified analogue input Address. For Example Analogue Card Address 1 Station 1.

Card Nr 1 Station 1

- The Analogue Input Settings Windows appears:

1.1	208.0	1014.0	70.0	180.0	No
1.2	208.0	1014.0	30.0	40.0	No
1.3	208.0	1014.0	100.0	0.0	No
1.4	208.0	1014.0	100.0	0.0	No
1.5	208.0	1014.0	70.0	180.0	No
1.6	208.0	1014.0	30.0	40.0	No
1.7	208.0	1014.0	100.0	0.0	No
1.8	208.0	1014.0	100.0	0.0	No

**A**      **B**      **C**      **D**      **E**

- A** Card Input Address (1.1-1.8)  
**B** ADC Value Minimum  
**C** ADC Value Maximum  
**D** Range  
**E** Offset

- Change For Example (Generator Voltage L1-L2) Card Address 1.1 Station 1

	ADC Value Min	ADC Value Max	Range	Offset	Invert Input
1.1	208.0	1014.0	70.0	180.0	No
1.2	208.0	1014.0	30.0	40.0	No
1.3	208.0	1014.0	100.0	0.0	No
1.4	208.0	1014.0	100.0	0.0	No
1.5	208.0	1014.0	70.0	180.0	No
1.6	208.0	1014.0	30.0	40.0	No
1.7	208.0	1014.0	100.0	0.0	No
1.8	208.0	1014.0	100.0	0.0	No

Sensor Range Voltage = 4-20 mA 0- 300 V

- \* Select the *ADC Value Min* and enter the value 208 in the appropriate box.  
**208** (min = 4mA)
- \* Select the *ADC Value Max* and enter the value 1014 in the appropriate box.  
**1014** (max = 20mA)
- \* Select the *Range* and enter the range 200 in the appropriate box.  
**300** (range =300-100)
- \* Select the *Offset* and enter the offset 0 in the appropriate box.  
**0**

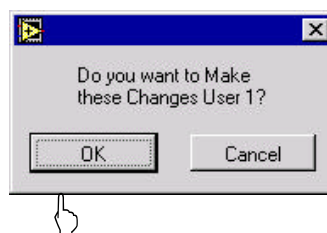




	ADC Value Min	ADC Value Max	Range	Offset	Invert Input
1.1	208.0	1014.0	70.0	180.0	No
1.2	208.0	1014.0	30.0	40.0	No
1.3	208.0	1014.0	100.0	0.0	No
1.4	208.0	1014.0	100.0	0.0	No
1.5	208.0	1014.0	70.0	180.0	No
1.6	208.0	1014.0	30.0	40.0	No
1.7	208.0	1014.0	100.0	0.0	No
1.8	208.0	1014.0	100.0	0.0	No

4. **SAVE CHANGES** Click on this button to save any Changes.

A screen message appears:



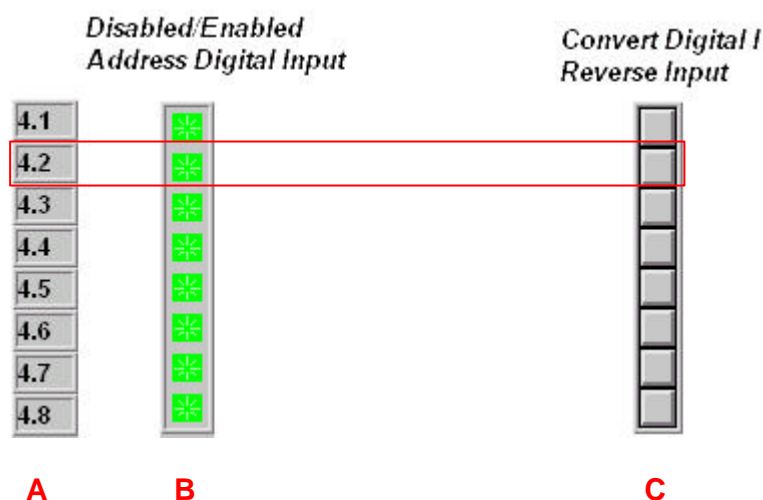
Click on OK to **Save** any changes, and select Cancel to cancel any changes, and go back to the previous setting.

## 4.2 CHANGE DIGITAL INPUT SETTING

1. Click on the *JB Address Selector* to choose the specified digital input Address.  
For Example Digital Card Address 4 Station 1.

Card Nr 4 Station 1

2. The Digital Input Settings Windows appears:



3. Change For Example Address 4.2 Station 1

**A** Input Address (4.1-4.8)

**B** **Click** on this button to *Enable/ Disable Input Address 4.2*

 **ENABLED**

 **DISABLED**

**C** **Click** on this button to *Change Digital Input Address 4.2 from 'Normally Open' NO to 'Normally Closed' NC.*

 **NO (Normally Open)**

 **NC (Normally Closed)**

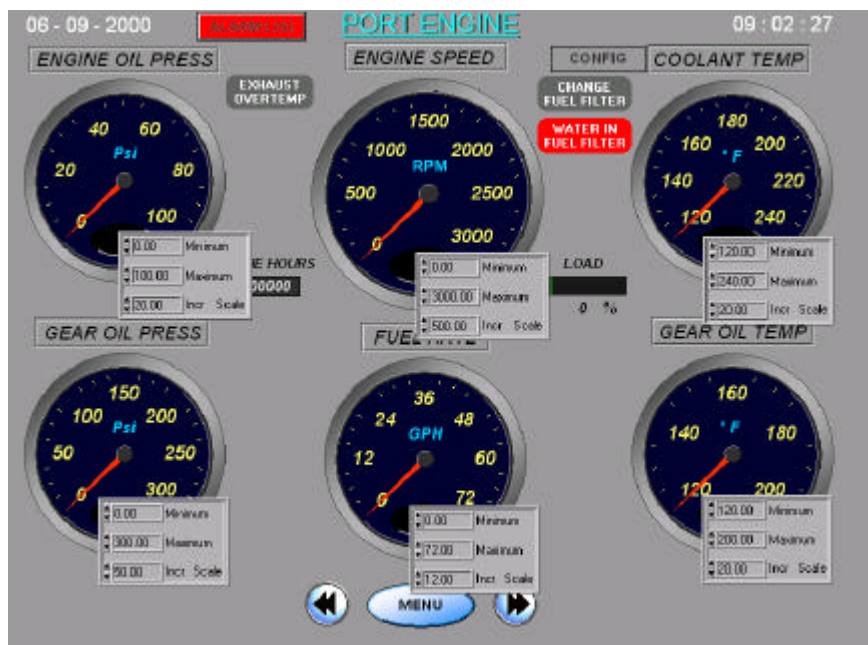
4. Click on this button to save any Changes.

**SAVE CHANGES**

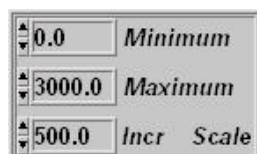
### 4.3 CHANGE DISPLAY SCALE

From the Port Engine Page change the Engine Speed Display scale from 2000 to 3000 RPM. Press **F12** (Keyboard) to activate the Display Scale Settings.

The Display Change Settings appears:

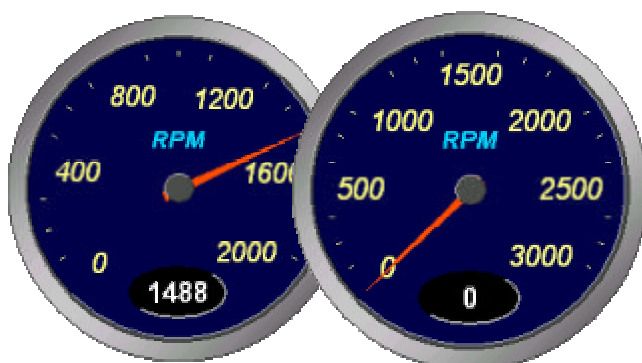
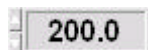


*Port Engine Screen*



Select the *Minimum* / *Maximum* of the specified Display Meter.  
(Example RPM)

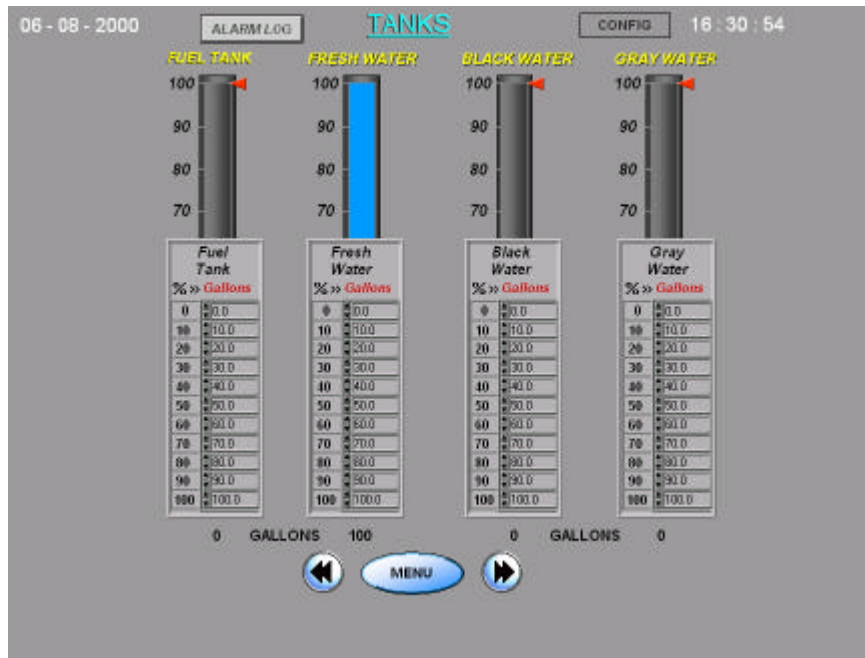
Click on the control box, (Minimum, Maximum, and Increment) and enter a value (-keyboard). Or click on the up and down arrow (-mouse) at the left side of the Control box, to scroll Up- Or down in increments.



Press **F12** (Keyboard) again to disable the Display Scale Settings.

## 4.4 CHANGE TANK TABLE

From the Tanks Page calibrate the Tanks from *percentage* to *Gallons*, and press **F12** (Keyboard) to activate the Display Scale Settings



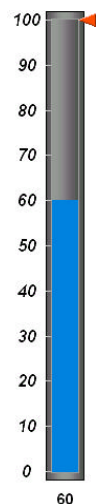
Tanks Screen

Black Water	
% » Gallons	
0	0.0
10	10.0
20	20.0
30	30.0
40	40.0
50	50.0
60	60.0
70	70.0
80	80.0
90	90.0
100	100.0

Click on the control box, and enter a value (-keyboard) to change the scale Tank indicator from percentage to Gallons.

Or click on the up and down arrow (-mouse) at the left side of the Control box, to scroll Up- Or down in increments.

200.0
200.0



Tank Value in Gallons

Press **F12** (Keyboard) again to disable the Display Scale Settings.

## 4.5 NMEA DATA PROTOCOL

### Nmea 0183 - Standard For Interfacing Marine Electronic Devices

The NMEA 0183 Standard for Interfacing Marine Electronics Devices is a voluntary industry standard, first released in March of 1983. The NMEA 0183 Standard defines electrical signal requirements, data transmission protocol, timing and specific sentence formats for a 4800 baud serial data bus.

The following Data uses the Nmea0183 protocol:

#### \* **SPEED OVER GROUND**

VTG Course Over Ground and Ground Speed

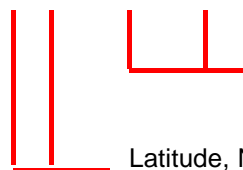
\$--VTG,x.x,T,x.x,M,x.x,**X.X**,N,x.x,K,a\*hh <CR><LF>

 Speed Over Ground, Knots

#### \* **SHIPS POSITION GPS**

GLL Geographic Position –Latitude / Longitude

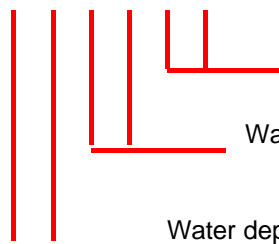
\$--GLL, **lll.ll**,**a**,**yyyy.yy**,**a**, hhmmss.ss,A,a\*hh <CR><LF>

 Longitude, E / W  
Latitude, N / S

#### \* **WATER DEPTH**

DBT Depth Below Transducer

\$--DBT,**x.x,f**,**x.x**,**M**,**x.x**,**F**\*hh <CR><LF>

 Water depth, Fathoms  
Water depth, Meters  
Water depth, feet

#### \* **WATER TEMPERATURE**

MTW Water Temperature

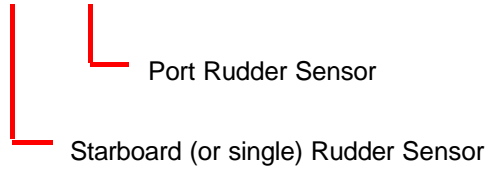
\$--MTW,**x.x**,**C**\*hh <CR><LF>

 Temperature, degrees C

### \* RUDDER ANGLE

RSA Rudder Sensor Angle

\$--RSA,**x.x**,A,**x.x**,A\*hh <CR><LF>








## 5.0 COMPUTER SETTINGS

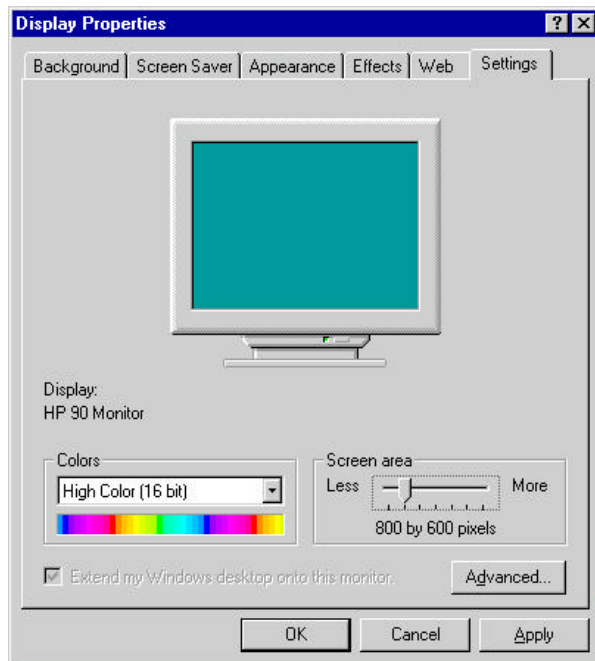
### 5.1 DISPLAY PROPERTIES

The Display properties can be changed by using the display icon in the *Control Panel*. Click the Start button,  point to *Settings*, and then click *Control Panel*.

Double click Display.



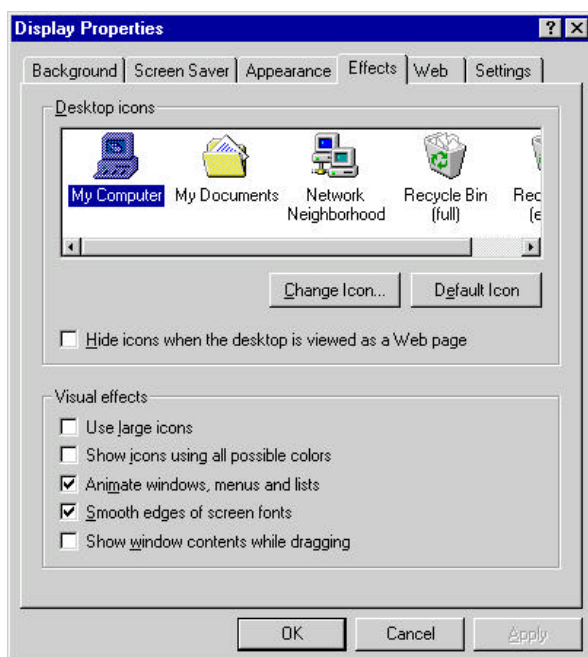
The Display Properties box appears. Click on the Settings tab to change your resolution Screen, and so on.



Adjust these settings for the Searay 680 SS Monitoring & Control System :

**High Color (16 bit)**  
**Screen Res. 800 x 600**


Click on the Effects tab to change the visual effects on the screen :



Enable option **“Smooth edges of font screen”**.

And then click Ok.

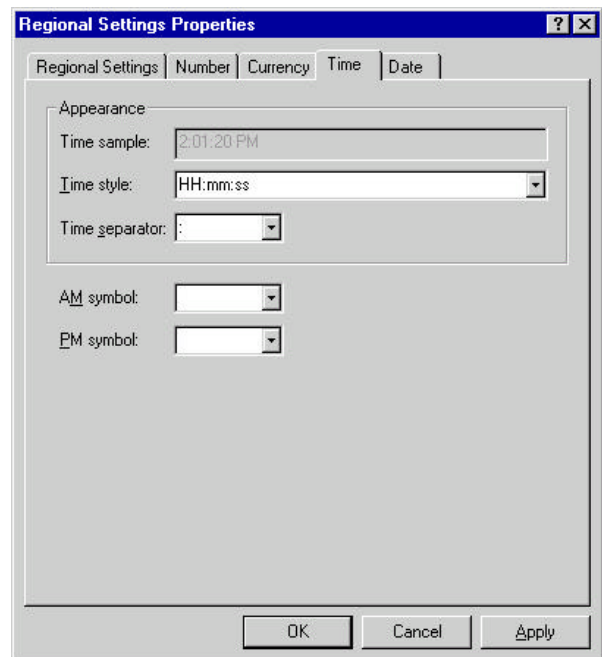
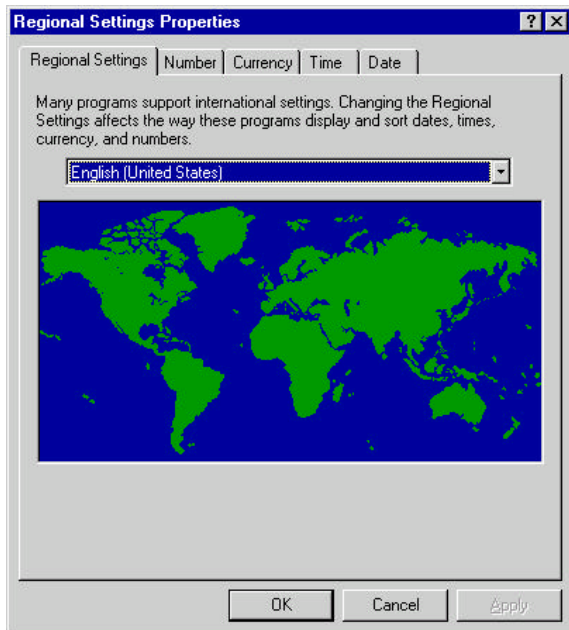
## 5.2 SETTING TIME & DATE

The Time & Date settings can be changed by using the Regional Settings icon in the Control Panel. Click the Start button,  point to *Settings*, and then click *Control Panel*

Double click Regional Settings:



The Regional Settings Properties box appears. Click on the Regional Settings tab to adjust the settings for your local time and date zone.



Select the Time and Date Tab to adjust the Date & Time settings for the Searay 680 SS Monitoring & Control System:

Time Style : **HH:mm:ss**


Time Separator : **:**

Short Date Style : **MM-dd-yy**

Date separator : **-**

And then click Ok.

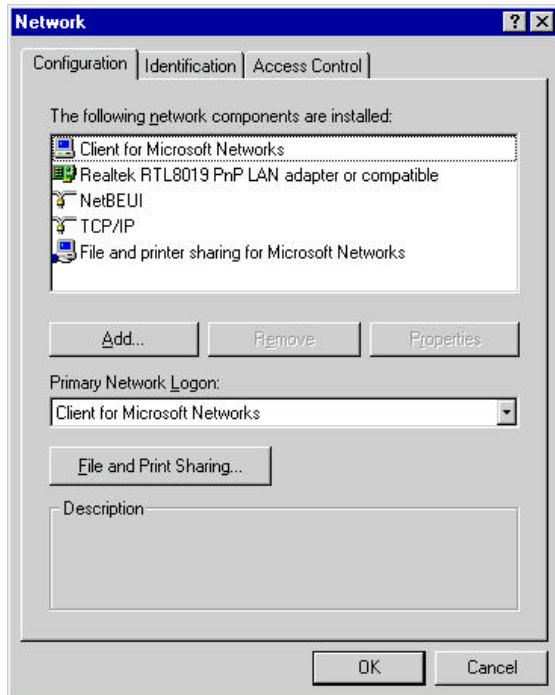
### 5.3 NETWORK PROPERTIES TCP/IP

The Network utilities can be changed by using the Network icon In the *Control Panel*. Click the Start button,  point to *Settings*, and then click *Control Panel*

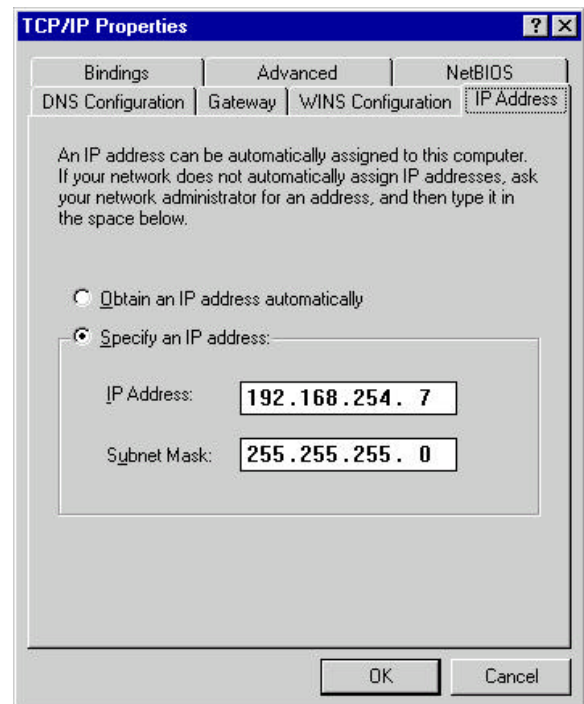
Double click Network:



The Network utility screen appears:



Click on the TCP/IP protocol. The TCP/IP Properties screen appears:  
Click the IP Address Tab.



Select Specify an IP Address, and type the following IP Address for the Searay 680 SS Monitoring & Control System:

IP Adress **Server** Computer: **192.168.0.2**  
**Client** Computer: **192.168.0.1**

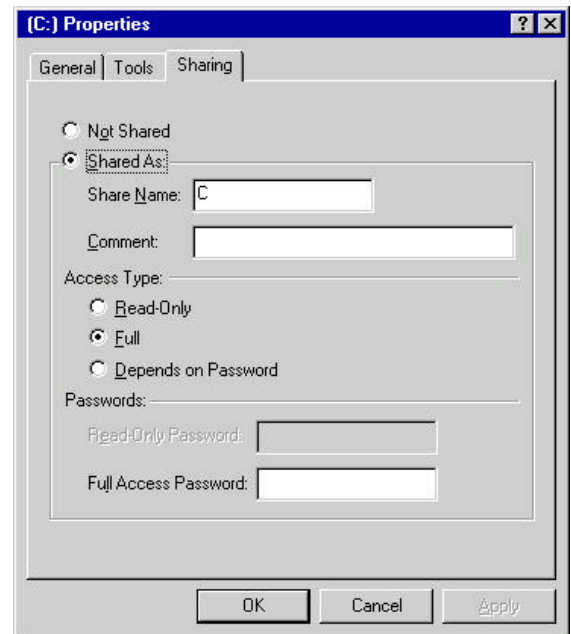
Subnet Mask : **255.255.255.0**

And then click Ok.

## 5.4 SHARING FOLDERS & COMPUTERS

1. In **My Computer** , right click the local drive (C:) you want to share, and then click **Sharing**.
2. On the **Sharing** Tab, click **Shared as**.
3. In **Share Name** , type a name for the folder e.g. **C**
4. In **Access type** , click **Full Access**, means the user has the ability to read, delete, and change files.
5. Click **OK**.

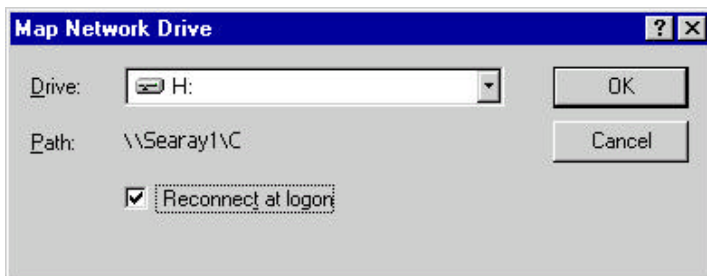
\* Be sure you installed the file- and print sharing services ( Windows 98 ).



6. Double click **Network Neighborhood**, and then double click the other computer (Searay 1 / Searay2).

If the computer you are looking for is not in your workgroup or domain, first click Entire Network, and then double click the appropriate workgroup or domain.

7. Right Click the shared folder (C:) and then click **Map Network Drive**.
8. Set Drive Letter to **H:**.
9. Enable '**Reconnect at logon**' to connect to the shared H drive, each time you log on.



10. Click **OK**.

## 5.5 SETTING.INI FILE

The Settings of the Monitoring & Control System are stored in Settings.ini file.  
The *settings.ini* file can be found in the directory in which the Monitoring software is installed.  
Default C:\Searay\Sources.

**Setting.ini** (Default):

```
[General]
ServerClient=Server
SoftwareConversion=US
PortJunctionBox=Com1
IPAdressServer=192.168.0.2
PortNMEADDataVesselDepthSpeedTemp=Com3
NmeaStringNameVesselSpeed=VHW
PortNMEADDataRudderAngle(RSA)=Com4
PortNMEADDataGPSData(GLL/VTG)=Com5
AutoJumpAlarm=FALSE
ParPortAddress=378
AutoShutdown=FALSE
DataSampleTime=500
BackgroundColor=10066329
NameMY="SEA RAY 680SS"
NameCameraSystemExe="C:\Program Files\MGA NT Powerdesk\Matrox Video Tools\VidPres.exe"
OptionalGrayWaterTank?=TRUE
OptionalSecondaryShipboardPower?=TRUE
NameSecondaryShipboardPower=GENERATOR
BlackWaterPumpStart%=90
BlackWaterPumpStop%=10
FireBilgeAlarmBreachOutput?=TRUE
```

PortJunctionBox=Com1                      Select the Com Port of the Monitoring System Communication.

IPAdressServer=192.168.0.2              Describe the TCP/IP address of the *other* Computer System.

PortNMEADDataVesselDepthSpeedTemp=Com3      Select the Com Port of the Water- Depth , Temp & Speed Nmea Comm.

PortNMEADDataRudderAngle(RSA)=Com4      Select the Com Port of the Rudder Angle Nmea Comm.

PortNMEADDataGPSData(GLL/VTG)=Com5              Select the Com Port of the Vessel Speed & Gps Comm.

AutoJumpAlarm=FALSE              Set this parameter **TRUE / FALSE** to enable / disable the automatically appear of the Alarm Page in the Monitoring & Control Software.

OptionalGrayWaterTank?=TRUE      Set this parameter **TRUE / FALSE** to enable / disable the Gray Water Tank for the Monitoring & Control System.

OptionalSecondaryShipboardPower?=TRUE      Set this parameter **TRUE / FALSE** to Enable / Disable the II Shipboard Power for the Monitoring & Control System.

NameSecondaryShipboardPower=GENERATOR      Describe the **Name** of the Secondary Shipboard Power. (*Generator / Inverter*)

BlackWaterPumpStart%=90      The Monitoring System will start the Black Water Pump at **90** % of the Black Water Tank.

BlackWaterPumpStop%=10      The Monitoring System will stop the Black Water Pump at **10** % of the Black Water Tank.

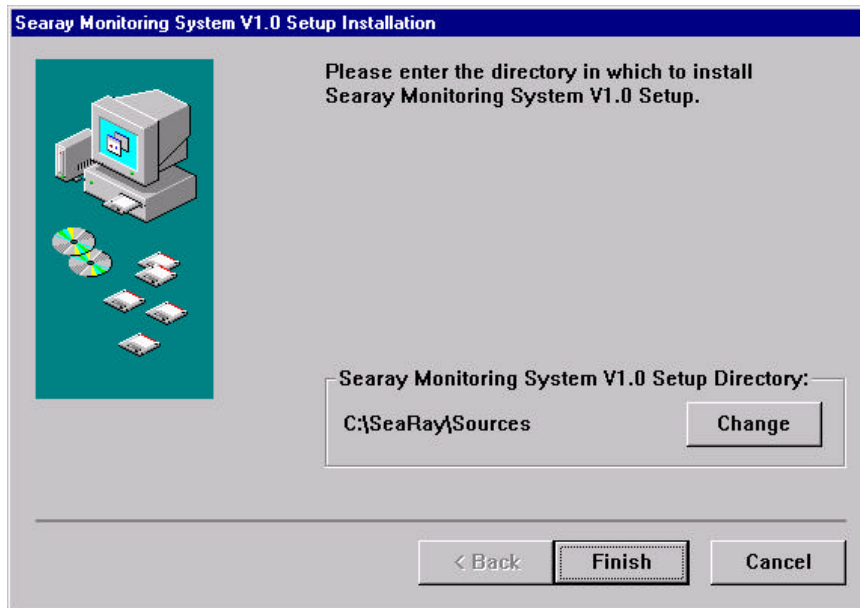
**Note : The End-User must *not* modified the Setting ini File.  
Changes to the Setting.ini Configuration file will take effect on the Monitoring System Software!**

## 5.6 INSTALLATION AND SETUP

The “DMP Monitoring System” Software is distributed on 3.5 “ Floppy’s diskettes / CD-Rom.

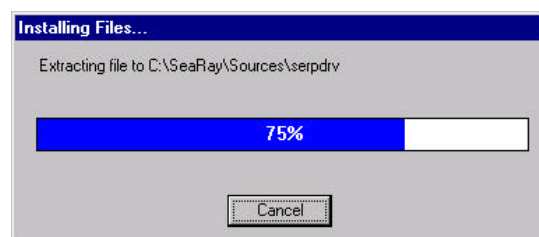
To Install ‘ the Monitoring & Control System’ do the following:

1. Start Microsoft Windows 98 / NT4.0 or later.
2. Insert Diskette 1 / CD-ROM in the 3.5 “ Drive / CD-ROM Drive.
3. From the Windows Explorer select floppy 3 1/2 floppy (A: ) / CD-ROM Drive (D:).
4. Start Setup.exe and follow the on-screen instructions to process the installation.



### Directory Installation

Select **Finish** to continue the installation of The Monitoring & Control Software. During the installation program, the files from the diskette / CD Rom are copied into the located directory (C:\Searay\Sources).



The Monitoring System Software installation is successful. Click **OK** to complete the Installation procedure.



