



by **ENOVATION** CONTROLS



HelmView[®] Model HV780

Operations Manual

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Section 78

In order to consistently bring you the highest quality, full-featured products, we reserve the right to change our specifications and designs at any time. The latest version of this manual can be found at www.fwmurphy.com.

Warranty - A limited warranty on materials and workmanship is given with this Murphy product.
A copy of the warranty may be viewed or printed by going to www.fwmurphy.com/warranty.



**BEFORE BEGINNING INSTALLATION OR OPERATION OF THIS
MURPHY PRODUCT:**

Read and follow all installation/operation instructions.

Please contact Enovation Controls immediately if you have any questions.

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HV780 Features and Operations



Flat Screen Display

A color screen displays gauges, soft key commands and fault messages, as well as menu options for setup and configuration.

Soft Key Commands

Columns of vertical commands may be located to the left and/or right of the display. They will change according to the options available for the screen being displayed.

Function Keys

The function keys correspond to the soft key commands and allow selections to be made accordingly.

MENU Key

Pressing the **MENU** key at any time displays the list of menu options.

ENTER Key

Pressing the **ENTER** key will select the option displayed much like the **ENTER** key on a keyboard. The **ENTER** key also brings up the soft keys. Press once to display the left and right arrows. Press twice to display all the soft keys. Press three times to hide all the soft keys.

Configuring your HV780 Display for the First Time

The guidelines presented below are intended for setting up the HV780 display for the first time. Once the configuration is set up, there is no need to revisit or change any of the settings.

NOTE: If you require assistance during the set-up process, contact the Enovation Controls location nearest to you (see the address block on the last page).

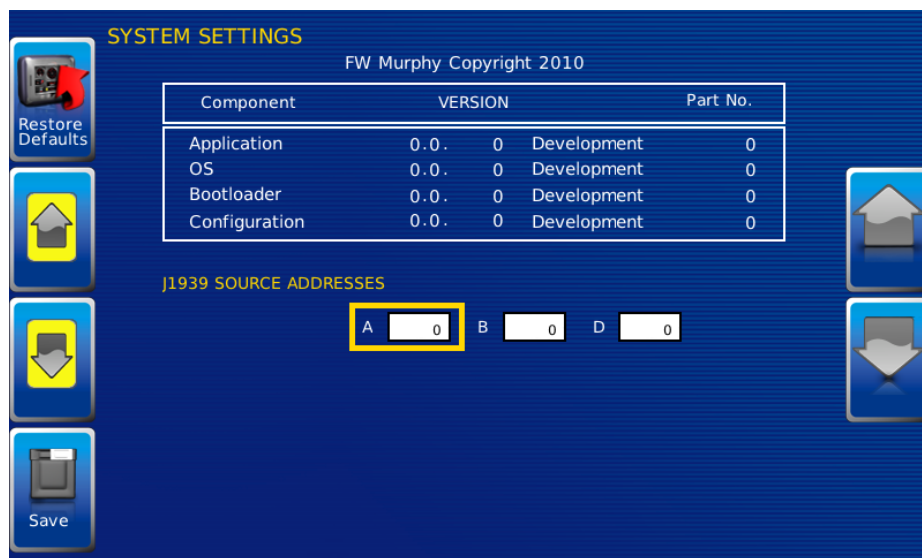
1. At the main menu, press the soft key to the left of Utilities.



2. The Utilities submenu is displayed.



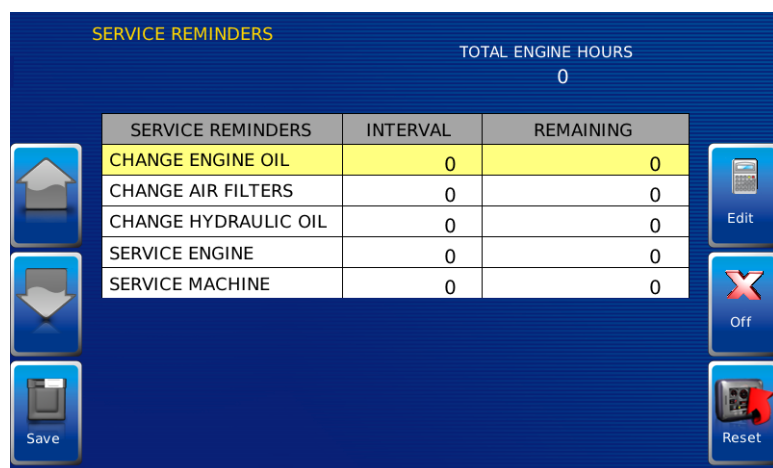
- From the Utilities submenu, select System Settings. The following screen is displayed



- With the cursor highlighting the J1939 source addresses, use the left side soft keys to scroll through the ports and the right side soft keys to change the address. Press the Save key to save selected changes or the Restore Defaults key to return to the default settings.

Service Reminders

Factory defaults for Service Reminders apply automatically on first use of the HelmView® HV780. Normally, you should not need to access the **Service Reminders** screen.



FACTORY DEFAULT VALUES

- Change Engine Oil – Default interval 50.0 Hrs.
- Change Air Filters – Default interval 75.0 Hrs.
- Change Hydraulic Oil – Default interval 100.0 Hrs.
- Service Engine – Default interval 125.0 Hrs.
- Service Machine – Default interval 150.0 Hrs.

Product Features

Power Up

The HelmView display is most frequently installed with power connected to the ignition. When the ignition is turned on, the HelmView display powers up, and the engine health statistics can be viewed via preset gauges.



To see more gauge screens, press the lower left or right Function keys.

Main Menu

The main menu is activated at any time by pressing the **Menu** key on the display.



The following features are accessed through the main menu:

- **Gauge Display** – provides a series of screens that display engine and auxiliary information in a variety of formats.
- **Engine Diagnostics** – displays a list of engine fault codes and descriptions.
- **User Settings** – allows you to customize the display options for ambient light and brightness, set US or metric units, language, specify the Home screen and screen setup status.
- **Utilities** – allows configuration of the plug address and displays software version information at the top of the page.

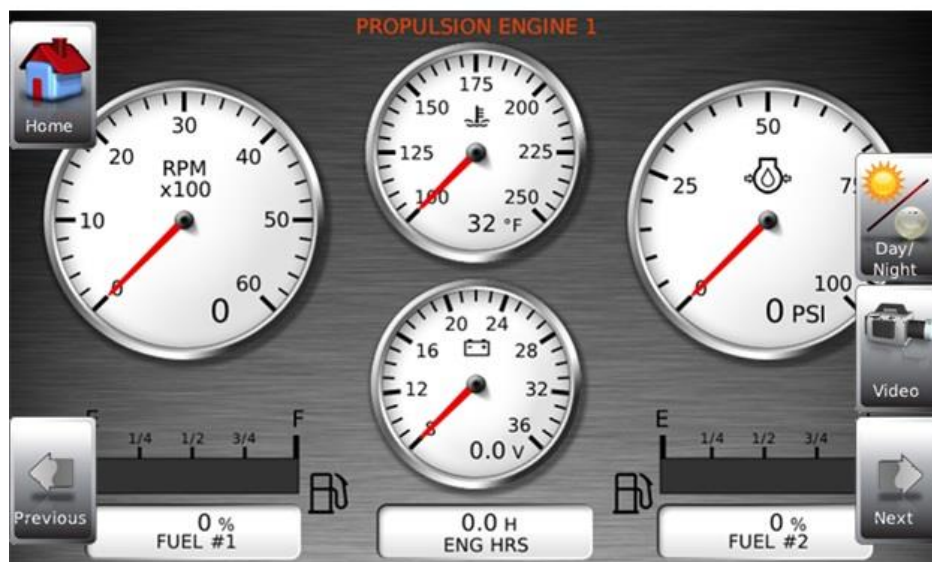
Gauge Display

The Gauge Display screen consists of several predefined layouts that contain combinations of analog gauges, straight bar gauges or digital (text) readouts. These screens are displayed upon start up.

To scroll through the various gauge screens, press the **Prev** and **Next** soft keys. This can be repeated until all screens have been viewed. The currently displayed screen will stay active until another key is pressed.

Soft Key Commands

When a Gauge Display screen is active, pressing the **Enter** key will display soft key commands, as shown below. Continuing to press **Enter** will toggle through any additional soft keys and will eventually remove the soft key commands from the screen.



Soft Key commands provide quick navigation and access to the following features:

- Home
- Day/Night
- Prev
- Next
- Video

Home - This one-touch navigation feature allows a predefined Home screen to be accessed from the available Gauge Display screens. Once selected, the Home screen will be displayed anytime the **Home** key is pressed.

NOTE: For instructions on how to set up the Home screen, refer to the **User Settings** section of this manual.

Day/Night - Allows you to toggle the display screen between Day View and Night View.

NOTE: This feature can also be changed in the **User Settings**. See this section of this manual.



Day View



Night View – Red



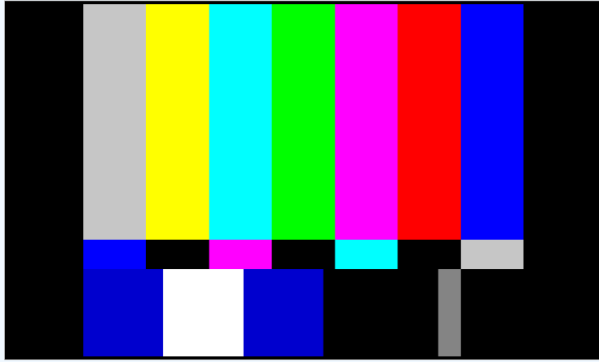
Night View – Blue

Previous and Next

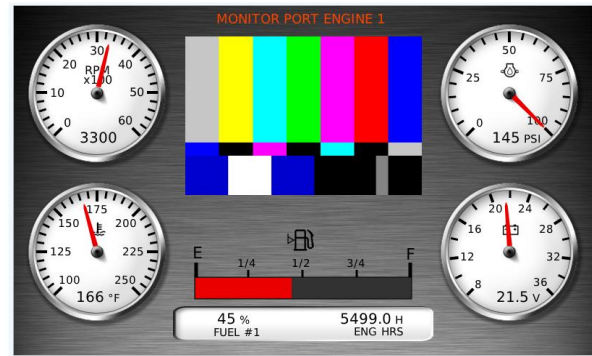
These soft keys allow you to scroll through and display the various gauge screens.

Video – When enabled, displays either full-screen video or partial video within a window on the gauge display.

NOTE: For instructions on how to enable full or partial screen video, refer to the **User Settings** section of this manual.



Full-Screen Video



Example Partial-Screen Video
(Video Screen displayed is from custom configuration)

Previous and **Next** keys allow you to scroll through and display the various gauge screens.

NOTE: For instructions on how to turn screens ON or OFF, refer to the **User Settings** section of this manual.

Engine Diagnostics

Choose **Engine Diagnostics** from the **Menu** for the HelmView 780 to query the Engine Control Unit(s) and provide feedback on any activated service codes.

ENGINE DIAGNOSTICS

Source Plug SPN FMI Count

Status **REQUESTING**

Description

Correction

Source	Plug	SPN	FMI	
				 <div style="border: 1px solid black; padding: 5px; display: inline-block;"> Requesting Stored Diagnostics... </div>



Up

Down

Faults displayed are based on engine or auxiliary sources.

ENGINE DIAGNOSTICS Status: OK

Source: Engine #1 Plug: A SPN: 28 FMI: 4 Count: 1

Description: % ACCEL POS3 VOLT BELOW NORM OR SHORT LOW! Correction:

Source	Plug	SPN	FMI	Count	Description
Engine #1	A	28	4	1	% ACCEL POS3 VOLT BELOW NORM OR SHOR

Buttons: Get Faults, Up, Down

The following is a list of definitions for fields on the **Engine Diagnostics** screen:

- **Status** – indicates if the fault has been corrected.
- **Source** – identifies the component having the fault - port or starboard engine, or auxiliary (for example, transmission).

- **SPN** – Suspect Parameter Number, an SAE identifier fault code

If the SPN is not translated into text by the HelmView 780 display, see the engine manufacturer's literature for a definition of the SPN number.

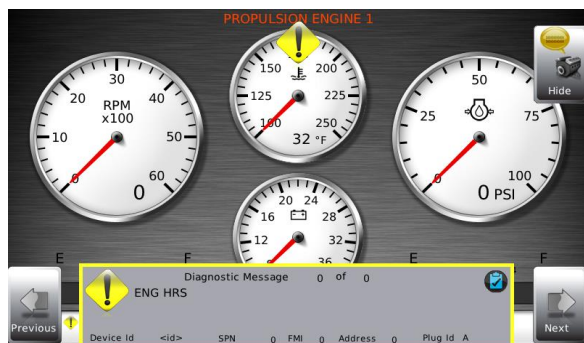
- **FMI** – Failure Mode Indicator, fault code

The FMI is defined by SAE J1939. If not translated into text, see the SAE standard or the engine manufacturer's literature.

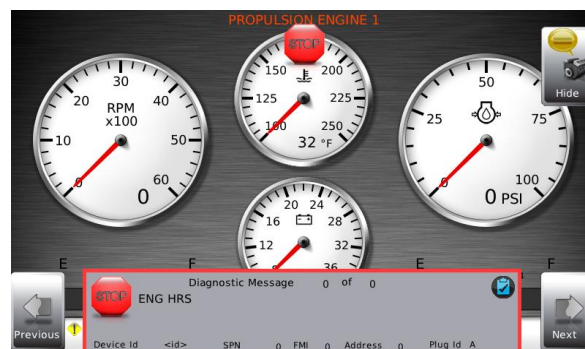
- **Count** – The number of times the event has been flagged.
- **Description** – The common SPNs and FMIs have a text description stored in the HelmView 780 display. If there is no text, then define this SPN/FMI by referring to the engine manufacturer's literature or the SAE J1939 standard.
- **Correction** – Troubleshooting guidelines for corrective action to take in resolving the fault. **This field is only used with specific brands and models of engines.**

Fault Code Pop-Ups

A fault condition will trigger a pop-up dialog box on the screen describing the nature of the fault. Corresponding red or amber fault lights on the corners of the unit are also activated to indicate the severity of the fault. The following screens are an example of warning fault code pop-ups.



WARNING

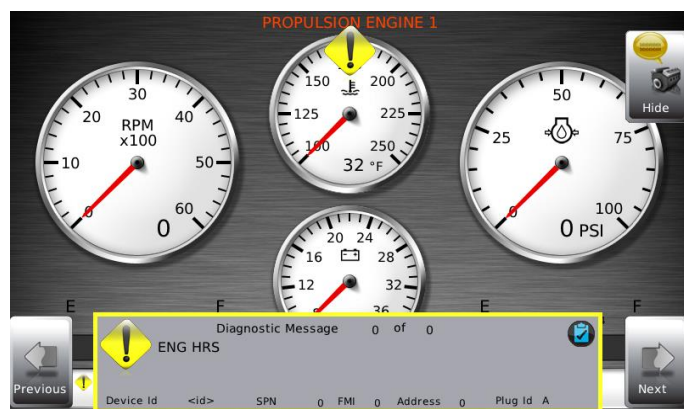


SHUTDOWN

How to Hide/Show Faults

To hide the fault code pop-up being displayed on the screen, press the soft key on the upper right next to the Hide icon. The pop-up will disappear; however the Warning or Stop icon will remain on the screen to indicate there is still a fault. Pressing Hide does not clear the fault; it only hides the pop-up message.

When a fault code has been hidden, a Recall icon will remain on the right side. When this soft key is pressed, the fault code will again be displayed. When a pop-up message has been activated, a pop-up message will be displayed until the alarm is acknowledged by pressing the Hide key.



Warning showing



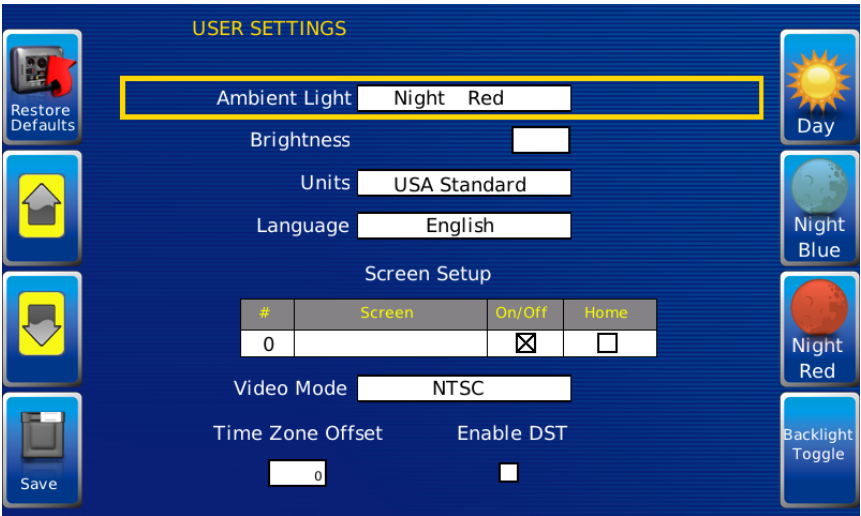
Warning hidden, Recall button showing

Scrolling Through Multiple Messages

The title bar of the fault code pop-up may indicate multiple messages, as in Diagnostic Message 1 of 3. Press the **Prev** and **Next** keys to scroll through the different messages.

User Settings

User Settings provides options to specify viewing preferences for the HV780 Display. Pressing **Up** and **Down** navigates through the options. To change an option, press the corresponding soft key next to the desired soft key command.



Ambient Light

Night and Day options are provided for ambient lighting, along with a Backlight Toggle. The screens below illustrate these options. When the ambient lighting settings are changed in User Settings, the power-on default is changed.

To choose either red or blue night viewing modes, simply highlight the Ambient Light box and select Night Red or Night Blue.



Day View



Night View – Red

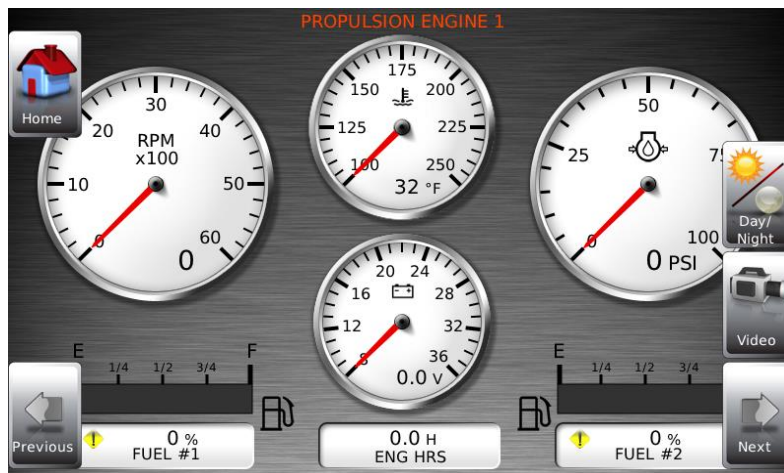


Night View – Blue

NOTE: The ambient lighting option is also accessible through soft key commands on the gauge display screens. When selected, the **Day/Night** soft key toggles the display to the opposite mode.

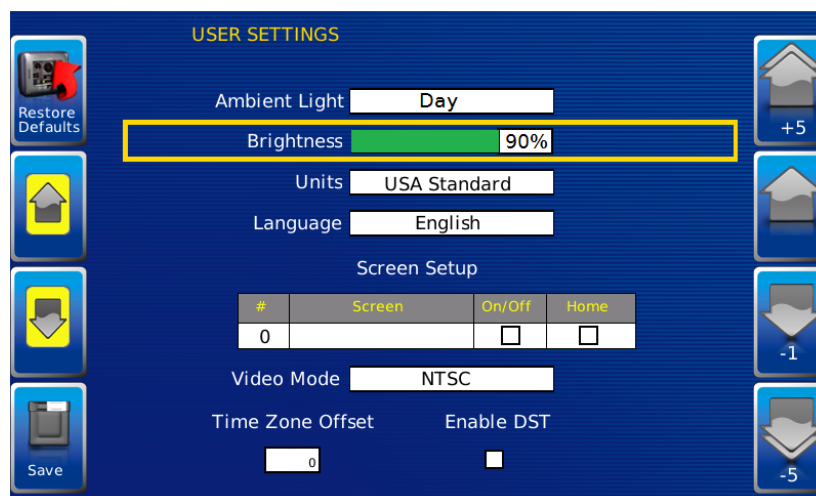
The **Backlight Toggle** turns the backlight off to Sleep mode. You can reach this from the **User Settings** screen or from any screen, if either of the top two soft keys (left and right) are unassigned. Hold the soft key down for 5 seconds to turn OFF the backlight (This function only turns the backlight off. The unit continues to operate as normal but with no backlight). Press any soft key to Wake the backlight.

In the screen below, you can use the unassigned upper right soft key to access the **Backlight Toggle** mode, and the second soft key down to switch between night and day.



Brightness

You can set the brightness control by using the soft keys to change the settings in +1% and +5% increments until the desired brightness is achieved.

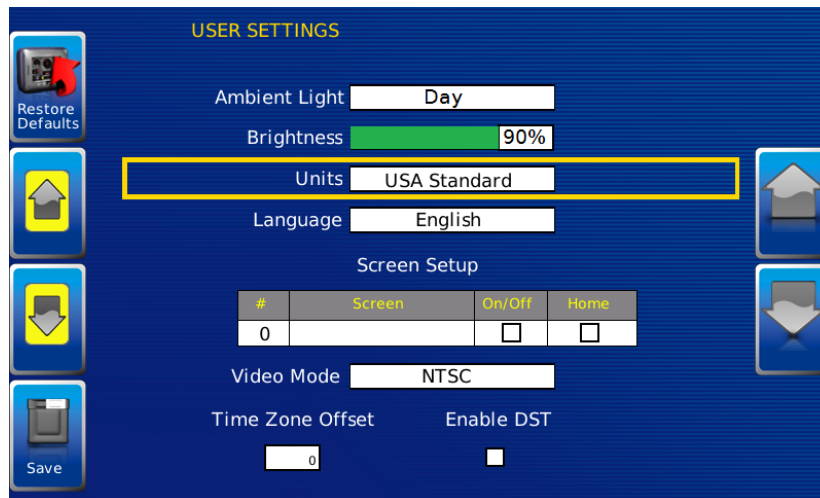


NOTE: Brightness level will change with ambient light setting. Two brightness levels are saved; one for day and one for night.

Units

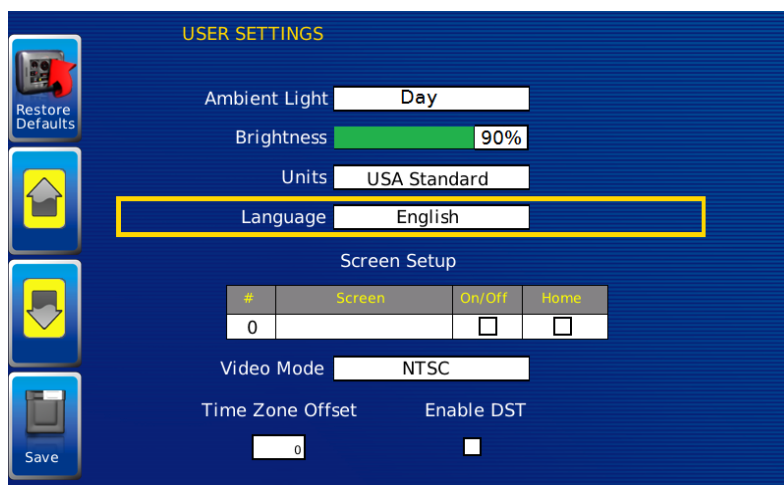
Select how units are displayed by using the soft keys to select from the following:

- USA Standard
- Metric Bar
- Metric kPa
- British Standard



Language

This option allows you to select the language that will be displayed on the HelmView HV780. Available languages include English, French, Spanish, German, Italian and Chinese. Languages are selected from the soft keys. Press **More** to view additional languages.



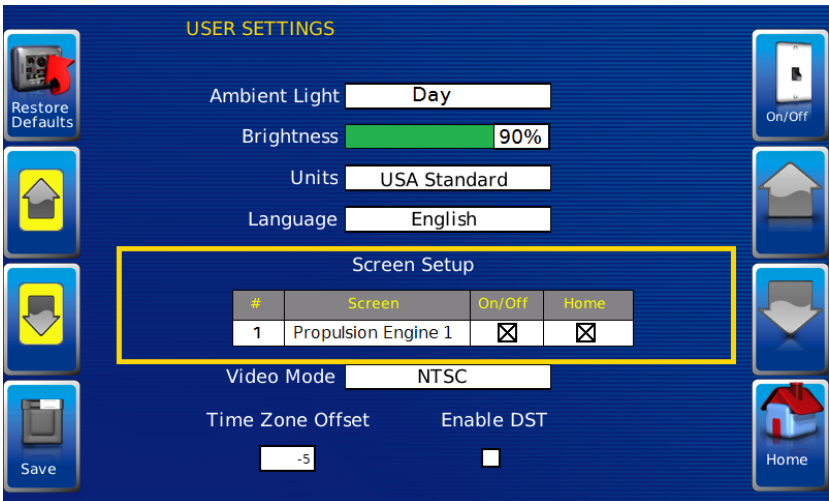
NOTE:

English is the standard language for this configuration. Additions to this feature will be provided in future software updates or posted on the forum at:

<http://forum.fwmurphy.com/>

Screen Setup

Initially Gauge Screens are listed in default order. You scroll through them using the **Previous** and **Next** soft keys.



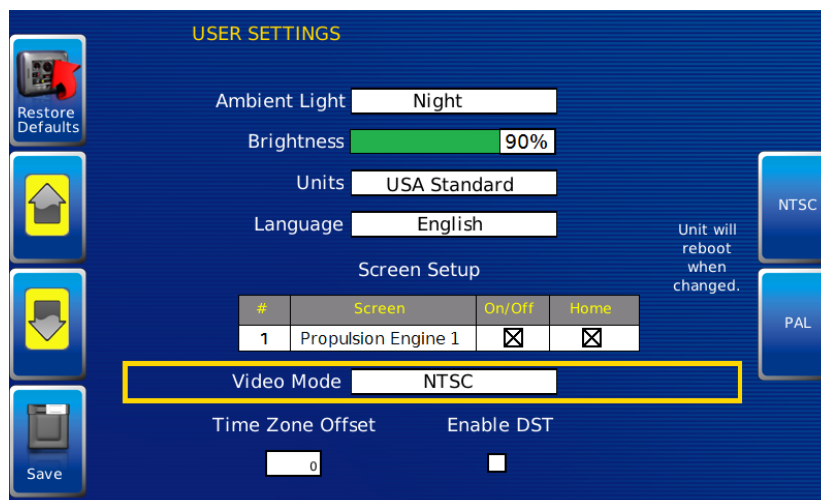
The **Screen Setup** allows you to turn specific screens ON or OFF depending on what you want to monitor.

To turn screens on/off highlight the Screen Setup portion of the screen with the yellow box. Once highlighted, use the gray up and down arrows to select specific screens and the On/Off button to turn screens on or off.

To select a **Home** screen to display every time the unit is powered up, select the **Home** check box for only one screen.

Video Mode

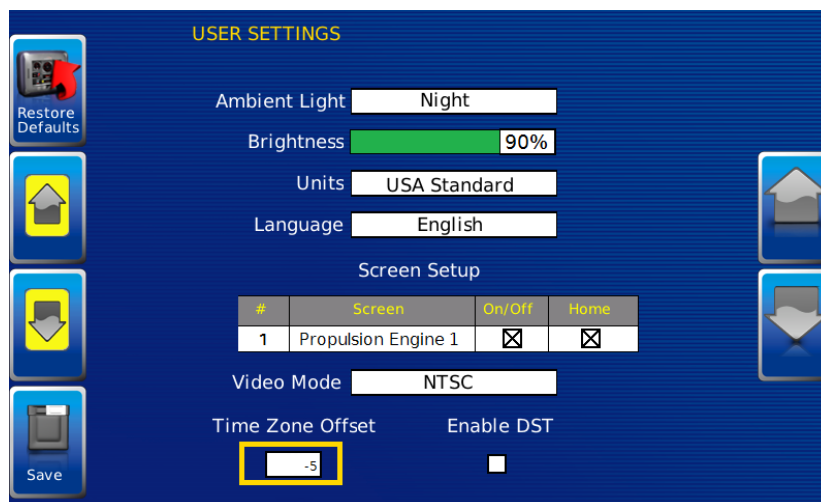
Change accordingly to match video input – either NTSC (National Television Standards Committee, used primarily in North and South America) or PAL (Phase Alternating Line, used in Europe and Asia). Degradation of picture quality and resolution can occur if the incorrect Video Mode is selected.



NOTE: The HelmView HV780 reboots when you change the video input mode.

Time Zone Offset

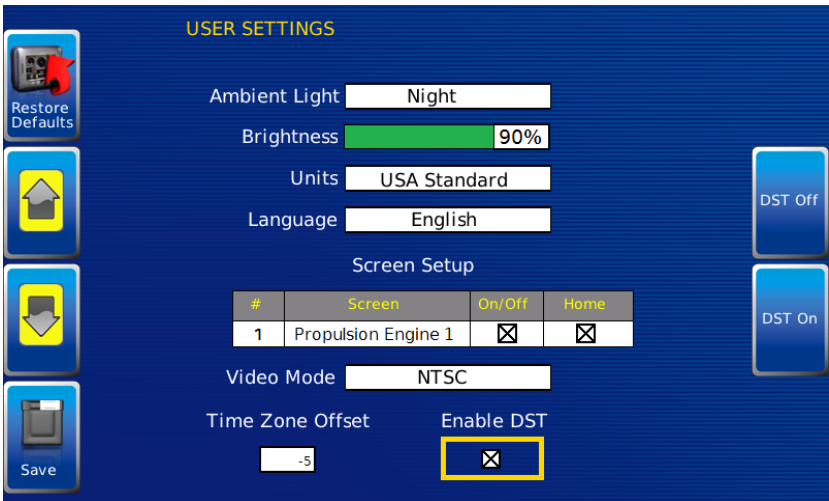
Time is provided via GPS signal through your GPS receiver. Most GPS devices convert GPS time to UTC (Coordinated Universal Time). Time Zones are normally offset from UTC by a whole number of hours (UTC-12 to UTC+14).



Use the **Up** and **Down** Arrows to scroll to your time offset. The range offered is -12 to +13.

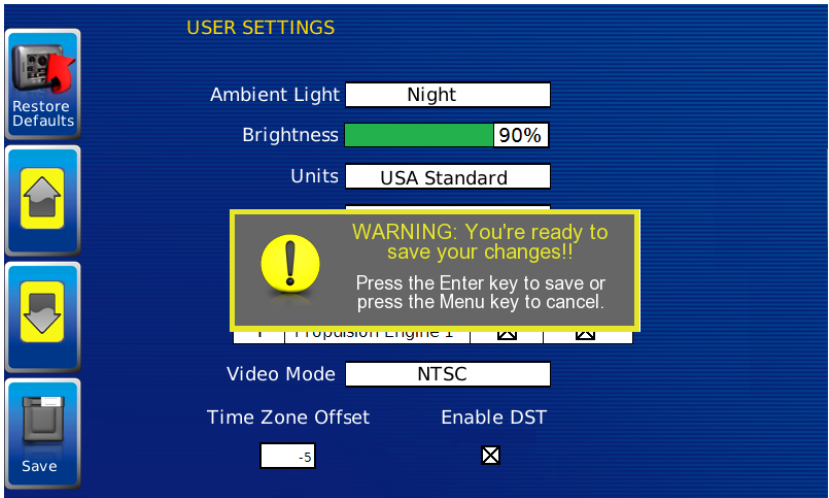
Enable DST

To Enable Daylight Saving Time, ensure the Enable DST box is checked, and press the soft key for DST ON. To turn DST OFF, press the soft key for DST Off.



Save

Once all changes have been made, press **Save** and follow the on-screen instructions. The following confirmation screen is displayed.

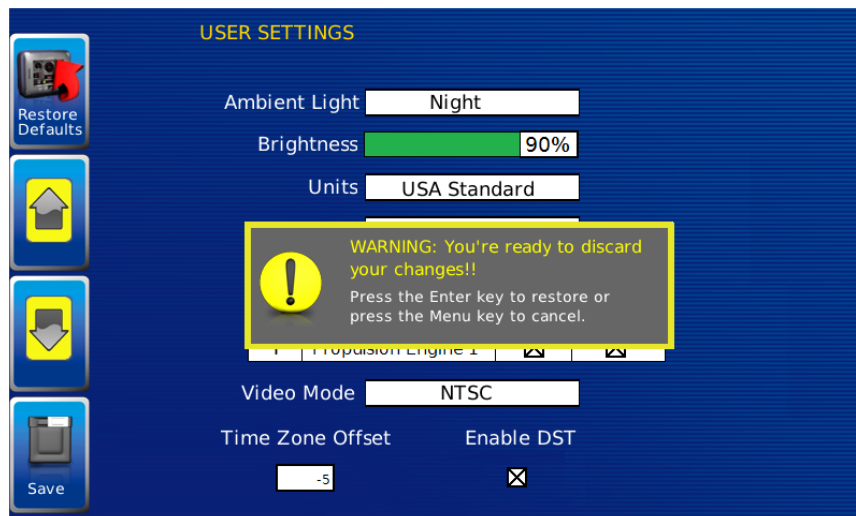


Press the **Enter** soft key to **Save**, or press the **Menu** soft key to **Cancel**.

Restore Defaults

Restore Defaults sets all the features of the display to the original factory settings. During troubleshooting, you can use this as a last resort to reset the display to a known state.

To restore the default user settings, press the soft key for **Restore Defaults**. The following confirmation screen displays.



Press the **Enter** soft key to **Restore Defaults**, or press the **Menu** soft key to **Cancel** the action.

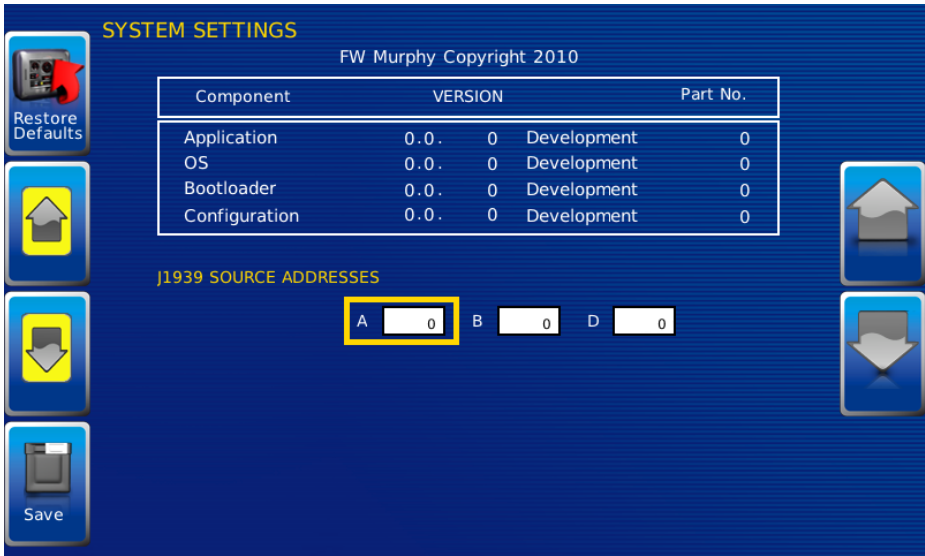
Utilities

The Utilities menu allows you to reset external gauges and configure communication settings. It is typically only accessed when the unit is first installed in order to configure the unit. The following submenu is displayed when Utilities is selected.



System Settings

The System Settings screen displays the current software version loaded on the HV780 display. You can set individual settings for the available options and **Save**, or choose to select **Restore Defaults** for the factory settings.



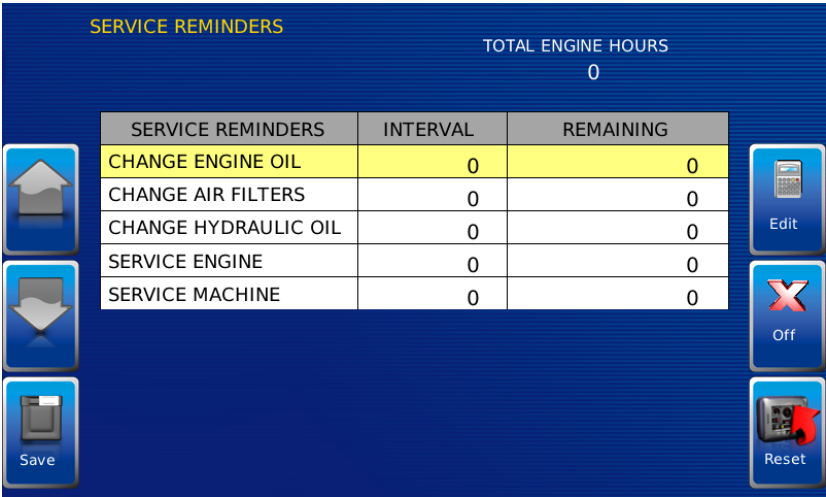
The yellow **Up** and **Down** keys on the left allow you to move the cursor through J1939 Source Addresses fields. While the cursor is highlighting a field, the gray **Up** and **Down** keys scroll through available options. Once all the options have been selected, press **Save**.

Service Reminders

This option allows you to reset the five built-in service reminders:

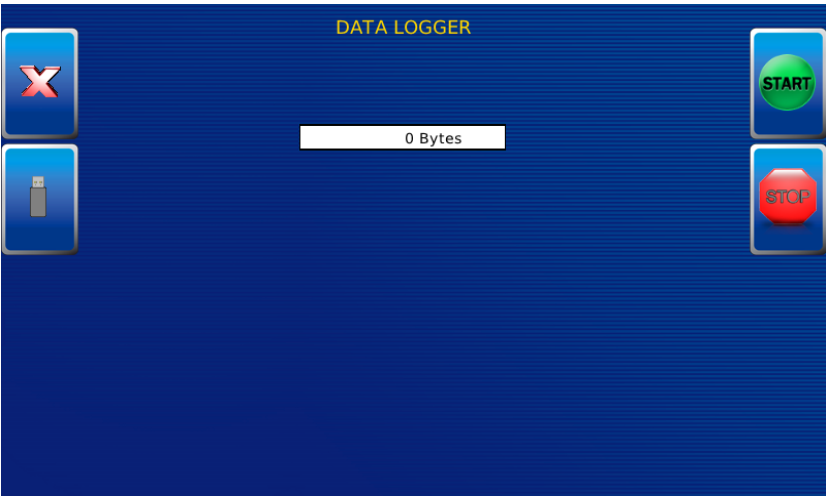
- Change Engine Oil – Default interval 50.0 Hrs.
- Chang Air Filters – Default interval 75.0 Hrs.
- Change Hydraulic Oil – Default interval 100.0 Hrs.
- Service Engine – Default interval 125.0 Hrs.
- Service Machine – Default interval 150.0 Hrs.

Using the gray up and down arrows, highlight the appropriate service reminder, and press the Reset button on the lower right-hand side.



Data Logger

Use the Data Logger function to record the J1939 parameters being read by the HelmView 780. The parameters recorded are defaulted to those that display on gauges and screens. The recorded information can be downloaded to a USB device.

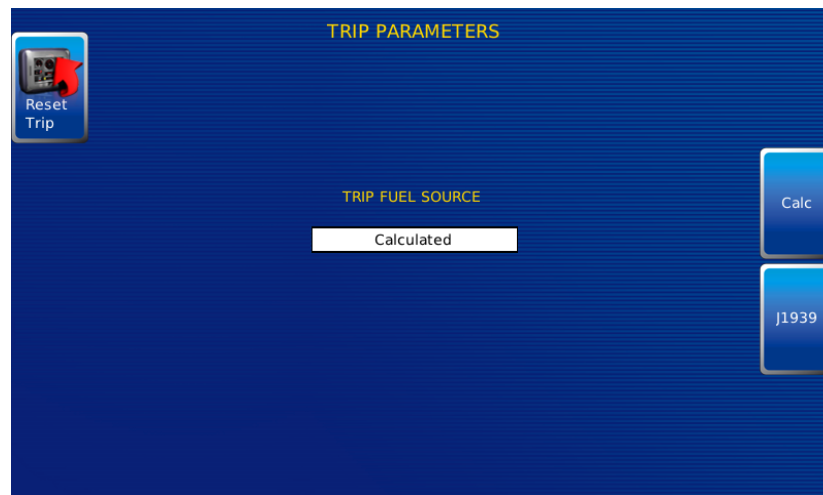


Press the **Start** soft key to begin recording. Press the **Stop** soft key to stop recording. To download the recording to a UBS device, press the soft key for the USB icon (second button down on the left).

Trip Parameters

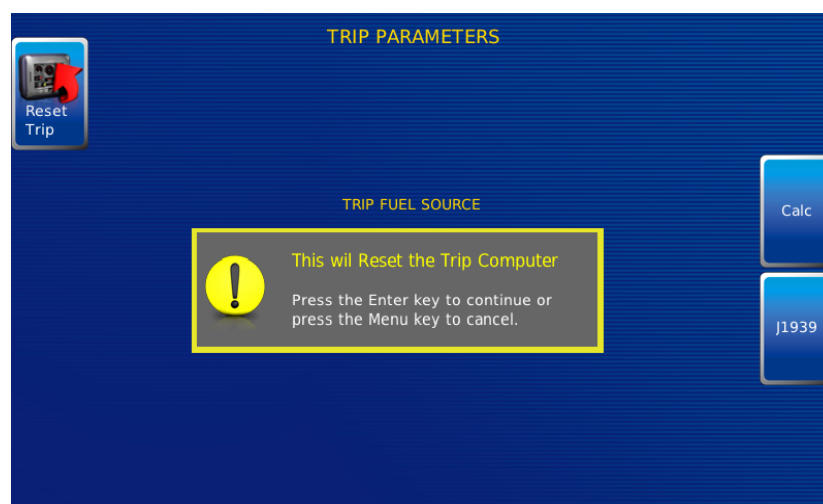
Trip Parameter calculates or uses J1939 to determine fuel usage.

Press the adjacent soft key to select J1939, and use SPN 182 (Engine Trip Fuel) to display fuel used during all or part of a voyage.



Press the adjacent soft key to select **Calc**. The HelmView 780 will use all engine trip fuel data to calculate a fuel usage number.

The **Trip Fuel** gallons/liters display on the GPS gauge screen. To clear a trip, press the soft key adjacent to the **Reset Trip** icon. The following warning displays.



Press the **Enter** key to continue or press the **Menu** key to **Cancel** the action.

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