

International[®] Driver Information Display Operating Instructions



Read these instructions carefully before using this product and keep this manual for future reference.

DISCLAIMER

THIS IS A DISCLAIMER OF LIABILITY AND DAMAGE RESPONSIBILITY AS REGARDS TO LECTRONIX, INC. RELATING TO YOUR USE OF THE LECTRONIX DID SYSTEM. READ IT CAREFULLY. YOU ASSUME TOTAL RESPONSIBILITY AND RISK FOR USING THIS SYSTEM.

Failure to properly focus on the operation of your motor vehicle can result in death, serious injury and property damage. This device should never be used at a time or in a manner that distracts you from focusing on the operation of the motor vehicle in which it is installed. Our concern is for your safety. We ask that you fully cooperate with and share that concern.

Always operate the vehicle in a safe manner and in full compliance with speed limits, road safety signs and all other laws and devices that regulate operation of a motor vehicle. Be aware of driving conditions at all times when using this system while operating a motor vehicle.

Operation of this unit, including its camera, navigation, audio and other features can be distracting to your operation of the motor vehicle. While the system is intended to provide both entertainment and vehicle and navigation information, it is not intended to, nor should you allow it to distract you from properly focusing on operating the motor vehicle in which it is installed. It is up to you to minimize or prevent such distraction.

Learn how to use this system before placing the vehicle in operation. Minimize the amount of time spent viewing the screen of the unit while driving. Do not attempt to adjust settings of the system or resolve any malfunction while driving. Instead, pull off the road in a safe and legal manner and then adjust its settings or deal with any malfunction. In the event of malfunction, disable the unit (turn power off or remove power from the system).

In addition to its multiple other functions, your DID system is equipped with a navigation function. When navigating, carefully compare information displayed on the unit to all available navigation sources, including information from street signs, visual sightings, and maps. Do not enter destinations, change settings or access any functions requiring prolonged use of the controls of the unit while operating your motor vehicle. For safety, pull off the road before making any adjustments to the system or resolving any navigation discrepancies or questions.

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IMPORTANT SAFETY INFORMATION

Safety Information

Read the operating instructions for the DID and all other components of the system carefully before using the system. They contain instructions about how to use the system in a safe and effective manner. **FAILURE TO OBSERVE THE INSTRUCTIONS GIVEN IN THIS MANUAL MAY CAUSE INJURY OR DAMAGE AND VOID THE WARRANTY.**

This manual uses symbols to show you how to use the product safely and to alert you to potential dangers resulting from improper connections and operations. The meanings of the symbols are explained below. It is important that you fully understand the meanings of the symbols in order to use this manual and the system properly.



Warning

This symbol intends to alert you to the presence of important operation instruction and installation instructions. Failure to heed the instructions may result in severe injury or death.



Caution

This symbol intends to alert you to the presence of important operation instruction and installation instructions. Failure to heed the instructions may result in injury or material damage.

Warnings



Warning

Observe the following warnings when using this unit.

- **The driver should not operate the system while driving.**
Operating the system will distract the driver from looking ahead of the vehicle and can cause accidents. Always stop the vehicle in a safe location and use the parking brake before operating the system.
- **Use the proper power supply.**
This product is designed for operation with a negative grounded 12 V DC battery system. Never operate this product with other battery systems, especially a 24 V DC battery system.
- **Do not disassemble or modify the unit.**
Do not disassemble, modify the unit or attempt to repair the product yourself. If the product needs repair, contact your International[®] dealer.
- **Do not use the unit when it is not functional.**
If the unit is not functional (no power, no sound) or in an abnormal state (has foreign objects in it, is exposed to water, is smoking, or smells), turn it off immediately and contact your International[®] dealer.
- **Refer installation and service to qualified personnel.**

IMPORTANT SAFETY INFORMATION

Cautions

Notes on Use: Liquid Crystal Display Panel and Touch Screen.

The DID display is a Liquid Crystal Panel, commonly known as an LCD. Over the surface of the LCD is a Touch Screen to allow the user to touch the screen and activate buttons and other controls. There are a number of considerations to keep in mind with any system using an LCD panel. The Touch Screen is also vulnerable to damage if it is not properly used. While both elements can take substantial use, they need to be treated with care. The following guidelines should be followed when using your unit. Refer to the Maintenance section of this manual for cleaning instructions.

- Do not cause impact to the liquid crystal panel/touch screen.
- Do not use a mechanical pointer to touch the screen, as it will damage the touch screen. Always use your finger so you can feel how much pressure is being applied to the screen.
- When the temperature is very cold or very hot, the image may appear unclear or may move slowly.

INTRODUCTION

Getting Started

Understanding your Driver Information Display (DID)

The DID offers a comprehensive information processing and display system for your International[®] Truck. It features a 6.5" color display and touch screen for easy operation. Connection to the vehicle's J1939 bus provides the driver with engine and truck data as well as operating environment.. The Premium system adds GPS navigation with Logistics. Options include side and rear cameras, iPod interface and SmartWave[®] Tire Pressure Sensing System for tractor tires.

The DID works in conjunction with the Navistar provided radio to produce audio. Reference the Audio section of this manual for details on selecting audio sources from the DID.

System Overview

- Integrated Vehicle Monitor and Trip Computer
- In-Dash Controller Unit with 6.5" Color TFT LCD Display with touch screen
- Telematics display

Vehicle Monitor

- Monitor Truck and Engine Data from Vehicle Busses
- Alarms for Fault and Out of Range Conditions
- Checklists for Tractor, Trailer and Cab tasks
- Maintenance Scheduling & Reminders
- Vehicle Bus connections for J1939

Trip Computer

- Multiple Trip Odometers
- Speed and Distance Tracking
- Fuel Consumption

Camera Display

- Supports four (4) Cameras
- Automatic Camera Select by Reverse and Turn Indicators
- Supports Rear Camera Microphone

Integrated Navigation with Logistics¹

- Complete US and Canadian Maps included
- 12+ million Points Of Interest
- Logistics Intelligently Routes Vehicle Around Roads with Restrictions based on Vehicle Cargo, Dimensions and Weight

Tire Pressure Monitoring System

- Teamed with the SmartWave[®] system, Continuously Monitors Tractor Tire Pressures
- Alerts Driver to Low Tire Pressure to avoid Tire Damage and Dangerous Driving Conditions

¹ Available in Premium system only.

INTRODUCTION

Conventions Used In This Manual

Buttons. The DID has many control buttons. Physical buttons are located around the front panel of the system. “Soft buttons” are icons displayed on the touch screen of the DID. In this manual, instructions to use a physical button will use the word **Push**, indicating the action of pushing a physical button. Instructions to use a soft button will use the word **Touch** since the button appears on the screen and touching the screen at the location of the soft button will activate it.

Screenshots. Some pictures in this manual will show less than the full display. Your system will always have a full display when in operation. The reduced content pictures are for clarity only and to show detail in the area being described.

Controls

The front panel controls let you select the DID’s Applications and Functions. Refer to the following picture and definitions to understand what each control is for.



Front Panel Buttons

- **Audio** - Selects the Audio function menu
- **Camera** - Allows user to choose which camera is currently displayed
- **Navigation** - Accesses the Navigation function menu¹
- **Information** - Selects the Information function menu which provides vehicle information
- **Home** - Displays the Home Screen
- **Go Back** - Reverts the display to the previous screen
- **Screen Movement** - Moves the highlighted selection on the screen
- **Select** - Selects the highlighted action/function

INTRODUCTION

Front Panel Buttons (cont.)

- **System Menu** - Displays the System Menu to adjust system parameters
- **Zoom in and out** - When using Navigation, zooms the map in and out
- **Brightness/Power On/Off** - Selects three levels of screen brightness and/or turns system on and off. Push and release quickly to change brightness, push and hold to turn unit on or off
- **Touch Screen** - The entire screen of the DID is a touch screen - touch the active buttons and icons to perform the desired functions

1 Navigation is only available in the Premium version of the DID.

Turning the DID On and Off

The DID will automatically turn on when you turn on the ignition of your vehicle. If the vehicle ignition has been off for more than two hours, the DID will need approximately one minute to start up. A logo screen then an advisory screen will be displayed during this extended start up time. When the Continue button is displayed at the bottom of the screen, touch it to continue on to the user functions.

If the vehicle ignition was off for less than two hours, turning on the vehicle ignition will immediately restore the system to the most recent function and display.

If desired, the DID operation may be turned off at any time while the vehicle ignition is on. While the system will appear off, it will actually be in a Standby low power state and can be immediately turned back on when desired. To turn the system off, push and hold the **Brightness/Power On/Off button** for about two seconds. The screen will go black and all functions will stop.


Release the button. To turn the system back on, push and release the **Brightness/Power On/Off button**.

Standby Operation

When the vehicle ignition is turned off, the DID will enter a low power Standby state. The system will remain in Standby state for approximately two hours, at which time it will save all user settings and power off. If the vehicle ignition is turned on before the two hour time limit, the system is immediately restored to the most recent function and display. If the vehicle ignition is turned on more than two hours after it was turned off, the system will go through a full power up sequence as described above.

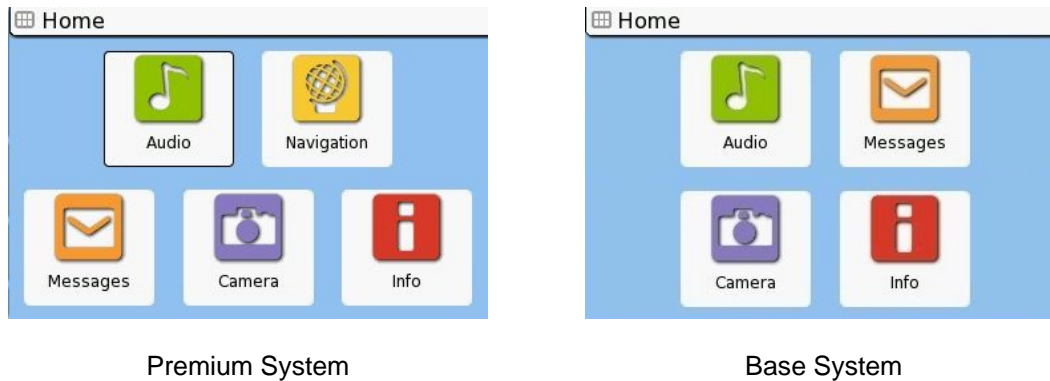
INTRODUCTION

Home Screen

When the DID is turned on for the first time or when the Go Back button  is used to back out of menus, the Home Screen will be displayed. The Home Screen is shown in the picture below:

- **Audio** - USB music, iPod
- **Navigation** - navigates to your destination
- **Messages** - currently not used
- **Camera** - allows user to choose which camera to view
- **Info** - all vehicle info can be accessed through this application

Home Screen



**Note: depending on the system configuration, not all functions may be available

Selecting Applications and Functions

Each Application (i.e., Audio, Camera, Information, Navigation, etc.) can be selected by either the physical button on the bezel or by the soft button on the touch screen. Press the button for the application you wish to use. Each application has a main screen which shows all functions available. Touch the icon on the screen to proceed with the desired function.

AUDIO

Audio


Operation with the Navistar provided in-dash radio unit

The DID is connected to the radio in the truck instrument panel. Navigation voice commands and music played from USB memory sticks or an iPod is routed to the radio for amplification to the speakers. Volume, tone, balance and fade control of audio is accomplished using the radio controls - refer to the radio manual for further information. Navigation voice commands will always be heard through the speakers regardless of the audio source. Therefore, if no navigation audio is heard, insure the radio is powered on and the volume is turned up.

Selecting an audio source not originating from the DID (i.e. radio or CD) is accomplished by pushing the appropriate source button on the radio control panel. If the current audio source is from the DID, selecting an audio source originating from the radio will stop the audio from the DID (i.e. the USB or iPod music will be stopped on the DID). Return to the USB or iPod audio source by selecting the desired function on the DID. The radio will switch to that audio source automatically.

Note: If the truck radio is off and an audio function is selected on the DID, the radio will turn on automatically. *However, if the radio is off and navigation commands are spoken, they will not be heard. The radio must be manually turned on to hear navigation commands.*

Accessing the DID Audio Functions

Access the DID Audio functions by pushing the Audio button  or by touching the **Audio icon** on the Home Screen. The audio functions available are now displayed.

Audio Functions




Note: Depending on the installed options, some functions may not be available.

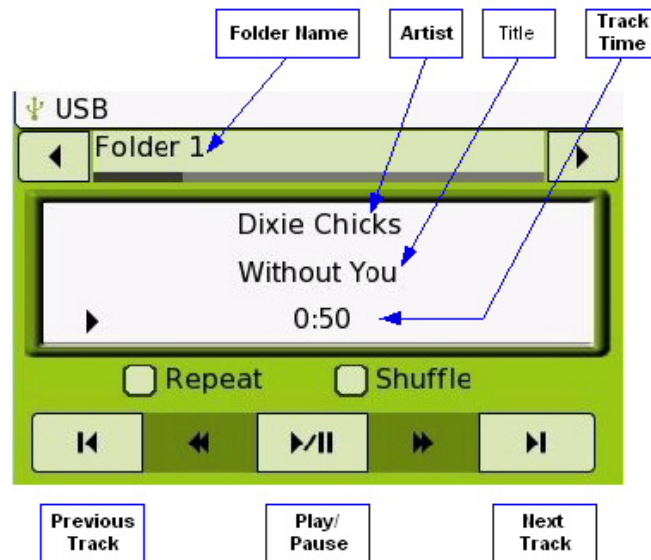
AUDIO

USB Audio

The system will automatically detect and play MP3 and WMA encoded music from a USB memory stick when a memory stick is inserted. The song information associated with each music track will appear on the display screen if it is encoded with the song. USB play can be stopped by

1) removing the USB stick; 2) pushing the **Back button**  on the DID to back out of the USB application; 3) selecting a different audio source on the radio such as AM/FM or CD.

USB Audio Buttons and Controls



Playing USB Memory Stick Music Tracks

- 1) When a USB memory stick is in the port, touch the **Audio icon** on the Home Screen, and then touch the **USB icon** on the Audio Screen. Touch the **Play/Pause button** to play the music on the USB memory stick.
- 2) If there is no USB memory stick in the port, insert the USB memory stick into the port. When inserted, the audio source automatically changes to USB and begins playing the first track.
- 3) Use the **Scan and Previous/Next buttons** to move to the next or previous track as well as fast forward and rewind.
- 4) To pause music play, touch **Play/Pause**.



Caution

Carefully insert the USB Memory stick in the vertical USB port. Do not force the memory stick into the slot. If it does not appear to fit, turn it 180 degrees and try again. Do not insert foreign objects into the USB port.

AUDIO

USB AUDIO (cont.)

Repeat play. To repeat play the music tracks on a USB memory stick, touch the **Repeat box** on the screen. A green checkmark appears indicating Repeat mode. To stop Repeat mode, touch the **Repeat box** and the checkmark will be removed.

Shuffle play. To play USB memory stick tracks in a random order, touch the **Shuffle box**. A green checkmark appears to indicate Shuffle mode is active. To stop Shuffle mode, touch the **Shuffle box** and the checkmark will be removed.

***Note:** Shuffle and Repeat can be used together or independently.

Playing MP3/WMA files on USB

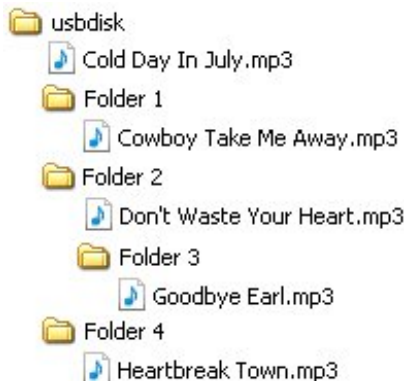
The USB slot will play music encoded in MP3 (MPEG Audio Layer-3) and WMA (Windows Media™ Audio), which are digital audio compression formats.

- For MP3, all sampling rates above 22kHz are supported.
- For WMA, the following applies:
 - WMA protected content will not play
 - The WMA lossless codec will not play
 - Only a sampling frequency of 44.1 kHz is supported (this is the format used by default by Windows Media Player when ripping CDs)

USB Memory Sticks With Folders

You may have audio files on your USB memory stick in the main folder and/or sub-folders. When playing audio files on a stick with sub-folders, the order of play is as follows:

- Audio files in sub-folders are played first and in alphabetical order of the folder names
- If there are sub-folders within sub-folders, the system will follow the folder tree (in alphabetical order) until all audio files have been played
- Audio files in the main folder will be played last
- In the sample folder structure below, songs will be played in the following order: Cowboy Take Me Away, Don't Waste Your Heart, Good Bye Earl, Heartbreak Town, Cold Day In July.



AUDIO

USB AUDIO (cont.)

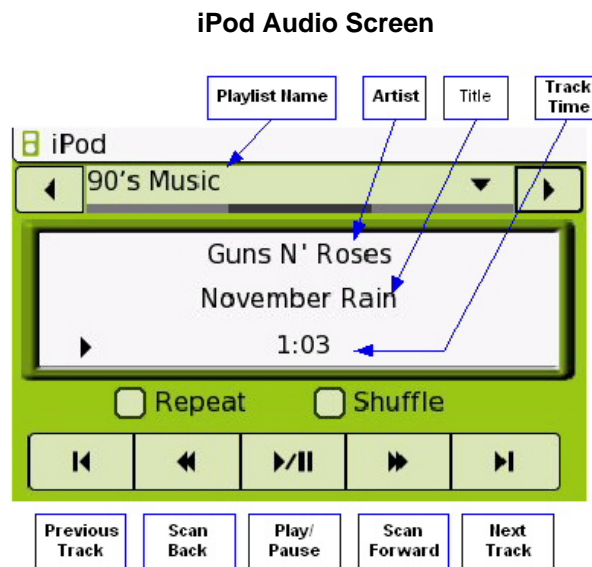
Navigating Folders. When playing audio files on a USB memory stick with sub-folders, the name of the current folder is shown at the top of the screen and left and right arrow buttons appear on the screen on either side of the folder name. To navigate to different folders, touch the **Arrow buttons** on the screen to scroll through the folders. The screen will not display a folder structure as shown above, it will simply show folder names as you navigate through them and will follow the alphabetical method as described above. Using the right arrow button and the sample structure above, the order of navigation will be Folder 1, Folder 2, Folder 3, Folder 4, usbdisk. Regardless of the name assigned to the USB stick when inserted in your PC, the DID will always name the main folder "usbdisk".

iPod Audio

The DID supports direct control of an Apple iPod through an optional docking interface cable. Only audio file playback is supported.

To use iPod audio, touch the **iPod icon** in the Audio menu. Connect an iPod to the docking connector. After a brief time, the screen will display "Reading iPod". Once the iPod structure is read, the screen will display the audio control screen for iPod as shown below.

The current playlist is shown at the top of the screen. To select another playlist, touch the **Left and Right arrow buttons** beside the playlist name or, touch the **playlist name** to get a dropdown menu of all available playlists. In the dropdown menu, touch the name of the desired playlist.



Repeat play. To repeat play the music tracks, touch the **Repeat box** on the screen. The box will turn black, indicating Repeat mode is active. Repeat mode will play all songs in the current playlist then start over with the first song. This action will continue until the user stops play. The repeat mode set in the iPod Settings menu is not used. To stop Repeat mode, touch the **Repeat box**. The box will become white indicating repeat mode is not active.

Shuffle play. To play tracks in a random order, touch the **Shuffle box**. The box will be filled in, indicating Shuffle mode is active. Shuffle mode will shuffle the songs in the current playlist. The shuffle mode set in the iPod Settings menu will not be the mode used to shuffle songs. To stop Shuffle mode, touch the **Shuffle box**. The box will turn white indicating shuffle mode is not active. Shuffle and Repeat can be used together or independently.



CAMERAS

Cameras

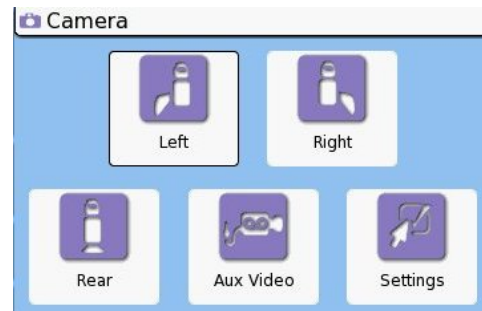
The DID supports up to four **optional** cameras: Left, Right and rear plus Aux Video for a fourth camera or another video feed. All inputs are compatible with Sony color cameras. The left, right and rear cameras can be configured to automatically display when the vehicle turn signals are activated or when the vehicle is shifted into reverse.

When cameras are selected for view, the image will occupy the entire screen.

Selecting Cameras

To display a camera view in the main window, push the **Camera button**  on the left side of the unit or touch the **Camera icon** on the Home Screen. The Camera Menu will be displayed. Touch the icon for the camera you wish to view on the screen. To select a different camera, push the **Back button**  on the bottom edge of the DID to return to the Camera Menu and select a different camera from the menu.

Camera Menu



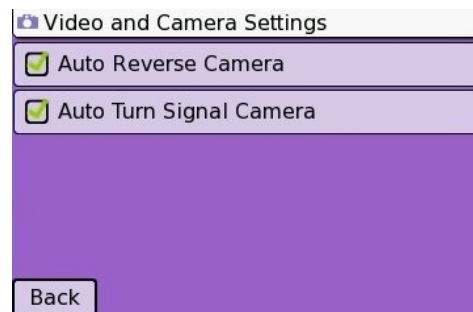
Camera Settings

Camera Settings

There are two options controlling how the cameras respond to actions in the vehicle. To access the Camera Settings, from the Camera menu, touch the Settings icon. Camera options are active when a green check mark is displayed in the box to the left of the option text. To set or clear the checkbox, touch the option you wish to change.

Auto Reverse Camera: When this option is selected, the Rear Camera will be displayed when the vehicle is shifted into reverse.

Auto Turn Signal Camera: When this option is selected, the left or right camera will be displayed when the left or right turn signal is activated in the vehicle.



****NOTE:** The DID must be properly connected to the vehicle turn signals and reverse signals for the automatic camera functions to operate as described.

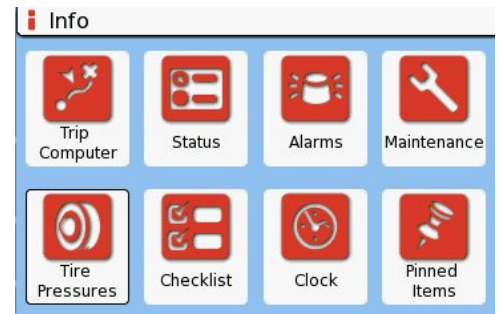
INFO

Info Main Menu

Info

The DID Info menu provides information about the operating conditions of the vehicle as well as periodic maintenance, alarms, tire pressures, trip logs, check lists and adjusting the system clock. Access the main

Info menu by pushing the **Info button**  on the left side of the DID or by touching the **Info icon** on the Home Screen.



Pinning Items to the Status Window

The DID uses a concept called “Pinning” to allow the user to activate or show particular items in the Status, Alarm, Tire Pressure and Maintenance areas. Pinning an item in any of the Info areas causes that item to be displayed in the Status Window. If more than one item is pinned, the items will be displayed in rotation.

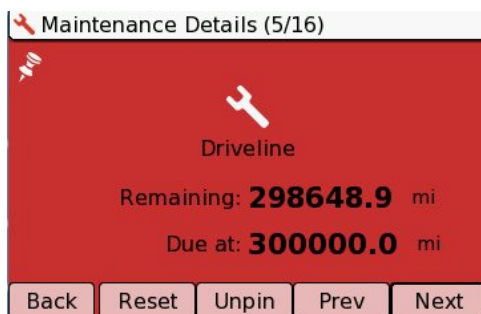
The Pinned Items screen shows all pinned items and allows for unpinning. From the main Info screen, touch the **Pinned Items** icon to access the Pinned Items screen.

To pin an item: from the main Info screen, select the desire info category (Status, Maintenance, Tire Pressures). From the displayed list, touch the item to be pinned. The item and related information will be displayed. Touch the **Pin button** at the bottom of the screen to pin the item. A white stickpin will be shown on the item screen to indicate it has been pinned.

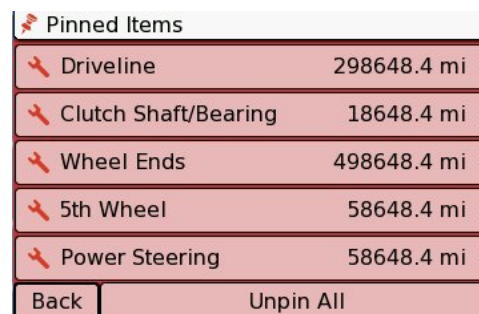
To unpin an item:

- While viewing the item, touch the **Unpin button**. The **Prev** and **Next** buttons select other items in the current info category.
- From the Pinned Items screen, touch the item to be unpinned then touch the **Unpin button**. The **Prev** and **Next** buttons select other items in the pinned items list. Touch the **Unpin All** button to unpin all pinned items.

Pinned Item



Pinned Items Screen



INFO

Status

Access the status categories by touching the **Status icon** on the Info screen. There are several status categories for vehicle information. Navigate to the category of interest by touching the **Left or Right arrow buttons** or use the drop down menu to select the category you wish to view. **Note:** The exact parameters displayed will vary by vehicle depending on what information the vehicle provides on its communication bus.

- Road: Speed, Average Fuel Economy, Fuel Level, Total Fuel Used, Fuel Rate, Idle Fuel Used and Total Distance (total distance the vehicle has traveled in it's lifetime)
- Vehicle: VIN, Make, Model, Serial number, Unit number
- Engine: Speed (RPM), Oil Temp, Oil Level, Oil Pressure, Coolant Temp, Coolant Level, Coolant pressure, Total Idle Hours, Total Hours; Transmission: Oil Level, Oil Pressure, Oil Temp
- Electrical: Battery Voltage, Net Battery Current, Alternator Current
- Environment: Ambient Air Temp, Road Surface Temp, Barometric Pressure, Compass Bearing
- Miscellaneous: Washer Fluid Level, Percent Engine Load
- Tire Pressures: All tire pressures are listed when the optional tire pressure sensors are installed

Sample Status Screen

Status	
◀ Road ▶	
Road Speed (mph)	60.2 ▶
Total Distance (mi)	96.7 ▶
Avg. Fuel Economy (mpg)	8.2 ▶
Fuel Level (%)	55.2 ▶
Back	

Alarms

The DID continuously monitors the vehicle parameters in the INFO categories and can show an alarm when a parameter is outside of normal operating conditions. When there is an alarm, a message will be displayed in the Alarm Window, overriding other information normally displayed there. You should take note of the alarm and check your vehicle to correct the cause of the alarm condition. **Note: If User Access Control is enabled, only the administrator or maintenance user can set, clear or pin maintenance items.**

Active Alarm Window

The screenshot shows the 'Active Alarm Window' with a blue background. At the top, it says '3 New Alarms'. Below this, there are three buttons: '3 New Alarms!', 'View', and 'Acknowledge'. To the right of these buttons, the text reads: 'Front Right', 'Rear Outer Right Drive', and 'Rear Inner Left Drive'. On the left side of the window, there is a vertical stack of information: a clock icon with 'N', a wrench icon with 'Transmission Lube 499990.1 mi', a speaker icon with a red 'i' icon, and the time '3:49 PM'.

INFO

Alarms (cont.)

Viewing Alarms

There are two methods to view alarms:

1. On the Alarm screen, touch the **Alarm icon**  to immediately display the Active Alarms screen.
2. From the Info menu, touch the **Alarms icon**.

Touch the **Up or Down arrow** at the side of the screen to display more active alarms.

Active Alarm Window



Any currently active alarms will be displayed in list form. Alarms may be pinned to the Status Window if desired (user access control required). Touch the item desired to display the Alarm Details screen. Touch the **Pin button** at the bottom of the screen. To unpin the item, touch the **Unpin button**. Items may also be unpinned from the Pinned Items screen as previously described.

Disabling and Enabling Alarms

Alarms may be enabled or disabled for any of the monitored items. Only enabled items will cause an alarm to be displayed on the Alarm screen. To enable or disable alarms:

1. In the Info main menu, touch the **Alarms button**. A list current alarms (if any) will be shown.
2. Touch the **Configure Alarms button** at the bottom of the screen to display a list of all items that can be set to alarm.
3. Touch the **Up or Down arrow buttons** at the side of the screen to scroll through the available items until the desired item is displayed.
4. Touch each item that you wish to enable or disable. A green checkmark will appear in the box to the left of the item name when enabled. If you wish to enable or disable all items, touch the **Enable All** or **Disable All buttons** at the bottom of the screen.
5. When finished, touch the **Done button**.



Caution

A disabled Alarm will not appear in the Alarm Window and there will be no Alarm notification. The Alarm must be manually enabled to display in the Alarm Window.

INFO

Vehicle Maintenance

The vehicle Maintenance Information helps you track and monitor key vehicle maintenance items. To view and configure maintenance items, from the Info main screen, touch the **Maintenance icon**. The main Maintenance screen shows the items currently being monitored. **Note: If User Access Control is enabled, only the administrator or maintenance user can set, clear or pin maintenance items.**

Vehicle Maintenance Main Screen



Configuring Maintenance

Configuring Maintenance is used to set or clear the reminder for each maintenance item. When a reminder is set, a pop-up will appear on the screen as shown above when that maintenance item has reached its set mileage and is in need of service.

To set or clear maintenance reminders touch the **Configure Maintenance** button. A list of all maintenance items will now be shown. To set a reminder, touch the name of the item. A green check mark will be placed in the box to the left of the item name. To clear a reminder, touch the name of an item that already has a green check mark. The check mark will be removed and no notification will be given when that item reaches its maintenance interval.

Pinning Maintenance Items


Maintenance items that have reminders set can be pinned to the status window for display. To pin an item, from the Vehicle Maintenance Main Screen, touch the item to be pinned. Details about that item are now shown. Touch the **Pin button** at the bottom of the page to pin the item to the status window. Touch the **Unpin** button to unpin the item from the status window.

The **Next** and **Prev buttons** show the next or previous item that has a reminder set from the previous screen.

Resetting Maintenance Items

Once a maintenance item has been serviced, the mileage to next service can be reset. From the Vehicle Maintenance main screen, touch the item to reset. In the item detail screen now shown, touch the **Reset button** at the bottom to reset the miles to next maintenance.

Maintenance Reminders

When an item reaches the preset number of miles for maintenance, a Maintenance Reminder will pop-up on the screen as shown above. To display the maintenance item requiring attention, touch the **Maint icon** . To ignore the reminder, touch the **Ignore button**.



Caution

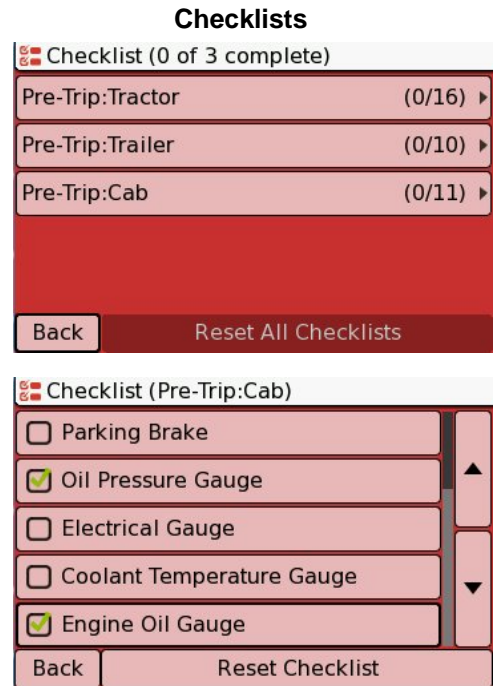
Ignoring a Maintenance Reminder may result in excessive wear to vehicle components. Once the reminder has been ignored, it will not be re-displayed.

INFO

Checklists

Three checklists are provided to aid the operator by a visual reminder that the items have or have not been checked before departing. These lists, one each for Tractor, Trailer and Cab, contain items commonly checked before any trip is made to insure the safety of the vehicle.

To access the Trip Checklists, from the Info menu, touch the **Checklist icon**. The three lists are shown along with number of items checked off and number of lists complete. Touch the checklist desired to check off items. The checklist items are now shown. To set a list item as checked off, touch the item. A green check mark will appear in the box to the left of the item name. To clear the item, touch it again or touch the **Reset Checklist button** at the bottom of the screen. Each list provides a list of items specific to that part of the vehicle. These lists are provided for convenience and are not related to other functions of the DID. Checking or not checking items will not result in Alarms or Reminders.



Trip Computer

The Trip Computer provides information about the current trip. This information can include travel time, gallons of fuel used, average miles per gallon etc. There are three separate Trip screens: **Trip**, **Trip Leg** and **Trip History**. Trip provides data for the overall trip. Trip Leg provides data for only the segment of the trip designated as a Leg (or portion) of a trip. A new leg can be started any time and there can be up to 25 legs in each trip.

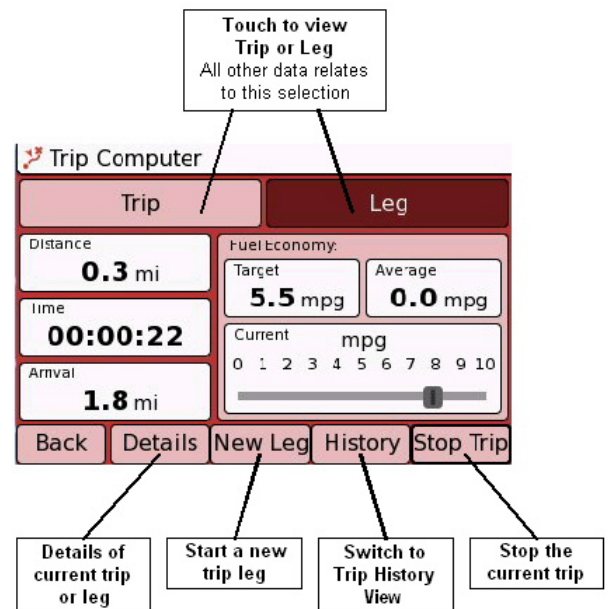
The Trip and Leg information screens are accessed by touching the **Trip** or **Leg** buttons at the top of the screen. Once a selection is made, all the information displayed under the Trip/Leg buttons relates to that selection. Refer to the figure at right for information that is provided.

Activity Buttons

There are five activity buttons at the bottom of the Trip Computer screen.

- Back: reverts back to the Info menu
- Details: provides details of the currently displayed trip/leg
- New Leg: starts a new trip leg
- History: switches to the Trip History view
- Stop Trip: stops the current trip

Trip Computer



INFO

Trip Computer (cont.)

Starting a New Trip or Leg

To start a new Trip, touch the **Start Trip button**. If a trip is already in progress, touch the **New Leg button**. The screen at right will be displayed. If desired, enter the distance of the trip and/or the target fuel economy by touching the appropriate button. You may also clear the current values by touching the **Clear button** at the bottom of the screen. Touch the **Start button** to start the trip. Touch the **Clear button** to go back and not start a trip.

Starting a Trip

Trip Leg Setup	
Target Distance (mi)	---
Target Fuel Economy (mpg)	---
Back Clear Start	

Setting Target Distance or Fuel Economy

To set target distance or fuel economy for the trip or leg, touch the appropriate button. The screen at right will be shown (the fuel economy screen is similar). Touch the number buttons to select a target value. The **Up** or **Down arrows** can also be used to quickly change the value. When done entering the value, touch the **Done button**. To clear the current value and start again, touch the **Clear button**. To delete just the last digit, touch the **Left arrow** button. To return to the previous screen without saving any changes, touch the **Back button**.

Setting Distance

Adjust Value	
Target Distance (mi)	1 2 3
	4 5 6
	7 8 9
	0 .
Maximum 9999.9	
Back Clear Done	

Trip History

Once a trip has been started and stopped, a record of the trip, including all trip legs, will be saved in Trip History. To view all trips, on the main trip computer screen, touch the **History button**. All trips will be shown, sorted by date. To view the details of a specific trip, touch the trip name to see its history. Use the **Up and Down arrows** to scroll through saved trips. After selecting the trip to view, a detail screen will be shown. Use the **Up and Down arrows** to see more details. To view individual trip legs, while viewing the trip details, touch the **Legs button**. A screen showing all legs in the trip will be displayed. Touch each leg to display details about it. You may delete all saved trips by touching the **Delete All button**.

Trip History

Trip History	
02/01/2009 01:47 AM	731.9 mi
02/25/2009 03:51 AM	94.7 mi
03/14/2009 09:54 AM	223.0 mi
Back Delete All Trips	

Leg Details

When viewing the Leg Details screen, all details of the trip leg are displayed. An additional button, **Per State**, will show how many miles were traveled in each state. Use the **Prev** and **Next buttons** to select other legs. **Back** returns to the Trip History screen.

Leg Details

Trip Leg (1/1) - 02/04/2009 01:11 PM	
Distance Traveled (mi)	33.0
Time Traveled	00:31:01
Fuel Used (US gal)	9.0
Avg. Fuel Economy (mpg)	3.3
Average Speed (mph)	93.0
Back Per State Prev Next	

INFO

Clock

If the DID has the navigation option then the system automatically retrieves the current time and date from the GPS. The GPS system uses Greenwich Mean Time as a base time. To adjust the displayed time to the local time, from the INFO screen, touch the **Clock icon**.

Adjusting the Clock with GPS time

To adjust the DID clock to your local time zone, touch the **+30min** or **-30min** buttons at the bottom of the screen to adjust the time in 30 minute increments.

Manually Adjusting the Clock

If your system does not have the navigation option, the time and date are set manually. To set the clock, from the Info main screen, touch the **Clock icon** then touch the **Set Clock** button at the bottom of the screen. Each digit of the time and each element of the date now have an up and down arrow. To change the time or date, touch the **Up or Down Arrow button**. When complete, touch the **Done** button. Touch the **Cancel** button to back out of the clock adjust screen without making changes.

Tire Pressures

If the vehicle is equipped with the optional SmartWave[®] Tire Pressure Monitoring system (TPMS), tire pressures and temperatures can be monitored via the TPMS. The DID can provide an alert of tire pressure or temperature problems as well as other sensor status. A typical Tire Pressure Screen is shown at right. All pressures in a green background are within their normal range. To access this tire pressure screen, from the INFO menu, touch the **Tire Pressure icon**.

Tire pressure is continuously monitored with sensors placed inside each tire. Under normal pressure conditions, the pressure is checked every twelve seconds and that data is transmitted to the DID every three to five minutes.

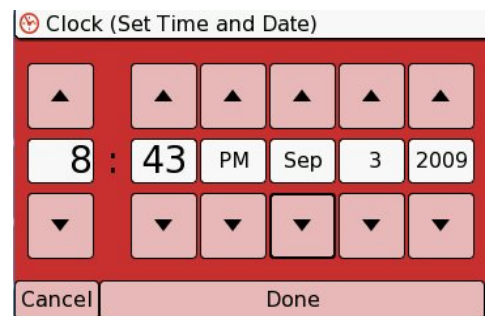
Tire Pressure Setup and Configuration

The optional SmartWave[®] system installed on the vehicle consists of tire pressure sensors, a central control module and associated antennas. The tire pressure information from the SmartWave[®] system is displayed on the DID. For information on configuring the Smartwave[®] system such as changing sensors and configuring, installing or removing sensors, refer to the SmartWave[®] Tire Pressure Monitoring System Owner's Manual, part number 710.0078 that came with the vehicle.

Adjusting the Clock



Manual Clock Adjustment



Tire Pressure Screen - Normal



INFO

Tire Pressures (cont.)

Setting Target Pressures: a target tire pressure is set for each axle based on the proper inflation for those tires. The DID and the SmartWave[®] system will use this target pressure to determine over/under-inflation conditions. To set target pressures, from the main Tire Pressures screen, touch the **Adjust Target Pressures button**. Each axle is now shown with the current target pressure for each. To adjust the target pressure, touch the **Up or Down Arrow icons** above and below each axle. The new target pressures will be shown. When finished, touch the **Accept** button at the bottom of the screen.

Tire Details

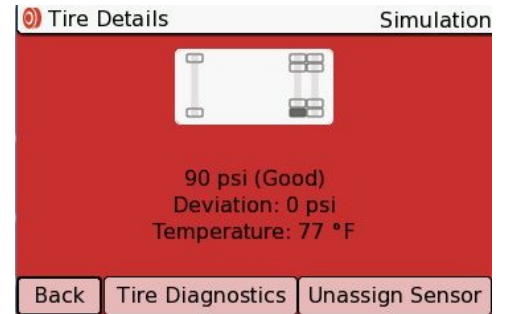
When viewing the main Tire Pressure screen, details for each tire may be viewed by touching the icon for the tire of interest. The Tire Details screen shows the tire pressure, deviation from the target pressure and the temperature of the tire. Two options are available on this screen, Tire Diagnostics and Unassign or Learn Sensor.

Tire Diagnostics. Touch this button to show information about the sensor on the tire. This information can be used to troubleshoot a sensor that is experiencing a problem.

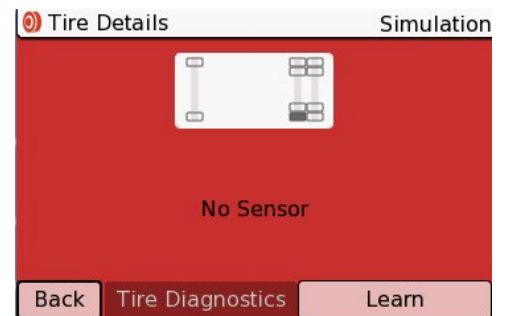
Unassign Sensor. If a sensor needs to be removed from the vehicle, touch the **Unassign Sensor button** before removing the sensor. The icon on the selected tire will show an hourglass then a slashed circle which indicates the sensor has been deleted from the DID.

Learn Sensor. When there is no sensor assigned to a displayed wheel, the screen at right is displayed. To add a sensor at the current wheel position, touch the **Learn button** then, using the SmartWave[®] handheld unit, go to the wheel on the vehicle with the new sensor and cause the sensor to broadcast its' presence (follow instructions in the SmartWave[®] installation guide depending on which handheld unit you are using). When the DID recognizes the sensor, a screen similar to the upper right picture will be displayed.

Tire Details - with sensor



Tire Details - no sensor

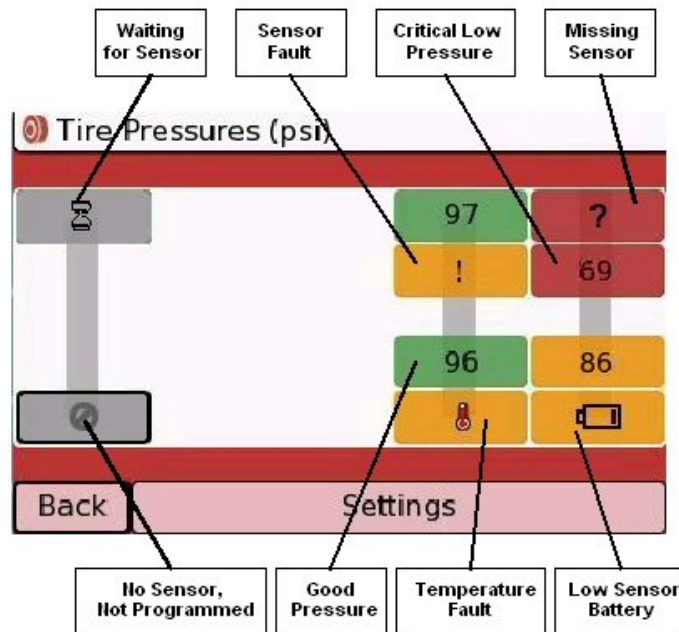


INFO

Tire Sensor Indications









The picture below shows all possible indications on the tire pressure screen. A tire that has normal pressure is indicated with the current tire pressure on a green background. All other colors and symbols represent conditions that should be noted.

Tire Sensor Indications



INFO

Tire Pressures (cont.)

-  97 Normal. Tire pressure shown on green background
-  Low Sensor Battery. The sensor should be replaced.
-  86 Abnormal Tire Pressure. The tire pressure is more than 10% from the target pressure. This is calculated using the current tire temperature and adjusting accordingly. **Stop, inspect the tire and make the necessary corrections.**
-  69 Critical Low Tire Pressure. Tire pressure is more than 15% lower than the target pressure. **Stop, inspect the tire and make the necessary corrections.**
-  High Temperature Warning. The tire has exceeded 195°F (90°C). **Stop, inspect the tire and make the necessary corrections.**
-  Waiting for sensor. When programming new sensors, this symbol is displayed until the new sensor is recognized by the DID.
-  No Sensor. There is no sensor on this wheel.
-  Sensor Fault. Displayed when there is a sensor fault. Refer to the SmartWave[®] manual for diagnostics and troubleshooting information.

Tire Pressure Alarms

When an abnormal tire pressure condition exists, the DID will generate an alarm in the main window. To immediately view the alarm, touch View. You can choose to ignore the alarm(s) by touching Acknowledge. The alarm will not be displayed again until the DID has been turned (fully) off and back on again. If it is desired to disable the alarm even though an alarm condition exists, follow the steps in “Enabling and Disabling Alarms” earlier in this manual.

Installing or Removing Tire Pressure Sensors



In the event that it becomes necessary to remove, replace or install a tire pressure sensor, refer to the instructions in the “**Tire Details**” section of this manual. This section provides instructions on sensor changes.

NAVIGATION

Navigation (Premium Units Only)

The premium version of the DID includes a sophisticated navigation system. The North American version of the DID includes full maps of the continental United States and Canada. Included are over 12 million Points Of Interest (POIs). Logistics routing rules can optionally be turned on to provide navigation routes for a large or hazmat vehicle to allow routing around road features that would prevent or prohibit the vehicle from passing through. Vehicle configuration input is provided so the navigation system knows the specifics of the vehicle and, when using logistics, can route the vehicle properly.

The DID navigation system features voice prompts for guidance while routing. **Note: The voice prompts are sent to the in-dash radio of the vehicle. To insure that all directions are heard, be sure the radio is turned on and the volume is loud enough to hear.** Street names, addresses, routing maneuvers and other information are pronounced in full text-to-speech, making driving with the DID as easy as listening. Since it would be impractical to store a list of all street and city names with their correct pronunciations, these words are pronounced from the spelling in the map data. Some difficult to pronounce names, unusual spellings, abbreviations or local pronunciations or accents may not be reproduced as expected. When a street or city name is not pronounced exactly as expected, this is not regarded as a fault in the text-to-speech translation but rather a limitation of the technology.

	Caution	When navigating, carefully compare information displayed on the unit to all available navigation sources, including information from street signs, visual sightings, and maps. Do not enter destinations, change settings or access any functions requiring prolonged use of the controls of the unit while operating your motor vehicle. For safety, pull off the road before making any adjustments to the system or resolving any navigation discrepancies or questions.
	Warning	You assume total responsibility and risk for using this device. Failure to pay attention to the operation of your vehicle could result in death, serious injury, or property damage. Do not attempt to adjust this device while driving or permit viewing the screen to distract you from safe vehicle operation.

Logistics Navigation


The DID logistics navigation is designed to route a vehicle in a manner which avoids roads where the vehicle physically will not fit or is not allowed to travel on by the laws of various states. There are two categories of logistics routing: Physical restrictions and Legal restrictions.

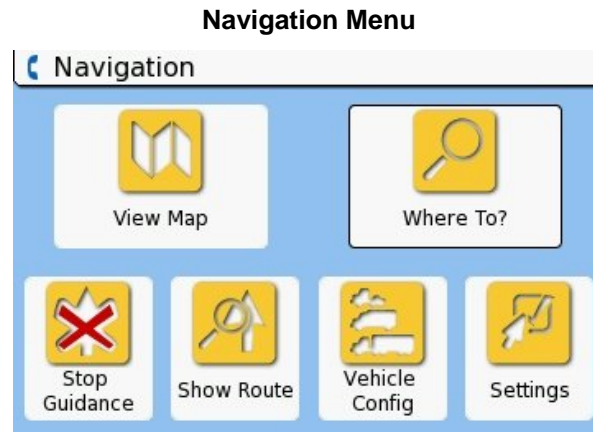
Physical Restrictions. These restrictions prevent the vehicle from traveling on roads where the dimensions of the vehicle are too large. Examples of physical restrictions include a vehicle that is too tall to fit under an overpass or too heavy to travel over a bridge.

Legal Restrictions. Legal restrictions include items such as roads marked as “No through trucks” and road segments where hazardous materials may not be transported.

NAVIGATION

Accessing Navigation

To access the main navigation menu, press the **Navigation button**  on the left side of the DID or, on the Home Screen, touch the **Navigation icon**. The picture below shows the Navigation Menu while a route is active. If there were not an active route, the Stop Guidance and Show Route icons would be grayed out.



View Map. Touch to view the map. This icon can be used at all times, whether actively routing or not.

Where To? Touching the Where To? icon starts the process of entering a destination for a new route to navigate.

Stop Guidance. When a route is in progress, touch this icon to stop routing.

Show Route. When a route is in progress, touch this icon to show text directions to your destination.

Vehicle Config. Touching the Vehicle Config icon will display the Vehicle Config screen. In the Vehicle Config screen, vehicle physical information can be entered as well as turning on or off navigating logistics.

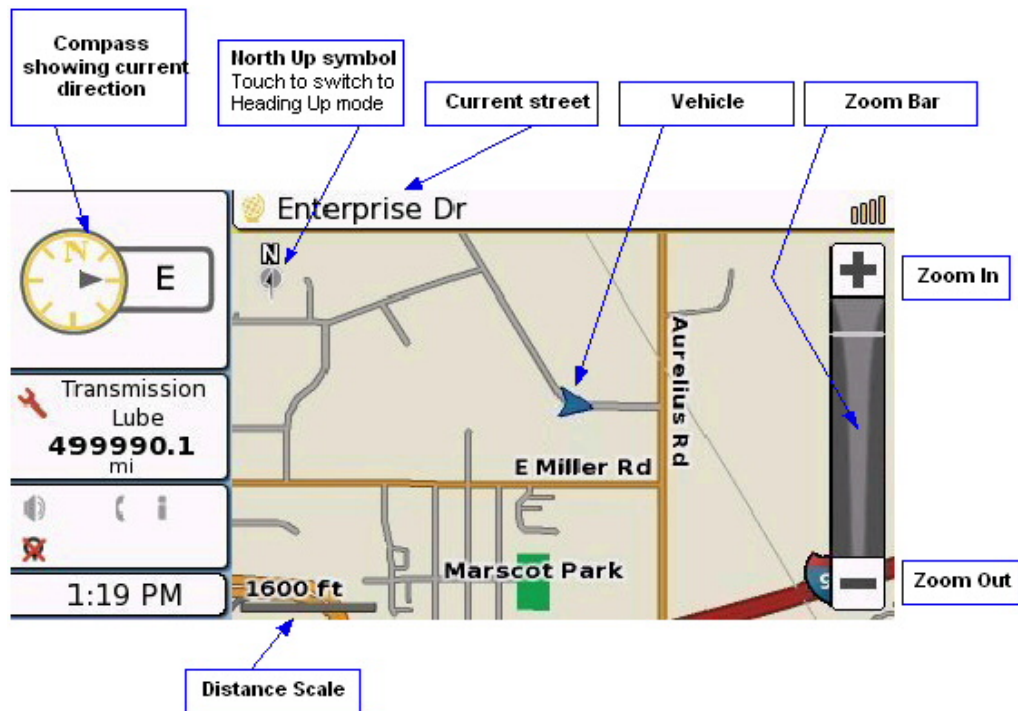
Settings. Displays the Navigation Settings menu where navigation settings can be customized for personal taste.

NAVIGATION

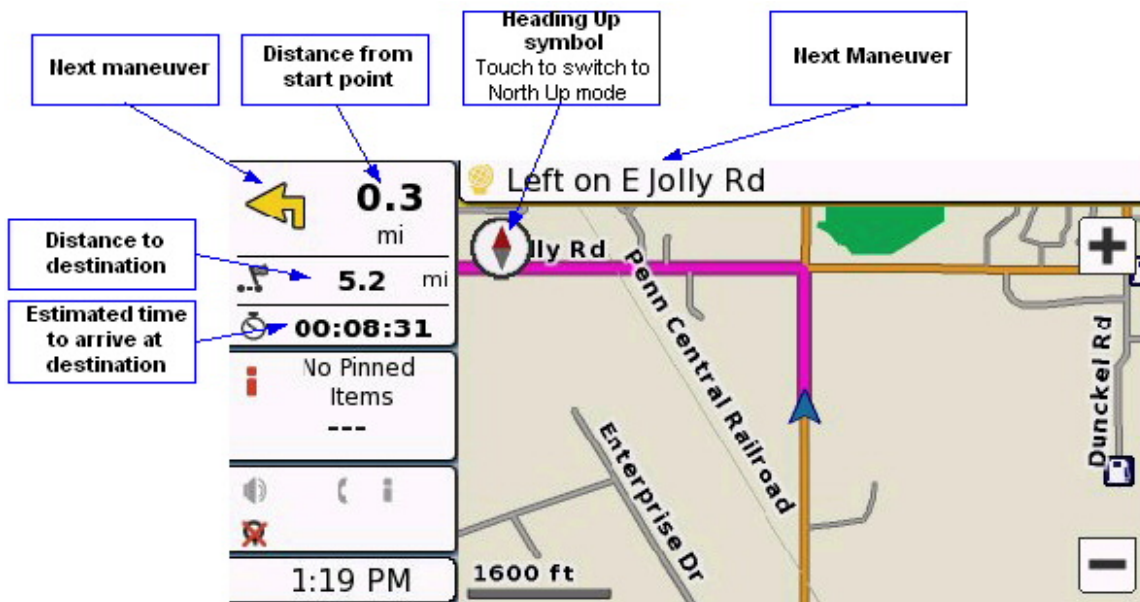
Viewing The Map

Touching the **View Map icon** will display the map on the screen. If the system is not in map Browse mode, the map shown will be centered on the current location of the vehicle. If the map is in map Browse mode (see below), the current browsing position will be shown. If a route is currently in progress, a pink route line will be shown in front of the vehicle (see 2nd picture below).

Typical Browse Mode Map Screen



Typical Navigating Mode Map Screen



NAVIGATION

Viewing The Map (cont.)

Zooming

The map can be zoomed in or out by touching the **+ or - buttons** on the right side of the screen. Each touch will change the zoom one level. The **Zoom Bar** will be displayed briefly after touching the zoom buttons, showing the relative zoom level.

Each time the zoom level is changed, the **Distance Scale** changes. The Distance Scale represents a specific amount of distance on the map to give an indication of how far apart map features are.

Navigation Information Box


The Navigation Information Box, located at the top right of the screen shows a compass with current heading noted when not actively navigating.


When actively navigating a route, the box shows the following information:

- Next maneuver. The arrow symbol shows what maneuver will be required next. The next maneuver is also shown in text above the map screen.
- Distance to destination. Miles or Kilometers to the route destination.
- Time to arrive at destination. Estimated time needed to arrive at the destination.
- Distance from start point. The large numbers in the upper left are the distance traveled from the start of the trip.

Map Orientation

The displayed map may be shown in either North Up or Heading Up mode.

In **North Up** mode, North is always at the top of the screen, the map symbol  points North and the vehicle symbol points in the current direction of the vehicle.

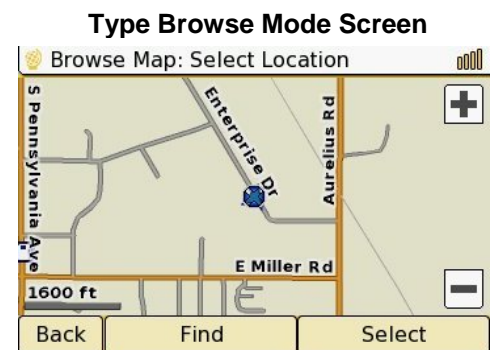
In **Heading Up** mode, the compass symbol  on the map points North, the direction the vehicle is traveling is always toward the top of the screen and the vehicle symbol always points toward the top of the screen. Map orientation can be changed at any time by touching the current map symbol.

Browsing The Map

Browse mode may be entered at any time whether routing or not.

Browse mode allows you to find a location on the map. This is useful when the address of a destination is not known or when it is desired to find a Point Of Interest at a certain location. To enter browse mode, with the map displayed, tap the screen anywhere in the map area except on the map orientation symbol. The system will now enter Browse mode which is denoted by the "Browse Map" title at the top, the Back, Find and Select buttons being shown on the bottom of the screen as well as the blue hexagonal Browse symbol.

To browse the map, touch anywhere on the map and drag the map in the direction desired. The map will pan along with the finger touch and stop when the finger stops moving. The map can be dragged any number of times to arrive at the desired location. Zoom in and out may also be used to reduce or enlarge the scale of the map to make browsing easier, quicker or more accurate.



NAVIGATION

Browsing the Map (cont.)

The following controls are available when browsing:

Back. Touch the **Back button** to exit Browse mode.

Find. Touching the **Find button** will identify the vehicle location by latitude and longitude as well as by the name of the closest street. This information is displayed on a new screen. Touch either location identifier. A location screen will now be displayed that allows the location to be saved as a favorite, navigated to or be used to find a Point Of Interest.

Select. The **Select button** displays the Save/More/Navigate screen described above for the Find button. If you simply want to route to the browsed point on the map, touching Select is the quickest way to do so.

Points Of Interest

Points Of Interest (POI) are locations that can be shown on a map specified as a routing destination. They include locations such as restaurants, fuel stations/truck stops, lodging, repair facilities, banks, hospitals, shopping centers, parks, community facilities, etc. By choosing the Points Of Interest option in the Navigation Settings/Map Display Settings menu, any number of categories can be displayed on the map at all times (depending on zoom level) to make finding locations easier.

Points Of Interest can also be chosen and routed to, making it easy to find a local restaurant, hotel or other business in an unfamiliar location. Points of Interest may also be accessed while navigating which allows for finding a nearby location without stopping the current route.

Finding Points of Interest

Points of Interest are always available for searching. To find a POI, touch the **Where To? icon** in the Navigation menu, then touch the **Point Of Interest icon**. (To access the Navigation menu, push the **Navigation button** on the left side of the DID. If the map is displayed, press the **Navigation button** a second time.) The POI menu (top, right) shows the most popular POI types. If a specific type or POI category is desired within the basic type, or the POI type desired is not shown, touch the **More Categories icon** to access the sub-categories screen (right, below). Use the **Up and Down arrows** to see more categories. Most POI categories have sub-categories and are listed in the same format as shown here.

Find POI Near...

The Find POI Near... option provides multiple search options for logically finding a POI. Once an option is chosen, the screen returns to the POI Types screen (above, left). Touch the **Find POI Near... icon** to access the option menu.

POI Basic Categories



Find POI Near Options



POI Sub-Categories



NAVIGATION

Find POI Near... (cont.)

Near Vehicle - Finds POIs near the current vehicle position. This will search in a circle around the vehicle position.

Ahead of Vehicle - Finds POIs only in front of the vehicle. This is useful when traveling in that a potential POI will be always be in the direction of the destination.

Near Destination - Use this option to find a POI near the destination you are routing to. If there is not a current route in progress, this option is grayed out.

Near Address - This option finds POIs near an address that you specify. Address entry is the same as for **Routing to Address**. A state, city, and street address is entered.

Near City Center - Finds POIs near a city center. City center entry is the same as for **Routing to City Center**.

Near Intersection - Use this option when you do not have a specific address. State, city and street information entry is the same as for **Routing to Intersection**.

Near Recent - This option finds POIs near recent entered destinations. Choose from the displayed list to find POIs near a particular recent destination.

Near Favorite - Finds POIs near a saved Favorite destination. From the displayed list, choose the desired Favorite.

Choosing a POI

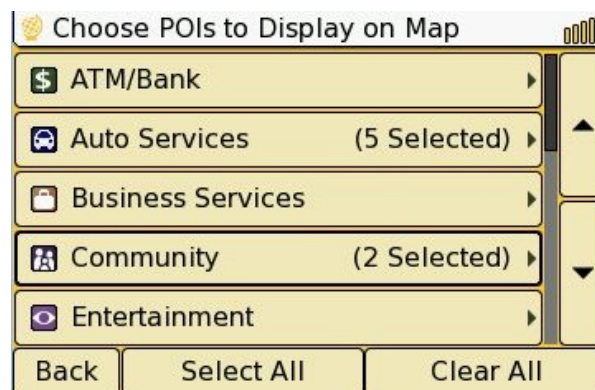
Once a POI is chosen it will be shown on the Location Information screen. The POI will be indicated as a stick-pin in a small map. Also shown will be the name, address, telephone number of the POI and the distance and direction from the present position. In the Location Information screen, the POI may be routed to, saved as a Favorite or used to find another nearby Point of Interest.

Displaying Points of Interest on the Map

Points of Interest may be displayed as icons on the map that may be viewed when traveling. To view POIs on the map, touch the **Settings icon** in the Navigation menu then touch **Map Display** then **Points Of Interest**. POIs may be selected individually, by category or all categories. Touch the individual POI to select or de-select it. A green checkmark will be displayed for a selected POI. To select or de-select all POIs in a category, touch the desired category to display all individual items, then touch the **Select All** and **Clear All buttons** at the bottom of the screen.

Any, all or no POIs may be displayed on the map. When selecting POIs for display, keep in mind that in congested areas many POIs may be displayed. Also, depending on the zoom level of the map, more or less icons will be shown.

POI Categories



NAVIGATION

Where To?

The **Where To icon** is used to start navigating. Touching the Where To? button on the navigation menu displays the Where To? menu as shown below.



Address: Use this to route to a specific address.

City Center: This allows routing to the center of a city if an address is not known.

Intersection: Routes to the intersection of two roads when only a general area is known.

Point Of Interest: This option allows routing to a business or other location that is listed in the Point Of Interest database.

Recent: If the desired destination is one that was routed to recently, that location will be listed here. Choose the location from the displayed list.

Favorite: When a destination that will be traveled to repeatedly is selected, it may be saved as a Favorite to eliminate having to input the address again. A list of favorites will be displayed in the Favorites index.

Coordinates: If the latitude and longitude of the destination is known, use this option.

Browse Map: This option allows for map browsing to find the destination desired. Use is the same as described above in "Browse The Map".

Smart Spelling, Smart Names, Smart Address Numbers

For many navigation functions on the DID, spelling a city, state or road, or choosing an address, is made quicker with Smart Spelling, Smart Names and Smart Address Numbers.

Smart Spelling. When entering a state, city or road name, only letters that are possible as a next choice are shown and the rest of the letters are "grayed out". For example, when entering the state name "Michigan", after touching the 'M', the only letters available to choose from are 'A', 'I' and 'O'. All other letters are grayed out since there are no state names with a first letter of M and a second letter other than A, I and O. The process works the same with city and road names.

NAVIGATION

Where To? (cont.)


Smart Names. When entering names as described above, once the choice of names has been narrowed to five or less, a list of possible names will be displayed. Touch the desired name from the list to proceed.

Smart Address Numbers. When entering the address number, only the possible choices of numbers will be shown. Also, a full number must be entered. The DID will not make the "Done" option available until the complete number is entered.

Favorites

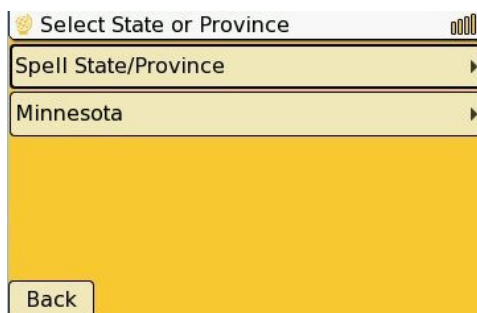
The DID can hold a list of favorite destinations. When a destination is selected by any of the following methods, that destination can be saved as a **Favorite**. Any number of favorites can be saved and used at any time, which eliminates having to re-enter a frequently used destination. To save an address or a Point Of Interest as a Favorite, when in the Location Information screen, touch the **Save button** to save the destination to the favorites list.

Route to Address

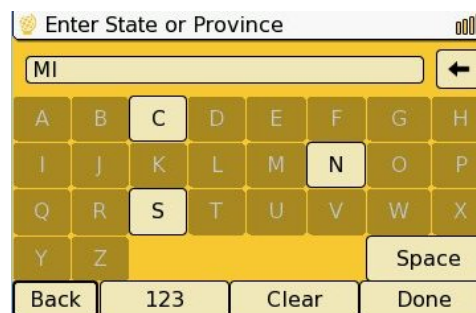
When the destination address is not in Recent or Favorites, use Route To Address. The following steps and pictures describe how to enter the desired address. Touch the **Address icon** on the Where To? menu to start entering the destination address. Note that all address input screens have a **Back button** which will return to the previous screen if an entry error is made. Also, the arrow on the right side of the character entry box will delete the last character entered when touched. To abort the address entry process completely, push the **Navigation button**  on the left side of the DID.

1. **Choose State.** The first screen (left, below) shows the last chosen state and an option to spell the state or province. Only the most recently chosen state is shown. If this is the state required, **touch it now** and proceed to step two. If not, touch **Spell State/Province**. To spell the desired state, touch the first letter of the desired state from the letter list (right, below) and continue spelling until the state name or list of state names is displayed. If a list is displayed, touch the name of the desired state to select it and continue.

State - Choose From List



State - Spell

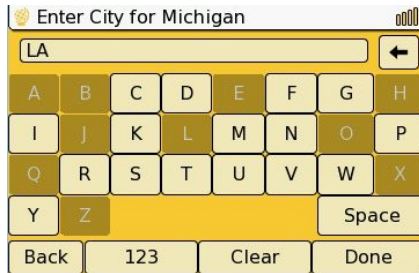


NAVIGATION

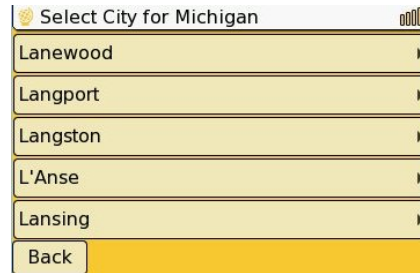
Route To Address (cont.)

2. **Choose City.** Touch the first letter of the desired city and spell the city name until it or a city list is displayed. Touch the name of the city to select it and continue.

City - Spell Name



City - Choose From List

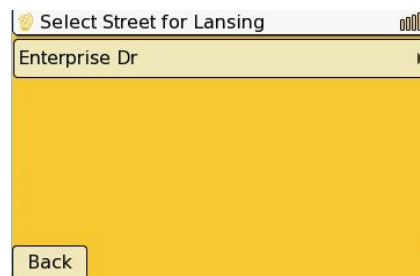


3. **Choose Street.** Recently used streets are not stored. Touch the first letter of the desired street and spell the street name until it or a street list is displayed. Touch the name of the street to select it and continue.

Street - Spell



Street - Choose From List



4. **Address Number.** Enter the street number of the destination. The number pad will only show numbers that are in the valid address range for the selected street. Note that once an address entry is started, the **Done** button will be grayed out until a full address number has been entered. The Done button is not grayed out if there are no numbers entered, allowing for the route to simply take the user to the street. The point chosen on the street is the middle of the lowest address section for the entire span of the street. Therefore, if the street addresses span from 5000 to 9000, the end point will be chosen to be 5500, the middle of the lowest address section of the street. If this method is desired, touch the **Done button**. If a full number is entered, touch the **Done button** to continue.

Enter Street Number



Full Street Number Entered



NAVIGATION

Route To Address (cont.)

- 5. Confirm the Destination.** Once the address information has been entered, the Location Information screen showing the intended destination is displayed. A small map is shown with a stickpin indicating the entered address. The address, the latitude and longitude of the destination is also shown. The map is always displayed in North Up mode and may be zoomed in or out with the + and - buttons. The distance and direction from the current location is shown at the bottom of the screen.



Confirmation Screen Options. The four buttons on the bottom of the screen allow several options to be selected.

- Back** - go back to the previous screen if the address is not located correctly and a correction needs to be made.
- Save** - saves the selected address as a Favorite that can be easily retrieved.
- More** - options to save as a Favorite, Find a POI near that location and Set Position. Set Position is only active when there is no GPS signal available. Set Position allows for setting the position of the GPS to a location and then using that position as a starting point for navigating. This would be useful if the vehicle were parked in a location where GPS satellites were not line of sight but the user wanted to calculate a route.
- Navigate.** Touching this button starts the routing process. A route is calculated from the current GPS position (green flag) to the destination (checkered flag). As the routing takes place, a map showing the overall route is displayed along with a percentage complete bar. At about 50%, the route line will be displayed. This view gives a good overall view of the complete route to be travelled.



NAVIGATION

Route to City Center

Touch the **City Center icon** to navigate to the center of a city. Routing to City Center is similar to Routing to Address except only the State and City information is entered. This option is useful if a specific address is not known but getting to the center of the destination city will suffice. Refer to the instructions and pictures in the previous section for state and city selection.

1. **Select State.** Select the state in the same manner as described under **Route to Address** above.
2. **Select City.** Select the city in the same manner as described under **Route to Address** above.
3. **Confirm Destination.** The Location Information screen is now displayed. Confirm that the destination is correct then touch one of the buttons at the bottom of the screen to continue. The button functions at the bottom are identical to those described in **Route to Address** above.

Route to Intersection

Touch the **Intersection icon** to navigate to the the intersection of two streets. Routing to Intersection is similar to Routing to Address. This option is useful if a specific address is not known but getting to an intersection of two streets will suffice. Refer to the pictures and instructions in the Routing To Address section for state and city selection.

1. **Select State.** Select the state in the same manner as described under **Route to Address** above.
2. **Select City.** Select the city in the same manner as described under **Route to Address** above.
3. **Select First Street.** Enter the name of the first street of the intersection in the same manner as described under **Route to Address** above.
4. **Select Cross Street.** Enter the name of the cross street of the intersection in the same manner as described under **Route to Address** above. If there are more than one choice of intersections available, choose the desired one from the list.
5. **Confirm Destination.** The Location Information screen is now displayed. Confirm that the destination is correct then touch one of the buttons at the bottom of the screen to continue. The button functions at the bottom are identical to those described in **Route to Address** above.

Route to Point of Interest

Touch the **Point of Interest icon** to navigate to a Point of Interest. Routing to a POI allows routing to a local place of business or other common destination. Refer to the instructions in the previous section, **Finding Points of Interest**, to select a POI.

Route to Recent

The Recent option allows for routing to recently entered destinations. Touch the **Recent icon** to access the list of recent destinations. Touch the destination desired and confirm the destination in the Location Information screen displayed next. In the Location Information screen, the destination may be saved or used to find a nearby Point of Interest.

Route to Favorite

The Favorite option allows for routing to a list of destinations that have been saved. Touch the **Favorite icon** to access the saved list. Touch the destination desired and confirm the destination in the Location Information screen displayed next. In the Location Information screen, the destination may be deleted from the Favorite list or used to find a nearby Point of Interest.

NAVIGATION

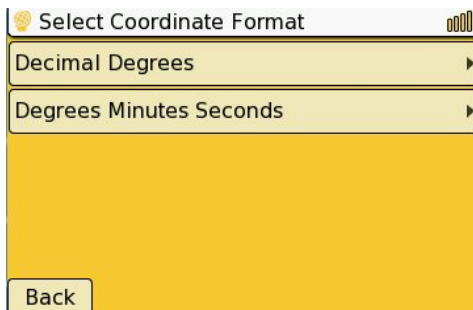
Where To? (cont.)


Route to Coordinates

The Coordinates option allows for routing when the latitude and longitude of the destination are known. To use this option:

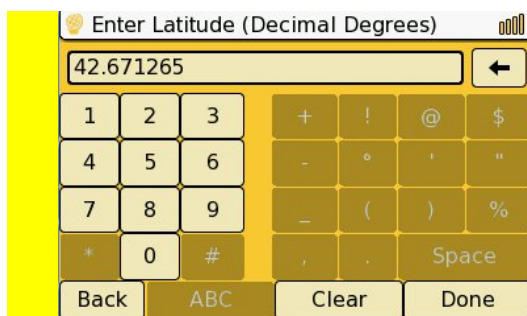
1. Touch the **Coordinates** button. A screen is displayed giving a choice of how the coordinates will be entered.

Select Coordinate Format



2. If the coordinates are known in decimal format (such as latitude 42.671265 degrees), use the Decimal Degrees option. If the coordinates are known in degrees, minutes and seconds, use the Degrees, Minutes, Seconds option.
3. To use Decimal Degrees, enter the latitude then the longitude as directed in the following screens. Touch the **Back Arrow**  to delete characters from the entry, the **Clear Button** to clear the entry completely and the **Done** button when the number has been entered.
4. To use Degrees, Minutes, Seconds option, enter the latitude and longitude in the format shown using the degree, minute and second symbols in the keypad along with the direction (i.e. N, S, E, W).

Entering Decimal Degrees



Enter Degrees, Minutes Seconds



Browse Map

This allows for browsing the map to find the destination. Use is the same as the previous section entitled "Browsing The Map". Refer to that section for complete instructions on use.

NAVIGATION

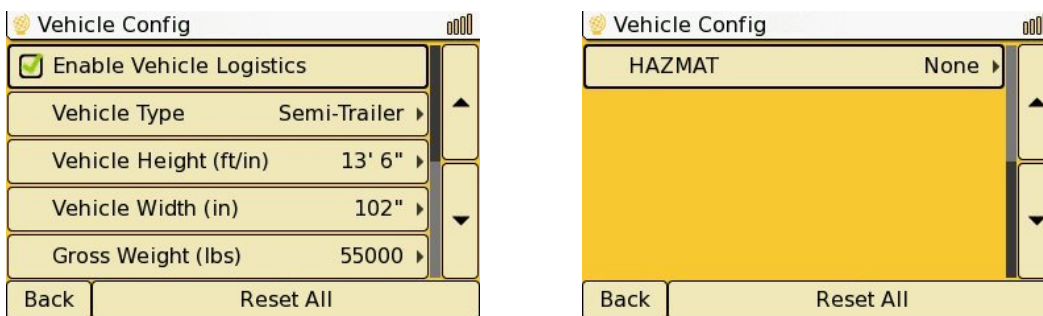
Vehicle Config

Vehicle configuration allows the navigation system to route correctly based on the size and configuration of the vehicle. Touch the **Vehicle Config icon** in the Navigation menu to access the Vehicle Configuration.

Enable Vehicle Logistics

To use Logistics when routing the vehicle, this option needs to be turned on. For Logistics to route the vehicle correctly, Vehicle parameters and load options need to be set. To enable logistics, touch the **Enable Vehicle Logistics box**. A green checkmark indicates logistics is enabled. When logistics is enabled, several options become available for vehicle configuration. The pictures below show the logistics options.

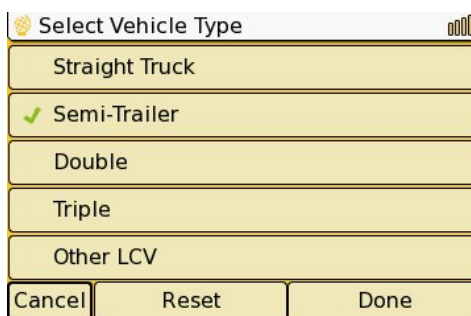
Vehicle Logistics Options



Vehicle Type

The current vehicle type is shown on the right side of the vehicle type box. Touch the **Vehicle Type option box** to select a different type of vehicle. The choices available are as shown in the picture below. Touch the appropriate type to select it. A green check mark appears to the left of the selected type. Touch the **Done button** to return to the Vehicle Config menu. Touch the **Cancel button** to discard any changes that were made or the **Reset button** to reset the vehicle type to Semi-Trailer.

Vehicle Type

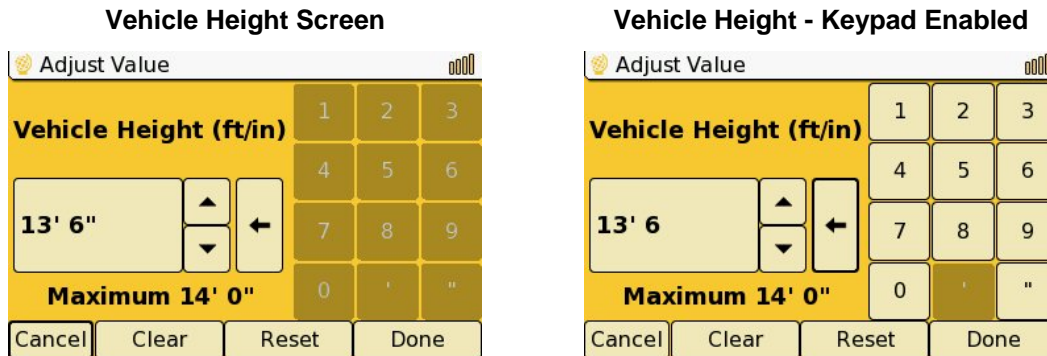


NAVIGATION

Vehicle Config (cont.)

Vehicle Height

Use this option to set the maximum height of the vehicle. Touch the **Vehicle Height button** to display the vehicle height screen. Refer to the pictures below for a description of the associated buttons.



To set vehicle height, use one of these two methods:

1. Touch the **Up or Down arrows** to increase or decrease height. Each touch will increment or decrement the height by one inch. Holding the button in will cause the height to increase or decrease quickly and automatically. Release the button when the desired height is arrived at.
2. Touch the **Clear button** to clear the current height and enable the keypad. Use the **Keypad** to enter the vehicle height in feet and inches. Use the large Left Arrow button to clear the last digit and back up.
 - Touch the Reset button to reset the height to the factory default of 13' 6\".
 - Touch the Done button when the desired vehicle height is shown.
 - Touch the Cancel button to discard all changes and return to the previous menu.



Warning

Incorrectly setting the vehicle height can result in severe damage to the vehicle. Insure that the vehicle height set in the navigation system is the correct height for your vehicle.

Vehicle Width

Use this option to set the maximum width of the vehicle. Touch the **Vehicle Width button** to display the vehicle width screen. Vehicle width is set in the same manner as Vehicle Height. Use the description above for use of the keypad and associated buttons to set the vehicle width.

NAVIGATION

Vehicle Config (cont.)

Gross Weight

Use this option to set the gross weight of the vehicle. Touch the **Gross Weight button** to display the gross weight screen. The gross weight screen is very similar to the vehicle height and width screens shown above.

To set gross weight, use one of two methods:

1. Quickly touch the **Up or Down arrows** to increase or decrease weight. Each touch will increase or decrease the weight by one hundred pounds. Holding a finger on the button will cause the weight to increase or decrease quickly and automatically. Release the button when the desired weight is arrived at.
2. Touch the **Clear button** to clear the current weight and enable the keypad, Use the **Keypad** to enter the gross weight in pounds. Use the large **Left Arrow button** to clear the last digit and back up.
 - Touch the **Reset button** to reset the weight to the factory default of 5,500 pounds.
 - Touch the **Done button** when the desired weight is shown.
 - Touch the **Cancel button** to discard all changes and return to the previous menu.

Hazmat

The current type of hazardous material is shown on the right side of the Hazmat option. The default is 'None'. If the vehicle will be transporting hazardous material, touch the Hazmat option to display the hazardous material type menu. Now touch the appropriate type of hazardous material that will be transported. If necessary, use the Up and Down buttons on the right side of the screen to display more choices.

Hazardous Material Choices

The image shows two side-by-side screenshots of a mobile application screen titled "Select HAZMAT Classes". Each screen has a list of hazardous material classes with checkboxes and up/down arrows on the right. The left screen lists Class 1 Explosives, Class 2 Gases, Class 3 Liquids, Class 4 Solids, and Class 5 Oxidizers. The right screen lists Class 6 Poisons, Class 7 Radioactive, Class 8 Corrosive, Class 9 Miscellaneous, and Inhalation Hazard. Both screens have "Cancel", "Reset", and "Done" buttons at the bottom.

- Touch the **Reset button** to set the hazmat type to 'None'
- Touch the **Done button** to save the hazmat type and return to the previous menu.
- Touch the **Cancel button** to discard any changes made.

NAVIGATION

Settings

Navigation related settings can be changed to suit operator preference. To access the navigation settings, touch the **Settings icon** on the Navigation screen. There are three main areas in the Settings screen. Touch the setting name you wish to change.

Map Display

Touch the Map Display icon to display the Map Display settings screen.

View Map Mode - Touch **View Map Mode** to select between North Up and Heading Up mode. In the View Mode screen, touch either Heading Up or North Up to select the desired mode. The currently selected mode is designated by a green check mark. When the selection has been made, touch **Done** to proceed.

Speed Based Auto Zoom - When enabled, Speed Based Auto Zoom will automatically zoom the map display out when the vehicle travels faster, enabling the driver to see farther ahead on the map, and zoom the map display in when the vehicle travels slower, allowing the driver to see more details. A green check mark in the box next to Speed Based Auto Zoom signifies that the feature is enabled. Touch the box to enable or disable this feature. If Speed Based Auto Zoom is enabled, the zoom level of the map can still be adjusted with the + and - buttons. However, the display will revert to the previous zoom level five seconds later.

Zoom To Show Maneuvers - The feature will cause the map to zoom in to show more detail when a maneuver is being performed to allow more accurate information to be displayed about the upcoming maneuver. A green check mark in the box signifies the feature is enabled. Touch the box to enable or disable this feature.

Points Of Interest - Touch the **Points Of Interest** box to enter the Display POI screen. This selection allows the user to choose which POIs are to be displayed on the map. Refer to the Points Of Interest section earlier in the manual for a full description of choosing POIs.

Navigation

Touch the **Navigation box** to display the Navigation preferences screen. Touch one of the four boxes to set the related preferences.

Show Route Overview - When the DID is finished calculating a route, the next screen can be either the start point, showing the vehicle and the beginning of the route, or an overview of the route which gives a view of the entire route. If Show Route Overview is enabled (green check mark in the box), the route overview will be displayed once the route is calculated. If Show Route Overview is not enabled (no green check mark), the starting point map screen will be shown and routing begins. To enable or disable this option, touch the **Show Route Overview box** on the Navigation Preferences screen. The green check mark will be displayed (enabled) or removed (disabled). When Show Route Overview is enabled and the route overview screen is displayed at the end of routing, touch **Done** to continue on to the start route map screen or **Directions** to see a text list of route directions.

NAVIGATION

Settings (cont.)

Maneuver Prompts - Touch the **Maneuver Prompts box** to display the Maneuver Prompt Options to select which type of announcement is used for maneuvers.

Tone & Voice. Each maneuver is spoken and is preceded by an alert tone signifying that an announcement is coming.

Tone. Only a tone is heard for the upcoming maneuver, there are no spoken instructions.

Voice. Maneuver instructions are spoken. There is no alert tone before the voice instructions.

Disabled. No alert tone or spoken instructions are given for maneuvers.

Recalculation - If the vehicle goes off route, the navigation system will automatically recalculate a new route to the destination. Touch the **Recalculation box** to choose silent or announced Recalculation alerts. If silent is chosen, there will be no announcement when the system recalculates the route.

Simulation - The DID navigation system includes a Simulation mode that allows the system to simulate driving a route. If Simulation mode is enabled, when a route is input and started, the system will simulate driving the route and ignore actual GPS data. Touch the **Simulation box** to access the Simulation Settings screen. Touch the option you wish to change as follows:

Enabled. Touch the **Enabled box** to enable or disable the simulation option. A green check mark appears in the box when the option is enabled.

Rate. Touch the **Rate box** to select the rate at which the simulation will run. Choices include 1/4X (1/4 actual speed), 1/2X (1/2 actual speed), 1X (actual speed), 2X (2 times actual speed) and 4X (4 times actual speed). Touch **Done** after choosing the desired simulation speed. Touch **Cancel** to back out of this option.

Loop Enabled. This option causes the navigation system to simulate the route continuously. Touch the Loop Enabled box to enable or disable this option. A green check mark indicates that the option is enabled.

GPS Diagnostics

Touching the **GPS Diagnostics box** will display technical information about the GPS system. Information on number of satellites found, signal strength, altitude, vehicle speed and other parameters will be displayed.

Stop Guidance

When a route is in progress the Stop Guidance icon will be active. If the current route is no longer required, touch the **Stop Guidance icon**. A confirmation screen will be displayed. Touch **Yes** to cancel the current route or **Back** to go back to the current route.

SYSTEM

System Configuration

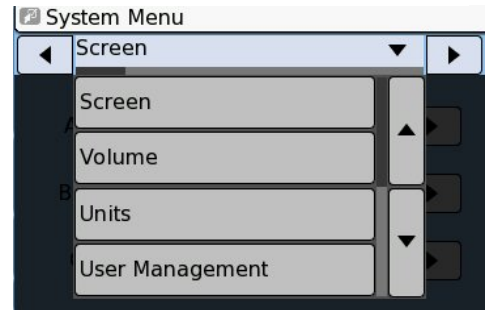
The DID contains a System Configuration menu that provides configuration options for the system as well as showing system information. The System Menu consists of Screen, Volume, Units, User Management, System, Language and Overrides sub-menus. To access the System menus, push the System Menu button located in the bottom row of buttons on the front of the DID.

To access the various sub-menus in the System Configuration, either touch the currently displayed sub-menu title to display a drop-down menu similar to the one shown at right, or touch the **Left and Right arrows** to rotate through the system options. In the drop-down menu, touch any of the options in the menu to select that option. Use the **Up and Down arrow buttons** to scroll to more system options.

System button



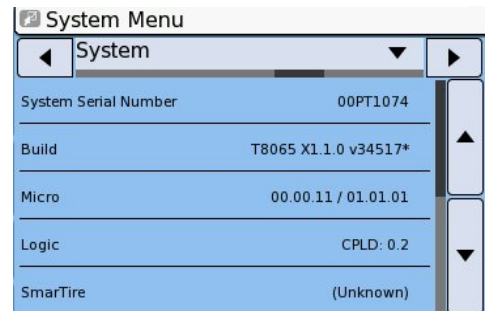
System Drop-Down Menu



System

The System screen shows technical information about the system. Software versions are listed along with the serial number. Some of this information may be requested if you call for technical support.

System Information



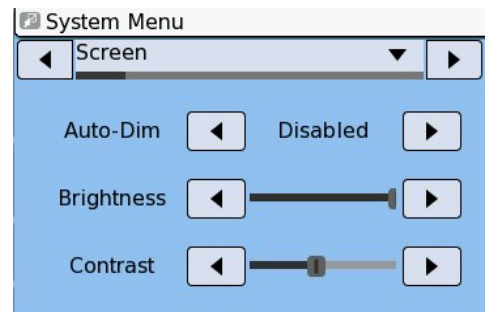
Screen

The Screen Menu has adjustments for brightness and contrast of the display along with a selector for what video is output on the Video Output terminal on the rear of the system.

Brightness and Contrast. To change the brightness and contrast of the DID display, touch the **Left or Right arrows** on either side of the adjustment sliders for these controls. As the slider is moved to the right, brightness and contrast are increased. In the picture to the right, the brightness is set to maximum and the contrast is set at midpoint.

Auto-Dim. The Auto-Dim control will change the brightness depending on the ambient brightness in the vehicle. Touch the **Left or Right arrows** to switch from Disabled to Enabled.

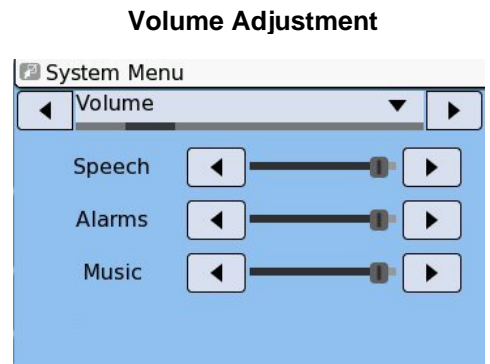
Screen Options



SYSTEM

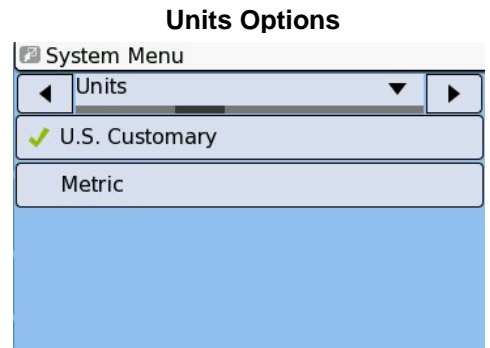
Volume

The Volume Menu provides sliders for adjusting the relative volume of the speech, alarms and music (via USB and iPod) audio. These sliders only adjust the volume of the particular audio relative to the main audio source (i.e. radio/CD/Satellite). If one of these audio sources is louder or softer than the main audio, adjust the slider to make the source louder or softer as required. Touch the **Left or Right arrows** on each side of the slider desired to change the position. To increase the volume of the source, move the slider to the right. To decrease the volume of the source, move the slider to the left.



Units

The DID offers a choice of US or Metric units to be used. To select the unit measure, access the Units screen by utilizing either the drop-down menu or scrolling using the **Left and Right arrows**. Touch the unit measure desired. A green check mark will be shown next to the selected unit.




Language

The DID can display messages in English, Spanish or Canadian French. To select the language, access the Language screen by utilizing either the drop-down menu or scrolling using the **Left and Right arrows**. Touch the desired language, then OK to confirm. After touching OK, the system will restart in the new language.

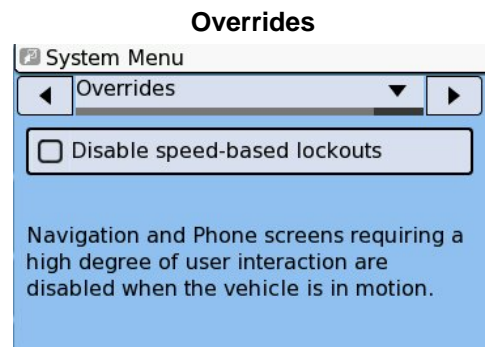


Overrides

Several functions of the DID are locked out during vehicle movement to prevent the driver from being distracted. The System menu contains an option to Override these speed-based lockouts which can, in some circumstances, be advantageous. The speed-based lockout should only be disabled when someone other than the driver will be operating the unit.

	Warning You assume total responsibility and risk for using the system without speed-based overrides. Failure to pay attention to the operation of your vehicle could result in death, serious injury, or property damage. Do not permit viewing or using the system to distract you from safe vehicle operation.
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To disable speed-based lockouts, on the Overrides screen, touch the "Disable speed-based lockouts" option. A green check mark will appear, indicating that the lockouts are disabled. Touch the option again to enable the lockouts. The green check mark will be removed.



SYSTEM

User Management

The DID can be set to restrict changes to certain features to better maintain common settings across larger numbers of vehicles. User Management, via the User Access Control, allows a maintenance person or system administrator to login to the DID and make changes to features in a password protected mode. To activate User Management User Access Control must be enabled. To access User Access Control, push the **System button** on the front panel then use the drop-down menu or the **Left and Right arrow buttons** to select the User management menu.



DID Users

The DID has three users: Operator, Administrator and Maintenance. When the DID is powered up after the vehicle ignition has been turned off, the system defaults to Operator.

- **Administrator.** The Administrator is allowed free access to change any changeable parameters in the DID.
- **Maintenance.** The Maintenance user is allowed to perform any operation except changing the Administrator password and enabling or disabling user access control.
- **Operator.** In addition to the Maintenance restrictions, the Operator is also restricted from resetting the maintenance reminders and enabling and disabling the system alarms.

To change users, User Access Control must first be enabled.

User Access Control

To enable or disable User Access Control or change users, access the User Management menu by using the menu drop down or left and right scroll arrows to select User Management.

- **Enabling User Access Control.** Touch the **Enable User Access Control** option. The administrator password is now required and a screen displaying a number pad is displayed. Enter the four digit administrator password and touch the **Done button**. User access control is now enabled. If there are no other changes to make at this time, touch the **Log Out** option to revert the system back to Operator user. Only administrators can enable or disable user access control.
- **Disabling User Access Control.** In the User Management screen, touch the **Enable User Access Control** option. If the administrator is not currently logged in, a password screen will be displayed. Enter the administrator password and touch **Done**. User access control is now disabled. If the administrator is logged in, no password is required to disable user access control.
- **Log In.** When user access control is enabled, the administrator or maintenance users must log in to the system to make changes. From the User Management screen, touch the **Log In** option. Enter the appropriate password using the number pad displayed. Be sure to Log Out when finished making changes to the system.
- **Change Password.** To change the password for the administrator or maintenance users, Log In as that user. From the User Management screen, touch the **Change Password** option. The number pad screen will now be displayed. Follow the instructions to enter the old password, the new password and confirm the new password.
- **Default Passwords.** All passwords are set to "0000" from the factory. If you are accessing the password screen for the first time enter four zeros.



Maintenance


Your product is designed and manufactured to ensure minimum of maintenance. If your unit requires cleaning, follow the guidelines below.

1. Keep the display clean of dust and debris.
2. Use a dry soft cloth for routine exterior cleaning. Never use benzene, thinner or other solvents.
3. Do not put or spray liquids directly on the screen. Avoid using ammonia-based cleaners and solvents such as acetone. Moisture intrusion into the unit may cause a malfunction.
4. Use a duster or a soft, lint-free cloth (no paper towels) to gently clean the display and front panel controls. When needed, slightly moisten a soft lint-free cloth with water and gently buff the screen.
5. To avoid damaging the unit, always use care when touching the screen, using a light pressure. The touch screen does not require a large amount of pressure to activate a function.
6. Avoid spilling liquids or food on the unit, as they may cause the system to malfunction.

Troubleshooting

If You Suspect Something is Wrong

Check and take steps as described below. If the described suggestions do not solve the problem, contact your dealer. Only qualified personnel should service the product. Always refer diagnostics and repair to professionals. Lectronix, Inc. shall not be liable for any accidents arising out of neglect or attempts to repair the unit.

	Warning	Do not use the unit if you suspect faulty operation. Never try to repair the unit by yourself.
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Common Problems

The following tables provide possible solutions to common system problems.

Problem	Possible Cause	Possible Solution
Unit will not turn on	No power to the unit	Check the wiring, rear connectors on the unit and applicable fuses
	Vehicle ignition switch is off	Turn on vehicle ignition switch
	Vehicle batteries are run down	Recharge or replace batteries
No Sound	The vehicle radio is turned off or the volume is turned down	Turn on the radio and/or turn up the volume.
	The speaker lines are not wired correctly, or there is a break or poor contact	Check the speaker wiring
	Audio source is blank - (radio station is off the air, USB stick or iPod has no music tracks)	Choose a different audio source with content
	Audio balance or fade is set to speakers that are not connected	Adjust the balance or fade controls on the vehicle radio as needed
	No communication between the DID and the vehicle radio	Check J1939 connections in the truck to insure both units are connected
	Volume slider for the audio desired is set too low	Adjust the volume slider(s) in System/Volume to the desired level
Noise is made in step with engine revolutions	Alternator noise comes from the vehicle.	Change the wiring position of the ground lead and/or mount a noise filter on the power supply of the DID or the radio
The speaker channels are reversed between right and left	The plus and minus terminals at right and left channels of speakers are reversed.	Consult the wiring diagram and correct wiring problems.
Some operations are not permitted	Some operations are not executable in particular modes such as menu mode. Also, operations that require concentration, such as using the touch-keyboard, are not permitted when the vehicle is in motion unless the Speed Based Lockout is disabled	Read the operating instructions carefully and cancel the mode. Disable Speed-Based lockouts if desired. Warning: disabling speed-based lockouts should only be done if someone other than the driver is going to use the unit while the vehicle is in motion. The driver should not be distracted attempting to use the unit while the vehicle is in motion.
Trip Computer and Maintenance icons on the main INFO screen are grayed out	There is no J1939 data available from the vehicle, therefore, these functions will not operate and are grayed out.	Check the J1939 wiring and connections. If problem persists, see your service provider
Units are in Metric instead of US or in US instead of Metric	The unit of measure is set to the opposite of what is desired	Change the measurement system to metric or US in the System/Units option screen

Troubleshooting (cont.)

Camera

Problem	Possible Cause	Possible Solution
"No video signal" is displayed	No camera connected, broken camera cable, defective camera	Check camera connections on the rear of the unit and in-line at the camera end or replace the cable or camera
	There is no camera connected to the selected input	Choose an input that has a camera connected
Poor image on camera	Camera lens dirty	Clean camera lens. Be sure to follow the manufacturers directions for cleaning.
	Camera lens has fogged internally	Defective camera. Have a service provider replace the camera
Camera view appears or switches unexpectedly	Camera settings are set to "Auto Reverse" and/or "Auto Turn Signal" and the vehicle was shifted into reverse or a turn signal was activated	Correct operation. If these actions are not desired, turn off the appropriate setting
Rear camera view does not appear when vehicle is shifted into reverse	"Auto reverse" setting is not selected	Select "Auto Reverse" from the camera settings menu
Left or right camera view does not appear when turn signals are used	"Auto turn signal" setting is not selected	Select "Auto turn signal" from the camera settings menu

INFO

Problem	Possible Cause	Possible Solution
A password is required to perform certain functions	User Access Control has been enabled	An administrator or maintenance user must make the desired changes
Alarms are not shown in the alarm window even when a problem exists	Alarms are not turned on or set for the item with the error condition	If allowed, enable alarms for the desired items in the Alarms/Configure Alarms screen. If a password is required to perform this operation, the DID has User Access Control enabled and an Administrator or Maintenance user must perform this action
Maintenance items requiring attention are not displayed in the alarm window	Alarms are not turned on for the maintenance item with the maintenance condition	If allowed, enable maintenance reminders for the items desired in the Maintenance/Configure Maintenance Items screen. If a password is required to perform this operation, the DID has User Access Control enabled and an Administrator or Maintenance user must perform this action
"No Pinned Items" displayed in the center left box on the screen	No items have been pinned for viewing	Pin the desired items in the related screen. Pin status items, tire pressures and maintenance items in the associated screens by selecting the item then touching the Pin Item button on the screen. All pinned items will be displayed in rotation.
Clock screen displays "Waiting for time from GPS"	The Navigation system cannot find any satellites	Move the vehicle out into an open area so satellites can be found
Alarm tones are not heard even though they are enabled	The volume control in the mixer for alarms is set too low	Adjust the volume level of the alarms slider in the System/Volume screen to the desired level

Troubleshooting (cont.)

Navigation

Problem	Possible Cause	Possible Solution
"Acquiring GPS Signal" is displayed	GPS antenna is not connected, GPS antenna cable is broken or the vehicle is under a structure which prevents satellite signals from reaching the antenna	Check antenna connection on the rear of the unit or replace antenna. Move the vehicle out from under a structure
Map display rotates when vehicle changes direction	Navigation is set to "heads up mode"	If desired, set navigation to "North up mode" by touching the screen icon or in the navigation settings menu. This will keep North at the top of the screen at all times
Zoom level changes while driving not at a maneuver point	"Speed based auto zoom" is enabled	If desired, disable "Speed based auto zoom" in the navigation settings menu which will prevent the zoom level from changing as the vehicle changes speed
Zoom level does not change at maneuver points	"Zoom to show maneuvers" is disabled	Enable option in navigation settings menu
Route overview is not shown before route is displayed	"Show Route Overview" is disabled	Enable option in navigations settings menu
No voice direction is given when navigating	Audio is set very low on the vehicle radio or the radio is off	Turn on the radio or increase audio volume on the radio
	Maneuver prompts are turned off	Turn on voice/tones prompts in navigation settings menu
No notification when route is recalculated	Recalculation prompts are turned off	Turn on voice/tones prompts in navigation settings menu
Navigation starts and continues even though vehicle is not moving	Navigation simulation is turned on	Turn off simulation mode in navigation settings
No points of interest are shown on the map	Map is zoomed out too far	Zoom map in
	No points of interest categories have been selected for display	Select points of interest categories to be displayed in navigation settings menu
Route is not direct to destination	Logistics is turned on and is routing around restricted roads	Turn logistics off in Vehicle Config if not needed
Favorites list is empty	No favorites have been saved	When routing to a frequent destination, before touching the "Navigate" button, touch "Save" first and save the route as a favorite
No speech or tones are heard even though they are enabled	Mixer control for speech (and tones) is set too low in the audio mixer	Adjust the slider to the desired volume in the System/Volume screen

Screen

Problem	Possible Cause	Possible Solution
Screen is too dim or too bright	Brightness is not adjusted correctly	Adjust screen brightness in the Screen sub-menu of the System menu or push the brightness button on the front panel to change the brightness level
	Auto-Dim is enabled	When Auto-Dim is enabled, the screen will be dimmed in lower ambient light levels. If this is not desired, turn off the Auto-Dim option in the System Screen menu
Image is washed out or still too dim even with brightness set to maximum	Contrast is set incorrectly	Adjust contrast setting in the System Screen menu

Troubleshooting (cont.)

Audio

Problem	Possible Cause	Possible Solution
Music from a USB stick will not play	Music is in a non-supported format (see audio section for supported formats)	Load USB stick with music in a supported format
No audio is heard even though the DID shows it playing on the screen	The vehicle radio is not turned on or the audio is turned down	Turn on the radio or turn up the volume. Check to insure that the balance and/or fade controls are not set to speakers that do not exist in the vehicle
	The Music slider in the volume mixer is set too low	Adjust the Music slider in the volume mixer in System/Volume to the desired level
Audio is heard for some things but not for others	Audio volume in the mixer is set too low	Separate volume controls for speech, alarms and music are available in the System/Volume screen. Move the sliders to the desired volume level


USB

Problem	Possible Cause	Possible Solution
No playback - "No Songs" message appears	The USB stick has no audio files on it The USB stick has audio files in an unsupported format (refer to the USB audio section on supported file formats)	Add audio files to the USB stick that are in a supported format
Audio tracks do not play in anticipated track order	Shuffle mode is on and tracks are being played randomly	Turn off Shuffle mode
Audio tracks play over again when the last track is reached	Repeat mode is on	Turn off Repeat mode

Appendix A: Service and Technical Support

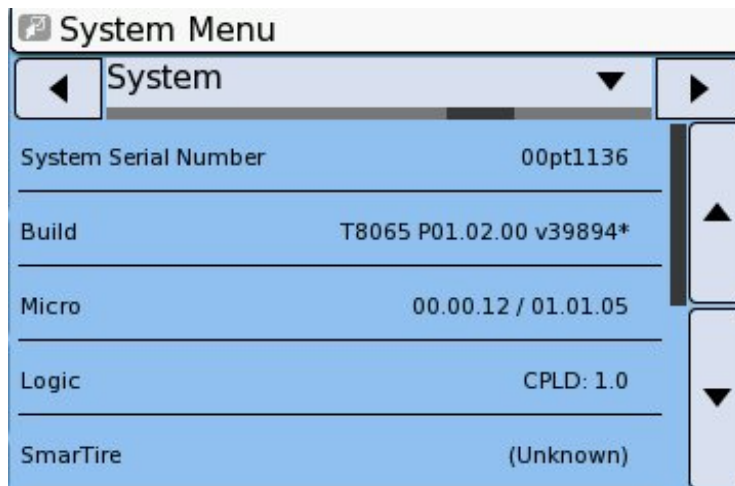
There are no user serviceable components within the DID. Your International Truck dealer provides technical Support and Service. For software and downloadable manuals, visit www.lectronix.biz/support.

If requested, System information for your DID can be obtained in the following manner:

1. Press the **Menu button** .
2. Touch the **Left or Right arrow buttons** to scroll to the System screen or touch the sub-menu bar and select System from the list.

The system information screen appears similar to what is shown below. Your system information screen may have different information than what is pictured below:

DID System Information Screen



Appendix B: Software Notice

Software Notice

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Open Source Software

Lectronix uses open source software in the DID. The open source software used is shown in the following table.

Open Source Software Table

Package	Package Version	Provided As	License Type
ffmpeg	Latest Revision in Use	source	LGPL
id3lib	3.8.3	source	LGPL
u-boot	1.1.4	source	GPL
zlib	1.1.4	source	Custom

CD copies of the source code shown in the above table can be obtained by sending a check in the amount of \$10.00 payable to Lectronix, Inc to:

DID Open Source Software
Lectronix, Inc.
5858 Enterprise Drive
Lansing, Michigan 48911

Make sure you include your return address.
Your request will be processed within 8 to 12 weeks.

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b). Except for the Limited Warranty document included with your Hardware purchase, if any, and to the maximum extent permitted by applicable law, Lectronix and its suppliers provide Hardware and Software "AS IS" AND "WITH ALL FAULTS", and hereby disclaim all other warranties and conditions, whether express, implied or statutory, including, but not limited to, any (if any) implied warranties, duties or conditions of merchantability, non-infringement, quiet enjoyment, system integration, satisfactory quality, fitness for a particular purpose, reliability or availability, accuracy or completeness or responses, results, workmanlike effort, lack of viruses, and reasonable care and skill, all with regard to the Software and/or the Hardware. This exclusion does not apply to (i) any implied condition as to title and (ii) any implied warranty as to conformity with description. If applicable law requires any implied warranties with respect to the Software or the Hardware, all such warranties are limited in duration to ninety (90) days. Some states and/or jurisdictions do not allow limitations on how long an implied warranty lasts, so the above may not apply to you,

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7). Limitation of Liabilities: Neither Lectronix nor its suppliers shall be liable to you or to any third party for any indirect, incidental, consequential, special, or exemplary damages (including in each case, but not limited to, damages from the inability to use the equipment or access data, loss of data, loss of business, loss of profits, business interruption or the like) arising out of the use of or inability to use the Software and/or Hardware even if you advise Lectronix of the possibility of such damages. Some states and/or jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusions may not apply to you.

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9) Entire Agreement: This EULA (including any addendum or amendment to it which is included with the Software and/or Hardware), plus the Limited Warranty, if applicable, and any other terms and conditions, if applicable, is the entire agreement between you and Lectronix relating to the Software and/or Hardware and the support services (if/any) and they supersede all prior or contemporaneous oral or written communications, proposals and representations with respect to the Software or any other subject matter covered in the EULA. To the extent that the terms of any Lectronix policies or programs for support services (other than the Limited Warranty) conflict with the terms of this EULA, the terms of the EULA shall govern. If any provisions of this EULA are held to be void, invalid, unenforceable or illegal, the other provisions shall continue in full force and effect.

10) Translation: The English version of this EULA is the controlling version. Any translations are provided for convenience only.

11) Governing Law: This EULA and any disputes related to this EULA or to the use of the Software and/or Hardware or otherwise are subject to Michigan law, without giving effect to any principles that may provide for application of the law of another jurisdiction. The United Nations Convention on Contracts for the International Sales of Goods is hereby excluded from application to this EULA. All disputes arising out of this EULA shall be settled in the federal or state courts located in Lansing, MI, which will have exclusive jurisdiction in respect of any such disputes.

Should you have any questions concerning this EULA, or if you desire to contact Lectronix for any reason, please visit Lectronix on the World Wide Web at <http://www.lectronix.biz>.

Appendix C: DID Technical Specifications

The specifications noted herein are subject to change without notice.

Power and Grounding

Automotive nominal 12 volt, negative ground power.

Mechanical Form Factor

Modular LCD Display

Width	190mm
Height	120mm
Depth	70mm

Environmental

Designed to meet J1455 standards.

Operating range.....-20 to 70°C

Storage range.....-40 to 85°C

Camera Inputs

- Three (3) NTSC video inputs
- One NTSC video input for Flir camera or optional video input
- Video level 1Vp-p (75 ohms).
- Camera Power for Camera Inputs 1-3: 8.1V at 150ma each

Standard In-Dash Display

- Color TFT LCD Flat Panel
- Resolution: 480 x 234 pixels
- Diagonal size: 6.5 inch
- Luminance: 360cd/m2 (typical)
- Response time: 22msec (typical)
- Contrast ratio: 300 (typical)
- Minimum lamp half life: 10,000 hrs

GPS Performance (with NAV option)

- 50 Channel, L1 frequency
- Accuracy – 2.5m horizontal
- Acquisition time
 - Hot: < 1 sec
 - Warm: ~ 32 sec
 - Cold: ~ 32 sec
- Update Rate – 4 per second

Audio Out

- Stereo line out
- Audio On/Off request output (to external radio)

Rear Panel Connections

Rear panel connections are shown in the following table.

External Connections	
Vehicle Power:	
VIN+ & VIN-	Raw Vehicle Battery Voltage & Return
Audio Output:	
Audio Line Output	One (1) Stereo line level output
Audio Input:	
Audio Line Input	One (1) stereo line input
Video Input (optional):	
Cameras (powered)	Three (3) powered NTSC composite camera inputs
Camera (un-powered)	One (1) differential camera input for a Flir [®] camera
iPod Interface:	
Serial control, charge power, Video input, and audio input	Complete interface for attaching iPod
Vehicle Input:	
Accessory	Input status for key accessory indications
Turn Indicators: Left & Right	Optional input signal for camera control
Reverse Transmission Input	Optional input signal for camera control
Park Transmission Input	Optional input signal for system control
Dimming Input	Control for automatic in-dash display dimming (not supported at this time)
Analog Steering Wheel Control	Optional input signal system control
Vehicle CAN Bus	One (1) primary J1939/CAN network interface
Accessory CAN Bus	One (1) secondary J1939/CAN network interface
Serial Input:	
USB	Two (2) USB ports, Version 2.0 (Support for Mass Storage interface)
PeopleNet	RS-422 for communication with PeopleNet g3
Antenna Input:	
GPS	GPS antenna

Connector Definitions

Vehicle Power (Rear)

Connector: AMP, 174971-2

Connector Mate: AMP 174044-2

Connector Pin out:

Pin Number	Description	Pin Number	Description
1	VBATT+	5	EGND
2	VBATT-	6	VEH_CAN+
3	ACC_IN	7	VEH_CAN-
4	PARK_IN	8	DIM_IN

IO/Mic (Rear)

Connector: AMP, 1565476-1

Connector Mate: AMP, 1717109-1

Connector Pin out:

Pin Number	Description	Pin Number	Description
1	Digital Ground	9	ASWC
2	Reverse	10	Earth Ground
3	Turn Left	11	Audio_L+
4	Turn Right	12	Audio_R+
5	MIC Left (MONO)	13	Audio_LR-
6	MIC Return (MONO)	14	Audio_ON/OFF
7	Microphone Right	15	Earth Ground
8	Vehicle CAN +	16	Vehicle CAN -

Video (Rear)

Connector: AMP, 1376111-1

Connector Mate: AMP, 1717112-1

Connector Pin out:

Pin Number	Description	Pin Number	Description
1	LIN+	13	No Connect
2	LIN-	14	No Connect
3	Earth Ground	15	Camera Input 4 -
4	No Connect	16	Camera Input 4 +
5	Earth Ground	17	Earth Ground
6	Camera 3 Ground	18	Camera Input 3 -
7	Camera 3 Power	19	Camera Input 3 +
8	Camera 2 Ground	20	Camera Input 2 -
9	Camera 2 Power	21	Camera Input 2 +
10	Earth Ground	22	Earth Ground
11	Camera 1 Ground	23	Camera Input 1 -
12	Camera 1 Power	24	Camera Input 1 +

USB (Rear)

Connector: Hirose GT17H-4P-2H

Connector Mate: Hirose, GT17H-4S-HU

Connector Pinout:

Pin Number	Description
1	USB +5V Power
2	USB -
3	USB +
4	USB GND

GPS Antenna (Rear)

Connector: Amphenol, FA1-NCRP-PCB-6A

Connector Mate: Amphenol, FA1-NCXX (Female)

Connector Pinout:

Pin Number	Description	I/O
1	Center	Antenna
2-5	Outer Shell	GND

iPod Interface (Rear)

Connector: AMP, 1473898-9

Connector Mate: AMP, 1717106-2

Connector Pin out:

Pin Number	Description	Pin Number	Description
1	Earth Ground	7	Digital Ground
2	iPod Detect	8	No Connect
3	iPod ID	9	iPod Serial Receive
4	iPod Serial Transmit	10	iPod Power
5	iPod Audio Input Right	11	iPod Audio Input Left
6	iPod A/V Return	12	iPod Video Input