

Foretravel Digital Dash VMS 616 CL™

Owner's Manual

Version 2.0



SilverLeaf Electronics, Inc.
221 SW 29th Ave. • Albany, OR 97322 • (888) 741-0259
www.simply-smarter.com

Quick Start Guide

The Digital Dash operates differently depending on whether the park brake is set or not. When the park brake is not set, most of the display area is dedicated to the gauge cluster. Only the bottom center of the screen is under direct user control. When the park brake is set the entire screen is available for displaying detailed information.

To Start a Trip

Press TRIP. The Trip Screen should appear.

Press CLEAR. The trip data should reset to zero. The VMS will now automatically begin accumulating trip information. The previous trip will be stored in the Trip History.

To Set Your Destination “Miles-To-Go”

Press TRIP. The Trip Screen should appear.

Turn the KNOB. The Miles To Go number near the bottom should adjust up or down accordingly. Press the KNOB to add 100 miles.

To Read Diagnostic Information

If the Check Engine indicator appears, press DIAG. The Engine Diagnostics Screen should appear, showing the cause of the problem. Press CLEAR to clear the top of the screen. If the problem is still occurring, the code will quickly reappear.

To Set the Time

Set the park brake first. Press PROG once. Turn the KNOB to highlight “Time”. Press the KNOB. Turn the KNOB to adjust the hours, and press the KNOB. Turn the KNOB to adjust the minutes, and press the KNOB. Turn the KNOB to adjust the AM/PM indicator, and press the KNOB. The clock is now set.

To Scan Multiple Gauges or Watch a Particular Gauge

Press SCAN. The Scan Gauge should appear at the bottom center of the screen. Every several seconds the gauge should change. The circle/arrow icon indicates that the unit is “scanning”. Pressing SCAN will set the unit in Watch mode, and the arrows will turn to a stop sign. Pressing SCAN again will return it to Scan mode. To Watch a Particular Gauge, turn the Knob until the desired gauge appears.

To Adjust the Brightness of the Display

Press the BRIGHT Button.

To Adjust the Colors of the Display

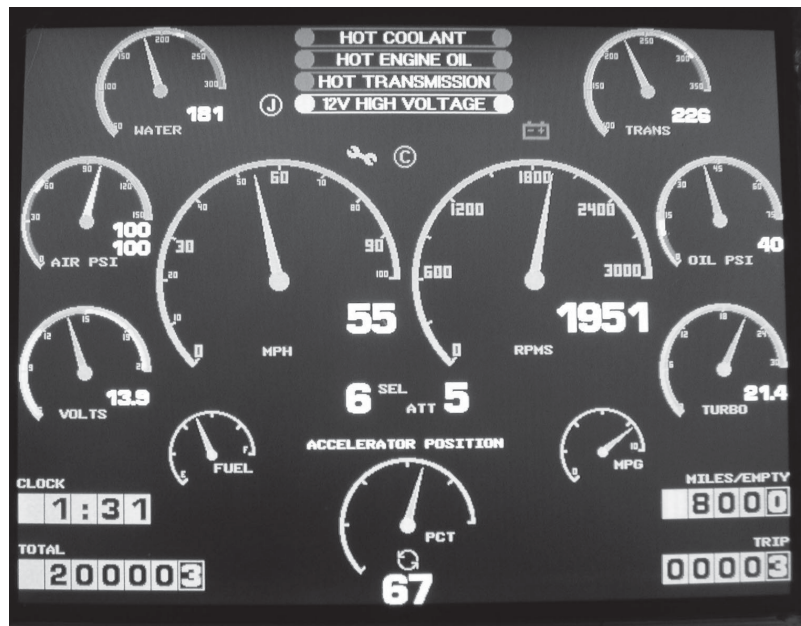
Press PROG once. Use the KNOB to highlight “Daytime Palette”. Press the KNOB. Turn the knob to select one of the many color schemes available. Press the KNOB, then press DRIVE to return to the main screen. The new color scheme will take effect when you change screens. *Hint: Set your “Nighttime Palette” as well. The dash will automatically switch palettes when the headlights are turned on and off.*

To Change Gauge Layouts

Press the DRIVE Button.

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Gauge Clusters

Pressing DRIVE will always return you to a gauge cluster. Pressing it again will change the cluster to one of the three formats.

In addition to the normal complement of gauges (which includes some gauges not commonly seen in ordinary gauge clusters), there are a series of icons and special indicators. The icons include:

High Beams	Blue	Headlight
Low Oil Pressure	Red	Oil Can
Low Fuel	Red	Fuel Pump
Low Battery	Red	Battery
Brake On	Red	B in a Circle
Park Brake On	Red	P in a Circle
Check/Stop Engine	Red	Engine
Jake Brake On	Green/Yellow/Red	J in a Circle
AntiLock Brakes	Yellow	ABS
Active Traction Control	Yellow	ATC
Maintenance Due	Blue	Wrench
Cruise On/Active	Green	C in a Circle

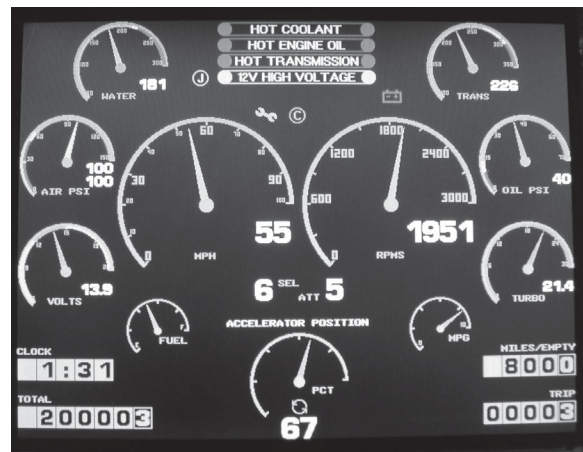
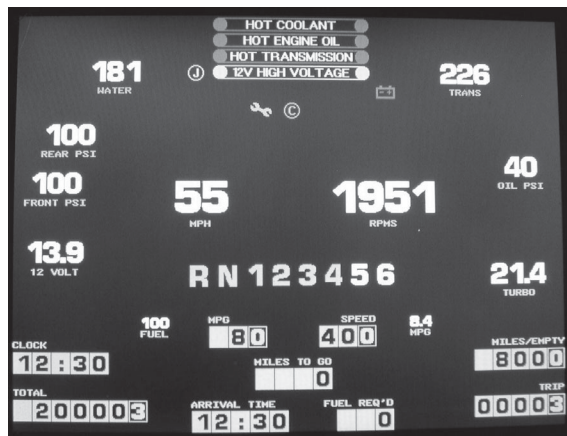
Most of these items are self-explanatory, or discussed in the appropriate manual. For information on the Maintenance Due indicator (a blue wrench), see the section later in this manual.

Also included is a transmission indicator, which shows the gear selected and gear attained by the transmission. Some layouts also show an MPG gauge, which shows the current fuel economy, and/or Cruise Set Speed.

A “message center” near the top center of the screen provides additional information and warnings. There are a large number of possible warnings, and each is color coded to indicate their relative severity. In general, the most severe warnings will appear near the top of the list.

An odometer, trip odometer, clock, and miles-to-empty indicator are also provided in each cluster. The miles-to-empty reading is based on the miles-per-gallon achieved on the current trip.

At the bottom center of the screen is the Special Feature Area, which is under the user control when driving. The next section describes the features available here.



Special Feature Area

The bottom center of the gauge cluster is under user control. There are six different functions available in this area, each accessed by pressing one of the keys.

Scan Gauge

The Scan Gauge provides the equivalent of over two dozen gauges in one place. The specific gauges depend on the engine model and configuration, and additional items may be available if additional sensors are installed.

Press **SCAN** to activate the Scan Gauge. In addition to showing a new gauge, it will show an icon that indicates the gauge "mode", Scan or Watch. An arrow icon indicates Scan, a stop sign indicates Watch.

In Scan Mode, the gauge will cycle from item to item, displaying each one for a set amount of time. You can program the gauges displayed in this mode, and the duration displayed, using the VMS and Scan Preference Screens. (See those sections for details.)

Press **SCAN** to change to Watch Mode. The gauge will stop changing, and stay on the current gauge.

Turn the **KNOB** to dial in a particular gauge. The unit will automatically enter Watch Mode.

Most gauges are self-explanatory. Some, such as Accelerator Position, are useful only in certain troubleshooting situations. Most are self-explanatory, but some merit special mention.

Horsepower and Torque

These gauges show the calculated engine output. The VMS cannot compensate for fans, belts, and other parasitic loads on the engine, and this value may be thrown off by a malfunction in the engine. But it does provide an effective indicator of engine performance. Of the two, Torque is more indicative of motive force and efficiency. When working the engine, try to maximize your torque output.

At very low RPMs these values cannot be accurately calculated. Under these conditions both of these gauges will read zero.

Rolling MPG, Instantaneous MPG, and Power Factor

Instantaneous MPG indicates the fuel economy calculated on a moment-by-moment basis. It generally fluctuates too rapidly to be useful for guiding your driving, so the VMS calculates a Rolling MPG. Rolling MPG considers fuel consumption over roughly a one minute time interval, while ignoring very low speed driving and idling. It provides a very good indication of your current fuel economy, and is a useful tool for adjusting your driving to get the best fuel economy. Power Factor indicates the efficiency with which the engine is converting fuel to power. Although it is a good indicator of pure engine efficiency, it is generally not correlated to overall vehicle efficiency, since it does not consider air resistance, rolling resistance, and parasitic loads.

Trip Information

Press **TRIP** to access additional trip information. The unit will show the Average Speed and Miles Per Gallon for this trip, and the Miles to Go, Fuel Required, and Estimated Time of Arrival until the end of this trip.

Pressing **CLEAR** resets the trip odometer to zero.

You can adjust the Miles to Go (and the Fuel Required and Time of Arrival) by turning the **KNOB**. Pressing the **KNOB** adds 100 miles. All three items will adjust as you drive, thus providing a useful trip planning tool.

Press **CLEAR** to start a new "trip". All values on the screen will reset to zero.

Diagnostic Information

Should the Check Engine or Stop Engine indicators appear, pressing **DIAG** will provide additional information on the problem. The display will show up to six diagnostic events, including both the "scan codes" and a simple description of the error. Pressing **CLEAR** will clear the faults from the list - otherwise the faults will remain in the list until the unit is powered down. If the fault is still active, it will reappear on the list after a brief delay.

House Information

Pressing INFO will display the tank levels for the coach.

Weather Information

Pressing SPEC will display weather information - temperature, altimeter, and compass. Turning the KNOB while this is displayed will adjust the altimeter.

Video Monitor

Pressing VIDEO will display the rear camera video.

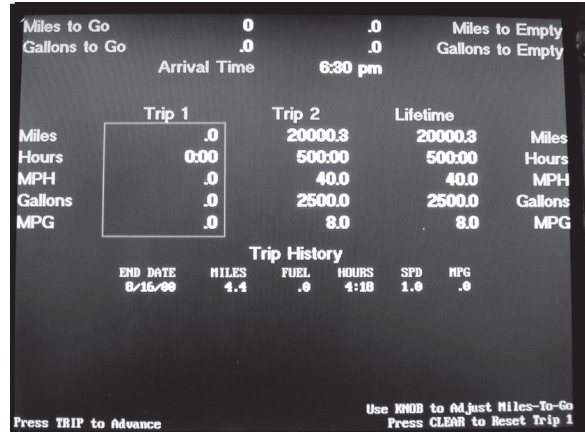
Parked Modes

When park brake is on, additional screens are accessible. The unit will automatically revert to a gauge cluster when it detects the park brake has been released.

Trip Screen

When the coach is parked, pressing TRIP will bring up the full Trip Screen. There are two trip odometers - the main odometer accessible when driving, and a second odometer which is useful for tracking fuel usage or serving as a "grand total" trip. Pressing the TRIP button allows you to toggle between each of these two trips, and also the Trip History section. To clear one of the trip odometers, press TRIP until the desired odometer is indicated by the box. Then press CLEAR.

The Trip History section stores up to 4000 trips. Each time the main trip is cleared out, the data is stored here. The most recent trips are listed first. To see earlier trips, press TRIP until the box surrounds the history list, then turn the knob to scroll through the list. The screen displays the date the trip ended, the miles travelled, fuel used, engine running time, average speed, and fuel economy (MPG). The most recent trip will be on the top, with previous trips following, sorted by date.



Diagnostic Screen

Whenever the engine detects a problem, it activates the Check Engine light on the dashboard. At the same time it transmits a series of codes which a mechanic can pick up using his "scan tool". The VMS also picks up those codes, stores them, and translates them for you to read. You can display this information by pressing DIAG and activating the Engine Diagnostics Screen.

Note that the VMS can only report what the engine transmits. Problems that are external to the engine may not show up, or may show up in an indirect form. For example, a bad alternator will likely not be immediately detected. But eventually a low voltage condition will probably be detected and displayed. Internal engine problems are much easier to detect, and are generally very precise.

Press DIAG to activate the Engine Diagnostic Screen, which shows current engine problems at the top and the Engine Diagnostic History, which displays a history of engine problems.

The top section of the screen shows any diagnostic messages received since the VMS was turned on. The "scan code" is displayed, along with a plain language interpretation of the code. The VMS does not have to be on this screen to receive and store diagnostic messages. You can activate this screen at any time to see all codes that have been generated since the VMS was turned on. The unit can store up to six codes at a time.

Press CLEAR to clear out the list of codes. If a problem is still occurring, it should reappear in a few moments.

This bottom section of the screen shows every diagnostic message ever received by the VMS. It also shows the date, odometer reading, engine rpms, engine load, and temperature at the time the fault first occurred. The VMS only stores the first occurrence of each message, unless the codes were cleared on the Engine Diagnostic Screen. The code will be recorded each time the problem reoccurs after having been cleared on that screen.

The list will display the most recent messages at the top. The history can be cleared using a hidden screen, which is explained in a later section.

Use the KNOB to scroll through the history.

Coach Systems

Pressing INFO brings up a screen showing the tank levels and temperatures. There may be multiple screens available,

depending on which accessories are installed on your coachCoach Systems

Maintenance Tracking

Pressing INFO a second time brings up a screen that allows you to track your maintenance on the coach. Turn the KNOB to scroll through the various maintenance items. The right side of the screen will show the details of the operations to be performed in that maintenance group. Press CLEAR to indicate that the maintenance has been performed. The VMS will automatically record the date and odometer reading, and it will calculate when that item is next due. If you wish to adjust the date or odometer reading, press the KNOB and use it to make the adjustment.

The main gauge cluster will display a blue wrench if any item is overdue. Happy/Unhappy Face icons on this screen indicate the status of each particular maintenance item.

Weather

Pressing SPEC brings up the Weather Station screen. This screen adds the Barometer, Humidity, Heat Index, and Moon Phase indicators to the compass, altimeter, and thermometer already noted above. Turning the KNOB adjusts the altimeter, which is occasionally necessary after driving through pressure gradients caused by changing weather. Pressing CLEAR resets the altimeter to sea level.

Programming Screens

VMS Preferences Screen

Press **PROG** to activate the VMS Preferences Screen. Here is where a variety of parameters can be adjusted to match your coach configuration and personal preferences.

Use the **KNOB** to adjust each item. Turn the knob to highlight the parameter name, press the **KNOB**, and turn the **KNOB** again to adjust the value. Press the **KNOB** again to return to the parameter name.

Clock and Alarm

Press the **KNOB**, then turn the **KNOB** to adjust the hour. Press the **KNOB**, then turn it to adjust the minute. Then press it and turn it to adjust the AM/PM value. Press the **KNOB** a final time to return to the "TIME" position.

Setting the date follows exactly the same process, as does setting the alarm clock. To use the alarm clock you must set the alarm time and also set the "ALARM SET" value to "SET".

The alarm clock will sound at the appropriate time, but obviously the VMS must be on at that moment. If the VMS is turned off and on again, the alarm clock will remember its status and will sound at its appointed time. The alarm will sound until any key is pressed on the VMS. After sounding, the Alarm Set value will return to OFF.

Daytime/Nighttime Palette

This allows you to select the Color Scheme for your Daytime and Nighttime settings. The Daytime value indicates the Color Scheme when the headlights are *off* - presumably during the day. The Nighttime value indicates the Color Scheme with the headlights *on*. By default the Nighttime is the same as the Daytime value, thus the VMS can be set to different Color Schemes when the headlights are turned on.

Daytime/Nighttime Brightness

This is the display luminance, on a scale from zero (0) to three (3). If you drive with the light on during the day, you may want to adjust the Low value higher. You may Cycle through all the Brightness Modes by pressing the **BRIGHT** button. These two settings corollate to the Palette settings.

Scanning Speed

This is the number of seconds that the Scan Screen will spend on each gauge when in Scan Mode. A lower number will make it scan faster.

Engine

This indicates the engine make and model. This must be set correctly to allow all features to function properly.

Transmission

This setting allows you to select which type of transmission is installed in your vehicle. Most coaches will have the WTEC, Starting in 1998, the WTEC Version 8 (WTEC v8) replaced the previous versions. Your VMS can display additional information (Gear Selected and Gear Attained) if your coach has a WTEC v8 and you have the VMS set to WTEC v8.

Chassis

This selection is required for the Maintenance Tracking screens. If your chassis is not in the list, select "OTHER" to get a fairly representative set of maintenance intervals.

Trip Units

This determines whether trip information is displayed in Metric or Standard units.

Startup Screen

This setting allows you to select which screen will be Displayed when the VMS is first Powered On.

Auto Rear View

This selects the Video Input (Video 1 or Video 2) that *expands* to Full Screen when the WTEC v8 Transmission is placed

in reverse. You should select the Video Input that your Backup Camera is connected to.

Default Video

This selects the Video Input (1 or 2) that is displayed on Power Up of the VMS.

Video Scanning Speed

When both Video Inputs are selected, the display will alternate between the two inputs. The value of this setting in Seconds. A value of 0 will disable scanning

.Scan Preferences Screen

Press PROG a second time to activate the Scan Preferences Screen. A list of gauges available in the Scan Screen will appear, with their settings for the Watch and Scan modes. Each gauge may be set to Watch or Hide, and Scan or Skip. A gauge set to Hide will not appear in the Watch mode at all, while if it set to Watch it will be accessible in the Watch mode by turning the knob. A gauge set to Scan will appear periodically in the Scan mode. Typically most gauges should be set to Watch, but only the most important should be set to Scan.

Turn the KNOB to select a particular item - there are more than can fit on the screen at one time. Press the KNOB to change the values.

Automatic Sensor Detection

No engine supports all the gauge functions the VMS is capable of displaying. The VMS is capable of querying the engine to determine its capabilities, and it can automatically set the unsupported gauges to "Hide". To activate the sensor detector, let the VMS run for at least ten seconds while this screen is activated, and press CLEAR. All features supported by the engine should be set to Watch and Scan, while others are set to Hide and Skip.

Hidden Screens

In addition to all the features already described, the VMS also has a set of hidden screens that provide diagnostic information on the VMS and data bus, and allow further settings to be adjusted. Usually these screens are useful only in the installation of the VMS. But in certain situations they may prove useful, so some brief mention is made here.

VMS Options screen

The most important hidden screens are accessed by pressing **DRIVE** and **SCAN** simultaneously and holding them for three seconds. The VMS Options Screen or Video Screen will appear. There are several items on this screen, which you can scroll through using the **KNOB**.

Clear Trip History

Highlight this and press the **KNOB** to clear all the trips in the Trip History Screen. The current number of trip in the history is provided. The maximum capacity is 4096.

Clear Engine Diagnostic History

Highlight this and press the **KNOB** to clear all the diagnostic codes in the Engine History. The current number of events in the history is provided. The maximum capacity is 4096.

Clear Current Trips

Highlight this and press the **KNOB** to reset the trip information in the Main Trip and Alternate Trip Screens. Those screens will show the current trip as having started when the engine was built.

Clear Maintenance History

Highlight this and press the **KNOB** to clear the Maintenance Manager.

Reset To Defaults

Select this to reset all VMS settings to their factory default values.

Video Configuration screen

Among the menu items in the hidden screen are certain video configuration items. You may wish to adjust any or all of these to get the best results from your rear camera.

Enabled

This selection determines if the VMS will display the Video signal.

Orientation

This selection determines if the display is Normal or Rear. This provides a Mirror Image.

Brightness

This selection allows a value in the range of 0 to 255. 0 being the Darkest, 255 being the Brightest.

Contrast

This selection allows a value in the range of 0 to 255. 0 being the least contrast, 255 being the most contrast.

Saturation

This selection allows a value in the range of 0 to 255. Adjust to taste.

Hue

This selection allows a value in the range of 0 to 255. Adjust to taste.

Reset To Defaults

This selection resets the current video screen selected to the factory defaults.

Warranty

The obligation of SilverLeaf Electronics, Inc. under this warranty shall be limited to repair or replacement (at our option) during the warranty period of any part which proves defective in material or workmanship under normal installation, use, and service, provided the product is returned to SilverLeaf Electronics, Inc.. The warranty period shall be one year from date of purchase of the VMS™, or purchase of the finished coach with the VMS™ installed.

This warranty shall be invalid if the product is damaged as a result of defacement, misuse, abuse, neglect, accident, destruction, alteration, improper electrical voltages or currents, repair or maintenance by any party other than SilverLeaf Electronics Inc. or an authorized service facility, or any use violative of instructions furnished by us.

This one-year warranty is in lieu of all other expressed warranties, obligations, or liabilities. Any implied warranties, obligations, or liabilities, including but not limited to the implied warranties of merchantability and fitness for a particular purpose, shall be limited in duration to the one-year duration of this written limited warranty.

In no event shall SilverLeaf Electronics, Inc. be liable for any special, incidental, or consequential damages for breach of this or any other warranty, expressed or implied, whatsoever.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.



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