

MOUNTAIN AIRE

2015



WHEN YOU KNOW THE DIFFERENCE

Welcome to the exciting world of recreational vehicle traveling and the growing Newmar family!

Congratulations on your purchase of a Newmar product. We sincerely thank you for choosing Newmar as your recreational vehicle. We hope that you will enjoy many miles of traveling. Your new vehicle was built with care using today's technology and old world craftsmanship. We, at Newmar, strive to build vehicles that are safe, dependable, and comfortable to provide you with years of carefree, pleasant traveling. With your new RV purchase, Newmar provides a 12-month limited warranty. Please read the Newmar Limited Warranty and all other component warranties that apply to the equipment installed on your unit.

Carefully read both the instructions in this Owner's Guide and the booklets supplied by the chassis and component manufacturers for important operation, safety, and maintenance requirements/information. Your dealer should be consulted should you have any questions. If your dealer is unable to answer the questions to your satisfaction he will refer you to our staff for assistance. Our customers are extremely important to us and we will make every effort necessary to ensure your satisfaction.

The limited warranties issued by the chassis and component manufacturers require periodic service and maintenance. The owner's failure to provide this service and/or maintenance may result in the loss of warranty coverage. Be sure to file the appropriate registration card with the component manufacturer as described with the individual instruction booklets to activate the warranties on the components within your Newmar RV. This Owner's Guide should be kept in your vehicle for quick reference. Take time to get acquainted with your unit and how it operates.

Again, thank you and welcome to the Newmar family.

Newmar Corporation



WHEN YOU KNOW THE DIFFERENCE

This guide has been provided by Newmar Corporation solely for the purpose of providing instructions about the operation and maintenance of this vehicle and its components. Nothing in this manual creates any warranty, either expressed or implied. The only warranty offered by Newmar Corporation is set forth in the written limited warranty that applies to this vehicle.

Instructions are included in this manual for operating some of the components that are standard on this vehicle. Instructions are also given for components that are options and may not appear on all vehicles. For more detailed information on components, refer to the individual manufacturer's operating instructions contained in the Owner's Information Package.

The limited warranties issued by the chassis and component manufacturers require periodic service and maintenance. The owner's failure to provide this service and/or maintenance may result in the loss of warranty coverage. The owner should review the Newmar Corporation Limited Warranty and other manufacturer's limited warranties on all components applicable to this vehicle. To activate the warranties on the components within your Newmar recreational vehicle, be sure to file the appropriate registration card with the component manufacturer as described with the individual instruction booklet.

Throughout this guide, reference is made to the following terms: Warning, Caution, and Important. These terms indicate important information that must be understood and followed. The definitions of these terms are:

 **WARNING**

Emphasizes an area in which personal injury or even death could result from failure to follow instructions properly. Mechanical damage may also occur.

 **CAUTION**

Failure to observe a caution can cause damage to the equipment or unit. Personal injury is unlikely.

 **IMPORTANT**

This will provide additional information to make a step easier or clearer.

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Chapter 1

SERVICE INFORMATION

CUSTOMER ASSISTANCE

Newmar Corporation	1-800-731-8300
Ford Motor Company	1-800-444-3311
Freightliner Custom Chassis	1-800-FTL-HELP
Spartan Motors.....	1-800-543-4277
Spartan Roadside Companion.....	1-888-890-1741
Workhorse Custom Chassis	1-877-946-7731

COMPONENT PART SUPPLIERS

Accessories

Back Up Monitor	Alpha Systems	574-295-5206
	A. S. A. Inc.	574-266-1886
CB Radio (Cobra)	Tri Star Distributing.....	800-456-3340
Computer TripTek	River Park, Inc.	800-442-7717
Furniture (Upholstered)	Flexsteel Industries	563-556-7730
	Villa International	562-404-8111
Navigation	Mito	888-433-6486
Roof Vent	FanTastic Vent Corp.....	800-521-0298
	Ventline	574-848-4491
Security System	Tri/Mark.....	800-447-0343
Stereo - Dash	Mito	888-433-6486
Stereo (Sony)	River Park, Inc.	800-442-7717
TV Antenna	The Winegard Co.....	800-288-8094
Television (Sony)	River Park, Inc.	800-442-7717
Satellite Dish (Winegard)	The Winegard Co.	800-288-8094
Satellite Dish (KVH)	River Park, Inc.	800-442-7717
DVD	River Park, Inc.	800-442-7717

Air Conditioning

Dash Air	Evans Tempcon	800-354-7088
Roof Air	Dometic	800-544-4881

Appliances

Dishwasher,	Midwest Sales	574-287-3365
Freezer	Dometic	800-544-4881
Microwave (Dometic)	Dometic	800-544-4881
Microwave (GE)	Midwest Sales	574-287-3365

Range	Atwood-Greenbrier.....	815-877-5700
	Magic Chef	515-792-7000
Refrigerator	Dometic	800-544-4881
	Norcold	800-543-1219
Water Heater - Atwood	Atwood Mobile Prod.	815-877-5700
Water Heater - Suburban	Suburban Mfg.	800-659-2138
Water Heater - Oasis	ITR.....	800-993-4402
Washer/Dryer, 1-piece	Splendide	800-736-4127
Washer/Dryer, 2-piece	Whirlpool.....	800-442-1111

Electrical (tires and batteries separately warranted)

Batteries - 12Volt	Interstate	800-872-4100
Batteries - 6 Volt	Interstate	888-772-3600
Inverter/Converter	Magnum.....	425-353-8833
Generators	Onan.....	800-888-6626

Exterior

Awning & Hardware	A & E.....	800-544-4881
	Carefree of Colorado	800-621-2617
	Girard.....	800-382-8442
Jacks (CA & DP)	H W H Corporation	800-321-3494
Jacks (FW)	Atwood Mobile Prod.	815-877-5700
	Equalizer Systems.....	800-846-9659
Rubber Suspension (FW)	Mor-Ryde, Inc.....	574-293-1581
Steps, Electrical	Lippert/Coach Step	574-535-2085
Steps, Electrical	Kwikkee Products.....	800-736-9961
Steps, Manual	Hickory Springs Mfg.	574-262-2399
Tires	Goodyear.....	800-227-1999
	Michelin.....	803-234-5000

Heating

Furnaces	Atwood Mobile Prod.	815-877-5700
	Suburban Mfg.	800-659-2138
Furnace, Hydronic	ITR.....	800-993-4402

Please note that your Newmar Limited Warranty is activated only after Newmar has received a signed Warranty Registration Form from your selling dealer. If it has been more than 60 days since the purchase of your new coach and you have not received your Newmar Owner's Warranty Card, please contact your selling dealer or the Newmar Warranty Department at 800-731-8300.

TO OUR VALUED CUSTOMERS:

If, for any reason, you have a problem obtaining satisfactory and timely warranty service that may substantially impair the use, value or safety of your Newmar product, please call us on our toll free line at 800-731-8300 so that we may attempt to resolve your concerns.

All of the information contained in this brochure is believed to be accurate at the time of publication. However, it may be necessary to make revisions and Newmar reserves the right to make any such changes without notice or obligation. Please refer to the component information literature provided in the Owner's Information Package for specific warranty details for the components applicable to your recreational vehicle.



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355 N DELAWARE ST
PO BOX 30
NAPPANEE, IN 46550-0030
www.newmarcorp.com

GENERAL & SAFETY INFORMATION

DELIVERY

Throughout the manufacturing process your vehicle has been inspected by our qualified technicians. However, our final inspection at the factory is not to be the last one. The pre-delivery inspection and systems check your dealer performs are the final inspections done to the unit prior to you receiving your new coach. Your dealer is also available to assist you in understanding the limited warranties and completing any necessary forms to activate the warranties for the various appliances and accessories installed in your unit.

Dealer Responsibilities

1. A pre-delivery inspection and systems check. Thoroughly inspecting the vehicle and the operation of the factory installed components.
2. A customer walk-through. This is done to familiarize the customer with the vehicle, its systems and components, and their operation.
3. Delivery of the Owner's Information Package. This package contains the warranty cards and registrations for the vehicle and factory installed components that carry a separate warranty. The detailed operating and maintenance instructions on these components are also included in this package.
4. Assisting the customer in completing the component registration forms, at the customer's request. To avoid loss of warranty coverage, the dealer should review the limited warranty provisions with the customer stressing the importance of filing warranty cards and registrations to the component's manufacturers within the prescribed time limit.
5. Providing the customer with information regarding warranty and non-warranty work on the vehicle and its separately warranted components whether the customer is in or out of the area.

Customer Responsibilities

The customer is responsible for regular and proper maintenance of the vehicle. Properly maintaining your vehicle will prevent conditions arising from neglect that are not covered by your Newmar Limited Warranty. The maintenance guidelines in this manual and any other applicable manual should be followed. It is your responsibility and obligation to return the vehicle to an authorized dealer for repairs and service.

To assist you in avoiding problems with your vehicle, we recommend you do the following:

- A. **Read the warranty.** Go over it thoroughly with your dealer.
- B. **Inspect the vehicle.** Do not accept delivery until you have gone through the unit with the dealer. Newmar has provided a check list to be used during retail delivery. Check each item on the list and make sure the dealer does the same. Do not sign this checklist until you have done this.

NOTE: The sales literature versus actual specifics to the vehicle's measurements, weights, or quantities may vary.

- C. **Ask questions** about anything that you do not understand concerning your recreational vehicle.
- D. **When taking delivery**, set an appointment for adjustments. This appointment should be approximately two (2) weeks after you accept delivery.
- E. **Responsible Use.** Your vehicle is designed to be used for recreational or temporary living purposes. It is not designed to be used as a full-time residence or for commercial use. Commercial use means using as a business asset such as a mobile office or using the vehicle for lease/rental purposes.

Recreational Vehicle Limited Warranty

The Newmar Corporation Limited Warranty was provided to you by your selling dealer prior to purchase. Please refer to this document when inquiring about the Newmar Warranty. To receive an additional copy, refer to the contact information under "Customer Relations".

Warranty Service Deadline

Warranty service required needs to be completed during the term of the warranty. Service work scheduled or performed after the expiration of the Newmar warranty **WILL NOT** be covered.

Owner's Information Package

Included in this package are valuable documents about your vehicle and its components and systems. The Newmar Owner's Guide does not cover every possible detail of the equipment, standard and/or optional, installed on or in your vehicle. Consulting the booklets and instruction manuals in this package will help you safely operate, maintain, and troubleshoot these items.

Read all of the information and understand the safety and operating instructions included in the Owner's Information Package. To assure full warranty coverage, it is essential that all maintenance instructions are followed.

Customer Relations

If you wish to schedule maintenance work, schedule service work, or order parts you should notify your local authorized Newmar Service Center to set up an appointment. If you are unsure of the location of the closest authorized Service Center, please contact us as follows:

Newmar Corporation
Warranty Department
72185 C.R. 3
P.O. Box 30
Nappanee, IN 46550-0030

Call us at: 1-800-731-8300

Visit us at www.newmarcorp.com

Reporting Safety Defects

If you believe that your vehicle has a significant defect which could cause a crash or could cause injury or death, you should inform the National Highway Traffic Safety Administration (NHTSA) and Newmar Corporation.

To contact NHTSA, you may either call the Auto Safety Hotline toll free at 1-888-327-4236 (TTY #1-800-424-9153) or write to: NHTSA, 400 Seventh Street, S.W., Washington, DC 20590. NHTSA also has established a website where you can contact them:

<http://www.safecar.gov>

Information Sheet

Newmar has enclosed an information sheet for your convenience. This sheet contains important information about your coach. The sheet can be found in the black literature bag provided with your unit. Listed on this sheet is the six digit Newmar Serial Number. This number is needed whenever making an appointment for service or ordering parts through your Newmar Dealer or Service Center. Also listed is the Vehicle Identification Number (VIN). The VIN is the legal identification of the completed vehicle and is used by the state for vehicle registration. Both of these numbers are also listed on the Customer Care card Newmar issues upon receipt of registration.

Below is a sample of the Information Sheet.

1. The Newmar Serial Number
2. Year/Brand/Type/Floorplan
3. Vehicle Identification Number (VIN)
4. Manufacturer, Model and Serial Number of factory installed equipment.

THANK YOU FOR PURCHASING A QUALITY NEWMAR PRODUCT! FOR YOUR CONVICIENCE, WE HAVE ENCLOSED A SERIAL NUMBER LIST OF IMPORTANT EQUIPMENT INSTALLED IN YOUR 2005XXXX####. THE SERIAL NUMBER FOR YOUR UNIT IS #####.

VIN# XXXXXXXXXXXXXXXXX		DECOR# XX5-###	WOODCOLOR CHERRY	
CLIMATE SYSTEM		ENERGY MANAGEMENT SYSTEM		
FRONT A/C	630515.321	33087	INVERTER RV2012M 0062072	
CENTER A/C	630515.321	33088	CONVERTER	
REAR A/C			GENERATOR 042702 20570	
DASH A/C	RV200875	6534	AUDIO/VIDEO/NAVIGATION	
FRONT FURN.	SF42	05950	FRONT TV 24FV300 60575	
REAR FURN			REAR TV 20FS100 72234	
AUX.HEATER			TV #3	
APPLIANCES		EXT. TV 4361270	WINDOW 1	
WD1	WD2	FRONT	WINDOW 2	
		DBF18C	WINDOW 3	
			WINDOW 4	
			WINDOW 5	
			WINDOW 6	
			TO TOPP	

IMPORTANT RV TIRE INFORMATION

READ AND UNDERSTAND THE FOLLOWING INFORMATION BEFORE TAKING YOUR FIRST TRIP IN YOUR RV!

WARNING

Routine maintenance on your RV is important, but it cannot be overstated just how critical proper tire maintenance is to the safety, operation, and durability of your new unit. To insure your tires are operating safely, regular inspection of your tires, and checking of tire pressures is absolutely mandatory. **FAILURE TO FOLLOW PROPER INFLATION GUIDELINES MAY RESULT IN TIRE FAILURE, WHICH, UNDER CERTAIN CIRCUMSTANCE CAN CAUSE LOSS OF VEHICLE CONTROL OR ACCIDENTS THAT MAY RESULT IN PROPERTY DAMAGE, BODILY INJURY, AND/OR DEATH.**

For safe operation and maximum weight carrying capacity, it is imperative that the tires be inflated to and maintained at the listed tire pressures on the Federal ID Tag that is affixed to the interior wall just behind the driver's seat in motorhomes, and to the lower front corner of the road side sidewall on fifth wheel trailers. Below is a sample of the Federal ID Tag you will find with your RV.

IT IS PARAMOUNT TO THE SAFE OPERATION OF THE VEHICLE TO MAINTAIN PROPER TIRE PRESSURES. TIRE PRESSURES SHOULD BE CHECKED AND ADJUSTED BEFORE AND AFTER EACH TRIP, AND SHOULD ALWAYS BE CHECKED AND ADJUSTED WITH THE TIRES COLD. NEVER ADD OR RELEASE PRESSURE FROM THE TIRES WHEN THEY ARE HOT (AFTER HAVING DRIVEN A MILE OR MORE).

For additional information on your tires, contact the Newmar Corporation.

MANUFACTURED BY / FABRIQUE PAR:		DATE:			
GVWR/PNSV		KG (LB)		
FRONT/ AVANT	GAWR/PNSE (KG LB)	TIRES/PNEU	RIMS/JANTE	COLD INFL. PRESS./PRESS. DE GONFL. A FROID KPA SINGLE DUAL PSI(LPC) <input type="checkbox"/> <input type="checkbox"/>
INTERM/ INTERM	(KG LB)			(KPA SINGLE DUAL PSI(LPC) <input type="checkbox"/> <input type="checkbox"/>
REAR/ ARRIERE	(KG LB)			(KPA SINGLE DUAL PSI(LPC) <input type="checkbox"/> <input type="checkbox"/>
<p>THIS VEHICLE CONFORMS TO ALL APPLICABLE U.S. FEDERAL MOTOR VEHICLE SAFETY STANDARDS IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE. THIS VEHICLE CONFORMS TO ALL APPLICABLE STANDARDS PRESCRIBED UNDER THE CANADIAN MOTOR VEHICLE SAFETY REGULATIONS IN EFFECT ON THE DATE OF MANUFACTURE. - CE VEHICULE EST CONFORME A TOUTES LES NORMES QUI LUI SONT APPLICABLES EN VERTU DU REGLEMENT SUR LA SECURITE DES VEHICULES AUTOMOBILES DU CANADA EN VIGUEUR A LA DATE DE SA FABRICATION.</p>					
V.I.N./N.I.V.:		TYPE/TYPE:		FD-228	

SAFETY PRECAUTIONS

WARNING

Prior to driving your vehicle, be sure you have read this entire owner's guide and that you understand your vehicle's equipment completely and how to use the equipment safely. Read and understand all of the instructions and precautions in this Owner's Guide and the chassis manufacturer Owner's Manual before operating your new motorhome. Listed below are some safety precautions that must be adhered to while your motorhome is in motion. These precautions, as well as others that involve possible damage to equipment, are also listed in the appropriate areas in this manual.

DANGER

Any motorized vehicle or any motorized equipment powered with flammable liquid can cause fire, explosion, or asphyxiation if stored or transported within the recreational vehicle. To reduce the risk of fire, explosion, or asphyxiation:

- (1) Do not ride in the vehicle storage area while the vehicles are present.
- (2) Do not sleep in the vehicle storage area while vehicles are present.
- (3) Close doors and windows in walls of separation (if installed) while any vehicle is present.

- (4) Run fuel out of engines of stored vehicles after shutting off fuel at the tank.
 - (5) Do not store, transport, or dispense fuel inside this vehicle.
 - (6) Open the windows, openings, or air ventilation systems provided for venting the transportation area when vehicles are present.
 - (7) Do not operate gas appliances, pilot lights, or electrical equipment when vehicles are present.
- FAILURE TO COMPLY COULD RESULT IN AN INCREASED RISK OF FIRE, EXPLOSION, ASPHYXIATION, DEATH, OR SERIOUS INJURY.

Before Starting Out

The following is a brief list of procedures that will aid in your driving safety and extend your equipment's life.

Windows, mirrors, and light lenses are to be clean and unobstructed.

Tires should be checked for proper cold inflation pressure.

Wheel lug nuts should be checked for proper tightness.

Fluid levels, including engine oil, transmission fluid, coolant, power steering fluid, brake fluid, and windshield washer solvent, should be checked and filled if necessary.

Disconnect the unit and store the sewer and water supply hoses as well as shoreline power cords.

Secure all cargo in the storage compartments in the event of a sudden stop.

Verify that the step has retracted prior to engine ignition.

Driving

There are various adjustments that need to be made prior to starting and moving the vehicle.

Among them are the driver's seat, the tilt steering, and the exterior rear view mirrors.

The dashboard may contain several gauges and controls you have not previously used. Become familiar with all of these devices and their operation before starting out.

The cruise control is not to be operated on icy roads, extremely wet roads, winding roads, heavy traffic, or in any other traffic situation where a constant speed cannot be maintained.

While driving on slippery surfaces, use care when accelerating or decelerating. Skidding and loss of vehicle control may be the result of abrupt changes in speed.

Driving through water deep enough to wet the brakes may affect the stopping distance or cause the vehicle to pull to one side. If you have driven through deep water, check the brake operation in a safe area to be sure they have not been affected. Never operate a vehicle if a difference in braking efficiency is noticeable.

Extreme terrain and adverse weather may affect the handling and/or performance of your vehicle. Please refer to your chassis manual for related information.

Propane & Fuel



WARNING

Propane cylinders shall not be placed or stored inside the vehicle. Propane cylinders are equipped with safety devices that relieve excessive pressure by discharging propane to the atmosphere. FAILURE TO COMPLY COULD RESULT IN DEATH OR SERIOUS INJURY.

 **WARNING**

IT IS NOT SAFE TO USE COOKING APPLIANCES FOR COMFORT HEATING. Cooking appliances need fresh air for safe operation. Before operation:

- (1) Open overhead vent or turn on exhaust fan
- (2) Open window

FAILURE TO COMPLY COULD RESULT IN DEATH OR SERIOUS INJURY.

Unlike homes, the amount of oxygen is limited due to the size of the recreation vehicle, and proper ventilation when using the cooking appliance(s) avoids dangers of asphyxiation. It is important that cooking appliances not be used for comfort heating, as the danger of asphyxiation is greater when the appliance is used for long periods of time.

 **WARNING**

DO NOT FILL PROPANE CONTAINER(S) TO MORE THAN 80 PERCENT OF CAPACITY. Overfilling the propane container can result in uncontrolled propane flow, which can cause fire or explosion. A properly filled container contains approximately 80 percent of its volume as liquid propane. FAILURE TO COMPLY COULD RESULT IN DEATH OR SERIOUS INJURY.

 **WARNING**

Portable fuel-burning equipment, including wood and charcoal grills and stoves, shall not be used inside the recreational vehicle. The use of this equipment inside the recreational vehicle can cause fire or asphyxiation. FAILURE TO COMPLY COULD RESULT IN DEATH OR SERIOUS INJURY.

 **WARNING**

DO NOT BRING OR STORE PROPANE CYLINDERS, GASOLINE, OR OTHER FLAMMABLE LIQUIDS INSIDE THE VEHICLE. FAILURE TO COMPLY COULD RESULT IN FIRE OR EXPLOSION

 **DANGER**

IF YOU SMELL PROPANE:

- (1) Extinguish any open flames, pilot lights, and all smoking materials
- (2) Do not touch electrical switches
- (3) Shut off the propane supply at the container valve(s) or propane supply connection
- (4) Open doors and other ventilating openings
- (5) Leave the area until odor clears
- (6) Have the propane system checked and leakage source corrected before using again

FAILURE TO COMPLY COULD RESULT IN EXPLOSION RESULTING IN DEATH OR SERIOUS INJURY.

 **CAUTION**

Propane regulators must always be installed with the regulator vent facing forward. Regulators that are not in compartments have been equipped with a protective cover. Make sure that the regulator vent faces downward and that the cover is kept in place to minimize vent blockage that could result in excessive propane pressure causing fire or explosion.

Propane Gas System General Information

A warning label has been placed near the propane gas container. This label reads:

The propane gas system components in your unit have been approved for use in camping vehicles by a nationally recognized testing laboratory. Propane gas is a clean-burning dependable fuel when properly handled. The propane gas tank mounted on your unit contains liquid propane gas under high pressure. The liquid gas vaporizes as the fuel is used and passes through the tank valve to a regulator that automatically reduces the pressure. The low-pressure gas is then distributed to the appliances through the pipe manifold system. Appliance lighting problems are commonly caused by an improperly adjusted gas regulator. Never attempt to reset the regulator yourself. Have an authorized service technician make any necessary adjustments. We recommend that you have the propane gas system checked by an authorized service technician at least once a year and after every extended trip. Although the manufacturer and dealer carefully test for leakage, travel vibrations could loosen fittings.

Leaks can be easily found by applying leak detector solution at the connections. If leak detector solution is not available, a soapy water solution made with dish soap can be used. Tightening the fitting usually stops any leaks. If this does not work, shut off the main gas valve at the tank and immediately consult an authorized service technician for repairs. If a leak is suspected, the identifying odor smells similar to rotten eggs (sulfur). Never test for a leak by lighting a match or having an open flame where you suspect leaking gas.

WARNING

Shut off the main gas valve at the tank when the camping vehicle is not in use. Also, shut off the valve when refueling to avoid potential danger from pilot lights igniting fuel fumes. Some appliances, such as the refrigerator, water heater, and furnace, have DSI (direct spark ignition) boards, so it is important that you turn the appliances off when the PROPANE gas is off. The ignition in the appliances will continue to spark even if there is no PROPANE gas available.

Propane Regulator

The regulator acts as the heart for the propane gas system. The propane gas in the tank is under high pressure. The regulator reduces the pressure of this gas so that it is safe to use with the various appliances in your unit. If corrosion is noticed, contact a qualified propane gas service technician. Do not adjust the regulator. It is factory preset. Adjustments are to be made by a qualified propane service technician using specialized equipment.

Propane gas regulators must always be installed with the diaphragm vent facing downward. Regulators that are not in compartments have been equipped with a protective cover. Make sure that the regulator vent faces downward and that the cover is kept in place to minimize the vent blockage that could result in excessive gas pressure causing fire or explosion.

Propane Distribution Lines

The primary manifold is a black steel pipe running the length of your unit. Most secondary lines leading to gas appliances are made of copper tubing with flare fittings. If any of the gas lines rupture, do not attempt to splice them. Always run a new line. We recommend gas distribution work be performed by an authorized service technician. The main valve at the propane tank must be closed when removing or servicing any gas appliance. This will prevent dangerous gas leakage that could result in an explosion and possibly serious injury. If a leak is suspected, have the systems inspected and repaired by a qualified service technician.

Precautions & Recommendations

- Inspect the propane fill valve for foreign materials before refueling.
- Shut the pilot lights off prior to refueling propane gas tanks.
- Never check for gas leaks with an open flame (match, etc.).
- Gas lines should be visually inspected periodically.
- Have the gas system inspected yearly and before and after extended trips.
- The gas system should be inspected and repaired by qualified technicians only.

WARNING

The propane system in your recreational vehicle is designed for liquefied petroleum gas only. Never attempt to connect natural gas or butane gas in this system.

Fire Safety

The possibility of fire exists in all areas of life, and the recreational life-style is no exception. Recreational vehicles are complex machines. They are made up of many materials, some of which are flammable. Like most hazards, the possibility of fire can be minimized, if not totally eliminated. This is done by recognizing the danger and practicing common sense safety and maintenance habits. For safety reasons, your unit is furnished with both a fire extinguisher and a smoke alarm.

Fire Extinguisher

The fire extinguisher is rated for Class B (grease, gasoline, diesel fuel, flammable liquids) and Class C (electrical) fires. These are the most common types of fires in vehicles. Read the Operator's Manual and the instructions on the fire extinguisher. Be sure to know how and when to use the extinguisher and where it is located.

Fire extinguishers are mechanical, pressurized devices. Care must be exercised when they are handled. They must be maintained as the operator's manual instructs for proper and safe operation.

The extinguisher should be inspected at least once a month. More frequent inspections may be required if the extinguisher is exposed to the weather or to possible tampering. Do not test the extinguisher by partially discharging. Doing this will cause a loss of pressure.

If a fire occurs in the vehicle, evacuate the vehicle as quickly and as safely as possible. Consider the cause and the severity of the fire and the risk involved before trying to extinguish it. If the fire is major or fuel fed, move away from and stand clear of the vehicle and wait for emergency assistance to arrive.

Smoke Detector

The battery powered smoke detector is mounted on the ceiling in the living area of the unit. Read the operating instructions for details on the testing and care for this important safety device. Test the smoke detector after the unit has been in storage, before each trip, and at least once a week during use. The detector should never be disabled because of nuisance or false alarm from cooking smoke or a dusty furnace.

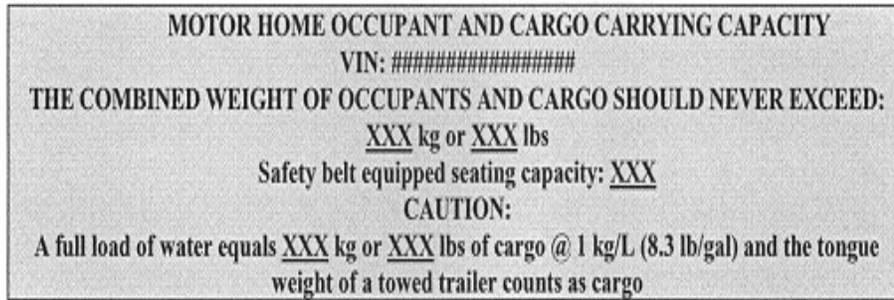
Ventilate the unit with fresh air and the alarm will shut off. Never disconnect or remove the battery from the smoke alarm. The battery should be replaced once a year or when the low battery signal sounds.

Emergency Exit Window

In the bedroom of the unit, there is an emergency exit (egress) window. This window is designed to be used as an additional exit in emergency situations. It can be easily identified by the red color of the handle and the red "EXIT" label. To open the egress window, lift the handle and push outward on the window. The window can be closed by pulling the window closed and lowering the handle to the down or locked position.

Weight Information

Below is a sample of a weight information label which may appear in your unit.



Weighing the Unit

The following definitions are given to help in communications of issues of weight and your unit.

GAWR: Gross Axle Weight Rating is the maximum permissible weight for an axle.

GCWR: Gross Combination Weight Rating is the value specified by the manufacturer of the vehicle as the maximum allowable loaded weight of this motorhome and any towed trailer or towed vehicle.

GVWR: Gross Vehicle Weight Rating is the maximum permissible weight of this fully loaded motorhome. The GVWR is equal to or greater than the sum of the Unloaded Vehicle Weight plus the Cargo Carrying Capacity.

UVW: Unloaded Vehicle Weight is the weight of this motorhome as built at the factory with full fuel, engine oil, and coolants. The UVW does not include cargo, fresh water, propane gas, or dealer installed accessories.

CCC: Cargo Carrying Capacity is equal to GVWR minus each of the following: UVW, full fresh (potable) water weight (including water heater), full propane gas as weight and SCWR.

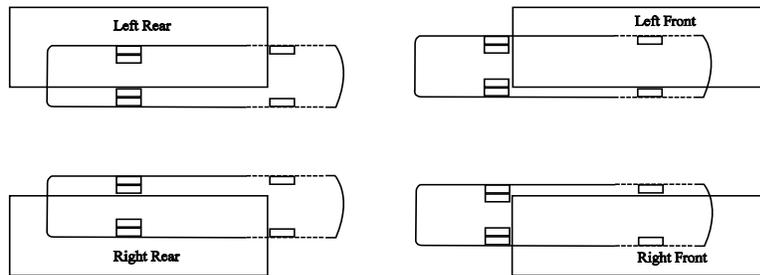
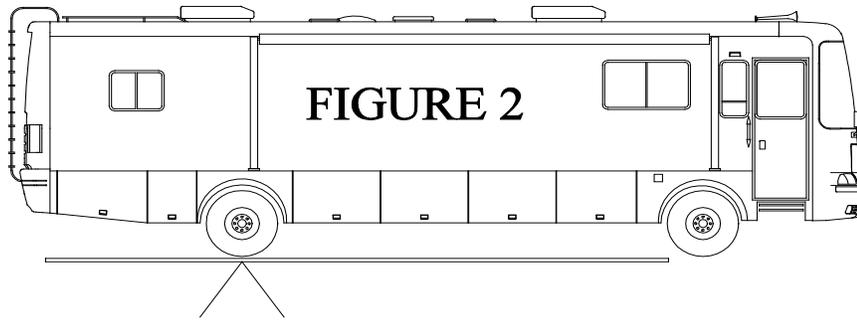
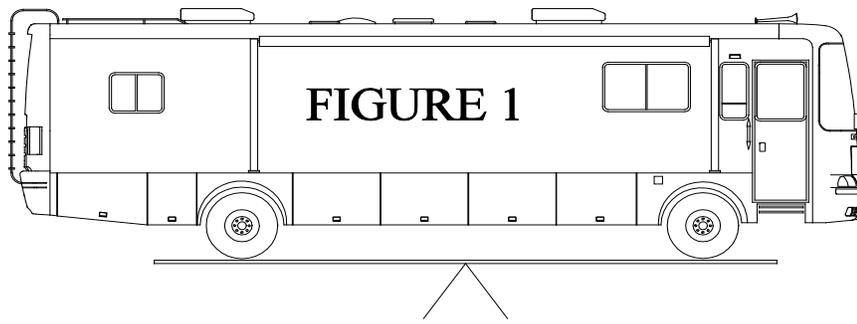
GVW: Gross Vehicle Weight is the weight of the unit with all items and supplies that are loaded into the unit at any point in time.

SCWR: Sleeping Capacity Weight Rating is the manufacturer's designated number of sleeping positions multiplied by 154 pounds (70 kilograms).

NOTE: The sales literature may give approximates or standards. Each individual unit may weigh differently based on the factory and/or dealer options added. To assure the accuracy of your weights be sure the unit is always level during weighing. The unit has been built to comply with the component suppliers recommended limits and give you a realistic CCC. When loading the unit, distribute the items so that not all of the weight is added to one area of the unit.

If you have questions as to what the weight of the unit is after it has been loaded, take the unit to a drive-on scale or use individual wheel scales and verify that the weights are within the limits of those specified for the unit. When weighing the unit, follow these instructions. Failure to follow these instructions may give an erroneous weight reading.

1. Pull the unit onto the scales shown in Fig. 1. This is the total weight of the unit. To do this, pull the unit onto the scales so that all of the wheels are on the scale. Record the weight. This is the GVW and should not exceed the GVWR supplied by Newmar for the unit.
2. Move the unit so that the front wheels are off the scales as shown in Fig. 2. Record the weight. This is the total weight of the unit except for the front axle. This weight should not exceed the total rating of the axles remaining on the scales. The front axle weight is determined by subtracting this weight from the GVW that was obtained in Step One (1). This amount should not exceed the listed front axle weight rating.



The recommended procedure to weigh a motorhome accurately is on individual corner scales. Since these are not always available, below is a diagram of how to weigh a motorhome on a typical truck scale.

Note: Since only one corner can be weighed at a time, the remaining three corners need to be as close to the scale as possible without being on the scale and the unit needs to be as level as possible. Remember, wind and rain can cause inaccuracies of weights.

 **IMPORTANT**

Your RV has been aligned at the factory as part of the production process. To provide optimum tire longevity and offer the best handling characteristics, Newmar recommends you have your unit re-aligned **after** loading your belongings as you would travel. Though highly recommended, this alignment is not mandatory, and as such is not warrantable by Newmar or the chassis manufacturer.

Campsite Parking

If the campground does not have drive-through sites, it is recommended to stop near the site and inspect it for slopes or uneven areas. Carefully back into the campsite. Watch for low-hanging limbs, posts, large rocks, or other obstacles. Back the unit in so the site is on the driver's left, if possible. This will enable the driver to watch the rear of the unit. Back up slowly using the side mirrors as a guide or with the assistance of another person outside guiding the parking procedure.

Place the vehicle in park and turn off the ignition. If parked on a steep incline, pre-level the coach by driving the appropriate wheels onto blocks. Finish the leveling process by using the leveling jack system to level and stabilize the unit. Connect the 120 volt shore power to the unit. Open the propane gas valves at the propane tanks. Connect the fresh water supply and sanitize the water systems, if necessary. Connect the waste drain hose to the sewer hook-up. Start the refrigerator, water heater, and furnace, if needed. Light the oven pilot light, if applicable. Remember that the refrigerator will not operate efficiently if the unit is not level.

 CAUTION

Do not lift the wheels of the unit off the ground at any time during this process. The unit can roll forward or backward when the weight of the unit is on the jacks.

Car Towing Hitch

The motorhome is equipped with a towing hitch and wire connector. Two extra 14 gauge wires are also included for your use. Your unit is designed for use as a recreational vehicle and is intended for towing light loads. The instructions for towing are listed in the chassis manufacturer Owner's Manual provided with your unit. The total weight of the motorhome and any vehicle towed by it must not exceed the GCWR (Gross Combined Weight Rating). Remember, when planning to tow, approaching the GVWR (Gross Vehicle Weight Rating) may reduce the motorhome's towing capacity. When weighing the motorhome, be sure to take passenger locations into consideration. The towed vehicles must have adequate active brakes. All towed vehicles of 1,500 pounds or more must have independently active brakes. Please contact your state Department of Transportation or your local Newmar dealer for your state requirements.

The wire connector installed is the standard seven-pin connector. Chapter 4 of this guide will have more information regarding this connector.

 IMPORTANT

Prior to towing, inspect all towing connections, including hitch mounting bolts for unusual wear or corrosion, visually checking for deformation of the mounting flanges and cracked welds on the hitch itself or any other sign of movement or fatigue in the hitch assembly. Safe and satisfactory performance of the towing system depends in large part on the type of towing equipment connected to the hitch receiver. The assembled length of the drawbar/towing system used should be kept to a minimum. Newmar is not responsible for damage or failure of the hitch receiver caused by the use of excessively long drawbars or other styles of drawbars that create leverage loads on the hitch receiver beyond its designed capabilities.

Occupant Restraints

One of the most important safety features in your vehicle is the restraint system. Research has shown that seat belts save lives. And they can reduce the seriousness of injuries in a collision. Some of the worst injuries happen when people are thrown from the vehicle.

 WARNING

It is extremely dangerous to ride in a cargo area, inside or outside of a vehicle. In a collision, people riding in these areas are more likely to be seriously injured or killed. Do not allow individuals to ride in any area of your vehicle that is not equipped with seat belts.

BE SURE EVERYONE IN YOUR VEHICLE IS IN A SEAT WITH A PROPER SEAT BELT.

Please pay close attention to the information in this section. It tells you how to use your restraint system properly. If you wear your safety belt improperly, both the effectiveness and comfort will decrease.

- Do not allow the buckle to be located in the stomach or abdomen area.
- Do not wear the shoulder strap under your arm or behind your back.
- Do not wear the shoulder belt too snug, or let it rub against your neck.
- Do not allow the belts to become too loose as you travel. (If the lap and/or shoulder belts are too loose, they may not be able to hold you in place during a crash.)
- Do wear the lap belt low on the hips, two to four inches below the waist, and against the thighs. The strong bones of the hips can absorb the forces experienced in a crash.
- Do wear the shoulder strap across the center of the chest and the center of the shoulder.

Lap/Shoulder Belt Operating Instructions

1. Enter the vehicle and close the door. Sit back and adjust the seat.
2. The latch plate of the belt is above the back of your seat. Grasp the latch plate and pull out the belt. Slide the latch plate up the webbing as far as necessary to make the belt go around your lap.
3. When the belt is long enough to fit, insert the latch plate into the buckle until you hear a “click.”
4. Position the lap belt across your thigh, below your abdomen. If you need the lap portion tighter, pull up a bit on the shoulder part. A snug belt reduces the risk of sliding under the belt in a collision. Position the shoulder belt on your chest so that it is comfortable and not resting on your neck. The retractor will withdraw any slack in the belt.
5. To release the belt, push the release button on the buckle.

Adjustable Upper Shoulder Belt Anchorage

Some shoulder belts can be adjusted upward or downward to help position the belt away from your neck. Push on the anchorage cover to release the anchorage, and then move it up or down to the position that serves you best.

Child Restraint

Everyone in your vehicle needs to be buckled up all the time. Every state in the United States and all Canadian provinces require that small children ride in proper restraint systems. This is the law, and you can be prosecuted for ignoring it.

There are different sizes and types of restraints for children from newborn size to the child almost large enough for the adult seat belt. Use the restraint that is correct for your child:

- The restraint must be appropriate for your child's weight and height. Check the label on the restraint for this, too.
- Carefully follow the instructions that come with the restraint. If you install the restraint improperly it may not work when you need it.
- Buckle the child into the restraint exactly as the manufacturer's instructions tell you.

MAINTAIN YOUR RESTRAINT SYSTEM

Periodically examine your restraint equipment to be sure it functions correctly and to be sure there are no worn or broken components that either needs repair or replacement. Damaged parts must be replaced immediately. Do not disassemble or modify the system.

Restraint equipment must be replaced after an accident if they have been damaged. If there is any question regarding belt or retractor condition, replace the belt.

It is a good idea to have your restraint system inspected during each periodic scheduled maintenance session.

 **WARNING**

A frayed or torn belt could rip apart in a collision and leave you with no protection. Inspect the belt system periodically, checking for cuts, frays, or loose parts. Damaged parts must be replaced immediately. Do not disassemble or modify the system. Seat belt assemblies must be replaced after an accident if they have been damaged (bent retractor, torn webbing, etc.)

Safety Belt Maintenance

If the belts need cleaning, use a mild soap solution or lukewarm water. Do not remove the belts from the vehicle to wash them.

 **WARNING**

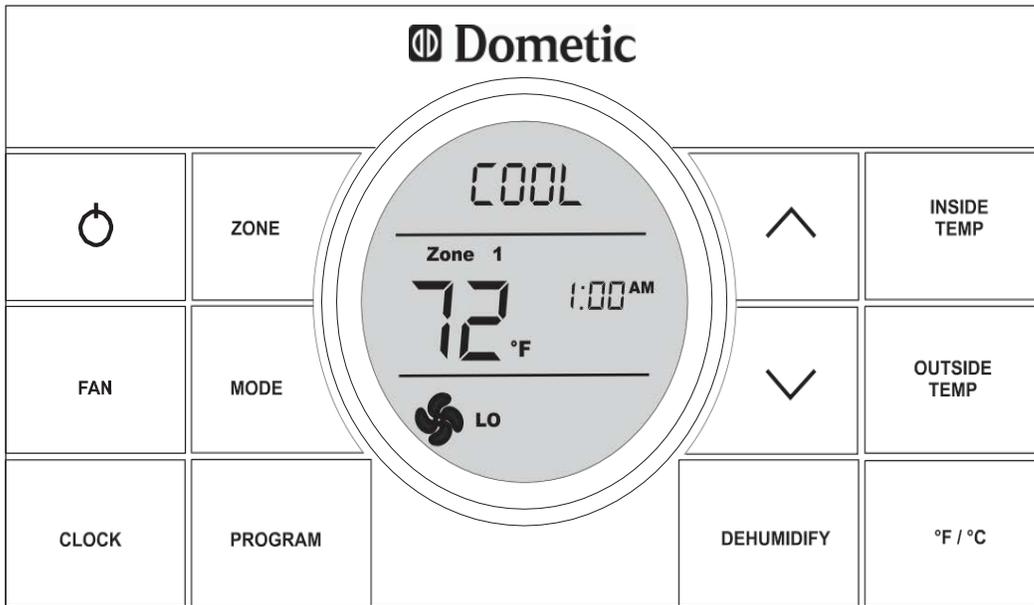
Do not bleach, dye or clean the belts with chemical solvents or abrasive cleaners. This may severely weaken the fabric. In a crash, they might not be able to provide adequate protection.

HVAC, APPLIANCES & ACCESSORIES

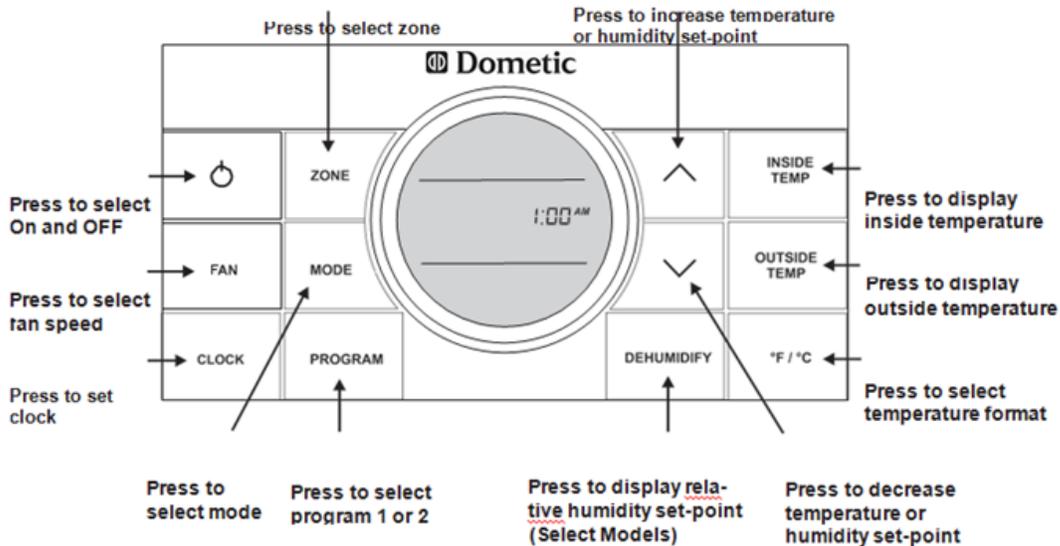
HEATING & AIR CONDITIONING

Air Conditioning

The following is a brief overview of the operation of the Dometic Comfort Control 2 Center. For additional information, please refer to the Dometic Comfort Control Center 2 Thermostat Operation Instructions included in the appliance information packet in your coach.

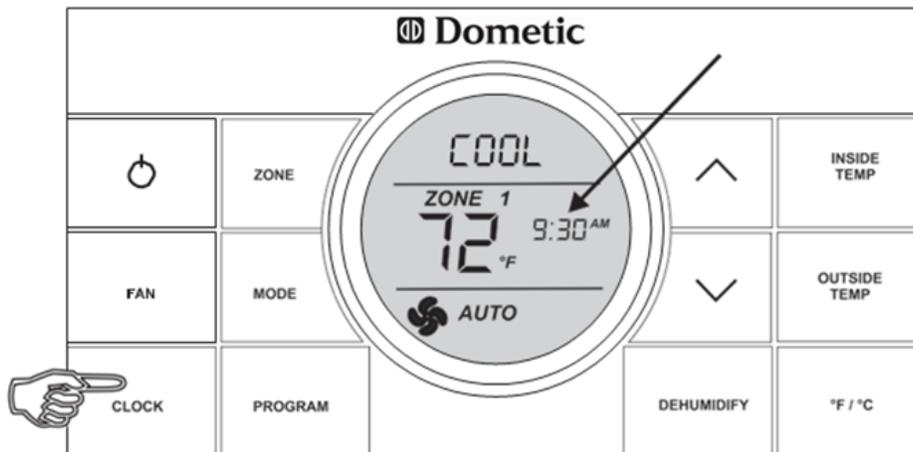


Quick reference to control buttons



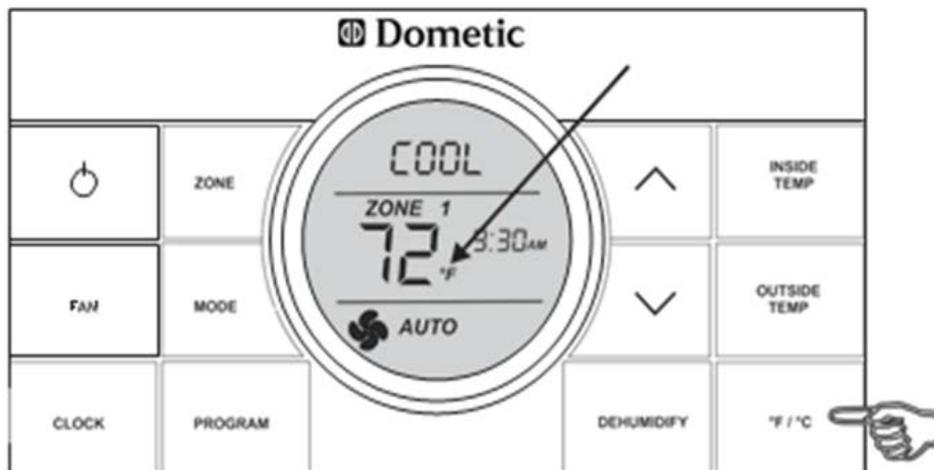
Clock Setting

Press the **CLOCK** button to initiate the clock setting sub-menu on the CCC 2 thermostat. When in this menu, the **hour** digits will flash first. The hour can be adjusted using the **^** or **v** buttons. Press the **CLOCK** button again and the **minute** digits will flash, allowing the minute setting to be adjusted using the **^** or **v** buttons. Press it a third time and the **AM** or **PM** icon will flash, allowing the AM or PM setting to be adjusted using the **^** or **v** buttons. Press it one more time to store the new time in memory and exit the clock setting sub-menu.



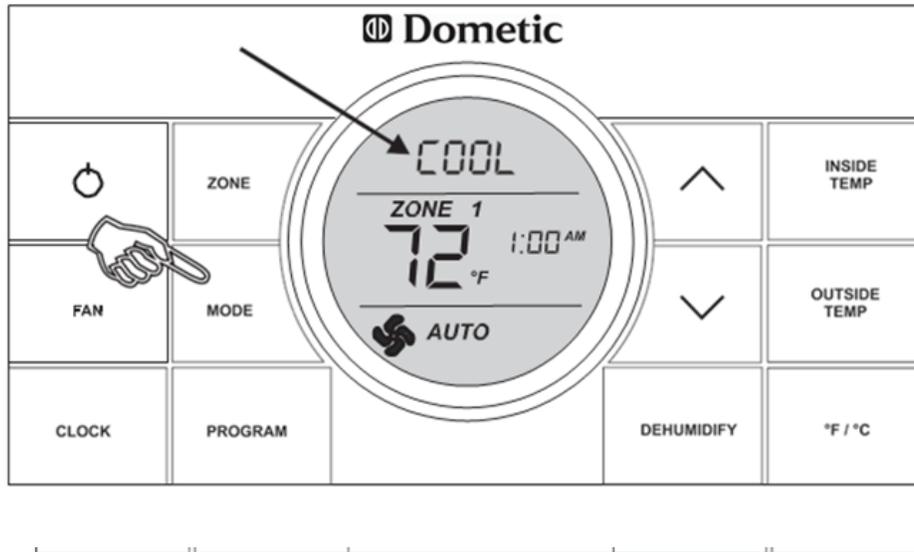
Temperature format °F / °C

Press the **°F / °C** button to switch between Fahrenheit and Centigrade format. **°F** indicates Fahrenheit and **°C** indicates Centigrade



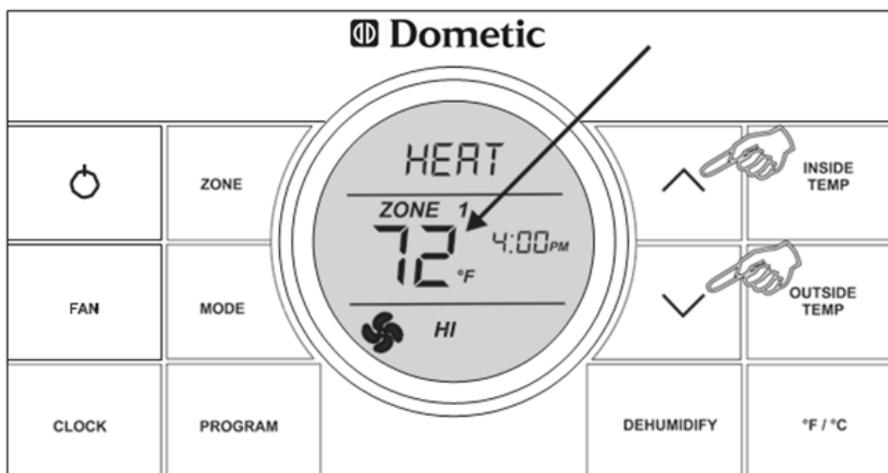
Mode Selection

Press the **MODE** button and the LCD will display the first available mode. Each successive press will advance to the next available mode. Continue to press the **MODE** button until the desired mode appears. Depending on the systems installed, your choices will be OFF, COOL, AUTO, HP, FURN or AQUA, HS, and FAN. See “**Mode Description**” on page 6-7 for more information on modes.



Temperature Set-Point

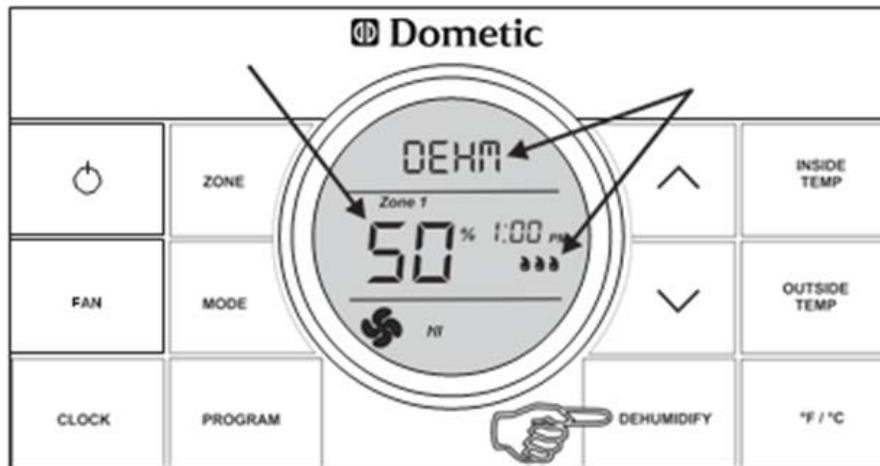
Press the \wedge or \vee button to change the temperature set-point. The temperature set-point is indicated by two digits on the LCD. Press \wedge to increase and \vee to decrease the temperature set point. The maximum set-point for the system is 90° F. The minimum set-point is determined by the active operating mode. For heating, the minimum is 40° F. and minimum for cooling is 55° F.



Dehumidify Setting (Select Models)

Note: To set the dehumidify set-point, the system will need to be in a mode other than OFF.

Press the **DEHUMIDIFY** button. The LCD will display the “dEHm” icon, the water droplet icon   , and the humidity set-point. The set-point can be adjusted in 5% increments from 35% to 70%. Press the  button to increase the set-point and the  button to decrease the set-point. To disable the dehumidify operation, press and hold the **DEHUMIDIFY** button for three (3) seconds. The water droplet icon will be turned off and returns to the previous settings.



FURNACE

WARNING

Never attempt to modify this furnace. Fire, explosion, asphyxiation, or carbon monoxide poisoning may occur. If the furnace malfunctions, consult a trained service technician.

WARNING

Portable fuel burning appliances are not safe for heating inside the recreational vehicle. Asphyxiation or carbon monoxide poisoning can occur.

Heating - Oasis

For your comfort, your new Mountain Aire may be equipped with the Oasis heating system. This system uses a “boiler” and a pump to heat and recirculate hot fluid through a series of convectors placed strategically throughout your unit. Fans located on the convectors provide circulation of the warmed air for more even, efficient heating.

The Oasis system uses two different sources for heat. The first, and most efficient, is the diesel burner. This uses diesel fuel from the motor homes fuel tank to burn and create heat. The second heat source is an electric heating element. It is important to note the difference in the two systems.

The output of the diesel burner is 50,000 BTU’s. This is the primary heat source for the Oasis system. The electric heating element has a 5000 BTU output, and should be used only to help maintain the temperature once the diesel

burner has brought the system up to proper operating heat levels. From a cold start, the 5000 watt electrical heating element will not operate the system alone.

For heating, your unit is divided into three “zones” on your Comfort Control thermostat. The “Furnace” mode will appear in all four zones, but only three are active. They are as follows:

Zone 1: Dash and Kitchen Convectors: These convectors are located under the dash and kitchen cabinets, and control heat in the dash, living room, and kitchen areas. Note that the dash mounted convector is the only one in your unit that has a two speed fan. The switch controlling the fan speed is located in the front overhead cabinet adjacent to the diesel boiler switch.

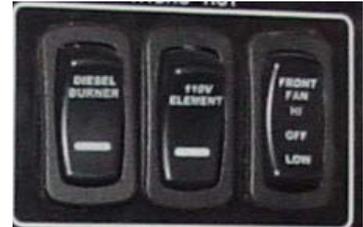
Zone 2: No Furnace Operation: There are no “Furnace” functions on this zone.

Zone 3: Bathroom Convectors: These convectors are located in the bathroom cabinetry and stool room. Please note that the fan switch for the stool room (marked “HEAT”) must be in the “ON” position to get heat in the stool room. It should also be noted that for Stool Room heat, a “rear” zone (bathroom or bedroom areas) must be chosen on the CCC thermostat.

Zone 4: Bedroom Convectors: These convectors are located throughout the cabinetry and walls of the rear bedroom area.

To activate the Oasis heating system, select your heat source, either diesel or electric, using the switches in the front overhead cabinet.

Once you have selected your heat source (diesel or electric), and the boiler is operational, Comfort Control Thermostat to select “Furnace” in the zones you want to heat. Remember, as described above, Zone 2 will display a “Furnace” function, but the thermostat controls no functions in Zone 2 when in the “Furnace” mode.



IMPORTANT

The Oasis “diesel burner” heat source provides approximately 50,000 BTU’s of heat, and is designed to start up and operate the system to its full capacity. The electrical heating element provides approximately 5000 BTU’s of heat.

The system will turn convector fans off and on according to the temperature settings in all but two locations. In those locations, the fan control is separate for independent operation. The first location is at the dash. The convector fan under the dash is operated by a switch in the front overhead compartment. It has settings for on, off, and speed selections.

The second convector fan that is controlled independently is in the “stool room” in the bathroom area. It is controlled by the wall switch labeled “Heat”, and allows the occupant to tailor the room temperature to their comfort separately from the rest of the bathroom.

Propane Tank

This unit is equipped with an ASME (American Society of Mechanical Engineers) approved propane tank. This tank is controlled with an automatic pressure regulator. The propane tank contains liquid petroleum gas under high pressure. As the fuel is used, the liquid gas vaporizes and passes through the tank valve to a regulator that automatically reduces the pressure. The low-pressure gas is then distributed to the appliances throughout the pipe manifold system. Improperly adjusted regulators are the major cause of appliance lighting problems. Never attempt to reset the regulator. This is to be done by a qualified service technician. While in high altitudes or extreme cold weather a gas shortage may be experienced. Running one appliance at a time can help adjust to this problem.

It is recommended to have the propane system inspected by an authorized service technician at least once a year and after every extended trip. This system is tested by both the manufacturer and the dealer. Leaks can be caused by travel vibrations; therefore routine inspections are recommended.

The primary gas supply manifold is a black steel pipe running the length of the unit. Most secondary lines leading to the gas appliances are made of copper tubing with flare fittings. If any of these lines rupture, do not attempt to splice them. Always have a new line run. Gas distribution work must be performed by an authorized service technician. When removing or servicing any gas appliance, close the main gas valve at the propane tank. This will prevent dangerous gas leakage that could result in an explosion and possible serious injury. If a gas leak is suspected, have the system inspected and repaired by a qualified service technician as soon as possible.

WARNING

The main gas valve must be shut when the vehicle is not in use. Shut the valve off when refueling to avoid potential danger from pilot lights igniting fuel fumes. Gas valves on appliances with direct spark ignition (DSI) should also be in the off position. Do not store propane, gasoline, diesel, or other flammable liquids inside the vehicle. Fire or an explosion could be the result of ignoring this warning.

Propane Tank Filling

Do not fill the tank to more than 80 percent capacity. The unit must be level when filling the tank. If unlevel, overfilling may occur. Fire or explosion may be the result of uncontrolled gas flow from an overfilled tank.

Propane Regulator

The regulator is the heart of the propane system. The regulator reduces the pressure of the gas so it is safe to use with various appliances. Regulators are equipped with a vent. In the event excess pressure builds up in the body of the regulator, a relief mechanism vents it to the atmosphere. It will vent until the pressure returns to the normal range. The vent must be kept clean and clear of obstructions or corrosion. A clogged vent could cause the failure of components. Contact a qualified propane technician if corrosion or obstruction is noticed.

The presence of moisture in propane fuel causes the regulators to freeze. The moisture will pass through the cylinder valve and into the regulator where freezing occurs. To help prevent the regulator from freezing, always keep the tank control valve closed when not in use, even when the tank is empty, to prevent moisture from collecting on the inside.

If moisture becomes a problem, consult an authorized propane service center for assistance.

The regulator must always be installed with the diaphragm vent facing downward. Please refer to Chapter 2 of this manual for further propane gas safety information.

Propane Leak Detector

WARNING

Never check gas lines for leaks with an open flame or by using ammoniated or chlorinated household type detergents. These detergents can cause cracks to form on the metal tubing and brass fittings. Take the unit to a qualified propane gas service technician to find and repair the leak. Keep the tank valve closed and all of the appliances turned off when the unit is stored. If any of the propane gas valves do not close leak-tight by hand, consult a service technician.

Liquid propane (propane) gas is heavier than air and will settle to the lowest point of the room, which is generally on the floor of your coach. Because of this, the propane detector installed in your coach is located near the floor.

The detector is also sensitive to other fumes, such as hair spray, which contain butane as the propellant. Butane, like propane, is heavier than air and will settle to the floor level where it may be detected. When this occurs, press the reset button to stop the alert sound for 60 seconds.

The detector is equipped with a “sensor activation strip.” This strip must be removed for the detector to operate properly. This should have been done during the dealer’s Pre-Delivery Inspection. Please check the detector to verify that the activation strip has been removed.

Please consult your propane detector User’s Guide for more detailed information.

MAJOR APPLIANCES

Refrigerator

Before starting the refrigerator, verify that the main propane gas valve is in the on position. The refrigerator is equipped with a semi-automatic energy selector (AES) control system. It can be set to select either 120 volt or propane gas operation, automatically, if desired.

WARNING

Most propane gas appliances used in recreational vehicles are vented to the outside of the vehicle. When parked close to a gasoline pump it is possible that the gasoline fumes could enter this type of appliance and ignite the burner flame causing a fire or explosion. Use caution when refueling.

A 12 volt power supply must be available for the electronic control panel to function. The shore line must be plugged in, or the optional generator running, to operate in the 120 volt mode. The main propane gas valve must be open for operation in the propane mode. To start the refrigerator, press the main power ON/OFF button to the ON position.

To use the 2-way Auto Mode, push the AUTO/GAS mode selector into the ON position. If 120 volt is available, the AC mode indicator light will be illuminated designating AC operation. If 120 volt is not available, the gas mode indicator light will be illuminated. The control system will automatically switch to gas operation. To operate on gas only, push the AUTO/GAS mode selector until the gas indicator light has lit. After 45 seconds the burner should be ignited and operating normally. The initial startup may take longer than 45 seconds in order to allow the air to be purged from the gas line.

If the gas does not ignite within 45 seconds, the check indicator light will illuminate and the gas mode light will go off. If the check indicator light illuminates and the gas mode indicator light is off, then the controls have failed to ignite the burner in the gas mode. When the check indicator light is on, press the main power ON/OFF button to the off position to reset. Do not continue to reset the gas operation if the check indicator light continues to illuminate after several tries.

The thermostat on the refrigerator controls the gas and electric operation. This eliminates the necessity of resetting the temperature each time a different energy source is used. Press the temperature selector button until the light at the desired setting is illuminated. After the initial startup, the thermostat should be moved from the coldest setting to the desired setting, which is usually mid-range.

An optional feature on the refrigerator may be the installation of the automatic icemaker in the freezer compartment. Depending on the floorplan of your unit, additional refrigerator options may include a four door

refrigerator, a 10 cubic foot refrigerator, or a side-by-side refrigerator. For detailed operating instructions, please consult the manufacturer Owner's Manual in the Owner's Information Package.

Microwave

A microwave is installed in your coach as part of the standard equipment package. In place of the standard microwave, a 30" convection microwave may be optioned. All microwaves operate on 120-volt electricity. The microwave's control panel is the touch pad type. Simply enter the temperature, mode, and cooking time desired. For instructions on how to operate any of the special features on the microwave oven, please refer to the microwave Owner's Manual in your Owner's Information Package.

Range Hood

A range hood may be incorporated into the microwave. The microwave's control panel operates the range hood functions. This range hood has both a fan and a light for your convenience. The fan has two speeds which are low and high. Simply select the desired setting from the microwave's control panel. For further detailed information on the hood operation, refer to the microwave Owner's Manual.

Range

Your unit is equipped with a three-burner recessed range with a glass oven door and piezzo ignition. There is no pilot light for the range. There are different models used in the Newmar product line with different types of controls. To light the burners on some models, turn the control knob to turn the gas on. Wait a couple of seconds, and then push the red spark button until a flame appears. On other models turn the spark control knob until a flame appears. All burner controls operate counter clockwise and have to be pushed inward in order to turn. On units with an oven, the oven control must also be pressed inward before turning. To light the oven, push in the oven control knob and rotate counter clockwise to the PILOT ON position. Light the oven pilot light located at the back left-hand side of the oven burner. The oven pilot may be slow in lighting due to initial air in the gas line. The oven pilot has been factory adjusted. No further adjustments are necessary. To extinguish the oven pilot, push in the oven control knob and turn clockwise to the "Off" position.

Your range may be equipped with a bi-fold range cover that matches your countertop material. This cover helps to protect the burners when they are not in use. Before cooking on the range top, the cover must be in the full upright and folded position, preventing the cover from falling on the range top during cooking. Never close the cover while the burners are in use and do not use the cover as a griddle. Never use the range while the RV is moving and remember to close the bi-fold cover when the range top is not in use.

For further instructions, please refer to the oven manufacturer Owner's Manual in your Owner's Information Package. The following warning label has been placed in the cooking area to remind the user to provide an adequate supply of fresh air for combustion:

WARNING

It is not safe to use cooking appliances for comfort heating. Cooking appliances need fresh air for safe operation.

Before operation:

1. Open overhead vent or turn on an exhaust fan.
2. Open a window.

Unlike homes, the amount of oxygen supply is limited due to the size of the recreational vehicle. Proper ventilation when using the cooking appliance(s) will avoid dangers of asphyxiation. It is especially important that cooking appliances not be used for comfort heating as the danger of asphyxiation is greater when the appliance is used for long periods of time.

The following label has been placed in the vehicle near the range area:

If You Smell Gas:

1. Extinguish any open flames, pilot lights, and all smoking materials.
2. Do not touch electrical switches.
3. Shut off the gas supply at the tank valve(s) or gas supply connection.
4. Open doors and other ventilating openings.
5. Leave the area until the odor clears.
6. Have the gas system checked and leakage source corrected before using again.

Television Antenna

A TV antenna is installed on your coach. If the reception is poor, you should verify that the power switch is in the “ON” position and that all of the connectors are tight. If poor reception still occurs, consult your authorized dealer.

To raise the antenna into the operating position, turn the elevating crank (clockwise) in the “UP” direction, about 13 turns, or until some resistance to turning is noticed. On the power booster, turn the switch to “ON” in order to amplify the signal being received. Once in the “UP” position, rotate the antenna to receive the best picture. This is done by pulling down on the directional handle with both hands until it disengages from the ceiling plate and then rotating it until reception has improved.

The antenna must be lowered before moving the vehicle. To lower, rotate the directional handle until the pointer is aligned with the pointer on the ceiling plate. Turn the elevating crank (counter-clockwise) in the “DOWN” direction, about 13 turns, or until some resistance to turning is noticed. The antenna is now locked and in the travel position. Your unit may be equipped with one exterior antenna jack and two interior antenna jacks.

CAUTION

Under no circumstances should you lower the antenna in any position except the travel position.

RAISING ANTENNA TO OPERATING POSITION



ROTATING ANTENNA FOR BEST PICTURE



LOWERING ANTENNA TO TRAVEL POSITION



Television

The coach is cable ready, and (depending on floorplan) as standard equipment may have a flat panel color television in the living area and in the bedroom. The televisions are powered by 120 volt electricity. Your coach must be plugged into shore power, have the generator running, or have the inverter operating in order for the television to work. For more information on this, see Chapter 4 of this manual. The television operation is similar to most televisions used in the home. The main unit has the basic ON/OFF, Volume UP and DOWN, Channel UP and DOWN, and Menu UP and DOWN. The remote control has these in addition to many other function keys. Your unit may also be pre-wired for a satellite system. Your unit may be equipped with one interior television jack and an exterior television jack located on the door-side of the coach. Please consult your television owner’s manual for further information. As an option, an external entertainment center that includes a flat screen television and an AM/FM compact disc player and radio may be added. All TV source selection is achieved through the TV’s input selection mode. Please refer to the Television’s Owner’s Guide for additional information. The

Living area DVD and Satellite, if equipped, provides input to the front TV(s) and Exterior Entertainment TV, if installed. The Bedroom area DVD and Satellite receiver, if equipped, provides input into the Bedroom area TV.

IMPORTANT

TV's in the front overhead cabinet will not operate when in transit. Federal regulations require these TV's be inoperative while the vehicle is in use, so the power supply to this TV is switched off automatically when ignition is on.

To enhance the entertainment experience in your unit, a DVD and Surround Sound Stereo Receiver system may be installed. This system allows you to enjoy music, TV, or videos from DVD through a matching set of speakers, complete with a subwoofer for deep, full bass sound. This system has its own remote, and detailed operating instructions can be found in the manufacturer's literature that was provided with your unit.

Cable & Telephone Jack

An exterior cable jack and receptacle may be features on this coach. If installed, these may be located in an outside storage compartment. Another feature on this coach is the telephone hook up. This would allow the user to connect the coach to a telephone cable, if the park is so equipped. This feature includes the connector for the incoming telephone line and two telephone jacks inside the coach. As an option, an extra interior telephone jack may be added.

Exterior Entertainment Center (optional)

Your unit may be equipped with an optional Exterior Entertainment Center, located in a basement compartment on the passenger side, just forward of the rear wheels. This Entertainment Center has a flat panel television mounted on a pivoting "swing arm" that allows you to rotate the TV for optimum viewing.

Simply grasp the TV and pull it toward you to release it. Return it securely to the stored position prior to closing the compartment door and traveling. Programming is provided to this television through the "TV3" button on the Video Control Center.

The Exterior Entertainment Center also incorporates a stereo system that allows you to enjoy music, or TV sound through the exterior speakers.

IMPORTANT

It is important to make sure the TV is securely locked into position prior to closing the compartment door. Failure to do so can result in damage to the TV case and screen.

Stereo

Your Mountain Aire is equipped with an AM/FM dash stereo radio with CD player and auxiliary input jack for MP3 players. For complete operating details, please refer to the manufacturer's literature that is provided in the literature bag for your unit.

Water Heater

WARNING

Do not light the water heater until it is filled with water. There is a switch on the exterior of the water heater labeled "Electric." This switch must be in the "ON" position for the water heater to work in the electric mode.

Before lighting the water heater, fill the fresh water system. Purge any air from the water heater by opening all hot water faucets until water flows steadily from each one. The water heater installed in this coach may be a ten gallon gas/electric model with direct spark ignition. Optional is the ten gallon model with a direct spark ignition and engine assist feature. The water heater operates on both propane gas and 120 volt electricity.

It is important to read all of the safety information provided in the water heater manufacturer's Operation Manual in the Owner's Information Package. The following instructions are for the standard water heater with direct spark ignition (DSI). This appliance does not have a pilot light. It is equipped with an ignition device that automatically lights the burner. Do not try to light the burner by hand. Before lighting, smell around the appliance area for gas.

Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor. Consult the Operation Manual for further instructions if a gas leak is noticed. The gas valve is fully automatic, no adjustments are necessary. Read the safety information provided in the Operation Manual before lighting the appliance. Turn off all of the electrical power to the water heater. Turn the gas supply to the "OFF" position. Wait five minutes for the gas to clear the area. If you smell gas, STOP! Follow the safety instructions in the Operations Manual. If gas odor is not noticed, then turn the gas supply to the "ON" position. Turn on the electrical supply to the water heater. Inside the coach there is a switch marked "WATER HEATER". Turn the switch to the "ON" position. There will be a 15 second purge before the unit will spark. If the burner does not light on the first try, there will automatically be 2 more tries for ignition before it will lock out. Each ignition cycle will have a 15 second purge. If lock out occurs before the main burner lights, turn the switch to "OFF", wait five seconds, and turn the switch to "ON" again. This will re-start the ignition cycle. The initial start-up of the water heater may require several ignition cycles before all of the air is purged from the gas lines.

 **WARNING**

Do not store any combustible materials or liquids near or adjacent to the water heater.

Water Heater Storage

When storing your coach for the winter months, the water heater must be drained to prevent damage from freezing. The first step is to turn off all electrical power and propane gas going to the water heater. The water pump must also be turned off. Open both the hot and cold water faucets to drain the lines. After cooling, open the drain on the water heater. Drain the entire water system. When preparing the coach for use after it has been stored, make certain the water system, including the water heater, has been filled before re-lighting the water heater. Failure to fill the water heater before lighting may damage the water heater and void the warranty.

Pressure Relief Valve

The temperature and pressure relief valve is located on the exterior of the water heater. It is designed to open if the temperature of the water within the heater reaches 210° F, or if the water pressure in the heater reaches 150 pounds. Recreational vehicle water systems are closed systems, and during the water heating cycle the pressure build-up in the water system may reach 150 pounds. When this pressure is reached, the pressure relief valve will open and water will drip from the valve. This dripping will continue until the pressure is reduced to below 150 pounds, and the valve closes. This condition is normal and does not indicate a defective relief valve.

 **WARNING**

Do not plug the relief valve under any circumstances.

CB Radio/antenna (Optional)

This radio can be used to communicate with other travelers on the road. The model installed is a remote type. The hand-held microphone/speaker contains the power, volume, and channel controls. Simply turn on using the power/volume control. Then select the channel you wish to monitor. Press the “Push-to-Talk-Switch” to transmit and release to receive. For more information regarding the operation of this CB radio, please consult the radio manufacturer’s Owner’s Manual.

Rear View Monitor System

Installed as a standard feature, the rear view monitor system assists the driver in the backing and parking of the vehicle. This system consists of a camera mounted on the rear cap and a monitor located on the dash. With the MODE switch in the “MANU” position, the monitor will be on when the ignition is turned on. With the MODE Switch in the “AUTO” position, the monitor will display the picture from the camera when the vehicle transmission is placed in reverse (R). For detailed instructions on this and all procedures regarding the monitor system, refer to the monitor Operating Instructions in the Owner’s Information Package supplied with this coach.



Air Horns

Air horns have been installed on this coach as a standard feature. These air horns are in addition to the horn installed on the chassis. A switch located on the dash allows you to choose either the chassis horn or the air horn. To operate either horn, press the center of the steering wheel.

Freezer (if equipped)

The installation of a 100 pound freezer in an exterior storage compartment is an optional feature on this coach. This freezer operates on 12 volt and 120 volt electrical power. The freezer is on slides to move easily in for storage while traveling or out for pre-travel packing or campsite unloading. For detailed instructions on the operation and maintenance of this freezer, please consult the freezer manufacturer’s Owner’s Manual in the Owner’s Information Package provided with this coach.

Icemaker (if equipped)

Depending on the floorplan of your unit, an icemaker may be an option. The icemaker operates on 120 volt electricity. For detailed information, consult the icemaker manufacturer’s Owner’s Manual in the Owner’s Information Package provided with your new coach.

Washer/Dryer (if equipped)

The plumbing and other preparations for the installation of a compact one-piece washer and dryer are standard features on this coach. To have the washer and dryer factory installed is an option. The washers and dryers used by Newmar function as those in a home, operating on 120 volt electricity. For more detailed information on the operating instructions, read the appliance Owner’s Manual in the Owner’s Information Package.

CAUTION

The gray tank valve must be in the “open” position when operating the washing machine.

Carbon Monoxide Detector

Carbon monoxide is a colorless, tasteless, odorless gas. It is a by-product of the burning of fossil fuels (gasoline, propane gas, diesel fuel, etc.). The chassis and generator engines, furnaces, water heater, propane gas refrigerator, and range produce carbon monoxide constantly while they are operating. **Carbon monoxide is DEADLY.** Please

read and understand the following precautions to protect yourself and others from the effects of carbon monoxide poisoning.

 **WARNING**

Exhaust gases are deadly. Do not block the tailpipes or exhaust ports. Do not situate the vehicle in a place where the exhaust gases have any possibility of accumulating either outside, underneath, or inside your vehicle or any nearby vehicles. Outside air movements can carry exhaust gases inside the vehicle through windows or other openings remote from the exhaust outlet. Operate engines, carbon monoxide-producing systems, or components only when safe dispersion of exhaust gases can be assured. Monitor outside conditions to be sure that exhaust continues to be dispersed safely.

If you, or anyone else, experience any carbon monoxide symptoms (dizziness, nausea, vomiting, muscular twitching, throbbing in the temples, inability to think coherently, weakness and sleepiness, or intense headaches) exit the coach immediately. Seek medical attention if symptoms persist. Shut down the unit and do not operate it until it has been thoroughly inspected and repaired.

 **WARNING**

UNDER NO CIRCUMSTANCE SHOULD YOU OPERATE ANY ENGINE WHILE SLEEPING. When you are sleeping you will not be able to monitor outside conditions to assure that engine exhaust does not enter into the coach. Check the exhaust system frequently for damage. If damage is found, do not operate the system. Never modify the exhaust system(s) in any way.

The detector is equipped with a “sensor activation strip.” This strip must be removed for the detector to operate properly. This should have been done during the dealer’s Pre-Delivery Inspection. Please check the detector to verify that the activation strip has been removed. Please consult your carbon monoxide detector User’s Guide for more detailed information.

Chapter 4

CABINETS, FURNITURE & INTERIOR FEATURES

CABINETS

The cabinetry in your RV is constructed on-site at the Newmar Production Facility. Hardwood raised panel doors are standard throughout the unit. The standard cabinets in your unit are finished in vinyl veneer. Your unit may be equipped with the optional hardwood cabinetry in a variety of finishes. Your cabinetry was designed with function and convenience in mind, and was built to exacting standards by modern craftsmen.

Storage is an important factor to all RV owners. Keeping this in mind, the cabinetry is structured to provide as much storage as possible. Your unit may include features such as adjustable pull out pantry boxes in the kitchen. In the bedroom, the bed platform lifts to provide an additional, convenient storage area. Once the bed platform is lifted, it is held open by pressurized struts to allow hands-free access.

A countertop with a color coordinated edge is installed in the kitchen. To clean, wipe with a damp cloth and for “dried on” spots or rings, wipe with a damp cloth and a mild liquid soap. Strong chemicals and solvents may damage the surface and should be wiped up immediately, then rinse the surface with water.

Avoid cutting directly on the countertop surface, avoid excessive heat, and keep harmful chemicals away to avoid countertop surface damage.

Metal drawer guides are installed on the drawers in your unit. These guides provide a smooth opening and closing of the drawers. To open a drawer, lift up slightly and pull open. The way this mechanism works will prevent the drawers from unintended opening while traveling.

All of the cabinetry can be easily cleaned with any commercial furniture cleaner or polish. As with any wood product, do not saturate these cabinets with water or any other liquid. Be sure to wipe up spills as they occur to avoid staining.

FURNITURE

Living Room/Kitchen Area

A standard feature in the kitchen area is the built in booth dinette with drawers under the seating areas. The dinette provides added storage under the seat area of the booth, along with an extra sleeping area. The sleeping area is made by lowering the table top and arranging the cushions.

In the living room you will find a sofa. Depending on the floorplan of your unit and the other furniture in your living area, a Hide-A-Bed or a Magic Bed sofa are optional. If you have any questions, contact the sofa manufacturer.

In the living room, you may also find a swivel/rocker recliner. Many other furniture options are available such as a free standing leather/vinyl recliner, a leather/vinyl push back recliner with an ottoman, a leather/vinyl swivel rocker recliner, a leather/vinyl L-lounge, or a folding coffee table.

In this unit, the front seats feature a six-way powered base that will move the chairs forward and backward, as well as up, down, forward and reverse tilt. The seats also have a three-point seat belt and swivel and recline features. When the unit is not in motion, they can be swiveled to face the living room of the unit. To turn the chairs, first extend the slide out room.

Then move the chairs backwards all of the way to provide enough clearance for the steering wheel. Once this is done, the chairs will swivel without interference. The control switch is located on the left-hand side in front of the power base controls. Pushing the switch forward will inflate the support while pushing back will deflate it. An oversized passenger seat equipped with a power footrest may be optioned in.

Bedroom Area

A decor coordinating quilted bedspread with a reverse sham and an accent pillow may be included as part of this unit's standard bedroom package. For best results, it is recommended that the bedspread be **DRY CLEANED ONLY**. As an option, a pillow top mattress or a king size mattress may be installed in lieu of the standard mattress, depending on the floorplan of your coach.

INTERIOR FEATURES

Flooring

The floor covering throughout the living room and bedroom of the unit is nylon tufted cut loop carpeting. In the Owner's Information Package you will find literature supplied by the carpet manufacturer. This information will be helpful in maintaining and extending the life of the carpet. Please refer to this information for the carpet or hard surface flooring care and cleaning instructions. Simple vacuuming is all that is necessary to remove loose dirt and debris for everyday cleaning. Abrasive cleansers and scouring pads can scratch and damage the surface.

Ceiling

The ceiling in this unit is covered with a padded vinyl ceiling headliner. The recommended cleaning instructions are to use a soft cloth and a mild detergent.

Window Treatment

The window treatments, except in the kitchen, are pleated day/night window shades and lambrequins. These shades have two sections.

The first section visible is the "DAY" section. This translucent material allows Sunlight to pass easily into the unit while still offering a degree of privacy.

The second visible section is the "NIGHT" section. This more opaque material allows little to no light to pass through it. This section is generally used in the evening or when more privacy is desired, though under certain light conditions, it can cast shadows and silhouettes.

Curtains installed in this unit are **DRY-CLEAN ONLY**. Water-based products are not recommended for cleaning fabrics, as they may cause excessive shrinkage or fading.

The kitchen window is equipped with a mini-blind.

ELECTRICAL FEATURES

ELECTRICAL SYSTEMS

General Information

There are two electrical systems in your coach. They are the 12 volt DC system and the 120 volt AC system. Most standard appliances require 120 volt electricity while the majority of the lighting used in recreation vehicles is powered by 12 volt electricity. The power for the 12 volt system is supplied by the coach batteries, which are charged by the inverter. The power for the 120 volt systems is supplied by the power cord when the unit is connected to an outside power source or by the generator. The inverter can also supply 120 volt power. It will transform 12 volt electricity from the batteries into 120 volt power for basic appliances.



CAUTION

Failure to turn off the 120 volt appliances when starting or stopping the generator may damage the transfer switch and/or electrical appliances.



WARNING

Use of “Adapter” cords with the RV shore power cord.

All Newmar units are manufactured with either a 30 or 50 amp electrical breaker box and electrical system. A unit with a shore power cord that has 3 prongs on it has 30 amp service; if the shore power cord has 4 prongs, it has 50 amp service. To provide the correct amperage into the RV and to assure the operation is as designed, it is important that they be plugged into the correct type of properly grounded receptacle. The receptacle **MUST** be properly grounded to insure safe, proper operation of all electrical components.

NEWMAR CORPORATION DOES NOT RECOMMEND USE OF “ADAPTER”, “CHEATER”, OR “DOG BONE” STYLE CONNECTORS THAT WILL MODIFY THE EXISTING SHORE POWER CORD TO A DIFFERENT STYLE OF OUTLET. USE OF THIS TYPE OF ADAPTER WILL GREATLY REDUCE THE AMOUNT OF AVAILABLE CURRENT IN THE UNIT, AS WELL AS CREATE THE POTENTIAL FOR ELECTRICAL FAILURE AND/OR FIRE. NEWMAR CANNOT ASSUME LIABILITY FOR FAILURES OCCURRING TO THE RV, ITS ELECTRICAL SYSTEM, OR ANY OF ITS COMPONENTS FROM THE USE OF ANY ELECTRICAL ADAPTER.

To connect the unit to 120 volt shore power, make sure all of the breakers are in the off position, in order to avoid a power surge. Unwind the power cord from the electrical compartment. The standard electrical service in this unit is 50 amps with a flexible cord. Check to make sure the pins in the outlet are oriented correctly, that they match the power cable, and that they are in good condition. If there is a circuit breaker switch at the plug, it should be turned OFF before making the connection. Insert the plug completely into the outlet and turn the circuit breaker on. Close and lock the electrical compartment door to keep the contents clean, dry, and secure.

Close the cover on the power box, if equipped, to avoid an unintended disconnection and to keep contents clean. Switch the main breaker to the ON position. The 120 volt system will energize all 120 volt circuits and outlets when the main breaker is turned on.

Breaker Boxes

The 120 volt and 12 volt breaker boxes are generally located in the overhead cabinet on the rear bedroom wall. Circuit breakers and fuses are installed to protect the electrical system from overloading. Do not attempt to change the circuitry or add appliances yourself. Please consult an authorized Newmar Service Center.

Batteries

The chassis batteries on your motorhome are installed and warranted by the chassis manufacturer. The house batteries on your motorhome are installed by Newmar Corporation, but warranted by the battery manufacturer. These batteries are used to operate the 12 volt items that are not a direct part of the chassis. They are located on a pull out tray in an outside compartment.

CAUTION

Do not use the motorhome with the coach batteries disconnected.

The coach and chassis batteries are recharged by the vehicle's electrical system whenever the engine is running. A decline in the coach battery voltage may be noticed while the chassis batteries are being charged. The inverter/converter will automatically charge the coach batteries when the unit is connected to a 120 volt outside power source. The chassis batteries are isolated from the coach batteries. This prevents the chassis batteries from being drained by the interior 12 volt equipment, allowing ample voltage for engine ignition.

Battery Boost Switch

The battery boost switch is located on the dash. This switch briefly connects the coach batteries to the chassis batteries. This allows the chassis batteries to borrow power from the coach batteries to assist in starting the engine. If the chassis batteries cannot turn the engine over in the normal mode, hold down the battery boost switch and attempt ignition. By using the battery boost switch while trying to start the chassis engine, a jump start situation is created between the coach and chassis batteries. If the battery boost switch is required to start the engine on a regular basis, ask your dealer to check the chassis batteries and charging system.

Battery Inspection & Care

WARNING

Remove rings, metal watch bands, and other metal jewelry before working around batteries. Use caution when using metal tools. If a tool contacts a battery terminal or metal connected to it, a short circuit could occur which could cause personal injury, explosion or fire.

CAUTION

Disconnect the 120 volt electrical power cord and the negative terminal from the coach batteries before working on the electrical system.

Remember that when batteries are not used for an extended period of time, they may lose their charge. Periodic charging of the batteries during storage of the unit will increase the life of the battery. Check the external condition of the battery periodically. Look for cracks in the cover and case. Check the vent plugs and replace them if they are cracked or broken. Keep the battery clean. Accumulations of acid film and dirt may permit current flow between the terminals, which could drain the battery.

To clean, wash the batteries with a diluted solution of baking soda and water to neutralize any acid present. Rinse thoroughly with clean water. Foaming around the terminals or on top of the battery is a sign that acid is being neutralized. Avoid getting the baking soda solution in the battery. Secure all vent caps. Dry the battery cables and terminals to prevent corrosion. Do not use grease on the bare metal inside the cable terminals. Grease can act as an insulator, and electricity will not flow through it. A plastic ignition spray will protect the terminals after they have been cleaned.

WARNING

Do not allow the battery fluid to contact your skin, eyes, fabric, or painted surfaces. The fluid could cause serious personal injury or property damage. Wear eye protection when working with any battery.

The batteries should be removed and stored in a warm place when not using your motorhome for an extended period of time. Mark the cables, positive and negative, for easy identification. Batteries are not to be stored on concrete floors. The batteries require periodic charging during storage. If the motorhome is to be stored for a long period of time, it is recommended that all of the batteries inside the unit be removed from clocks, radios, smoke alarms, etc. This will prevent unnecessary drain and corrosion of the batteries. The coach batteries are 6 volt RV/Marine deep cycle batteries. This type of battery consumes water and must be filled periodically. Please be sure to check the battery water level on a regular basis. Consult the Owner's Manual supplied by the battery manufacturer. This can be found in the Owner's Information Package received with this unit.

Battery Disconnect Panel

The battery disconnect panel for house batteries is located above or near the entrance door. There are two switches on the panel. The top switch is used to measure the battery voltage. The lower switch is used to disconnect the battery when the unit is stored for any period of time. Pressing downward disconnects the coach batteries, not the chassis batteries. This is done to prevent the coach batteries from being drained during storage. It disconnects all of the 12 volt circuitry from the batteries, with the exception of the LP detector. When taking the unit out of storage, press upward to re-connect the batteries. This will make the 12 volt system ready for use.

Depending on the chassis of the coach, diesel pusher motorhomes may be equipped with a second disconnect switch strictly for the chassis batteries. If equipped, this "Master Kill Switch" may be located in the rear engine compartment. This switch disconnects all power to the coach so that it cannot be started. It is used to prevent accidental ignition when the engine is being serviced.

12 Volt Receptacles

Your unit may be equipped with two 12 volt receptacles conveniently located in the dash area. These 12 volt receptacles can be used for items such as cellular phones or personal computers. As an option, an extra 12 volt interior receptacle may be added to your coach.

120 Volt Receptacles

For your convenience, there are 120 volt receptacles located throughout the interior of the unit. As an option, an extra receptacle may be added. These receptacles require three-pin plugs that provide proper grounding to protect you from electrical shock.

Do not use an adapter, cheater, or extension cord that breaks the continuity of the ground circuit to the ground pin. Never remove the ground pin from a plug in order to connect it to a two-pronged ungrounded outlet.

Never operate the camping vehicle with an electrical short. An electrical short may cause the exterior of the unit to shock you when touched. If you feel even the slightest shock, disconnect the unit from the 120 volt power source. It is usually a break in the grounding circuit. The grounding circuit must be continuous from the frame to the distribution panel, to the power cord, and to the earth ground.

Ground Fault Circuit Interrupt Receptacles

The 120 volt electrical outlets in the kitchen and bath area are ground fault circuit interrupt (GFCI) protected receptacles. The electrical outlets located in the slide out are wired through the kitchen GFCI. The exterior electrical outlets are wired through the bathroom GFCI. If an item plugged into a slide out or outside receptacle is not working, check for a tripped GFCI in the kitchen or bathroom. These outlets protect the user from ground faults between a hot wire and ground. The GFCI will not reduce the shock hazard if the short is between a neutral and hot wire, or two hot load wires.

The GFCI should be tested at least once a month. The 120 volt electrical system must be on in order to test the GFCI. The reset button needs to be pushed in all of the way before starting the test. Push the test button. This will cause the reset button to pop out which means that the protected circuits have been disconnected. Push the reset button back in until a click is heard. This will reactivate the protected circuit. If the GFCI is working properly the reset button will remain in the “IN” position.

ICC Flasher

On the dash you may have a switch labeled “ICC Flasher.” This switch is a momentary type of switch. This means it is only active while the switch is being pressed. It enables the driver to communicate with other traffic by flashing the clearance and side lights of the coach. If the lights are on, it will turn them off. If the lights are off, it will turn them on.

Inverter/Converter

When 120 volt power is not available, either from the power cord or the generator, the inverter/converter may be used, if installed. The control panel for the inverter is located above or near the entrance door. Once turned on, the inverter transforms 12 volt power to 120 volt power for the operation of lights, appliances, televisions, etc. The 120 volt power that is generated from the inverter is routed to the electrical sub-panel located next to the main breaker box in cabinet above the bed.

The breakers in the sub-panel are labeled to explain where the 120 volt power is routed. It generally supplies power to the microwave, kitchen, bath, and selected receptacles. The inverter is equipped with an automatic transfer switch. This allows automatic switching from inverter to converter. When you are connected to an outside power source or running the generator, the converter (in the inverter) will automatically switch on to charge the 12 volt batteries. For more detailed information consult the manufacturer Owner’s Manual located in the Owner’s Information Package.

Generator

The generator is located in a compartment in front of the motorhome. It is mounted on slides for easy access. The slides for the generator must be unlocked before free movement is allowed. Prior to starting or stopping the generator, make sure all of the 120 volt appliances are turned off. After the generator has started, wait until the transfer switch has connected before turning on any of the appliances. The generator can be started from either the remote start switch located on the dash or directly at the generator itself. The hour meter installed on the generator calculates the number of running hours of the generator motor. This is used for maintenance schedules.

If your coach contains an Energy Management System, 8kw generator, and three roof air conditioners, the combined load may exceed the capabilities of the generator. Please remember to turn off one of the air conditioners as the 8kw generator is not intended to run all three roof air conditioners at the same time.

 **CAUTION**

Failure to turn off the 120 volt appliances when starting or stopping the generator may damage the transfer switch and/or electrical appliances.

Consult the manufacturer Owner’s Manual for detailed operating instructions.

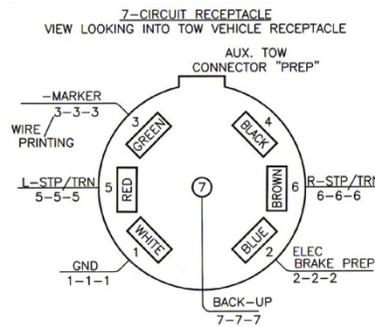
Automatic Transfer Switch

Your unit is equipped with an automatic transfer switch. When the generator is turned on, this switch automatically transfers from shore power to generator power. There will be a slight delay between the start of the generator and the electrical connection. This delay allows the generator to reach normal operating speed without needing to supply a required load. When the unit is plugged into the outside power source, a click will be heard in the transfer switch box. The sound is normal and indicates that the unit is changing over to the outside power source.

Wiring Connector

Standard on your motorhome is a Class Five, 10,000 pound car towing hitch. This allows the consumer the capability of towing their passenger car while traveling. Also installed with the hitch is the wiring pigtail to connect tail lights, brake lights, turn lights, etc. of the towed vehicle with that of the motorhome. The pigtail used is the standard seven-pin connector. The color scheme for the pigtail is as follows:

- Stop & Left Turn Signal..... Red
 - Ground..... White
 - Stop & Right Turn Signal...Brown
 - Clearance & Tail Lights.....Green
 - Aux. Tow Connector Prep...Black
 - Back-up Lights.....Yellow
 - Brakes.....Blue
- This view is looking into the tow vehicle receptacle



EXTERIOR FEATURES

EXTERIOR FEATURES

Exterior Sides

The sides of this unit are constructed of gel-coated fiberglass. To add to this feature, the end caps are also gel-coated fiberglass. Clean the fiberglass material with a mild cleanser and warm water. Use only soft cloths. Using stiff bristle brushes may cause scratches in the fiberglass surface. Please note: Newmar is not responsible for weathering/oxidation of gel-coated surfaces.

Lighted storage compartments are located on the exterior sides of your unit. These compartments provide additional space for your belongings while you are traveling.

Security Lights

These lights help to light the side of the unit for added protection.

Head Lamps

Your new RV is equipped with headlamps that are not sealed. This design features a replaceable bulb assembly and a vent system. As these headlamps are not sealed, they may exhibit, due to condensation, a fine mist or white fog to small droplets of water on the inside of the lamp lens.

Condensation occurs when the air inside the lamp assembly, through atmospheric changes reaches the ‘dew point’. When this takes place, the moisture in the air within the lamp assembly condenses, creating a fine mist or white fog on the inside surface of the lamp lens or chrome reflector surfaces.

Most headlamps are designed to remove accumulated moisture by expelling it through a vent system. The vent system operates at all times; however, it is most effective when the lamps are “ON” and the vehicle is in motion.

Roof

This unit is manufactured with a 7mm decking material. Proper care and routine maintenance of your roof is necessary for trouble-free performance. See chapter 14 for cleaning instructions. A ladder is installed on your coach to assist you in gaining access to the roof for the sole purpose of routine inspections and maintenance.

Leveling Jacks

WARNING

It is recommended that the leveling and stabilizing procedure is completed before operating any room extension. Note: The slide out can be operated without utilizing the leveling system, but the unit must be as level as possible.

This unit is equipped with leveling jacks. The jacks work in pairs: front, right side, left side, and rear. Before extending, the engine must be off, the ignition switch must be in the “ACC” position, and the transmission must be in park. The parking brake needs to be set and the tires blocked securely.

IMPORTANT

If the hand/auto park brake is not set, the “NOT IN PARK/BRAKE” light will come on when the “ON” button is pushed. The panel will turn on, but the system will not operate.

“Hydraulic” Leveling

The hydraulic portion of the leveling system uses four hydraulic jacks to level the unit. Because the weight of the unit is on the jacks, and they are in physical contact with the ground, the unit is much more stable and does not shake or move when walking inside it. Additionally, the hydraulic system has a greater range of leveling, allowing it to provide greater leveling capability should you encounter camp sites with substantial slope.

1. Make sure the motorhome is securely parked, and the set the parking brake.
2. With the ignition key in the “ACC” position, press the “LEVEL” button. The light will come on and glow.
3. Once you are certain the leveling area beneath the unit is clear of obstructions, press the “LEVEL” button a second time to begin the automatic hydraulic leveling process. The light will begin flashing and the leveling cycle will begin. The system will dump the air out of the air bags and deploy the jacks to level the unit.
4. To retract the jacks, start the engine and press the “STORE” button. Allow the system to completely raise the jacks and turn itself off.

CAUTION

Do not lift the wheels off the ground when leveling. The unit can roll forward or backward when tires are lifted off the ground. If the “Excess Slope” light is on, the system is sensing that the site is too sloped to allow the leveling jacks to bring the unit to a comfortable state of level. Great care must be taken when trying to level in a sloped site to make sure a tire (or tires) is not lifted off the ground. Also, the leveling jacks and support system should be cycled once a month or whenever the vehicle is used to keep the system in operating condition.

IMPORTANT

It is important to allow the HWH leveling system to run the complete cycle and turn itself off when operating in the “store” mode. The system will completely retract the jacks and turn itself off. If the system is turned off prior to the automatic shut off, there is the potential that the jacks have not fully retracted. Also, be sure to visually inspect the jacks prior to departure to insure that they have fully retracted and the underside of your unit is ready for travel.

IMPORTANT

The leveling system should be cycled once a month or whenever the vehicle is used to keep it in operating condition.

To retract the jacks, turn the ignition switch “ON” but do NOT start the engine. Press the “ON” button on the control panel one time. The “ON” indicator light will glow steady. Press the “STORE” button. As each jack retracts, its red “WARNING” light will go out. The vehicle can be moved as soon as the red “WARNING” lights are out, provided the jacks are in the STORE/TRAVEL position. The system will automatically shut down approximately two minutes after the four individual red “WARNING” lights are out. Refer to the HWH Owner’s Manual for more instructions. The engine can be started once the jacks have fully retracted.

WARNING

NEVER attempt to move the unit with the leveling jacks deployed. Always visually inspect the jacks prior to moving to insure they have fully retracted and are in the stored position, and the system is “OFF”.

CAUTION

Do not lift wheels off the ground when leveling. The unit can roll forward or backward when supported only by the jacks.

IMPORTANT

If the hand/auto park brake is not set, the “NOT IN PARK/BRAKE” light will come on when the “ON” button is pushed. The panel will turn on, but the system will not operate.

Electric Steps

This unit is equipped with electric entrance door steps. The switch to operate these steps may be located in an overhead cabinet above the entrance door. When the power switch for the steps is in the on position, simply open the door and the steps will open. Detailed operation for the electrical entrance door steps is as follows:

1. Turn the step power switch on.
2. Close the door. The step should retract and lock into the up position.
3. Open the door. The step should extend and lock into the down position.
4. Turn the step power switch off. The step should remain in the extended position when the door is closed. Turning off the power with the step retracted will hold the step in a retracted position as well.
5. With the step extended, turn the step power switch off and close the entrance door. Turn the vehicle ignition on. The ignition override system will go into effect, and the step will automatically retract.
6. Turn the vehicle ignition off and open the door. The step will extend and lock in the down position.

CAUTION

If the door is opened and closed without allowing the step to fully extend and lock in the ‘DOWN’ position, the step will retract and lock in the ‘UP’ position. When the door is reopened, the step will not extend. The power switch must be turned on for the step to extend. This feature is only operative the first time that door is opened after the vehicle ignition is turned off. When the ignition is on, the step will always activate with the door movement, regardless of the step power switch position. If the vehicle is driven with the step in the extended position, there is the possibility of causing major damage to both the step and the vehicle.

Mirrors

This vehicle is equipped with convex remote controlled defrosting exterior rear view mirrors. Always adjust the mirrors for maximum rear visibility prior to driving. Make sure the seat is positioned for proper vehicle control.

The side exterior mirrors are adjusted by using the multiple directional switches located on the driver’s door. Select the mirror to be adjusted by pointing the arrow in the direction of that mirror. Move the control in the direction of movement desired to obtain the best view. The adjustment control moves the top half of both mirrors.

The bottom half of the mirror is convex and is adjusted manually. These mirrors also contain heating elements to defog or de-ice the mirror glass during cold weather operation. The ON/OFF switch for this feature is located by the adjustment control. The convex exterior chrome mirrors with remote control and defrost are optional on this unit.



IMPORTANT

Objects viewed in convex mirrors appear smaller and farther away than they actually are.

Windows

The windows installed in this unit may be the radius torque style double pane tinted safety glass. These windows are also referred to as jalousie windows. They open with the simple turn of a crank. A power window is available on the driver's side as an option.

In the bedroom of the unit, one window will be marked "EXIT." This window is an emergency escape, or egress, window. To open in case of an emergency, lift the red handles at the bottom of the window and push out.

Vents

A 12 volt vent may be installed in the kitchen. An optional vent may be installed. If installed, this vent is equipped with a rain sensor on the roof hood. Anytime the vent is open and it senses rain, it will automatically close. The vent is controlled by the wall thermostat. Once powered "ON" and the desired temperature is selected, the vent will run until the temperature is reached. When the temperature is reached, the vent will automatically shut off.

Do not leave the fan in active mode while the unit is in storage or unattended for long periods of time. High winds or other unusual conditions or obstructions may prevent the vent from closing resulting in leakage, which could cause serious damage.

The vent installed in the bathroom is also powered by 12 volt electricity. This vent is controlled by the ON/OFF switch located on the wall. A vent similar to the one installed in the kitchen is optional.

In the bath area a skylight is also installed above the tub/shower.

Doors

The front entrance door is a radius door equipped with a dead bolt lock for added security and a power flush step well cover. When the door is opened fully, the door hinge will automatically hold the door open. To close the door from the open position, either the inside or outside handle must be released for the door to move. For your safety, a lighted, acrylic assist handle has been installed at the entrance door of the unit.

Awnings



IMPORTANT

It is important prior to extending your main awnings that you inspect the areas beside and around your unit where the awning will extend to insure proper clearance.

Side Awning

Extension and retraction is controlled by a switch located adjacent to the entry door, either on the wall or in a side overhead cabinet. To operate, follow these instructions:

Entry Door Awning

The entry door awning is a power operated awning. To extend the awning, press the "Extend" button on the switch plate. To retract it, press the "Retract" button.

Window Awnings

The window awnings are operated as all the power awnings on your unit. Use the appropriate switches to extend or retract the awnings as desired, and always check for clearance on the exterior of the unit to be certain nothing will interfere with their deployment.

PLUMBING & BATH FEATURES

FRESH WATER SYSTEM

Monitor Panel

The monitor panel allows you to check the approximate levels in the fresh, gray, and black water holding tanks, as well as the battery condition. The monitor panel is generally located above or near the entrance door. Simply press the button of the item to check its status. The empty indicator light will always light when the button is pressed. If the tank is full, all of the lights will be on. Lights are sequential and indicate the level in approximately 1/4 tank increments. For example: If the tank selected is approximately 1/2-full, then the indicator lights E, 1/4, and 1/2 will be lit. On the right hand side of the monitor panel is the water pump switch. This switch controls the power going to the water pump, turning it either on or off.

Monitor Panel Calibration

The monitor panel comes to you factory calibrated for accuracy and should not need to be adjusted. In the event that the system does not read accurately, then re-calibration may be necessary. The procedure for re-calibration is simple: First, fill the tank to be re-calibrated. Second, using the adjustment tool enclosed in the Owner's Information Package (or any small flat-bladed screw driver), simultaneously push the button for that tank and rotate the adjustment screw located above the button and behind the face plate counter-clockwise until some of the lights turn off in sequence. Then slowly rotate the adjustment screw clockwise until the full light is completely on. Repeat this procedure as necessary for the remaining tanks. The system is now calibrated properly.

Water Pump

The water pump is self-priming and totally automatic, operating on demand whenever water is required. The water pump is used to pressurize the fresh water system when the unit is not connected to city water. The switches to this pump may be located in the bathroom above the entrance door and in the water works compartment. To start the pump, follow these instructions:

1. Fill or partially fill the fresh water supply tank.
2. Open the kitchen and bathroom faucets.
3. Turn the water pump switch on and allow the water to fill the water line and the hot water heater.
4. Close each faucet after it delivers a steady stream of water (close the cold water first). Leave the hot water faucets on until they also deliver a steady stream of water. This will ensure that the water heater is filled with water.
5. The water pump should stop running once all faucets are closed.
6. The pump is now ready for automatic operation. The pump will run when a faucet is opened and stop when a faucet is closed.
7. Never allow the pump to run for long periods of time without water in the supply tank. Pump damage or blown fuses may result.

If water doesn't flow when a faucet is turned on while using the demand system, use the following trouble shooting chart:

SITUATION	SOLUTION
Pump running — no water	<ol style="list-style-type: none"> 1. Fill tank. 2. Clear the water line to the pump.
Pump doesn't run	<ol style="list-style-type: none"> 1. Check the pump switch. 2. Check the 12 volt fuses. 3. Check the electrical connections. 4. Check the battery.

All of the water should be drained from the fresh water system when the unit is not in use for more than one week. For more detailed information regarding the water pump, refer to the water pump manufacturer's brochure in your Owner's Information Package.

City Water Hook-Up

When connecting your unit to city water, be certain to use a water hose manufactured and labeled for potable water. This will ensure that the hose will not alter the taste of the water. To hook the city water supply to the unit, connect one end of the hose to the city water supply. This will usually be a faucet or valve similar to your garden hose valve at home.

Turn the city water supply on for a few seconds in order to clear the line. Once the hose has been flushed, turn the supply off. Connect the other end of the hose to the city water connections. Turn on the water supply and open all of the faucets to clear the air from the lines in the unit. Once air pockets have been purged from the water lines and water flows freely, close all of the faucets. The city water supply is under pressure; therefore the water pump is not necessary when connected to city water. Once the city water fill valve is opened, water is supplied to the fresh water system including the hot water heater, faucets, and stool. To disconnect from the city water supply, close the valve and remove the hose from the city water supply. Disconnect the hose from the city water connection and store the hose in the water compartment.

Fresh Water Tank Fill

The fresh water tank is filled from the city water hook-up. The valve located in the service compartment near the water hook-up determines whether the city water is going through the water system or into the fresh water tank. An additional way to fill the fresh water tank is with the winterizing intake hose placed in a bucket of water (See Chapter 9). Since there is not an automatic shut-off for the fresh water tank fill, check the level from the monitor panel while filling the unit. The excess water will be vented from an overflow vent pipe onto the ground when the tank capacity has been reached. This pipe is installed in the fresh water tank to prevent tank rupture from overfilling. All of the water should be drained from the fresh water system when the unit is not in use for more than one week. Whenever possible, drain the fresh water tank before traveling. Water in the tank will reduce the carrying capacity of the unit.

Sanitizing

To assure complete disinfecting of your fresh water system, it is recommended that the following procedure be followed on a new system, on one that has not been used for a length of time, or one that may have become contaminated. This procedure is also recommended before long periods of storage, such as over the winter months:

1. Drain the fresh water tank by opening the drain valves. There is one valve per water tank. All of the faucets should be in the closed or off position.
2. Prepare a chlorine solution using one gallon of water and 1/4 cup of chlorine bleach (5% sodium hypochlorite solution). Prepare enough of the chlorine solution to administer one gallon of solution for every 15 gallons of tank capacity. For sanitizing this unit, prepare 4-1/2 gallons of the chlorine solution. This mixture puts a 50 PPM (parts per million) residual chlorine concentration in the water system that will act as a quick kill dosage for harmful bacteria, viruses and slime forming organisms. Concentrations higher than 50 PPM may damage the water lines and/or tank.
3. Once the fresh water tank is empty, close the drain valves on the water tank.
4. Pump the chlorine solution into the tank. This is done by placing the winterizing hose into the chlorine solution. Close the valve from the fresh water tank to the pump and open the valve from the solution to the pump. Turn the tank fill valve from city water to tank fill. Turn on the water pump until all of the solution is pumped into the fresh water tank.
5. Turn off the water pump. Close the valve to the solution. Open the valve from the tank to the water pump. Fill the water tank with the city water tank fill (or by using the same method as was used to put the sanitizing solution into the tank). Remove the water filter (from the drink dispenser faucet, if installed) and install the by-pass pipe to allow the sanitizing solution access to the faucet. Open each faucet in turn including the kitchen faucet, bath faucet, inside and outside shower, turning on both the hot and cold, and flushing the stool until all of the air has been purged from the pipes and the water runs freely. The entire system will then be filled with the sanitizing solution.
6. Allow the 50 PPM disinfecting solution to stand in the system at least four hours.
7. Drain the system and flush with fresh water. The water system needs to be flushed with clean water repeatedly, if necessary, until there is no chlorine taste or smell left in the system. To remove any excessive chlorine taste or odor that might remain, prepare a solution of one quart vinegar to five gallons of water. Allow this solution to agitate in the tank for several days by vehicle motion. Drain the solution and refill the tank with clean water.

Water Filtration System

Your unit is equipped with a fresh water filtration system. This system uses extruded carbon filter cartridges to remove sediment and certain impurities from the incoming water supply. The filter assembly is located in the basement water compartment.

To replace the filter cartridge, turn off the water supply to the RV (at the city water connection). Unscrew the filter canister by rotating it clockwise. Replacement filter cartridges are available through your Authorized Newmar Dealer; have them order part number 03738.



Insert the new filter cartridge, positioning it so the opening in the bottom of the filter seats on the molded ring at the bottom of the canister. Reattach the canister to the filter housing by rotating the canister in a counter clockwise direction.

When replacing the filter, make certain the rubber “O-Ring” seal is properly positioned in its groove in the cartridge housing. An improperly seated or missing seal will cause leakage around the perimeter of the filter housing. Use caution not to over tighten the canister when attaching it back to the housing.

Water Heater By-Pass System

The water heater by-pass valve is located in an outside compartment near the water heater. By closing the water heater supply valve and opening the by-pass valve you can divert water away from the water heater. This is done

when winterizing your unit. Using the by-pass will keep antifreeze out of the water heater when winterizing the system. Draining the water heater during winterizing is a **MUST**.

Fresh Water Lines

Vibration and flexing during traveling can cause pipes and fittings to work loose. Check all of the plumbing connections for leaks on a yearly basis. If the water pump runs when all faucets are turned off, check for a leak. Be sure the drain valves are closed. Connections at the kitchen and bathroom faucets normally seal with hand tightening and a half turn with a wrench. If a fitting leak persists, disconnect it completely and check for mineral deposits or foreign material on the sealing surfaces. Clean the surfaces thoroughly and reinstall the fitting. Take the coach to an authorized service center for repairs if the system continues to leak. Follow the winterizing instructions given in Chapter 9 to reduce the risk of leaks caused by cracks from freezing pipes. Freezing damage can be extensive and expensive.

Exterior Shower

A feature on your coach is the exterior shower. The exterior shower is located on the off door-side of the coach. The exterior shower feature allows you to do such things as rinse off sand or grass, muddy shoes, or bathe your pet outside of your unit. The faucet operates just as it would in your kitchen or bathroom.

WASTE WATER SYSTEM

General Information

The waste drainage system was designed to provide adequate and safe storage and/or disposal of waste materials. All of the materials used in the making of this system are tested by a nationally recognized testing laboratory. The drainage system uses plastic piping and fittings connected to the sinks, toilet, and holding tanks. This provides for their drainage to an outside termination. The unit should be reasonably level for best operation of the system. There are two separate waste systems. The gray water system is for waste water from the sinks and shower. The black water system is generally for sewage waste from the stool. Each tank has its own control valve, and both tanks drain through the sewer drain hose.

Toilet

The standard toilet in your unit is a china stool. The toilet operates with water from either the fresh water tank with the water pump on or the city water supply. Before using the stool, add water to the bottom of the tank. Refer to the “BLACK WATER TANK” instructions in this chapter. The stool flushes waste directly into the black water holding tank. The stool uses high velocity water injection to produce a swirl effect in the bowl. The greatest problem that causes stool solids to build up in the holding tank is lack of liquids. When using your stool, it is wise to fill the stool 3/4 full of water. This will help to wash the solids away from directly below the stool and to ensure complete dumping of the holding tank. To add water to the stool bowl, lift or raise the flush lever until the desired water level is reached. To flush the stool, push down on the lever until the water swirls. A small amount of water should remain in the bowl.

The stool should be cleaned regularly for maximum sanitation and operational efficiency. Clean the toilet bowl with a mild bathroom cleaner. Do not use chlorine or caustic chemicals, such as laundry bleach or drain opening types, as they will damage the seals in the toilet and dump valves.

Refer to the toilet manufacturer’s Owner’s Manual in your Owner’s Information Package for complete instructions and a troubleshooting guide.

P-Traps

Each of the sink drains, the shower drain, and the washing machine drain (if equipped) has a water trap (P-Trap) to prevent holding tank odors from entering the coach. These traps must have water in them in order to trap the odors. While traveling, the water may splash out of the sink and shower drains. While stored, the water may evaporate allowing an odor to enter the coach. If this occurs, run water from the faucet into the drain, allowing water to fill the trap.

Black Water Holding Tank

The black water, or sewage, holding tank is located directly beneath the toilet. Before using the stool, you will need to treat the tank with water that is mixed with an odor controlling chemical. These chemicals are readily available at any RV supply store. Be careful not to spill the chemical on your hands, clothing, or the carpet because it may cause a permanent stain. Pull the toilet levers forward to allow the chemical to mix with the toilet water. Continue pulling the toilet levers until at least one inch of solution is directly under the toilet. Release the levers, and the waste tank is ready for use.



CAUTION

Use only approved RV odor controlling chemicals in the holding tanks. Products containing ammonia and petroleum will damage the ABS plastic holding tanks and seals.

Gray Water Holding Tank

The gray water holding tank is located in the underbelly of the unit. It is primarily used for the drainage from the kitchen and bath sinks and the shower.

Waste Water Disposal

Both of the holding tanks terminate in a valve arrangement that permits draining each tank separately or together. It is recommended to drain the black water tank before the gray water tank. This will allow the water from the gray tank to wash the black water residue from the drain lines and hose. The valves that open to release the water are called gate valves. The blade that closed the opening in the sewer drain pipes is connected to the T-handle to release the contents of the tank(s) when pulled. The sewer line must be securely capped during self-containment use to prevent leakage of waste material onto the ground or pavement. Do not pull the holding tank gate valve open when the protective cap is installed on the pipe. Always drain the tank into an acceptable sewer inlet or dump station.



WARNING

Holding tanks are an enclosed sewer system and must be drained into an approved dump station. Both black and gray water holding tanks must be drained and rinsed thoroughly on a regular basis in order to prevent the accumulation of harmful or toxic materials.

Whenever possible, drain the holding tanks prior to traveling. The carrying capacity of your unit will be reduced if water is left in the black or gray tanks.

The holding tanks should only be drained when they are at least 3/4 full. By doing this, sufficient water is allowed the complete flushing of waste materials in the drain lines and hose. If the tanks are not 3/4 full, add enough water to allow for sufficient flushing.

To empty the waste water tanks, connect the adapter to the drain hose. Use the adapter supplied with your unit. If the adapter is lost or broken, one can be purchased from any RV supply store. Once you have placed the adapter on the drain hose, it can remain there for the life of the hose. One end of the hose threads up through the hole in the bottom of the service compartment, and the other end of the hose feeds into the sewer at the dump station. Unscrew the cap off the drain. Connect the hose with the adapter in place to the drain fitting. Open the gate valve all the way by pulling on the T-handle. The tank will start to drain as soon as the T-handle is pulled. After you have drained the black water tank, immediately drain the gray water tank. Doing this helps to flush the black water from the sewage hose.

When both of the tanks are empty, flush them with a fresh water rinse before you close the valves. The gray tanks are easily flushed by pouring a couple of gallons of water into a sink drain. The drain outlet is engineered for quick release of the drain hose adapter. Always close the gate valves and secure the end cap to prevent leakage while in transit. After draining the black water tank, it is recommended to add a holding tank deodorant (such as Thetford Aqua-Kem) to help control the odor and break down the solids. Follow the instructions given on the holding tank deodorant package.

When using dump stations for draining the holding tanks, please keep other travelers in mind. Practice good housekeeping. Leave the dump stations in good order. Above all, do not pollute.

Camping with Sewer Hook-Up

When camping at parks with sewer hook-up, it is important to keep the black water holding tank gate valve closed at all times, except when dumping. The gray tank can be kept open while hooked to a sewer connection but again; the black water tank must be kept closed. This is done so that an ample supply of liquid remains in the tank to provide a smooth flow through the gate and drain valve when dumping. Sufficient liquid in the tank causes a swirling action that should take any accumulated solid wastes with it. Accumulation of solid wastes in the black water tank can be avoided by keeping the gate valve closed when connected to the sewer hook-up. If the valve is left open, solid wastes may accumulate in the tank. This may eventually result in costly repairs.

CAUTION

The gray tank valve must be in the open position when operating the optional washing machine.

No Fuss Flush

This unit is equipped with a flushing system for the holding tanks. When draining your sewer tank, attach a water hose to the sewer spray hookup. After the tank is drained, **leave the gate valve open** and open the water valve to allow water to spray inside the sewage tank. This will clean the inside of the tank of any debris that may be left inside the tank. After this is done, disconnect the freshwater hose and close the gate valve. When unsure if any solids are still left inside the tank, fill the sewage tank with approximately ten gallons of water through the stool. As you travel the agitation of the water should help liquefy any solids left in the tank. You can dump the sewage tank again at your next destination.

CAUTION

Do not use the same hose for the No Fuss Flush that is used for filling the fresh water tank. Also, the gate valve to the sewage tank **MUST** be in the OPEN POSITION while rinsing with the No Fuss Flush system.

SLIDE OUT FEATURES

SLIDE OUT FEATURES

 **WARNING**

Read the following slide out room instructions before activating the switch.

Do not allow children to operate the slide out.

Do not allow any person to place their arms, legs, body or head between any pinch point of the lock arms, slide out fascia, interior walls, exterior walls, objects, or floor as serious injury or death could result.

Any adjustments, or repairs, must be made only by “NEWMAR” qualified personnel.

Always check the interior and exterior of the coach for objects, or persons, that are in the path of the slide out when extending or retracting the room.

Always check the roof to be sure any objects, or debris, are removed before retracting the room.

 **CAUTION**

It is recommended to have the unit as level as possible prior to extending or retracting the slide outs.

Your unit is equipped with at least one power slide out room. It is important that you read and understand **ALL** directions, both in this Owner’s Guide, and on **ALL** the labels affixed inside your unit **PRIOR** to operating your slide out room(s).

There are a number of precautions that **MUST** be observed every time the rooms will either be extended or retracted. For your personal safety, and to prevent potential damage to the slide out mechanism and room, it is paramount that these directions be followed completely. Slide out operation has changed for all 2006 or newer RV’s, and it is important that you understand the operation procedure completely and observe all safety precautions to insure safe, proper operation.

All Slide Out labels contain the following warning:

WARNING

Do not allow children to operate the slide out.

Do not allow any person to place their arms, legs, body or head between any pinch point of the lock arms, slide out fascia, interior walls, exterior walls, objects, or floor as serious injury or death could result.

Any adjustments, or repairs, must be made only by “NEWMAR” qualified personnel.

Always check the interior and exterior of the coach for objects, or persons, that are in the path of the slide out when extending or retracting the room.

Always check the roof to be sure any objects, or debris, are removed before retracting the room.

General Instructions

IMPORTANT

The slide out room should be inspected for alignment every six (6) months. If alignment is necessary, have the room adjusted.

Operating the Slide Out Room (w/manual locking arms)

1. Verify the coach is either plugged into shore power or is under generator power.
2. The windows on the end of the slide out room must be closed before moving the room in either direction.
3. Before extending or retracting the room, look for and remove any obstructions.
4. Move the driver's chair forward before moving the slide out room in either direction.
5. Activate the slide out switch in the desired direction to either extend or retract the room. **Please note that you must hold the slide out switch for the duration of movement of the room.** If the switch is released during room extension or retraction, the room will stop moving. When the room has reached full extension or retraction, the slide out will automatically stop.
6. If retracting the room, be sure to engage the lock arms for the slide out room as soon as it has fully retracted.

IMPORTANT

The slide out room can be stopped at any time by releasing the slide out switch. If the slide out room stops before reaching the full "OUT" or "IN" position, the slide out controller may need adjustment. To adjust the slide out controller, turn the adjustment screw clockwise to increase the power and counter-clockwise to decrease the power. Move the adjustment screw in small increments. Try moving the slide out room again. Use caution. There is a potential for component or structural damage if the screw is adjusted too high. This screw does not adjust the slide out room speed. It sets the amount of power required to move the room against the mechanical stops.

IMPORTANT

It is important to release the switch as soon it has pulled tight and stopped moving. Current will be applied to the slide out motor as long as you hold the switch. Automatic resetting circuit protection is incorporated to minimize the chance of failures from not releasing the button at the end of room travel, but timely releasing of the button before the circuit protection engages is highly recommended.

MANUAL EXTENSION AND RETRACTION

The slide out room may be manually retracted. Before attempting to manually extend or retract a slide out room, please contact your servicing dealer or call Newmar Customer Support at 1-800-731-8300.

IMPORTANT

The TRANS-TORQUE bushing must be re-tightened to re-couple the slide out gear motor before moving the coach. This will hold the slide out room in place. The correct torque on the 1 1/2" TRANS-TORQUE bushing is 110 foot pounds maximum. The correct torque on the 1 1/2" TRANS-TORQUE bushing of the K-900 motor (center shaft motor) is 125 foot pounds maximum. Slide outs with either the center or end mounted motors can be moved by pushing the room the full length of its travel in either direction. This method will require the assistance of at least two people.

Operating Precautions



WARNING

Before extending the slide out, make certain that there is a minimum of five (5) feet of clear space on the slide outside of the unit. Prior to extending the room, be sure to unlock the slide out locking arms. Make sure there are no obstructions either inside or outside the unit that may interfere with the slide out extension. Tree branches, bushes or telephone poles can cause extensive damage to the exterior of the unit.



IMPORTANT

It is important to clean the slide out rollers under the floor regularly as dirt may adhere to the rubber coating on these rollers and cause damage to hard surface flooring. Such damage is not covered under warranty. These rollers may leave indentations in carpeting, linoleum and other flooring. This condition is normal and does not warrant flooring replacement.

ROUTINE MAINTENANCE EXTERIOR CARE

IMPORTANT

Damage caused by improper or unapplied maintenance is not covered by your Newmar Limited Warranty.

Washing your RV

The clear coat used on all painted Newmar RV's is a similar to the technology that used by car manufacturers. It is baked in our "state of the art" bake booths which cures the clear coat. The end result is a Masterpiece Finish™ which is the highest quality in the industry. The same care needs to be performed and maintained on your RV exterior surface as on your Automobile.

- Make sure the RV's surface temperature is under 90° F, and is not in direct sunlight.
- Rinse the entire coach to remove all loose dirt and grime. Never hold a pressure washer close to the surface. Use a fan type spray nozzle, making sure that the water coming out of the gun has a fan and not a single straight stream.
- Most car stores offer mild car wash shampoos that are safe for clear coat finishes. We would recommend using baby shampoo as it will not leave a film on the coach. Adding ½ of a cup of food grade vinegar to the water will boost the cleaning ability of any cleaner and also soften the water. This also helps to minimize water spots. **Do not use dish soap, detergents with degreasing agents, or industrial cleaners as they can cause damage to the finish.**
- Use 100% cotton or Lambswool pads or wash mitts for washing the painted surfaces of your RV. Use a different mitt for washing the wheels and undercarriage. Please contact your Newmar dealer to order these Newmar parts. (*Lambswool pad: 018461; Backer Pad: 018461A; Lambswool mitt: 018464; Extension pole: 018463*)
- Change water in your wash bucket often or place a "dirt guard" in bottom of the bucket to keep the cleaning pad or wash mitt free of dirt and debris.

ABSOLUTELY NO BRUSHES SHOULD BE USED ON THE PAINTED SURFACE. USE OF THESE ON YOUR RV'S PAINTED SURFACE WILL CAUSE DAMAGE TO THE FINISH, AS IT WOULD AN AUTOMOBILE FINISH. NEWMAR DOES NOT SUPPORT USING ANY STYLE, TYPE, MATERIAL OF BRUSH EVEN THOUGH IT MAY BE MARKETED AS "RV SAFE" OR "APPROVED."

Damage caused by inappropriate or unapplied maintenance is not covered under warranty as expressed in the Newmar Expressed Limited Written Warranty.

Drying your RV

Drying your RV is just as important as washing it. Today's tap-water and well-water contain many chemicals that could water stain your RV's finish.

After washing, dry your RV with the **EZE Squeegee** (# 018462) or a clean 100% leather chamois. You can also use fresh Microfiber towels for drying. Please use caution as these towels are made partially with polyester (*which is plastic*) which can break down over time from extended use and washing, eventually causing damage to the clear coat finish.

 **IMPORTANT**

Never use a strong solvent, such as lacquer thinner or harsh abrasives, on any of the exterior painted surfaces.

Waxing

The exterior finish will require a routine waxing. When water will not bead and roll off a freshly washed vehicle, a new coat of wax is needed. Wax not only improves the appearance of the vehicle, but it also protects the finish against oxidation and corrosive materials. The recommended type of wax is one that is compatible with painted or gel-coated fiberglass finishes, and contains a UV (ultra-violet) inhibitor. Buffing with a polishing compound will improve a dull or discolored finish.

 **IMPORTANT**

When using a polishing compound that does not contain a wax preservative, reapplying a coat of hard wax after polishing is recommended.

Seals

The seals around doors, windows, vents, slide out trim and external seams should be checked at least twice a year. In addition, the roof seams should be inspected twice a year for cracking or peeling. If deterioration is noted during a routine maintenance inspection, reseal the seams or seals with an approved sealant to prevent leaks. Your dealer can perform the resealing inspections and work for you. It is recommended that a Newmar Authorized Service Center perform these inspections, and reseal when necessary.

Proper Sealants for Application

Plas-T-Cote	Metal or fiberglass roof
Surebond #SB-140	Rubber laminated to metal roof and all skylights.
Carlisle #502-LSW	Rubber roof over wood Base
Self-Leveling Sealant	
Silicone Sealant	To cover butyl and other sealants; not to be used as the main sealant
Parbond	To seal across tops of windows, etc. on exterior where silicone is not used

Striping & Decals

The striping and decals on your vehicle require little maintenance. Treat these as you would any painted surface on your vehicle. Wash them with mild soap and water, or any retail car soap. Never wash the vehicle in direct sunlight, while the vehicle is hot or with hot water. Rinse thoroughly to prevent soap residue accumulation. Use caution with high pressure wash nozzles.

Keep them at least 18 inches from the edge of the decals. High pressure water may cause the decals to loosen and peel. Test small sections of decals when using any type of cleaning solution.

 **IMPORTANT**

Do not use solvents such as acetone, MEK, toluene, etc. on the decals. Any solvent including alcohol may soften or smear colors. Do not use lacquer thinner or paint on decals. Do not overcoat the decals with clear paint. Do not allow her fuels to drip or stay on the decals for any length of time. If this occurs, immediately flush the area with water.

Wheel Care

The care and maintenance of your chrome aluminum wheels is simple and requires no special material or products. Timely care and cleaning will keep them looking great for many years. We suggest the following care:

1. Clean your wheel on a regular basis to keep road dirt from building up.
 - A. Rinse with clean water to remove loose dust and dirt.
 - B. Clean with a mild soap and water solution. (Any non-abrasive household detergent works fine.) Apply with cloth, sponge, or soft bristled brush. Use solution liberally to avoid surface scratching due to trapped dirt on the applicator.



IMPORTANT

Do not use harsh detergents, acids, or abrasives which may scratch or dull the surface. The applicator cloth, sponge, or soft bristled brush should be non-metallic and non-abrasive

- C. Rinse thoroughly with clean water to remove excess soap and dirt.
 - D. Repeat above steps as required.
 - E. If stubborn stains persist, such as road tar, brake dust, oil, etc., use only a product compatible with stainless steel. An over-the-counter window cleaner (like Windex) will often remove foreign material. If a harsher cleaner is needed, we recommend “NEVR-DULL,” available at many general hardware or automotive stores.
2. Surface rust: From time to time, surface “spin out” rust may appear on the stainless steel. Normally the “spin out” rust comes from the wheel, lug nuts, locator pins, etc. In many cases, regular normal cleaning of your decorative wheel product, as indicated above, will remove any surface rust. If, however, a stubborn rust spot remains, utilize “NEVR-DULL” (a wadding polish), applying constant pressure to remove any surface blemish. You may have to repeat this process on hard to remove spots. After cleaning with “NEVR-DULL,” you may want to re-shine your wheel products using Windex or a similar product.
3. Petroleum based tire conditioners: While the use of these products (Armor-All, Son-of-a-Gun, etc.) may improve the appearance of your tires, these types of products will form a film on your stainless steel wheel cover product. To remove, use a mild cleanser, like Windex, to restore the shine.



IMPORTANT

Remember to periodically check the tightness of your wheel cover product.

Rubber Roof Care & Maintenance

Proper care and maintenance of your recreational vehicle, including your rubber roof, is important for trouble-free performance. Normal maintenance is simple and easy, and does not require special materials. Keep the roof clean. Clean the roof at least four (4) times annually. For normal cleaning:

1. Use RC100 Decor Synthetic Roof & General Purpose cleaner or a mild laundry detergent.



CAUTION

Do not use general purpose cleaners or conditioners containing petroleum solvents, harsh abrasives or citric-based cleaners. You may cause irreparable damage to your roof.

2. Rinse the complete roof with clean water to remove any loose dirt or debris.
3. Using a medium bristle brush, along with your selected cleaner mixed with water, scrub the entire roof. Rinse thoroughly with clean water to avoid residue build up on the roof or sidewalls of the vehicle.
4. For more difficult stains, you may use cleaning materials mentioned above in a more concentrated mixture. For stubborn stains, use of a cloth dampened with household bleach. Household bleach can be used (fully concentrated) and allowed to soak in stubborn stain areas, then scrubbed with a medium bristle brush or rag. Rinse thoroughly. Do not pour the bleach on the roof and allow it to run down the sides of the vehicle. Concentrated bleach may damage the graphics.



WARNING

Use caution when working on top of your vehicle. The wet roof membrane may be extremely slippery.

Battery Inspection & Care



WARNING

Remove rings, metal watch bands, and other metal jewelry before working around batteries. Use caution when using metal tools. If a tool contacts a battery terminal or metal connected to it, a short circuit could occur which could cause personal injury, explosion or fire.



CAUTION

Disconnect the 120 volt electrical power cord and the negative terminal from the coach batteries before working on the electrical system.

Remember that when batteries are not used for an extended period of time, they may lose their charge. Periodic charging of the batteries during storage of the unit will increase the life of the battery. Check the external condition of the battery periodically. Look for cracks in the cover and case. Check the vent plugs and replace them if they are cracked or broken. Keep the battery clean. Accumulations of acid film and dirt may permit current flow between the terminals, which could drain the battery.

To clean, wash the batteries with a diluted solution of baking soda and water to neutralize any acid present. Rinse thoroughly with clean water. Foaming around the terminals or on top of the battery is a sign that acid is being neutralized. Avoid getting the baking soda solution in the battery. Secure all vent caps. Dry the battery cables and terminals to prevent corrosion. Do not use grease on the bare metal inside the cable terminals. Grease can act as an insulator, and electricity will not flow through it. A plastic ignition spray will protect the terminals after they have been cleaned.



WARNING

Do not allow the battery fluid to contact your skin, eyes, fabric, or painted surfaces. The fluid could cause serious personal injury or property damage. Wear eye protection when working with any battery.

The batteries should be removed and stored in a warm place when not using your motorhome for an extended period of time. Mark the cables, positive and negative, for easy identification. Batteries are not to be stored on concrete floors. The batteries require periodic charging during storage. If the motorhome is to be stored for a long period of time, it is recommended that all of the batteries inside the unit be removed from clocks, radios, smoke alarms, etc. This will prevent unnecessary drain and corrosion of the batteries. The coach batteries are 6 volt RV/Marine deep cycle batteries. This type of battery consumes water and must be filled periodically. Please be sure to check the battery water level on a regular basis. Consult the owner's manual supplied by the battery manufacturer.

INTERIOR CARE

WARNING

Urea-formaldehyde is used in the productions of particle board, hardwood plywood, and most paneling. Urea-formaldehyde resin may release formaldehyde vapors into the air, which may cause headaches, and in some people, eye, and nose and throat irritation. Formaldehyde may intensify some allergies or upper respiratory problems like asthma. Providing proper ventilation as needed by operating the power roof vents and opening windows should reduce the risk of such problems.

IMPORTANT

The fading of upholstery, carpet and other interior fabrics is generally caused by excessive sunlight. The drapes, blinds or shades should be kept closed when the vehicle is parked for an extended period of time to minimize fading. Normal deterioration of appearance items due to wear and/or exposure is not covered by the Newmar Limited Warranty.

Carpet

A weekly routine of vacuuming the carpet and fabrics throughout the vehicle is recommended in order to prevent an accumulation of dirt that can detract from the materials appearance and shorten its life. Remember to empty or replace vacuum bags before they become half full. In carpet areas that receive the most sunlight, close the curtains when possible to prevent fading. Immediately clean up anything that is spilled or dropped on the carpet.

Included in the Owner's Information Package is the carpet manufacturer's Carpet Care Guide. The Carpet Care Guide lists detailed information on cleaning soiled areas and removing stains from the carpet installed in the unit.

Fabrics

The fabrics used in this motorhome for the bedspread, draperies, headboard and valances contain fire-retardant additives that may be damaged by use of improper cleaning products. Cleaning instructions for these items are **DRY CLEAN ONLY**.

Water-based products are not recommended for cleaning the fabrics in your new unit. Most water-based household cleaning products are not formulated for use on these fabrics and may cause excessive shrinkage or fading. For best results, the fabrics in this unit should be cleaned by a professional carpet and upholstery cleaner.

Spills, spots or stains should be treated as soon as possible to avoid permanent damage. If a spill occurs, blot the fluid with a dry towel. Do not rub the spill. Rubbing may cause the liquid to "set" in the fabric. When attempting to clean a spot or stain, always start from the outside and work inward to avoid spreading it further. Some stains or soils are extremely difficult or impossible to be removed completely.

These should receive immediate, professional attention. Spills, spots, stains or soils are the responsibility of the owner, and are not covered by the Newmar Limited Warranty.

WARNING

When cleaning the upholstery and fabric in the unit, do not use lacquer thinner, nail polish remover, laundry soaps or bleach. Never use carbon tetrachloride or gasoline for cleaning purposes. These items may cause damage to the materials being cleaned, and most are highly flammable.

Walls & Ceiling

The wall and ceiling coverings should be cleaned periodically to maintain a new appearance. Use a non-abrasive cleaner with a soft cloth on the walls. Do not use solvents of any kind. Solvents may damage the surface.

Dash

In order to keep the dash in like-new condition, follow these guidelines:

Do—

- Dust and clean the dash with a soft, damp cloth, or chamois, wiping the surface gently.
- Use a mild detergent and lukewarm water.
- Dry the surface, after washing and rinsing, by blotting with a damp cloth or chamois.

Do Not—

- Use harsh chemicals that may damage the dash.
- Use cloths containing grit or abrasive particles or kitchen scouring compounds to clean or dust the dash.
- Subject the dash to hard, direct blows.
- Use boiling water, strong solvents or other materials below to clean the dash, as they will soften the plastic.

Woodwork

The wood cabinetry should be cared for with furniture polish to sustain the natural beauty and luster of the wood. This will also keep your cabinetry looking new, and prevent the wood from drying. The simulated plank flooring should be protected from dents, scratches and nicks by installing protective pads on the bottom of chairs and tables. Use of area rugs and floor mats by the entrance door is recommended to trap dirt. To clean the flooring, begin by vacuuming the floor to remove loose dust and dirt. Then, damp mop the floor with one ounce of Wilsonart Flooring Cleaner diluted in one gallon of clean, warm water (or use a non-abrasive, soap-free cleaner). The mop should be damp, not dripping. Do not use soap-based cleaners, scouring powders, steel wool, abrasive cleaners, wax or polish on the floor. To remove stubborn spots like shoe polish, oil, tar, markers, scuffs, etc., use a household solvent, acetone or nail polish remover, then wipe with a damp cloth. To remove chocolate, grease, juice or wine, use warm water and a non-abrasive cleaner.

To remove candle wax or chewing gum, carefully scrape off when the material has hardened. For further tips, please see the manufacturer's information sheet in your Owner's Information Packet.

Counter Tops

To properly care for the countertop in your new unit, always use a heat pad or trivet to protect the surface from hot objects that may mar or damage the surface. Also avoid cutting directly on the surface and avoid using harsh chemicals on the counter top. Wipe the counter top with a damp cloth to remove water spots. For most dirt and stains, wipe with a damp cloth and use soapy water or ammonia-based cleaners.

Accessories

The light fixtures, bath accessories and faucets can be cleaned by wiping with a soft, damp cloth. Washing with warm water will remove dry water spots. Do not use cleaners that contain harsh or abrasive chemicals. Alcohol or similar solvents should never be used.

Detectors

The CO and Propane detectors are self-contained and DO NOT require any maintenance other than normal cleaning and dusting. The smoke detector installed in this coach is 9 volt battery operated. The battery needs to be tested periodically and replaced when necessary. Please check your smoke detector for the manufacturer's expiration date. When cleaning the case on any of the detectors, use a damp cloth or paper towel. Do not spray cleaners or wax directly into the case as it may cause false alarms.

Condensation



IMPORTANT

Since surface condensation within the coach cannot be controlled by the manufacturer, damage caused by condensation is not covered by your Newmar Limited Warranty.

Damage may occur to your unit if excessive condensation exists. Accumulation of condensation on surfaces within your unit occurs when warm, moist air contacts a cool surface. It is most evident on the inside of windows. This problem can be controlled by:

1. Slightly opening a window or roof vent to allow the moisture to escape from the unit.
2. A small dehumidifier is also very effective in removing moisture from the air.
 - Condensation levels are highest during times when a person is cooking or taking a shower in the unit, but these are not the only times condensation is present.
 - Condensation can migrate through ceiling panels and saturate the fiberglass insulation in your ceiling cavity. This condition often causes the occupants to believe the recreational vehicle has a roof leak. Walls and ceiling panels may also become wet when the moisture accumulates on these surfaces.
 - Newmar Corporation does not recommend the use of any catalytic heaters.

ROUTINE MAINTENANCE



IMPORTANT

Always follow the chassis maintenance guidelines found in the chassis manufacturer owner's manual.

All routine maintenance is the responsibility of the owner and is not covered by the Newmar Limited Warranty. Please note that damage caused by improper or unapplied maintenance is not covered by the Newmar Limited Warranty.



IMPORTANT

Cosmetic adjustments and alignments must be performed within the first three (3) months from date of original purchase for warranty consideration. Thereafter, these items are considered routine maintenance.

Items supplied by other manufacturers may require specific individual maintenance not listed herein. Please refer to the manufacturers' suggested maintenance guidelines in the Owner's Information Packet.

Monthly

- Check battery water level.

Every Three (3) Months

- Clean range hood exhaust fan filter and blades.
- Check gas lines for leaks with soap solution or leak detector.
- Test smoke alarm, carbon monoxide detector and Propane gas detector.
- Check operation of windows, latches and hinges.
- Clean the roof ducted air conditioner filter(s).
- Clean and inspect all door and window seals; reseal where necessary.
- Inspect and reseal around the tub and shower area where necessary.
- Lubricate the exterior door hinges and latches with a graphite (silicone) lubricant.
- Check, clean and tighten battery cables, and inspect batteries for proper fluid level.

Every Six (6) Months

- Inspect the slide out for proper seal. If realignment is necessary, please contact an Authorized Newmar Service Center.
- Inspect the exterior rubber slide out seals and apply a UV inhibitor, such as 303 Protectant.
- Rotate tires as recommended by the tire manufacturer.
- Check all gas appliances for proper operation.
- Have the Propane system inspected by a qualified technician.
- Lubricate the moveable parts on the entrance step.

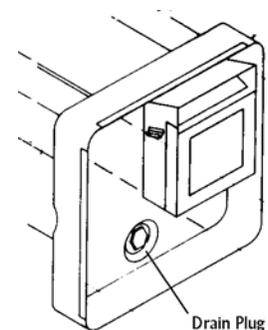
Annually

- Inspection of roof seams and joints should be performed by an Authorized Newmar Service Center. If resealing is necessary, it is the owner's responsibility and is not covered by the Newmar Limited Warranty.
- Sanitize the fresh water system.
- Wax and buff all gel-coat surfaces on the vehicle as described previously in this chapter.

Winterizing

To store your unit for the winter months, it is necessary to winterize the water system to help prevent freezing. To do this, follow these instructions:

1. The water heater must remain off during this process. Shut off the water pump and make sure the water supply valves are closed.
2. To drain the fresh water tank, open the drain valves.
3. Open the low point drain valves. There is one drain valve for each water line, one cold and one hot. This is done to drain all of the water out of the system.
4. After the water heater has cooled off, remove the drain plug to drain the water from the water heater. In the exterior compartment beside the water heater there are two water heater shut off valves and a by-pass valve. The shut off valves must be closed and the by-pass valve must be open, prior to winterizing to prevent the antifreeze solution from entering the water heater.
5. Close the low point drains to prevent the antifreeze from draining through the lines onto the ground.
6. Remove the water filter. See Chapter 7 for more information.



7. Close the water supply valve that flows from the pump to the tank.
8. Use only non-toxic antifreeze that has been approved for use in drinking/potable water systems. Place the in-take hose into the antifreeze supply. Open the antifreeze valve to allow the solution to flow freely. Once the water pump is turned on, proceed to the kitchen faucet, bath faucet, inside and outside shower, turning on the hot and cold, and flushing the stool until the antifreeze solution flows freely. If the unit is equipped with a washer, be certain to purge the air from it also. This forces the antifreeze through all of the water lines and faucets. It also allows the antifreeze solution to enter the drain lines and prevent the P-traps from freezing. Check the antifreeze solution from time to time to make sure there is an adequate supply.
9. Close the antifreeze valve when the winterizing process is complete. Store the in-take hose, and turn the water pump off.
10. Open the water supply valve that flows from the pump to the tank to help prevent freezing on that water line.
11. To de-winterize your unit, open both of the low point drains to allow the antifreeze solution to drain from the water system. Next, close the low point drains and connect your unit to city water. Put water in the fresh water tank and pump at least one gallon through the water pump in order to remove the antifreeze from the water pump. Keep the water heater supply valve closed and the water heater bypass valves open. The supply valve for the fresh water tank from the pump must remain closed. As in winterizing, open the kitchen faucet, bath faucet, inside and outside shower, turning on both the hot and the cold, and flushing the stool until the antifreeze solution is flushed out of the system and the water flows clear. Once the system has been flushed, open the water heater supply valve and close the water heater bypass valve. Open the fresh water tank supply valve from the pump and the ice maker valve. Reinstall the water filter. Be sure to close the fresh water tank drain valves to allow the tank to fill.

Note: Remember, if your unit has the exterior shower installed you must winterize this system as well.

Head Lamps

Recreational Vehicle headlamp maintenance recommendations while your vehicle is parked for long periods:

1. Check headlamp regularly for condensed water drops (daily in high humidity areas).
2. If small drops of condensed water are noted, drive your RV with the headlamps "ON" or just turn "ON" the headlamps. This will evaporate the condensed water drops and will help in avoiding the accumulation of water. Depending on the size, shape and location of the lamp on the RV, the atmospheric conditions occurring, the amount of time required to clear the lamp may vary from 2 to 6 hours.



NOTICE

If water is allowed to accumulate, some stain marks on the reflective surfaces may appear, damaging the surface.

The headlamp seals should not be directly sprayed with high pressure (home or industrial) wash systems..

Cold Weather Use

Although great care has been taken to build a well-insulated unit, recreational vehicles are not intended for extended use in subfreezing weather without special precautions.

When the temperature drops below freezing, the furnace must be turned on to keep the unit warm. Continued use in cold weather will require the unit to be winterized.



WHEN YOU KNOW THE DIFFERENCE.SM

2015 SilverLeaf Functional Guide

- Introduction
 - RV-C Control System
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 - THERM
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 - TRIP

Introduction

Overview

Defines SilverLeaf and provides a basic description of how it works.

What is SilverLeaf?

SilverLeaf is a User Interface that coordinates the various systems in the Newmar high-end motor coaches; for example: AC/DC power, HVAC, and water tanks.



How does SilverLeaf work?

SilverLeaf is based on the RV-C industry standard for component communications.

Relays Signals to Components

The SilverLeaf system is not the actual controller for the systems within a motor coach. It's just the display that sends the signal to tell various components what actions to take.

Independent Modules

There is no main computer; each of the controlling modules functions independently so when one system is down, the others continue to operate.

Central Location

This Interface allows the user to access the control functions for the various systems and make changes from a centralized location.

Control Panel

SilverLeaf can be accessed from the overhead control panel in the cockpit or from the bedroom control panel (optional). Some coaches may also be equipped with a driver control console.

Wireless

The settings can also be adjusted from a tablet, computer, or a smartphone with the appropriate application. This option is only available for coaches equipped with the WiFi or cellular modules.

System Status and Warnings

The Interface also displays system status messages and warnings.

RV-C Control System

Explains the foundation of the SilverLeaf system communications.

Feature

RV-C is the recreational vehicle version of the Bosch Controller Area Network or CAN Bus. This system has been used in the automotive industry for many years.

Modules

RV-C is a network of modules that share common language and procedures. Some of the modules controlled by the RV-C include:

- AC (110v) and DC (12v) Power
 - Generators
 - Water Tanks
 - Climate
 - Temperature
 - Floor Heat
-

Signals

When a module sends a command to the system, it is authenticated to ensure that the message has been received correctly and is not corrupted in any way. This means that the systems are less likely to malfunction.

Distinguishing Characteristic

A distinguishing characteristic of the RV-C system from older technology is that the RV-C verifies the signals it receives prior to sending it, where older technology would simply send the signal.

More Information

For more information regarding the RV-C protocol, please click the image below to see the full PDF article.



***The Industry Comes Together
to Create a Foundation for the
21st Century RV***

At the dawn of the 21st Century RVIA brought together leading manufacturers and vendors to begin a remarkable task. The best engineering minds in the industry worked together to create a universal protocol - a way to tie together virtually every part of the modern RV. They studied other industries and co-opted the best ideas, then expanded them to encompass the ideal RV. They were innovative, yet conservative, and they built a breakthrough protocol. We call it RV-C™.

The foundation of RV-C™ is the same core technology that the US Government mandates for every new car and truck. Just two wires connect all the electronic components in the network, allowing full communications between every element of the RV. RV-C™ brings the RV industry into a new era of technological progress, and will impact how RVs are designed, manufactured, repaired, and enjoyed for years to come.

- ***Monitoring and Control***
- ***Automation***
- ***Troubleshooting and Diagnostics***

Article about "RV-C" -- the RV industry standard protocol.

Technical Support

Overview

Explains Technical Support procedures.

Getting Help

Call Newmar Technical Support for assistance, especially if you suspect that your issue may be software related. Software and firmware updates can often resolve any issues you may face.

Before Calling Technical Support

When calling Technical Support, do these things first:

Verify the Issue

Be sure it's an issue with the system and not operator-error.

Verify Displays

Make sure that the HMS360 or VMS350 displays have not been reset to factory default settings. Check the labels on the zones. For example, if a display has been reset to the default, the label on the zones would be changed from "Living Room" to "Zone 1".

Verify Coach Info

Be sure to have the Newmar Coach Serial Number (6 digits) and the last 7 digits of the Vehicle Identification Number (VIN) to ensure the Support Representative can accurately identify the coach.

Warning



Never reset any of the system components to factory defaults. The modules should be programmed correctly by the manufacturer. Resetting any of the SilverLeaf components may cause physical damage to various systems on the coach, which could cause physical injury.

When in doubt, contact your Support Representative. They can guide you through the best solution for troubleshooting, and, if necessary, replacing the modules at a Newmar Certified Service Center.



Home

Overview

Each of the control functions are accessed by pressing the associated buttons on the *Home* screen.

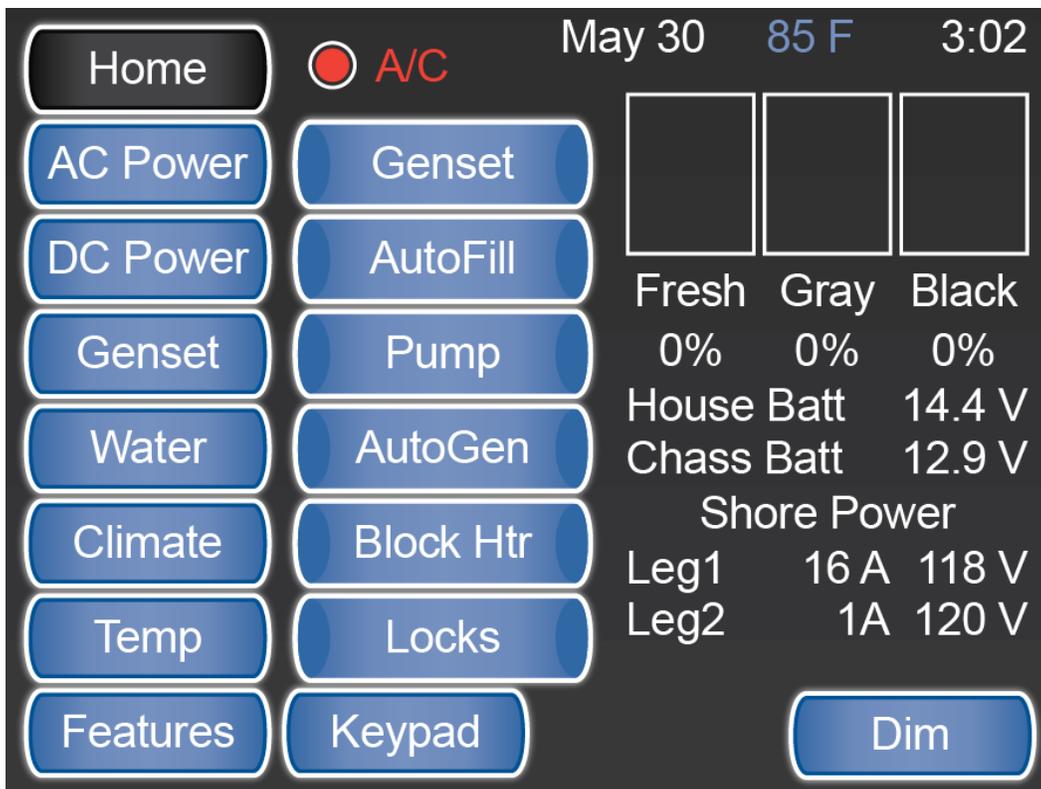
Home Screen

The *Home* screen displays prioritized system status messages and warnings. It also provides access to all of the main functions controlled by SilverLeaf. These functions are accessible by tapping one of the buttons in the left or center column. The descriptions for each of these buttons are below.

Pressing the "Home" button from any of the display screens will return the User to the initial screen.

Coaches without Floor Heat

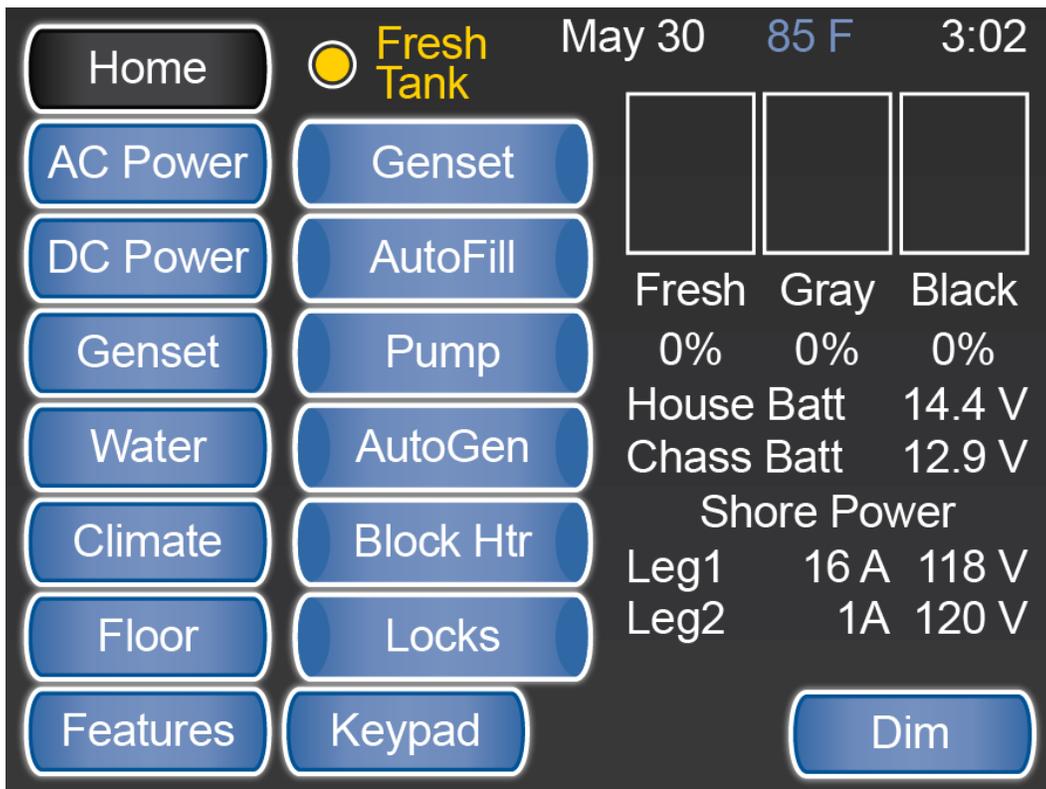
Coaches that are not equipped with optional Floor Heat will see a "Temp" button listed on their Home screen display.



SilverLeaf > Home Screen. As shown on systems without the optional Floor Heat.

Coaches with Floor Heat

Coaches equipped with the optional Floor Heat will not have a "Temp" button listed on their Home screen display. Instead, they will see a button labeled "Floor" in its place.



SilverLeaf > Home Screen. As shown on systems with the optional Floor Heat.

Left Column Buttons

Home

Pressing the "Home" button returns you to the *Home* screen. The "Home" button is only operational from other screens.

AC Power

Pressing the "AC Power" button opens the *AC Power* screen.

DC Power

Pressing the "DC Power" button opens the *DC Power* screen.

Genset

Pressing the "Genset" button opens the *Genset Control* screen.

Water

Pressing the "Water" button opens the *Water Control* screen.

Climate

Pressing the "Climate" button opens the *Climate Control* screen.

Temp

Pressing the "Temp" button opens the *Temperature* screen to display the outside ambient temperature. This button is only available if the coach is not equipped with Floor Heat.

Floor

Pressing the "Floor" button opens the *Floor Heat Control* screen. This button is only available if the coach is equipped with Floor Heat.

Features

Pressing the "Features" button opens the *Features/Configurations* screen, which provides access to numerous functional controls. These functions will be further explained in future sections.

Center Column Buttons

Genset

Pressing the "Genset" button in the center column will manually START and STOP the generator. The button indicator is highlighted when the generator is running. This button works the same as the Dash and other remote generator switches.

AutoFill

Pressing the "AutoFill" button will turn the Fresh Water Tank AutoFill feature ON or OFF. The button indicator is highlighted when the AutoFill feature is ON.

Pump

Pressing the "Pump" button will turn the Fresh Water Pump ON or OFF. The button indicator is highlighted when the pump is powered ON.

AutoGen

Pressing the "AutoGen" button will select the *AGS (Auto Generator Start) Control* screen. The button indicator is highlighted when the AutoGen feature is enabled.

Block Htr

Pressing the "Block Htr" button toggles the Block Heater relay ON or OFF. The button indicator is highlighted **yellow** when the load is being shed, or shut down due to lack of available power, and **blue** when ON.

Locks

The "Locks" button allows you to lock the entry door and the cargo doors.

Keypad

The "Keypad" button will take you to the *Shade and Light Control* screen, which is found under *Features > Virtual Keypad*, where you can control the ceiling lights and the "All Shade" function.

Status Displays

Overall System Status

The Overall System Status area is located just above the middle column of buttons on the *Home* screen. This area will say "OK" if there are no errors or warnings are present. Warnings and errors will be displayed in this area in order of priority. For example, in the sample screenshots provided above, the Overall System Status area contains "AC" and "Fresh Tank" warnings.

Date | Outside Temp | Time

The system date, outside temperature, and time are displayed across the top-right side of the screen.

Tank Status

The fresh, gray, and black holding tank statuses are displayed as a percentage of full. These values are displayed as both a numerical percentage and bar graph.

DC Voltage

The "House Batt" and "Chassis Batt" voltage values are displayed beneath the Tank Status.

Charge Bridge Indicator

The Charge Bridge function ties the two battery banks, House and Chassis, together. The Charge Bridge Indicator is a yellow lightning bolt that appears between the DC Voltage values when the Charge Bridge is energized.

AC Power Values

The AC Power Source (Shore, Generator, Inverter), Voltage, and Current (Amperage) for both AC power legs are displayed.

Dim Button

This button controls the brightness of the screen.

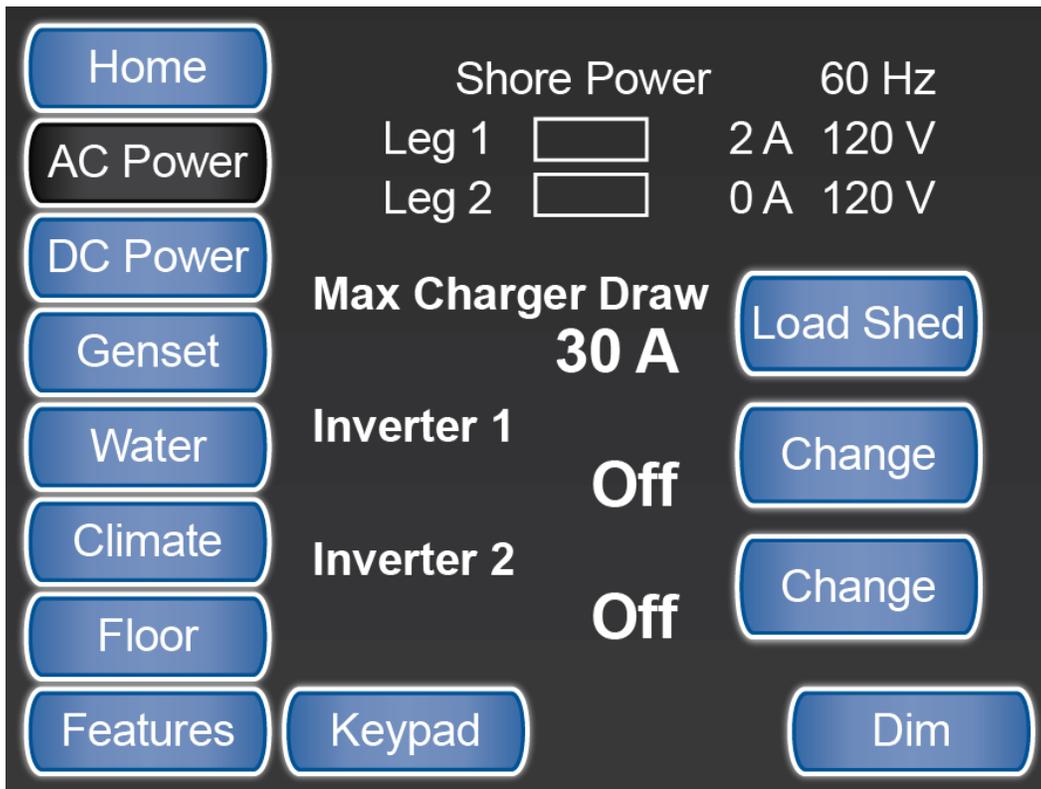
AC Power

Overview

Displays the AC Power Source, Line Voltage, Amp Usage, and AC Line Frequency.

AC Power Screen

The *AC Power* screen displays the Alternating Current (AC) Power Source, Line Voltage, Current (or Amperage) Usage, and AC Line Frequency (Hz).



SilverLeaf > AC Power screen

Power Source

The AC Power Source is displayed for Shore Power, Generator, or Inverter Power.

Line Frequency

The AC Line Frequency is displayed in Hertz (Hz).

Amperage

AC Amperage values are displayed in a bar graph and numerically for each leg.

Max Charger Draw Amps

The AC Power screen also displays the Maximum Charger Draw Amps setting value.

Inverter Status

Inverter status is displayed on this screen. The user can turn an inverter ON or OFF using the "Change" buttons on this screen. Please note that the option for a second inverter is only available in King Aire coaches.

Load Management

Overview

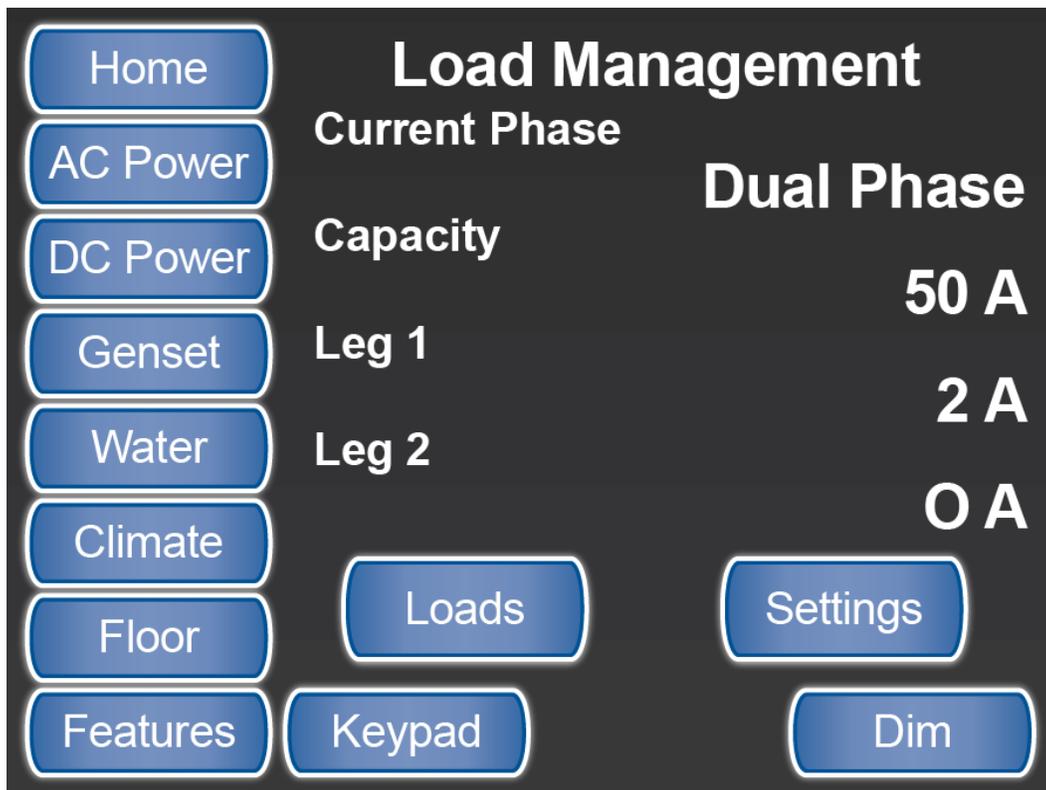
Load Shed Energy Management is selected from the main *AC Power* screen.

Load Management Screen

The *Load Management* screen displays the Power Phase setting and Service Capacity.

The current amp draw is displayed for both Power Legs on this screen.

From this screen, the user also selects the *Load Status* screen by tapping the "Loads" button. You may also access the *Settings* screen by tapping the "Settings" button.



SilverLeaf > AC Power > Load Management Screen

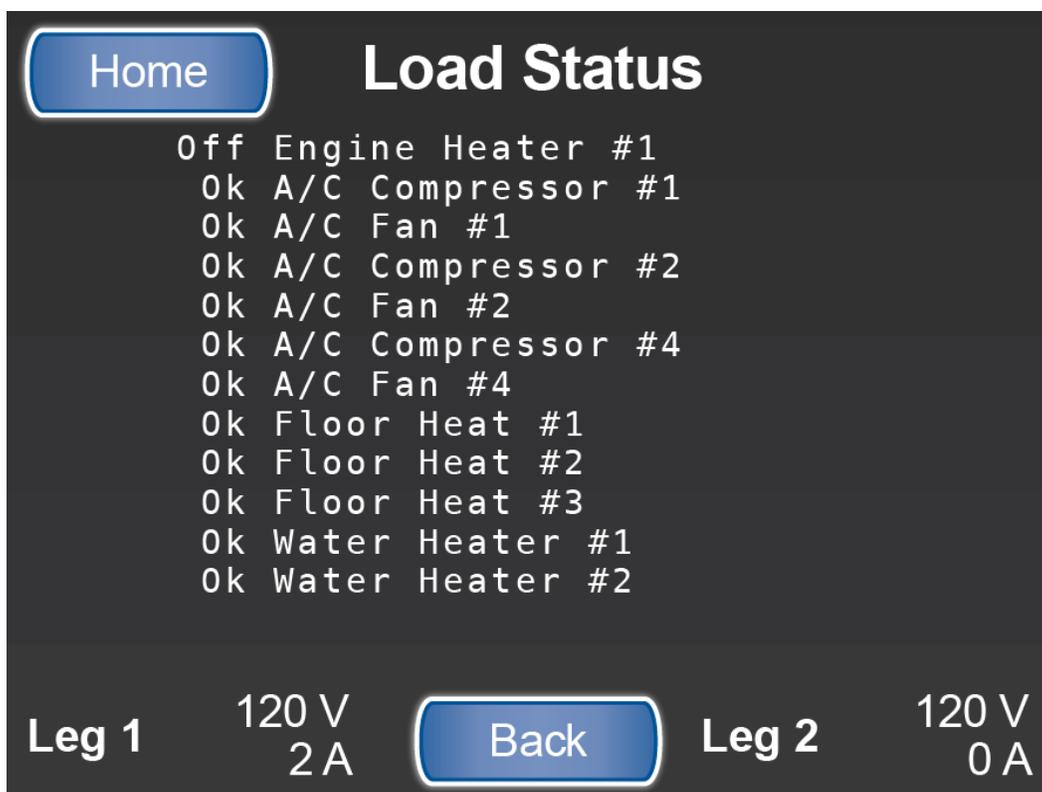
Load Status

Overview

Load Status is selected from the *AC Power > Load Management* screen.

Load Status Screen

The *Load Status* screen displays the Load Shed status of all AC powered devices that are controlled by the Energy Management control system. This screen shows the order in which the components will be turned OFF, from the bottom of the list first through the items at the top. If the electrical load exceeds the available amps from either the shore line or batteries, selected components will be shut down.



SilverLeaf > AC Power > Load Management > Load Status screen

Load Settings

Overview

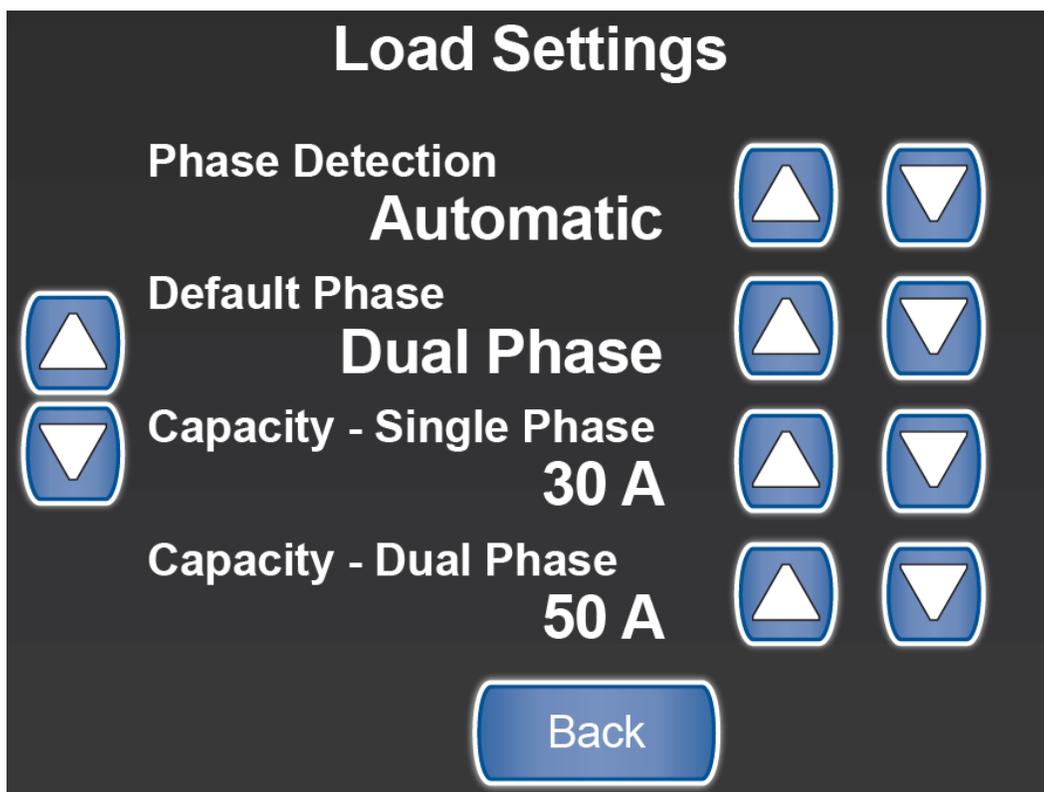
Load Settings is accessed by tapping the "Settings" button from the *AC Power > Load Management* screen.

Load Settings Screen

The RV-C Transfer Switch has the capability to automatically detect Dual Phase (240 volts), 50 Amp AC power, based on the available power source.

Screen 1

The following settings control the Load Shedding Amperage values.



SilverLeaf > AC Power > Load Management > Load Settings Screen 1

Phase Detection

Set to "Manual" for Manual Phase Selection if you want to manually control the phase selection.

Set to "Automatic" [default setting] to allow the RV-C Transfer Switch to auto-detect the supplied phase.

Default Phase

Selects the default phase setting for the Load Shedding function.

Capacity-Single Phase

This sets the Load Shedding Amperage value for the Single Phase selection.



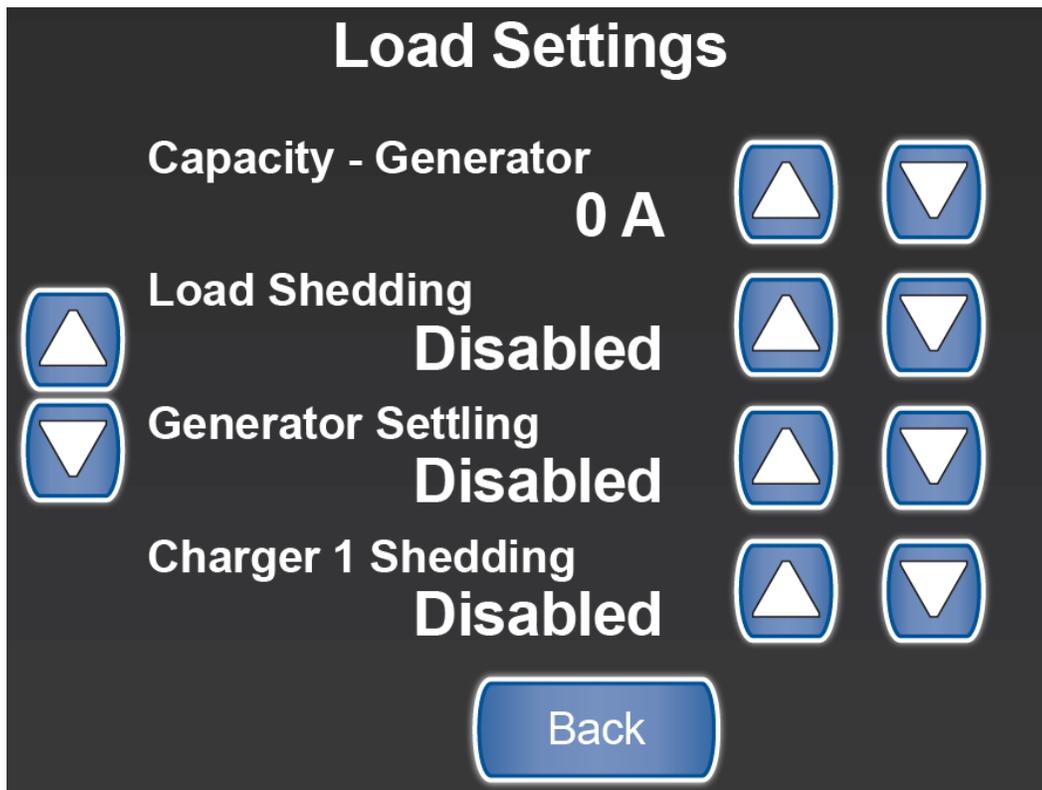
Newmar recommends for "Capacity - Single Phase" function be set to '30 Amps' or less.

Capacity-Dual Phase

This sets the Load Shedding Amperage value for the Dual Phase selection.

Screen 2

Use the second screen to manage the Electrical Capacity, Load Shedding, Generator, and Charger options.



SilverLeaf > AC Power > Load Management > Load Settings Screen 2

Capacity-Generator

This setting specifies the maximum available amperage the Generator can output.

IMPORTANT

Newmar recommends the "Capacity - Generator" ["Genset Capacity"] function be set to '40 Amps' in coaches equipped with a 10,000 watt generator -- Mountain Aire and London Aire.

IMPORTANT

Newmar recommends the "Capacity - Generator" ["Genset Capacity"] function be set to '50 Amps' in coaches equipped with a 12,500 watt generator -- Essex and King Aire.

Load Shedding

Enabling the Load Shedding function allows the control system to automatically manage the AC power system based on the Capacity settings from Screen 1. The system will 'shed' (turn OFF) system configured AC power devices in order to maintain a maximum phase capacity AC amperage usage.

IMPORTANT

Newmar recommends the "Load Shedding" function be set to 'Enabled'.

Generator Settling

This setting allows the generator to "settle down" and level out before a load is allowed to be put on the system.

IMPORTANT

Newmar recommends the "Generator Settling" ["Genset Settling"] function be set to 'Enabled' for proper Auto Gen operation.

Charger 1 Shedding

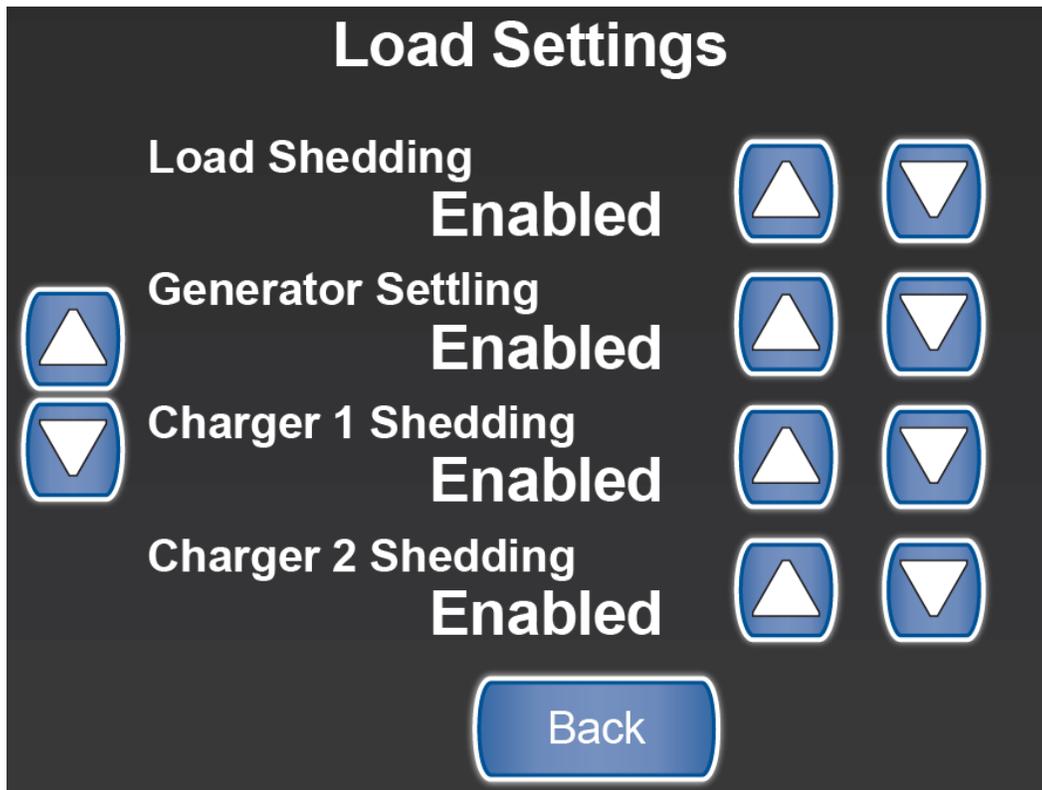
This setting determines if Battery Charger #1 should be 'shed' (turned OFF) with the other Load Shedding devices.

IMPORTANT

Newmar recommends the "Charger 1 Shedding" function be set to 'Disabled'.

Screen 3

Use the third screen to manage the Load Shedding, Generator, and Charger options.



SilverLeaf > AC Power > Load Management > Load Settings Screen 3

Load Shedding

Enabling the Load Shedding function allows the control system to automatically manage the AC power system based on the Capacity settings from Screen 1. The system will 'shed' (turn OFF) system configured AC power devices in order to maintain a maximum phase capacity AC amperage usage.



Newmar recommends the "Load Shedding" function be set to 'Enabled'.

Generator Settling

This setting allows the generator to "settle down" and level out before a load is allowed to be put on the system.



Newmar recommends the "Generator Settling" ["Genset Settling"] function be set to 'Enabled' for proper Auto Gen operation.

Charger 1 Shedding

This setting determines if Battery Charger #1 should be 'shed' (turned OFF) with the other Load Shedding devices.



Newmar recommends the "Charger 1 Shedding" function be set to 'Disabled'.

Charger 2 Shedding

If the coach is equipped, this setting determines if Battery Charger #2 should be 'shed' (turned OFF) with the other Load Shedding devices.



Newmar recommends the "Charger 2 Shedding" function be set to 'Enabled'.

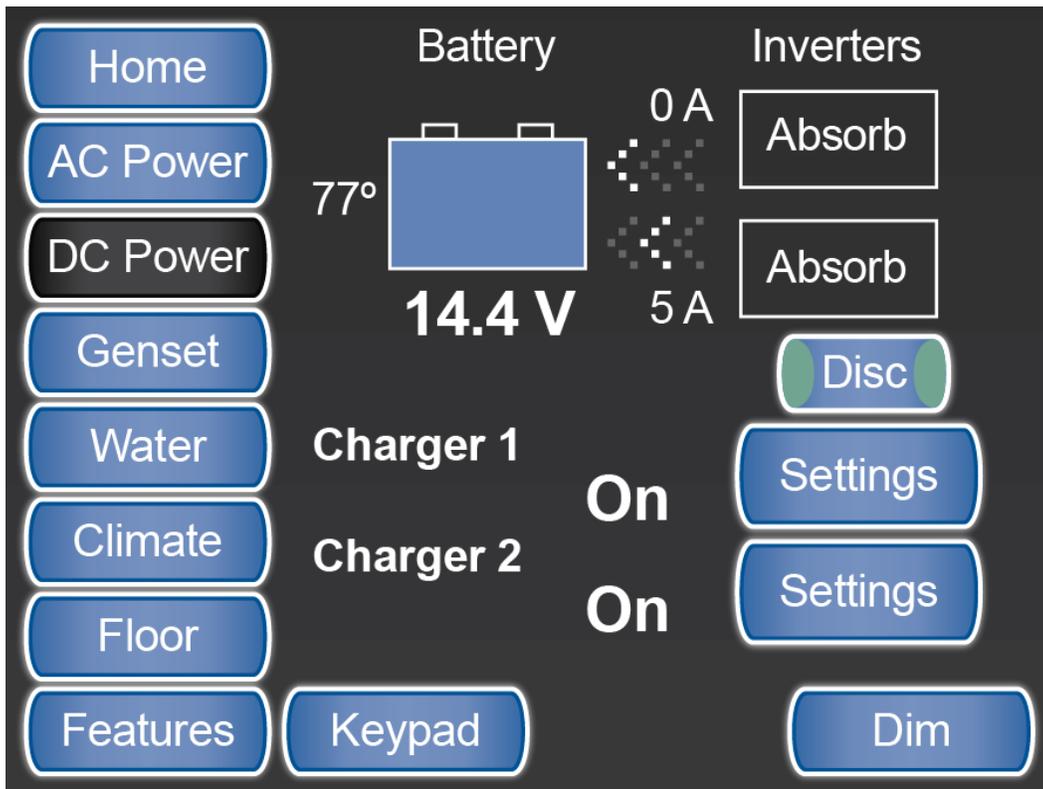
DC Power

Overview

Displays the status of the DC Inverters and allows access to the *Inverter Settings* screens.

DC Power Screen

The *DC Power* screen displays the status of the Inverters or Chargers and the Direct Current or DC. This screen also allows the user to access the *Operator Accessible Inverter/Charger Settings* screens.



SilverLeaf > DC Power screen



The King Aire is the only Newmar coach with two inverters/chargers. A blank space will be displayed where there is only one inverter, as in Mountain Aire, London Aire, and Essex models, and there will not be a status or Settings button for Charger 2.

Battery

A Battery icon displays a vertical bar graph to indicate the battery charge level along with the battery voltage values.

DC Current

The arrows between the Battery and Inverter icon(s) indicate the direction of the DC current flow. The DC current or amperage value is also displayed.

Disc

The "Disc" button is used to disconnect the 12v power of the house batteries from all 12v components in the coach. This can be used when the coach is going to be stored for a period of time.

Magnum Inverter Settings

Overview

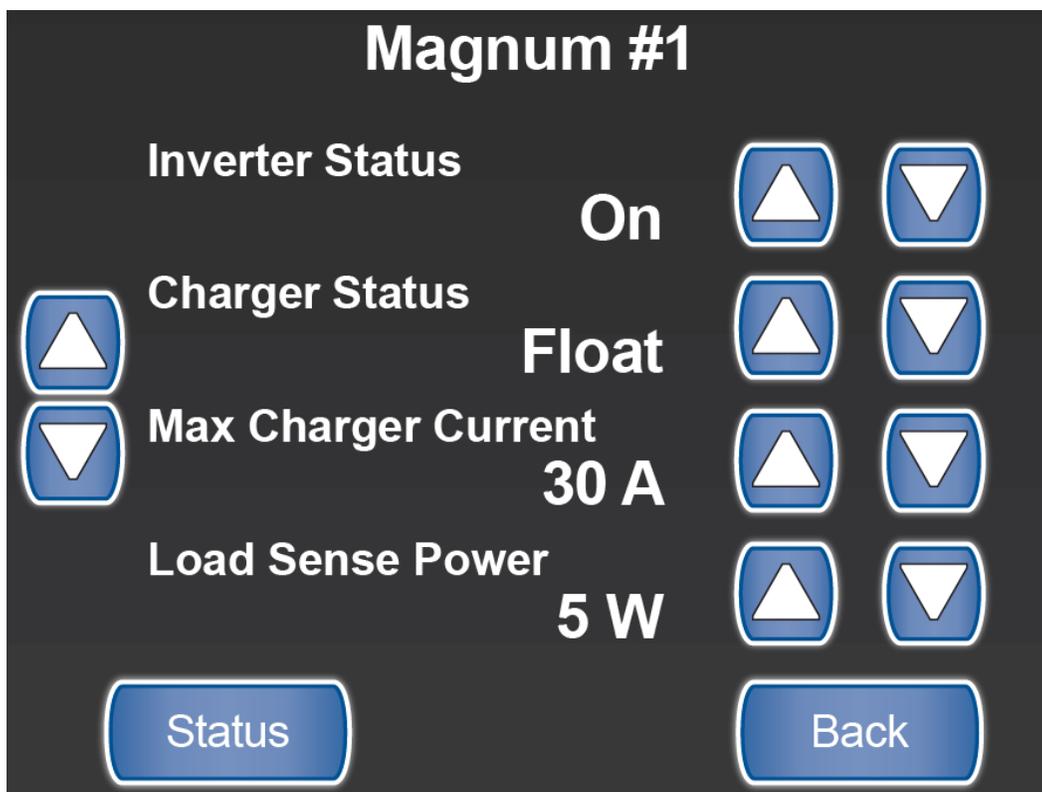
The *Magnum #1* Settings screen is accessed from the *DC Power* main screen by touching the "Settings" button beside the Charger 1 status.

Magnum Inverter/Charger Settings

Magnum is the brand of Inverter being used in Newmar Essex, Mountain Aire, and London Aire coaches. These screens configure the Inverter and Charger status and set the charging parameters.

Screen 1

The first screen configures the Inverter and Charger status. The Max Charging Current is the maximum amount the charger can output. The Load Sense Power is the wattage required to activate the Inverter.



SilverLeaf > DC Power > Magnum #1 screen 1

Inverter Status

This status may show: ON, OFF, or Standby.

Charger Status

The value displays the current status of the inverter.

Max Charging Current

This is the maximum amount of current the charger can output. *See Magnum Operations Manual for further details.*

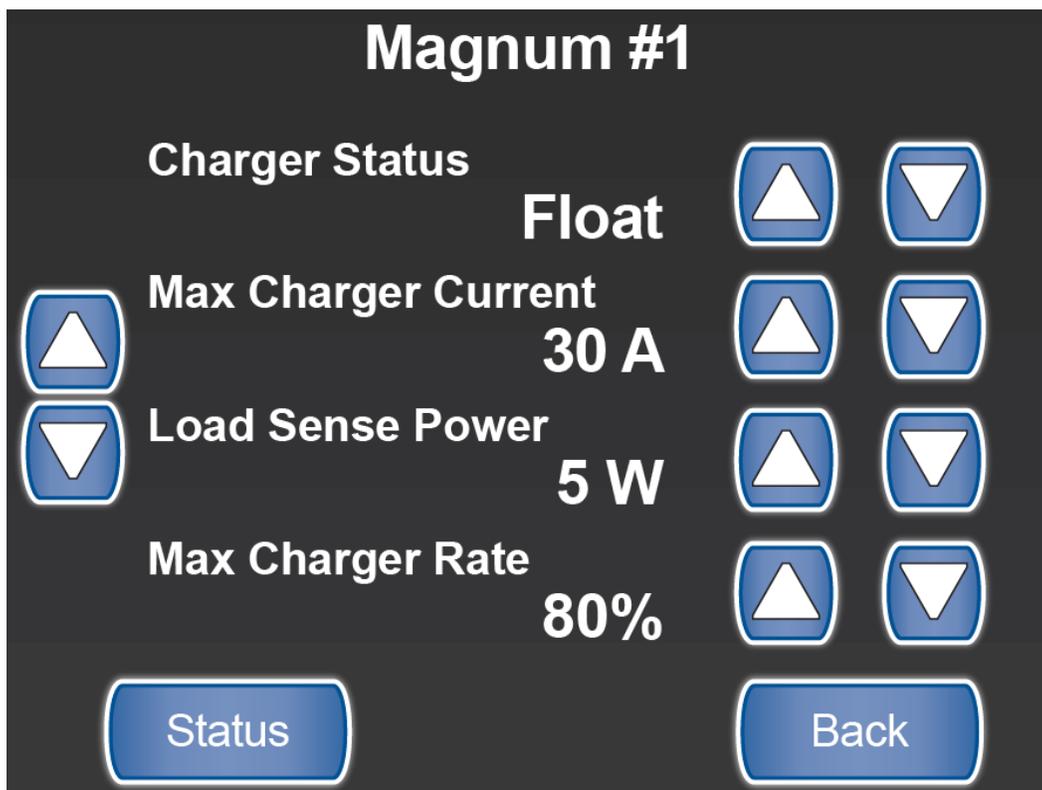
Load Sense Power

This is the Power Level (Search Watts Setting) required to activate (turn ON) the inverter.

NOTE: Newmar recommends this value be set to 5 Watts.

Screen 2

The second screen sets the charging parameters. The Max Charger Rate is the maximum percent of AC current (Amperage) used to recharge the batteries.



SilverLeaf > DC Power > Magnum #1 screen 2

Charger Status

This value may show: OFF, Standby, Bulk, Absorb, or Float. The Charger has three stages of charge as it reads the state of the batteries. Upon plugging in the coach or starting the generator, the charger will start in Bulk Charge, Absorb, then Float.

- **Bulk Charge** - This is the highest state of charge of the three stages. The Charger will remain in this stage until the Bulk Charge voltage is achieved.

- **Absorption Charge** - This is the second stage of charging and indicates the Bulk voltage for the batteries has been achieved. The time it stays in Absorption Charge is set in Magnum Advanced Inverter Settings.
- **Float Charge** - This is the last state of charge. After the Absorption time has been reached, the inverter will reduce the charge to Float Charge and maintain battery voltage.

Max Charging Current

This is the maximum amount of current the charger can output. *See Magnum or Xantrex Operations Manual for further details.*

Load Sense Power

This is the Power Level (Search Watts Setting) required to activate (turn ON) the inverter.

Max Charger Rate

This is the maximum percentage of AC current (amperage) used to recharge the batteries.

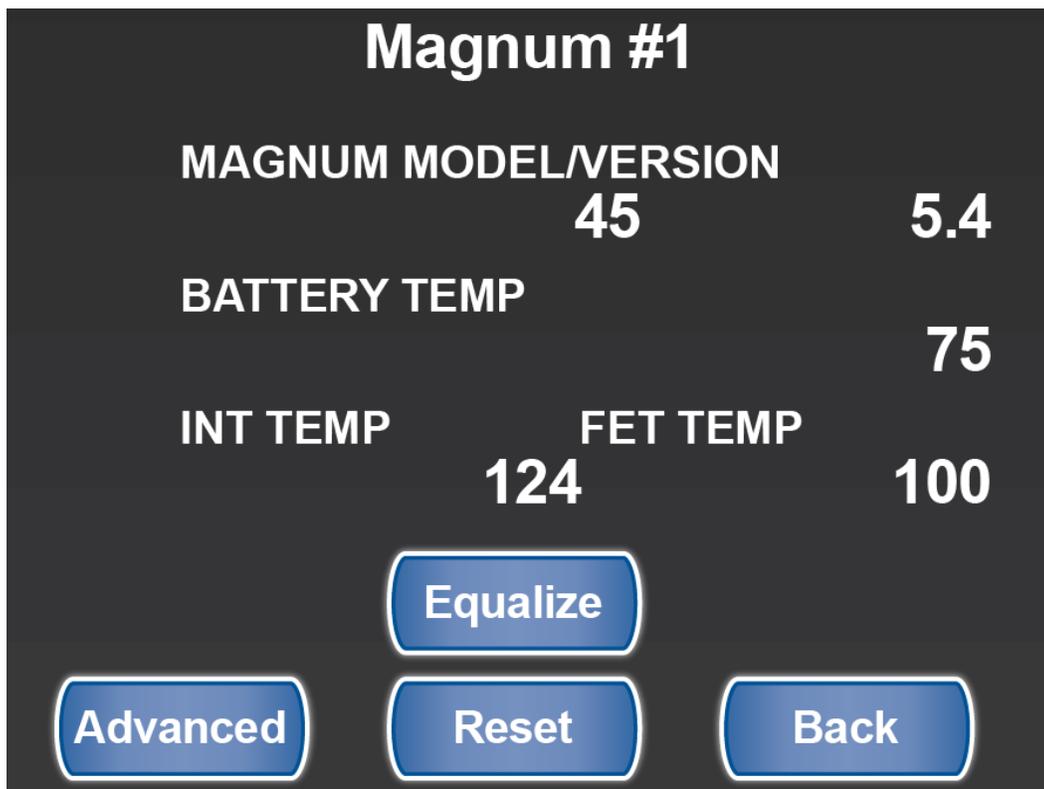
Magnum Inverter Status

Overview

Magnum #1 Status is selected from the *Magnum #1 Settings* screen.

Magnum Inverter Status Screen

In addition to showing the status of the Inverter, the *Magnum #1 Status* screen is where you go to equalize the batteries. This screen also provides access to the Advanced screens.



SilverLeaf > DC Power > Magnum #1 Settings > Magnum #1 Status screen

Magnum Model/Version

This value is read from the Inverter Module.

Battery Temperature

This value is read from the inverter battery temperature sensor via the Inverter Module.

Internal Temperature

This value is read from the inverter via the Inverter Module and shows the current temperature inside the Inverter.

FET Temperature

This value is read from the inverter via the Inverter Module and shows the current temperature of the Field Effect Transistor board inside the Inverter.

Equalize Button

This function will take you to a screen to allow you to Equalize your batteries. Equalizing is an overcharge performed on FLOODED LEAD ACID BATTERIES after they have been fully charged. It reverses the buildup of negative chemical effects like stratification, a condition where acid concentration is greater at the bottom of the battery than at the top. Equalizing also helps to remove sulfate crystals that may build up on the plates. If left unchecked, a condition called sulfation will reduce the overall capacity of the battery.



Newmar recommends that the "EQUALIZE" function be performed at a Newmar Certified Service Center.



You should never equalize AGM batteries. This will cause damage to AGM batteries.

Advanced Button



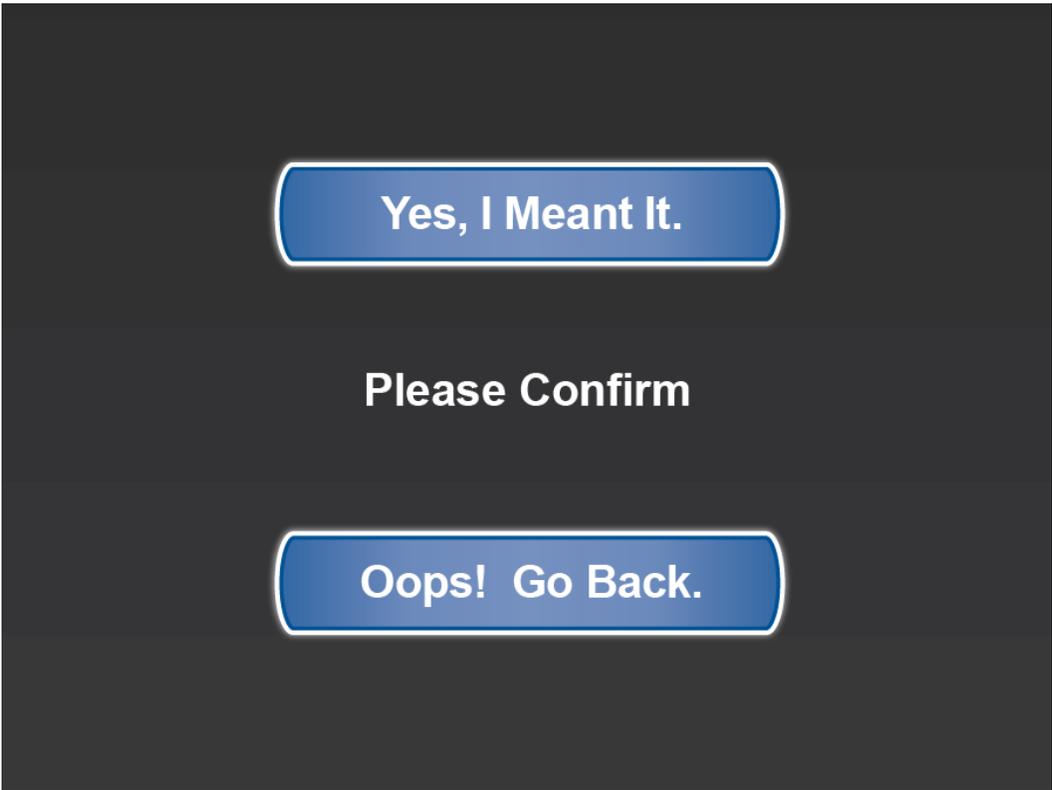
This screen is password protected to allow Qualified Service Technicians access to make changes to the control settings. Changing these control settings to improper values can adversely affect the operation of the control system and may cause damage to the coach.



SilverLeaf > Advanced screen

Reset Button

Pressing the reset button will bring you to a screen that says PLEASE CONFIRM. If you choose "Yes, I meant it," you will reset the settings in the TM502 to factory defaults.





Never reset any of the system components to factory defaults. The modules should be programmed correctly by the manufacturer. Resetting any of the SilverLeaf components may cause physical damage to various systems on the coach, which could cause physical injury.

When in doubt, contact your Support Representative. They can guide you through the best solution for troubleshooting, and, if necessary, replacing the modules at a Newmar Certified Service Center.

Back Button

This will take the user back to the DC POWER main screen.

Xantrex Inverter #1 Settings

Overview

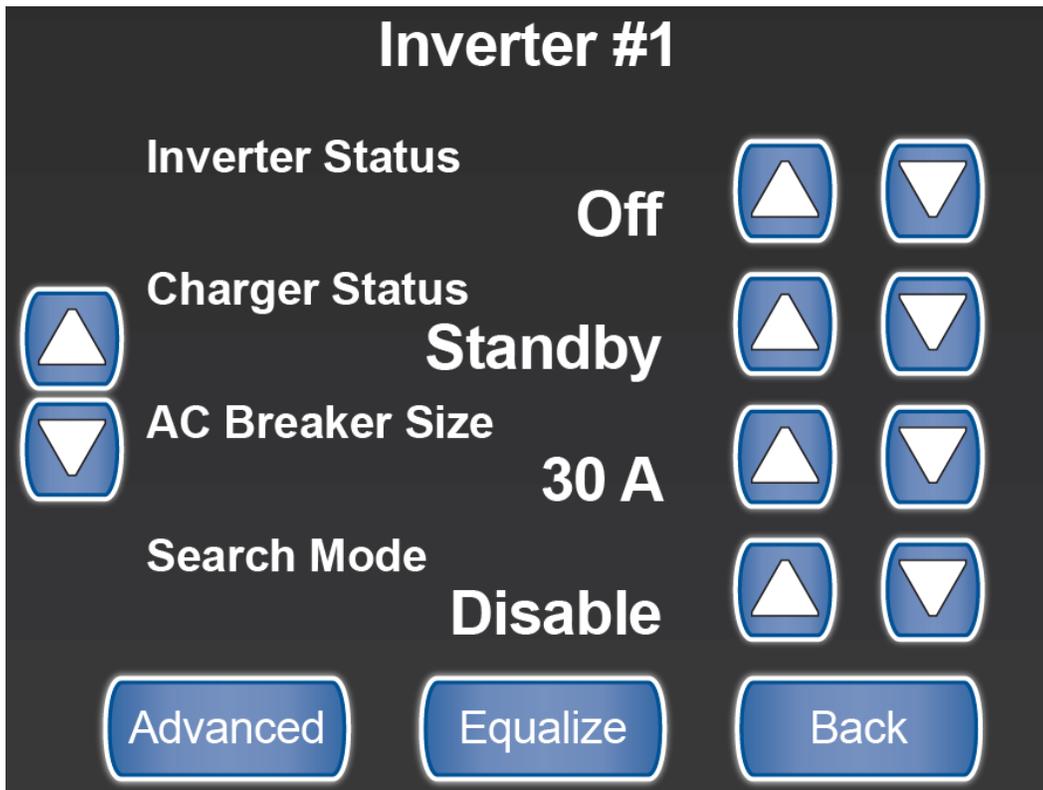
The *Inverter #1* Settings screen is accessed from the *DC Power* main screen by touching the "Settings" button beside the Charger 1 status.

Xantrex Inverter Settings Screen

Xantrex is the brand of Inverter being used in Newmar King Aire motor coaches. These screens configure the Inverter and Charger status and set the charging parameters.

Screen 1

The first screen shows the Inverter and Charger status, as well as the AC Breaker Size and Search Mode settings.



SilverLeaf > DC Power > Inverter #1 screen 1

Inverter Status

This shows the current status of the inverter.

Charger Status

This shows the current Charger Status.

AC Breaker Size

This displays the capacity of the physical breaker inline with the Inverter in the electrical panel.



Newmar recommends the value for "AC Breaker Size" should be set to '30 Amps'.

Search Mode

When set to "Disable" the Inverter is always ON. Set to "Enable" to allow the Search Watts and Search Delay functions of the next screen.

Screen 2

The second screen shows settings for Search, Charge Rate, and Mode.



SilverLeaf > DC Power > Inverter #1 screen 2

Search Watts

This is the amount of wattage consumption needed to start the Inverter.

IMPORTANT

Newmar recommends the value for "Search Watts" should be set to '25 Watts'.

Search Delay

This is the amount of time [in seconds] for Search Watts to be completed before the Inverter will start.

IMPORTANT

Newmar recommends the value for "Search Delay" should be set to '2 seconds'.

Max Charge Rate

This is the current charge rate of the Inverter. It should be set from the factory to 70%. It will ramp up or drop down the charge rate depending on the power available. This sets the percentage of the maximum DC output current that is available to the charger. The maximum DC output current for the Freedom SW 3012 —150 ADC.

Desired Mode

This is the current mode of the inverter at any given time. Ex: Operating or Standby

Advanced Button

IMPORTANT

This screen is password protected to allow Qualified Service Technicians access to make changes to the control settings. Changing these control settings to improper values can adversely affect the operation of the control system and may cause damage to the coach.



SilverLeaf > Advanced screen

Equalize Button

Touching this will take you to a screen to allow you to Equalize your batteries.



Newmar recommends that the "EQUALIZE" function be performed at a Newmar Certified Service Center.



YOU SHOULD NEVER EQUALIZE AGM BATTERIES. THIS WILL CAUSE DAMAGE TO AND POSSIBLY RUIN AGM BATTERIES.

Back Button

This will take the user back to the DC POWER main screen.

Xantrex Inverter #2 Settings

Overview

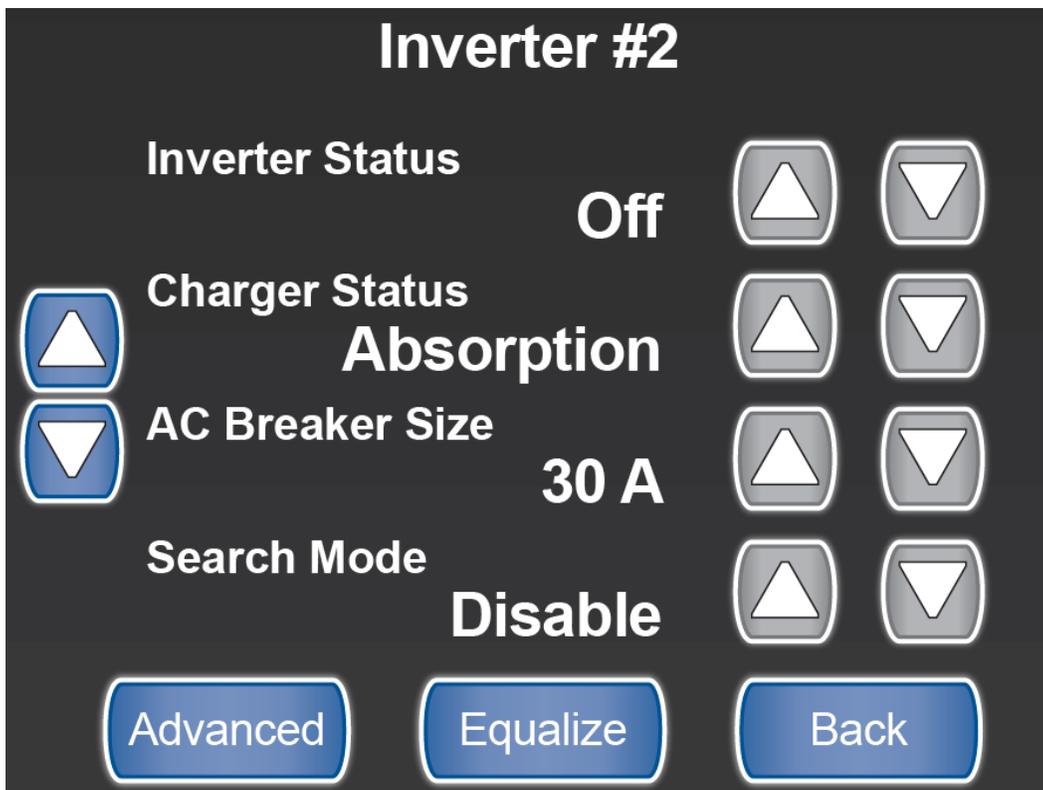
The Inverter #2 Settings screen is accessed from the DC Power main screen by touching the "Settings" button beside the Charger 2 status.

Xantrex Inverter Settings Screen

Xantrex is the brand of Inverter being used in Newmar King Aire motor coaches. These screens configure the Inverter and Charger status and set the charging parameters.

Screen 1

The first screen shows the Inverter and Charger status. The AC Breaker size is the maximum Breaker for the charger. Search Mode is the setting for the wattage required to activate the Inverter.



SilverLeaf > DC Power > Inverter #2 screen 1

Inverter Status

This shows the current status of the inverter.

Charger Status

This shows the current Charger Status.

AC Breaker Size

This displays the capacity of the physical breaker inline with the Inverter in the electrical panel.



Newmar recommends the value for "AC Breaker Size" should be set to '30 Amps'.

Search Mode

When set to "Disable" the Inverter is always ON. Set to "Enable" to allow the Search Watts and Search Delay functions of the next screen.

Advanced Button



This screen is password protected to allow Qualified Service Technicians access to make changes to the control settings. Changing these control settings to improper values can adversely affect the operation of the control system and may cause damage to the coach.



Equalize Button

Touching this will take you to a screen to allow you to Equalize your batteries.



Newmar recommends that the "EQUALIZE" function be performed at a Newmar Certified Service Center.



YOU SHOULD NEVER EQUALIZE AGM BATTERIES. THIS WILL CAUSE DAMAGE TO AND POSSIBLY RUIN AGM BATTERIES.

Back Button

This will take the user back to the DC POWER main screen.

Screen 2

The second screen shows settings for Search, Charge Rate, and Mode.



Search Watts

This is the amount of wattage consumption needed to start the Inverter.



Newmar recommends the value for "Search Watts" should be set to '25 Watts'.

Search Delay

This is the amount of time [in seconds] for Search Watts to be completed before the Inverter will start.



Newmar recommends the value for "Search Delay" should be set to '2 seconds'.

Max Charge Rate

This is the current charge rate of the Inverter. It should be set from the factory to 70%. It will ramp up or drop down the charge rate depending on the power available. This sets the percentage of the maximum DC output current that is available to the charger. The maximum DC output current for the Freedom SW 3012 —150 ADC.

Desired Mode

This is the current mode of the inverter at any given time. Ex: Operating or Standby

Advanced Button



This screen is password protected to allow Qualified Service Technicians access to make changes to the control settings. Changing these control settings to improper values can adversely affect the operation of the control system and may cause damage to the coach.



SilverLeaf > Advanced screen

Equalize Button

Touching this will take you to a screen to allow you to Equalize your batteries.



Newmar recommends that the "EQUALIZE" function be performed at a Newmar Certified Service Center.



YOU SHOULD NEVER EQUALIZE AGM BATTERIES. THIS WILL CAUSE DAMAGE TO AND POSSIBLY RUIN AGM BATTERIES.

Back Button

This will take the user back to the DC POWER main screen.

Genset

Overview

Displays the Generator Operating Status and Auto Generator Start (AGS) Start and Stop function status.

Genset Screen

The Genset screen displays the current Generator Operating Status including Generator Run Hours, Engine RPM, AC Voltage, Frequency in Hertz, and Engine Temperature.



SilverLeaf > Genset

Start & Stop Buttons

The Start and Stop buttons allow the user to manually start and stop the generator.

Clear AGS Button

The Clear AGS button allows the user to clear the AGS safety lockout flag to reset the Auto Generator Start (AGS) function. A lockout occurs when the generator slide has been opened and will stop the generator from being started for safety reasons.

Water

Overview

Displays information about the water tanks and pumps, as well as the LP tanks (if equipped).

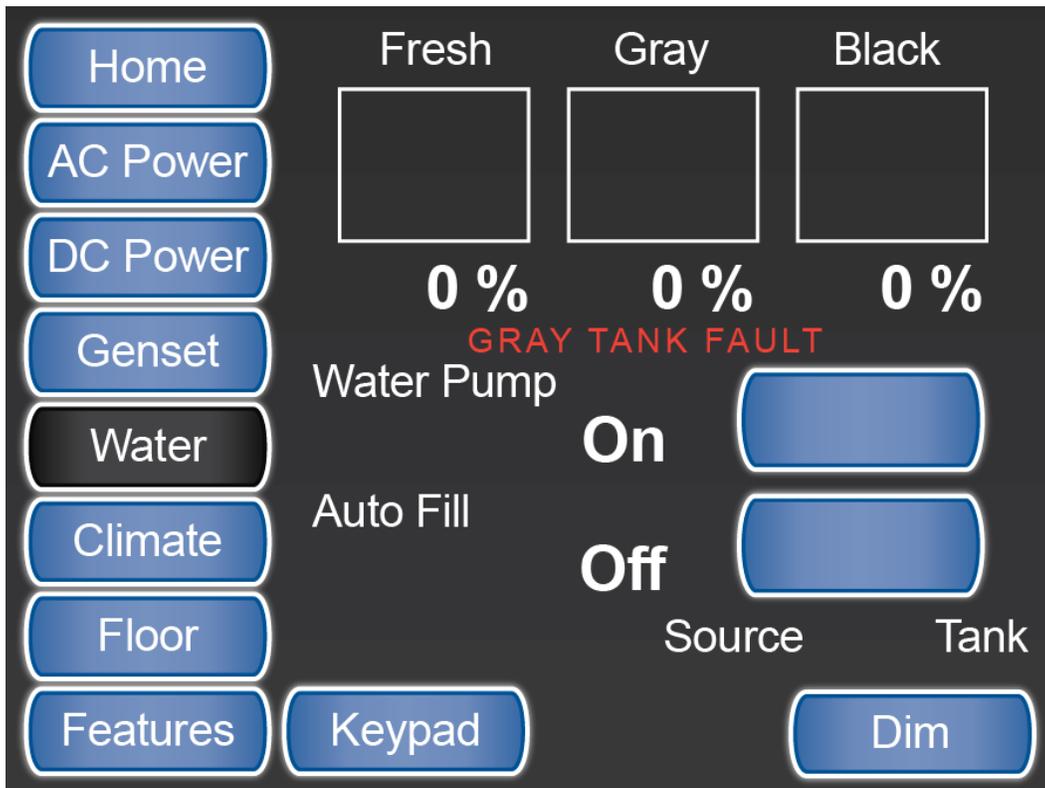
Water Screen

The values displayed on the Water screen are dependent upon whether the coach uses LP or is Electric. LP is liquid petroleum gas, often referred to as propane or butane gas.

All-Electric Coach

If it's an All-Electric coach, the Water screen displays:

- The Fresh and Holding Tanks volume as a percentage-full status
- Tank-related faults, (if any)
- The Water Pump button, which turns the Water Pump on and off
- The Auto Fill button, which turns the Fresh Water Tank Auto Fill functions on and off
- The source from where the readings are being received

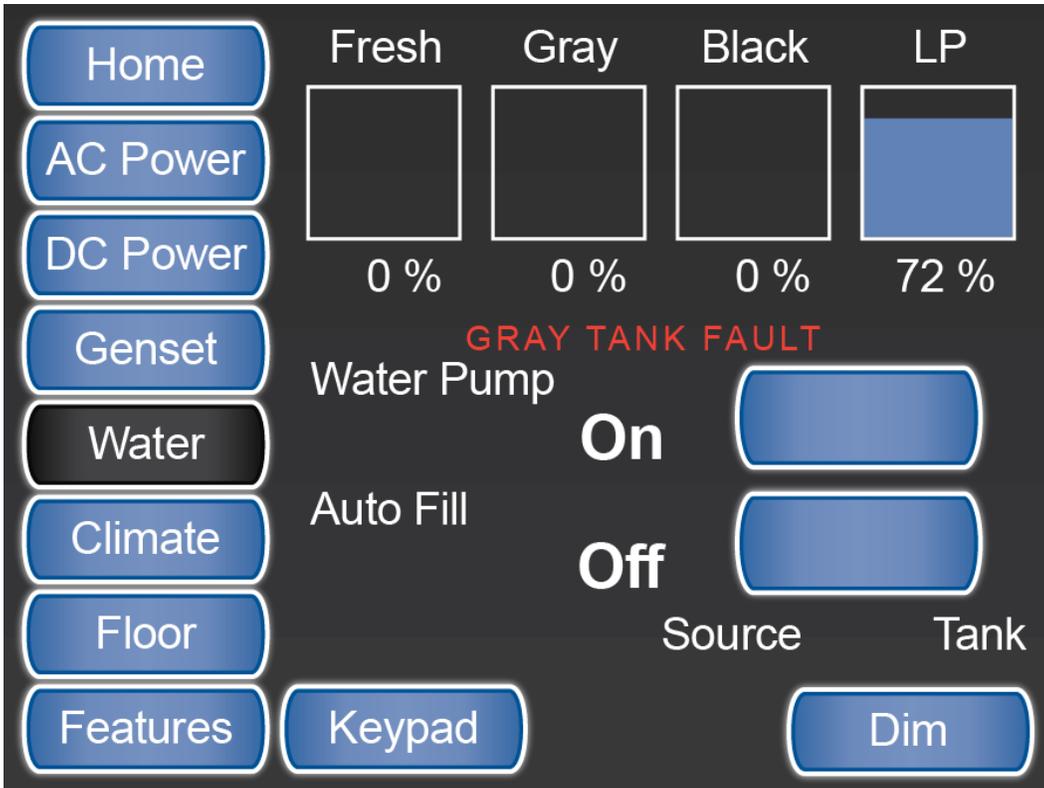


SilverLeaf > Water screen -- All Electric coach

LP Coach

If it's an LP coach, the Water screen displays:

- The Fresh and Holding Tanks volume as a percentage-full status
- The LP Tank percentage-full status
- Tank related faults (if any)
- The Water Pump button, which turns the Water Pump on and off
- The Auto Fill button, which turns the Fresh Water Tank Auto Fill functions on and off
- The source from where the readings are being received



SilverLeaf > Water screen -- LP coach

Climate

Overview

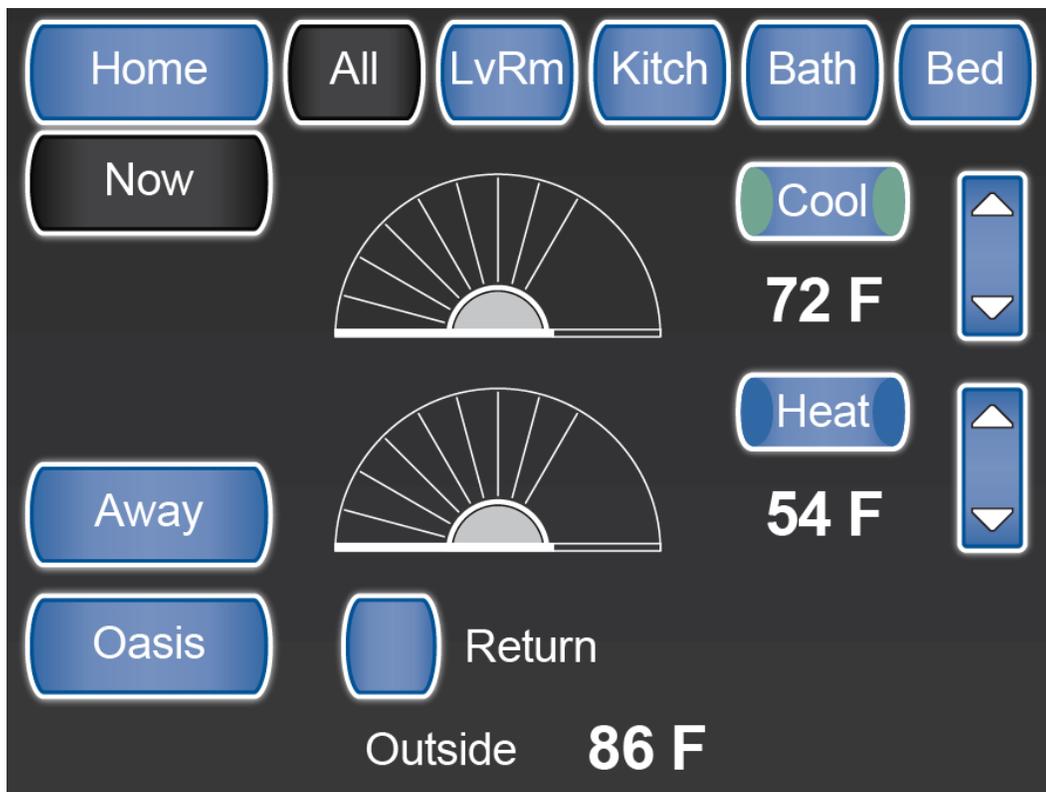
Displays and controls the settings for the HVAC in the coach.

Climate Screen

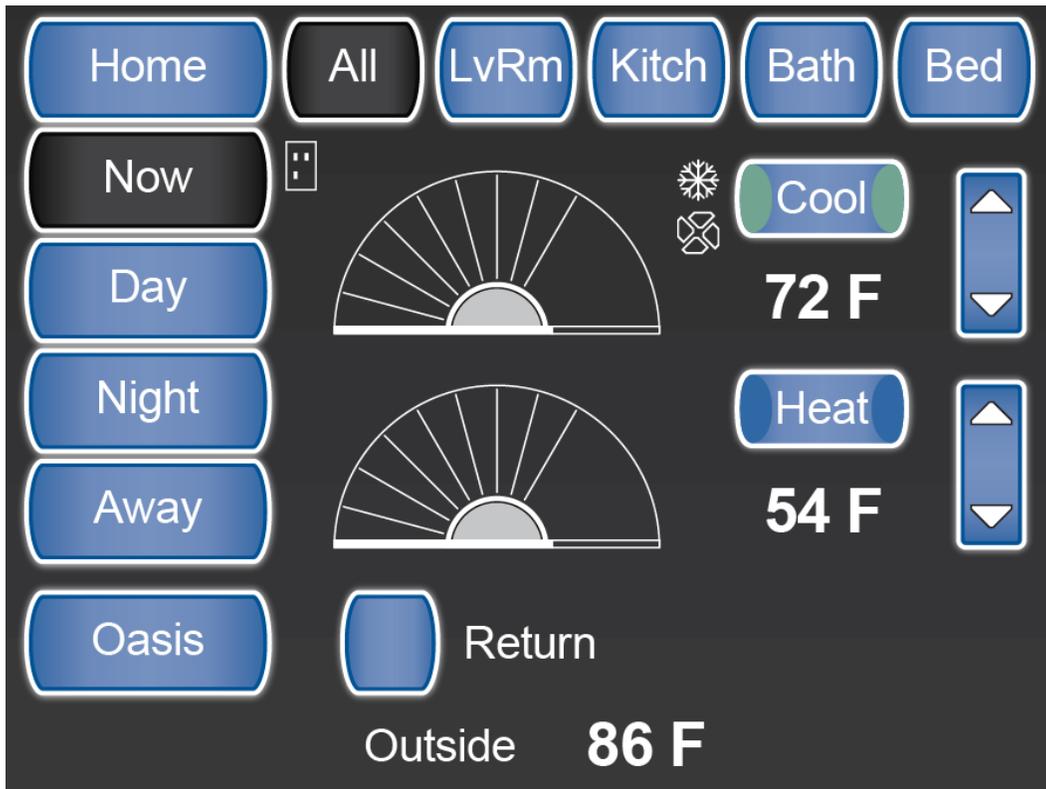
The Climate screen controls and displays the settings for the Heating and Air Conditioning (HVAC) in the coach. This is where the user will set the temperature for heating and cooling and schedule temperature changes by day, night, or when they are away.

All

Use the Climate "All" screen to manage the Heating and Cooling for all HVAC zones in the coach. This is a global display and control.



SilverLeaf > Climate All screen



SilverLeaf > Climate All screen with Scheduled settings

Heat & Cool Buttons

Pressing the Heat or Cool button activates all the zones at one time. The set points are changed by using the up and down arrows or dragging the "wheel" to the desired temperature.

Schedule

To schedule different temperatures by day, night, or when you are away, click on the appropriate button and set the temperatures and times as desired.

You can use the "All" button or set the schedule by "Zone". Each Zone can have a different temperature and schedule, but you cannot run the heat in one zone and AC in the other. It is either all AC or all heat.

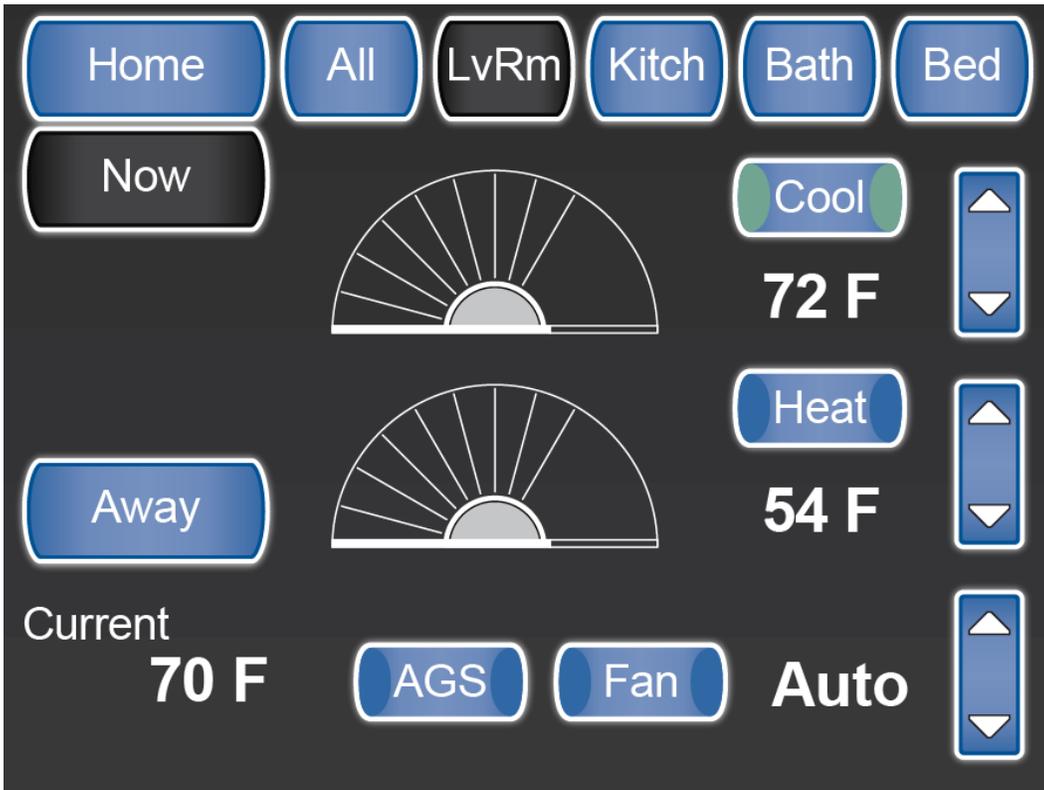
Leave | Return Button

Near the bottom of the display, above the Outside Temp is a small button labeled either "Leave" or "Return". When you are in the coach, the button should be labeled "Leave" and the system should use the temp settings shown on the screen. When you leave the coach you may press "Leave" to have the system use the temp settings you have configured for "Away" mode. The button label should also change to "Return", which can be changed when you get back to your coach to resume standard Climate control.

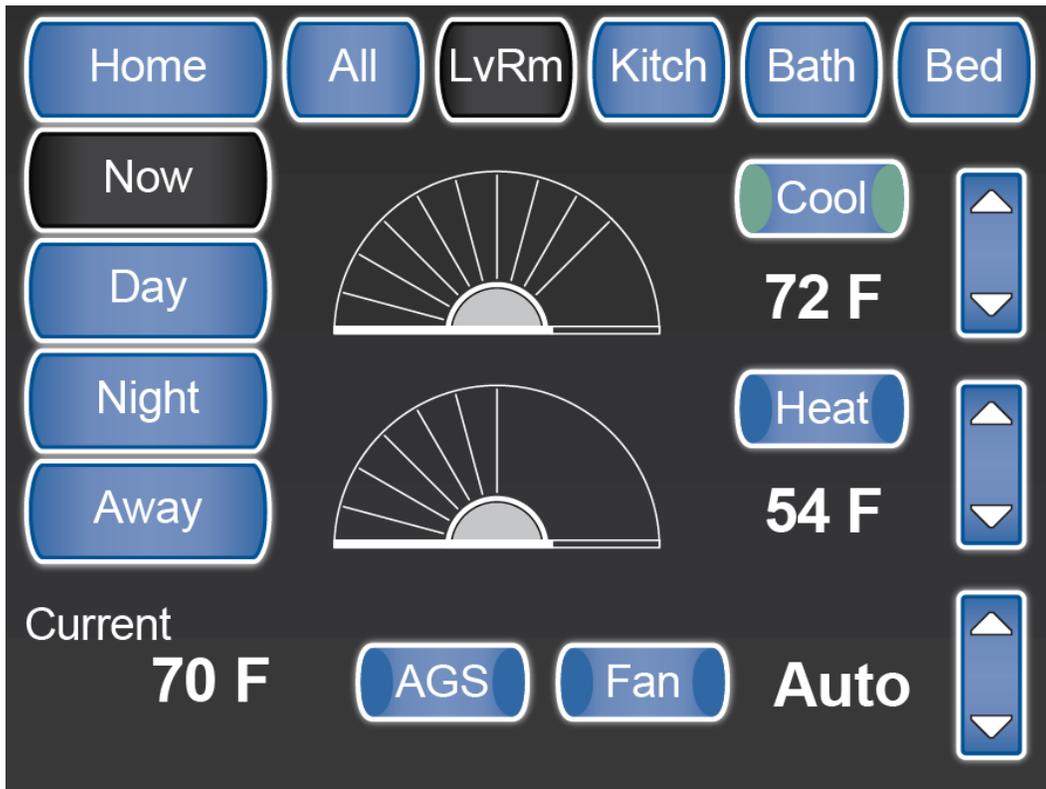
There is a small icon in the shape of a door that will appear just beside the "Now" button to indicate when the system is in "Away" mode. This icon may display on all Climate screens when "Away" mode is active.

Living Room Zone

The Climate - Living Room (LvRm) screen displays the status and controls the Living Room Zone (Zone 1) of the HVAC system.



SilverLeaf > Climate > Living Room screen



SilverLeaf > Climate > Living Room screen with Scheduled settings

Heat & Cool Buttons

Pressing the Heat or Cool button activates all the zones at one time. The set points are changed by using the up and down arrows or dragging the "wheel" to the desired temperature.

Schedule

To schedule different temperatures by day, night, or when you are away, click on the appropriate button and set the temperatures and times as desired.

You can use the "All" button or set the schedule by "Zone". Each Zone can have a different temperature and schedule, but you cannot run the heat in one zone and cool in the other. It is either all cool or all heat.

AGS Button

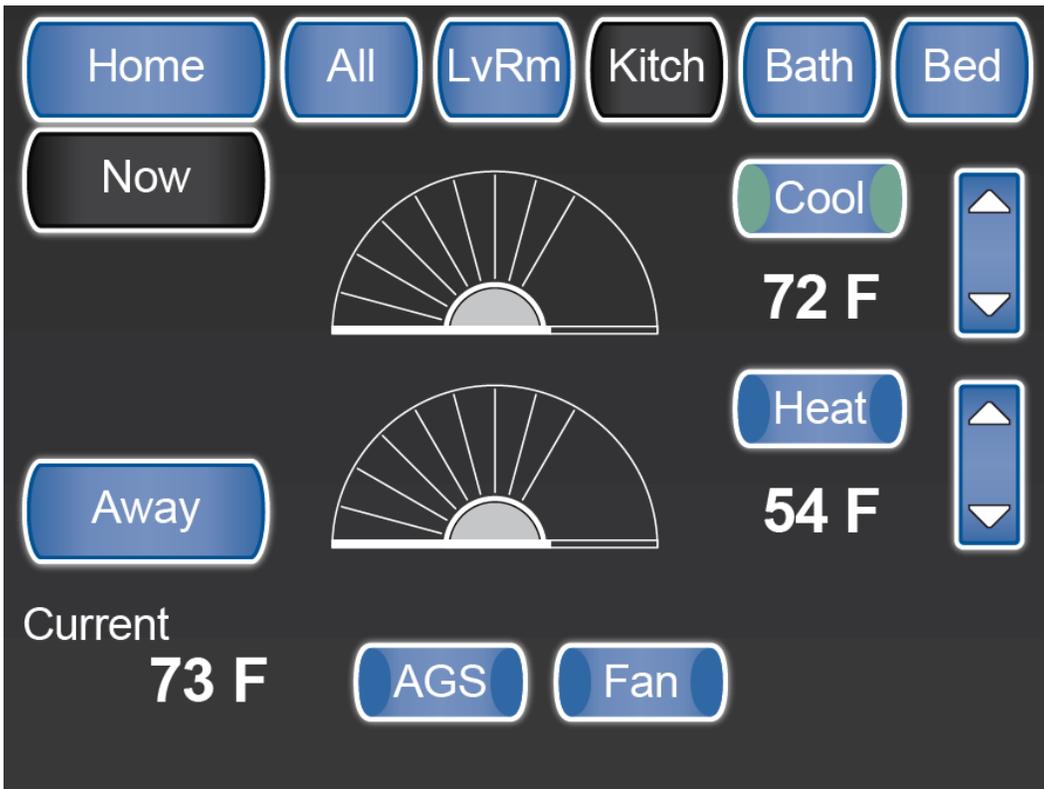
The "AGS" button enables the AutoGen Start feature for this zone.

Fan Button

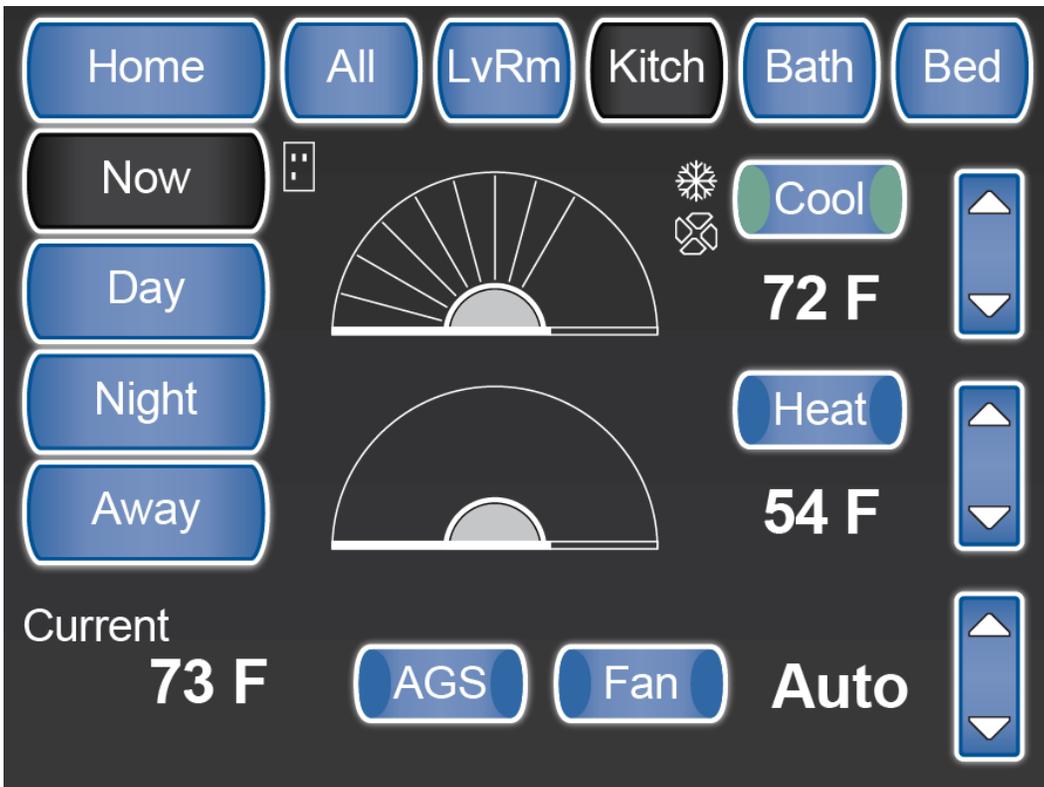
The "Fan" button turns on the fan only for air circulation in this zone.

Kitchen Zone

The Climate - Kitchen (Kitch) screen displays the status and controls the Kitchen Zone (Zone 2) of the HVAC system.



SilverLeaf > Climate > Kitchen screen



SilverLeaf > Climate > Kitchen screen with Scheduled settings

Heat & Cool Buttons

Pressing the Heat or Cool button activates all the zones at one time. The set points are changed by using the up and down arrows or dragging the "wheel" to the desired temperature.

Schedule

To schedule different temperatures by day, night, or when you are away, click on the appropriate button and set the temperatures and times as desired.

You can use the "All" button or set the schedule by "Zone". Each Zone can have a different temperature and schedule, but you cannot run the heat in one zone and AC in the other. It is either all AC or all heat.

AGS Button

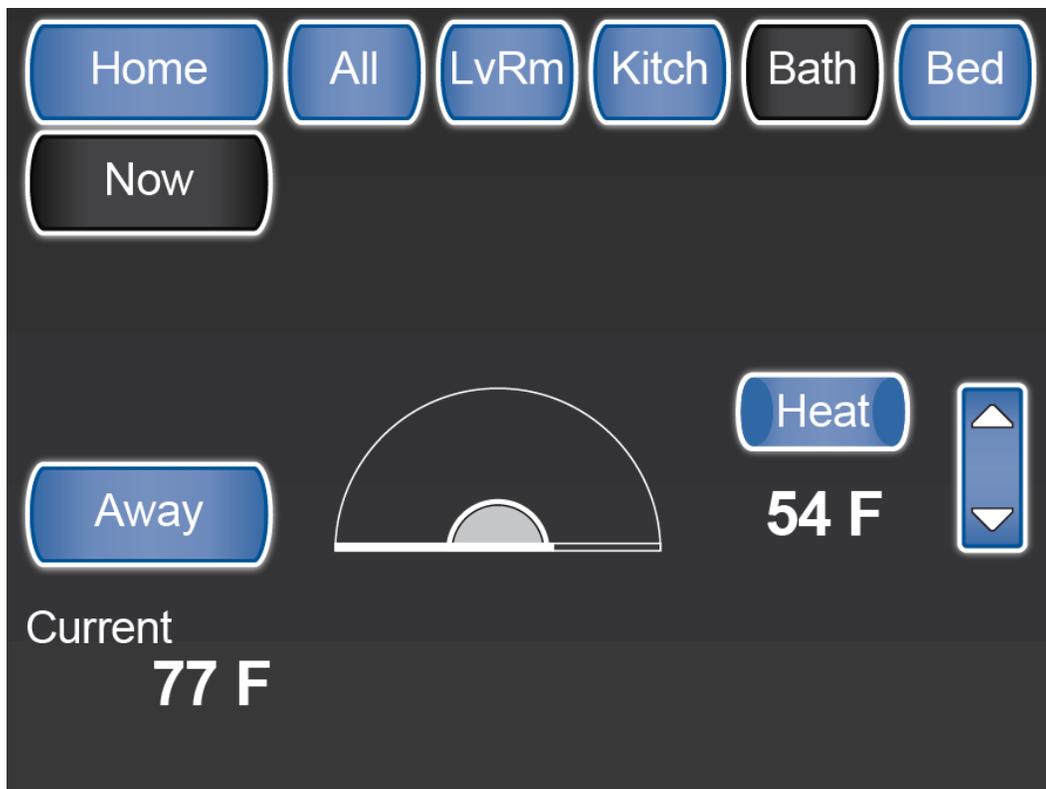
The "AGS" button enables the AutoGen Start feature for this zone.

Fan Button

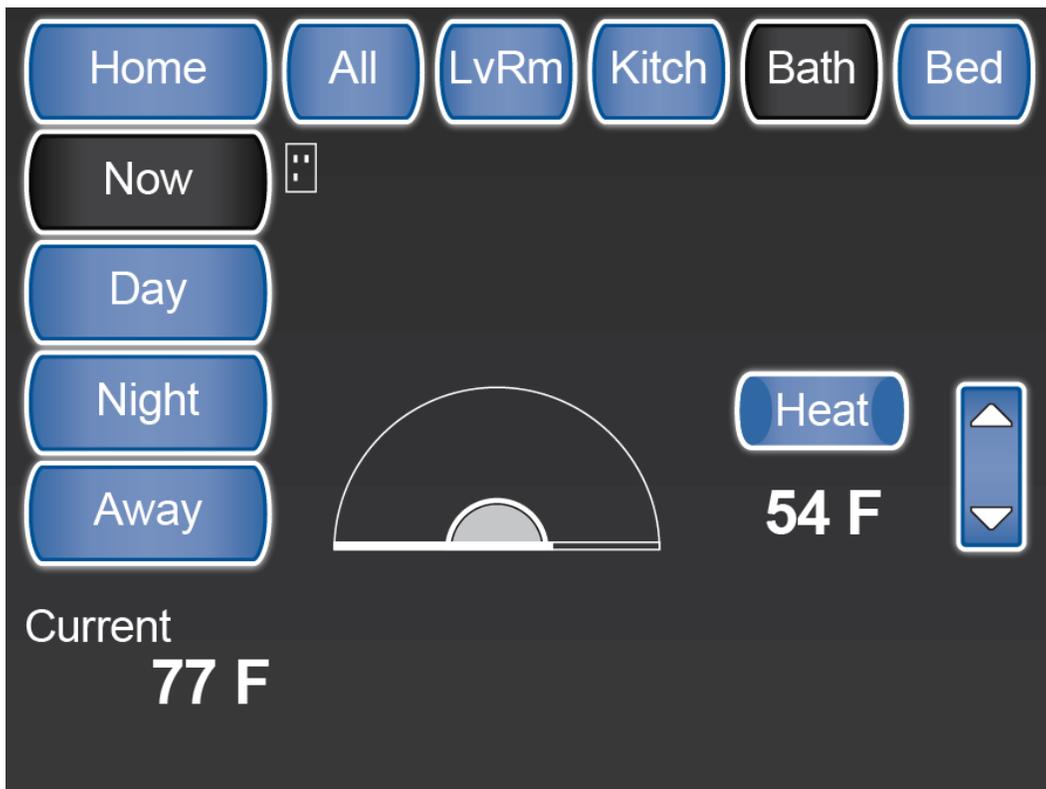
The "Fan" button turns on the fan for air circulation in this zone.

Bathroom Zone

The Climate - Bathroom (Bath) screen displays the status and controls the Bathroom Zone (Zone 3) of the HVAC system.



SilverLeaf > Climate > Bathroom screen



SilverLeaf > Climate > Bathroom screen with Scheduled settings

Heat Button

The Climate "Bath" screen only controls the Bathroom Oasis heating system. There is no A/C or Heat Pump available for this zone. Pressing the Heat or Cool button activates all the zones at one time. The set points are changed by using the up and down arrows or dragging the "wheel" to the desired temperature.

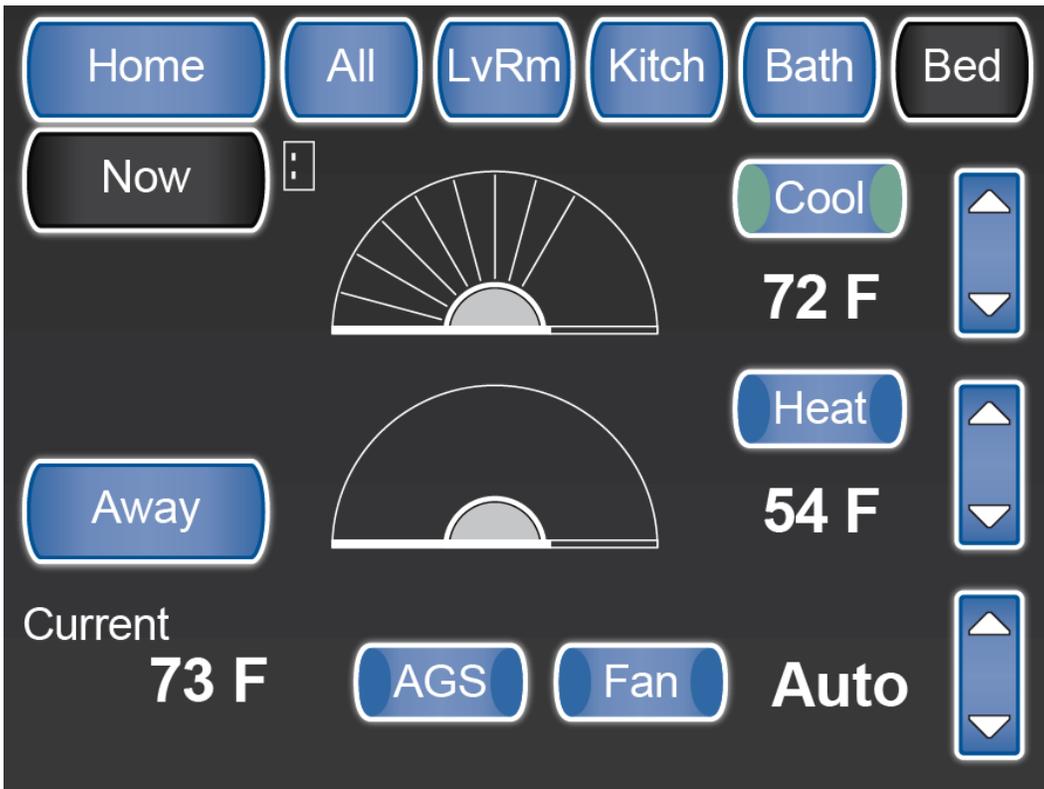
Schedule

To schedule different temperatures by day, night, or when you are away, click on the appropriate button and set the temperatures and times as desired.

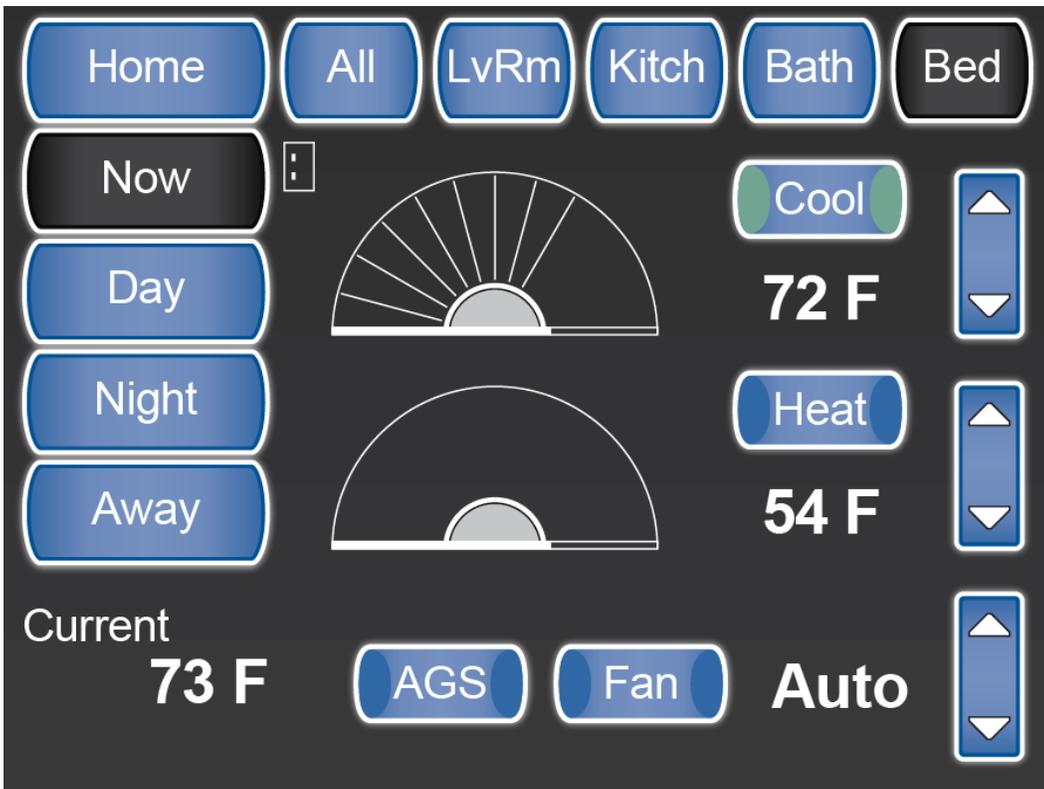
You can use the "All" button or set the schedule by "Zone". Each Zone can have a different temperature and schedule, but you cannot run the heat in one zone and AC in the other. It is either all AC or all heat.

Bedroom Zone

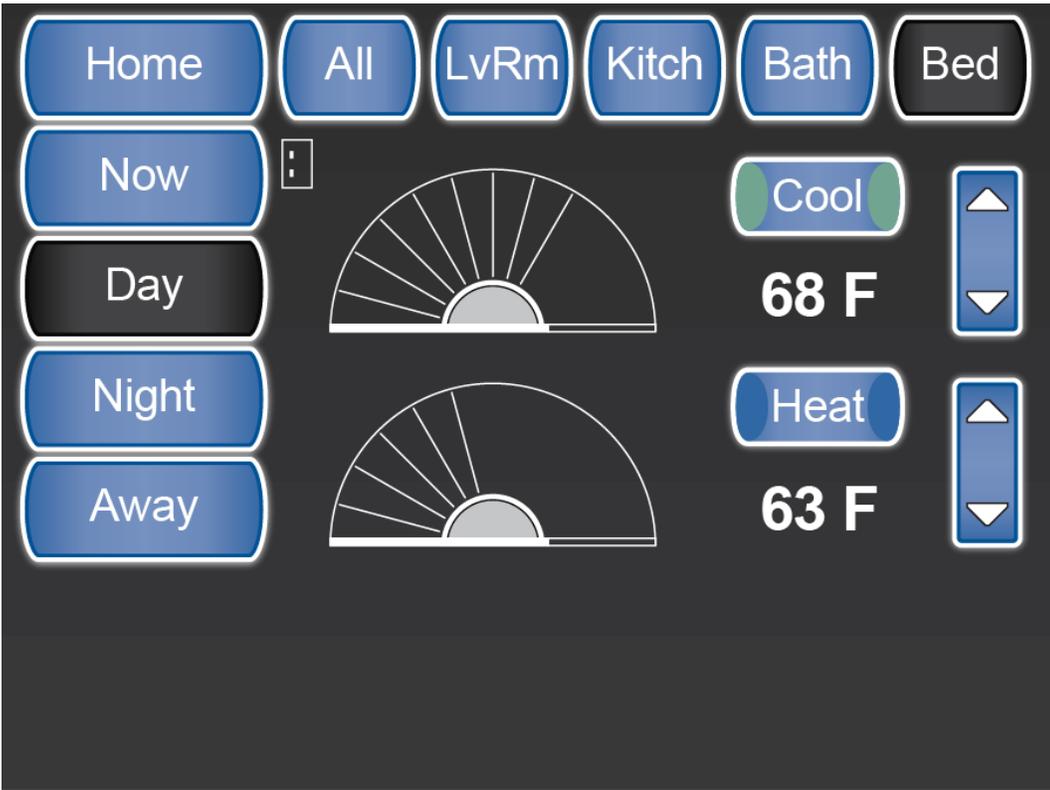
The Climate - Bedroom (Bed) screen displays the status and controls the Bedroom Zone (Zone 4) of the HVAC system.



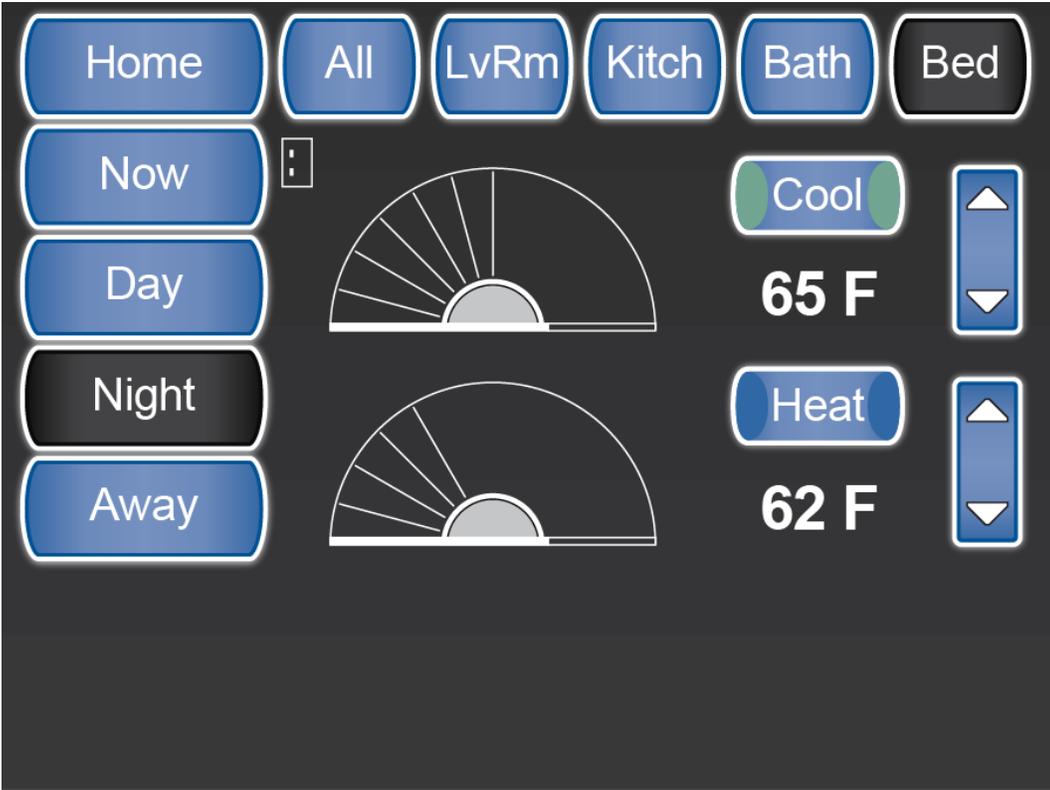
SilverLeaf > Climate > Bedroom screen



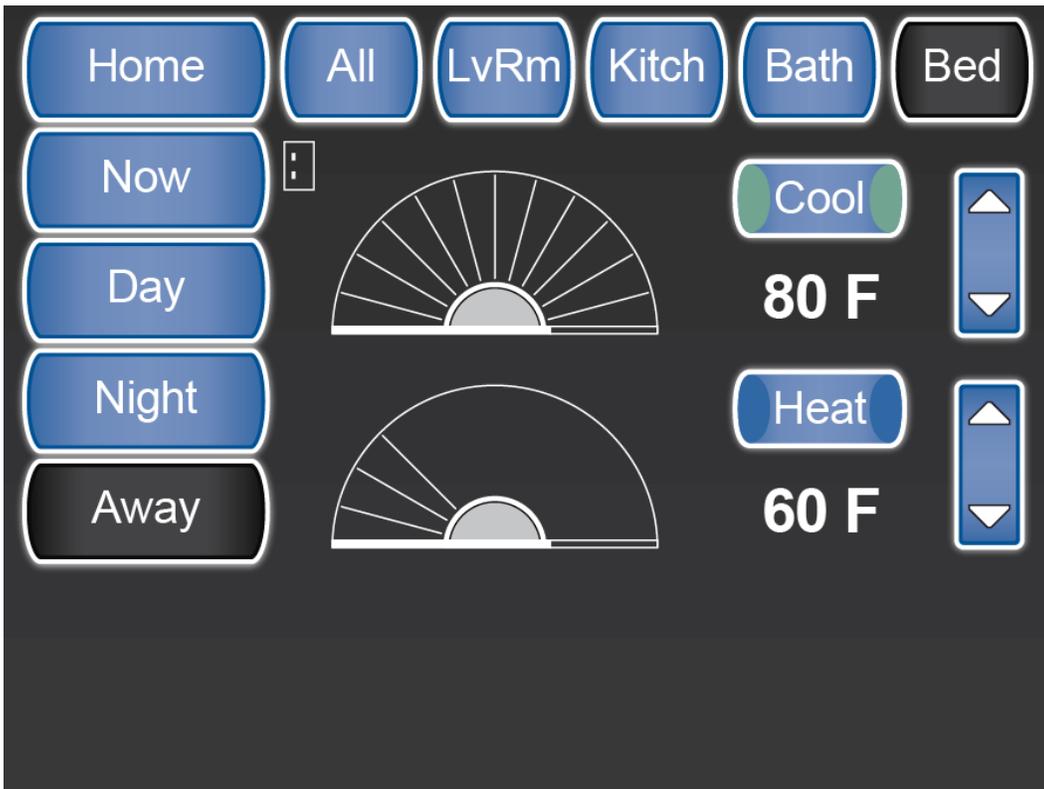
SilverLeaf > Climate > Bedroom screen with Scheduled settings (Now)



SilverLeaf > Climate > Bedroom screen with Scheduled settings (Day)



SilverLeaf > Climate > Bedroom screen with Scheduled settings (Night)



SilverLeaf > Climate > Bedroom screen with Scheduled settings (Away)

Heat & Cool Buttons

Pressing the Heat or Cool button activates all the zones at one time. The set points are changed by using the up and down arrows or dragging the "wheel" to the desired temperature.

Schedule

To schedule different temperatures by day, night, or when you are away, click on the appropriate button and set the temperatures and times as desired.

You can use the "All" button or set the schedule by "Zone". Each Zone can have a different temperature and schedule, but you cannot run the heat in one zone and AC in the other. It is either all AC or all heat.

AGS Button

The "AGS" button enables the AutoGen Start feature for this zone.

Fan Button

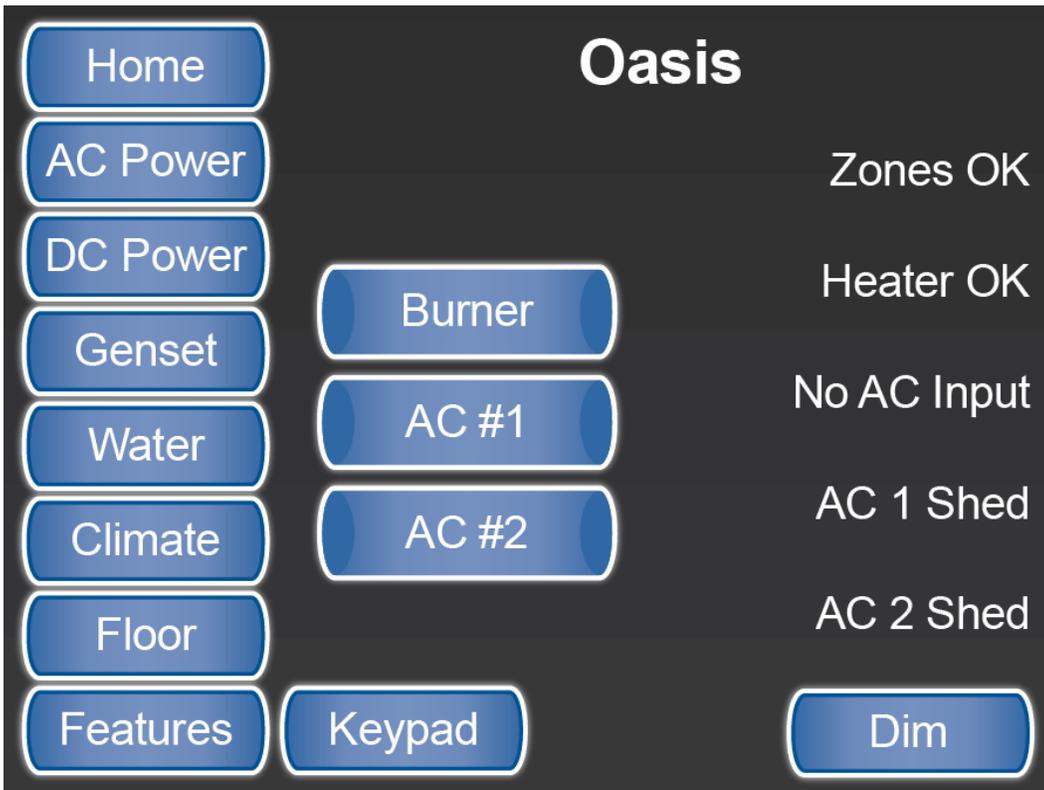
The "Fan" button turns on the fan for air circulation in this zone.

Oasis Screen

The *Oasis* control screen can only be accessed from the Climate "All" screen and allows the user to control the OASIS Hydronic Heating System Burner and both Hydronic Heating System AC Heating Elements. This screen also displays the OASIS System operational status and faults, if any.

The Burner button turns yellow when the heat transfer fluid is at temperature.

The AC buttons turn yellow when the heat transfer fluid is at temperature or if the heating element was shed by the Energy Management System (EMS) function.



SilverLeaf > Climate All > Oasis screen

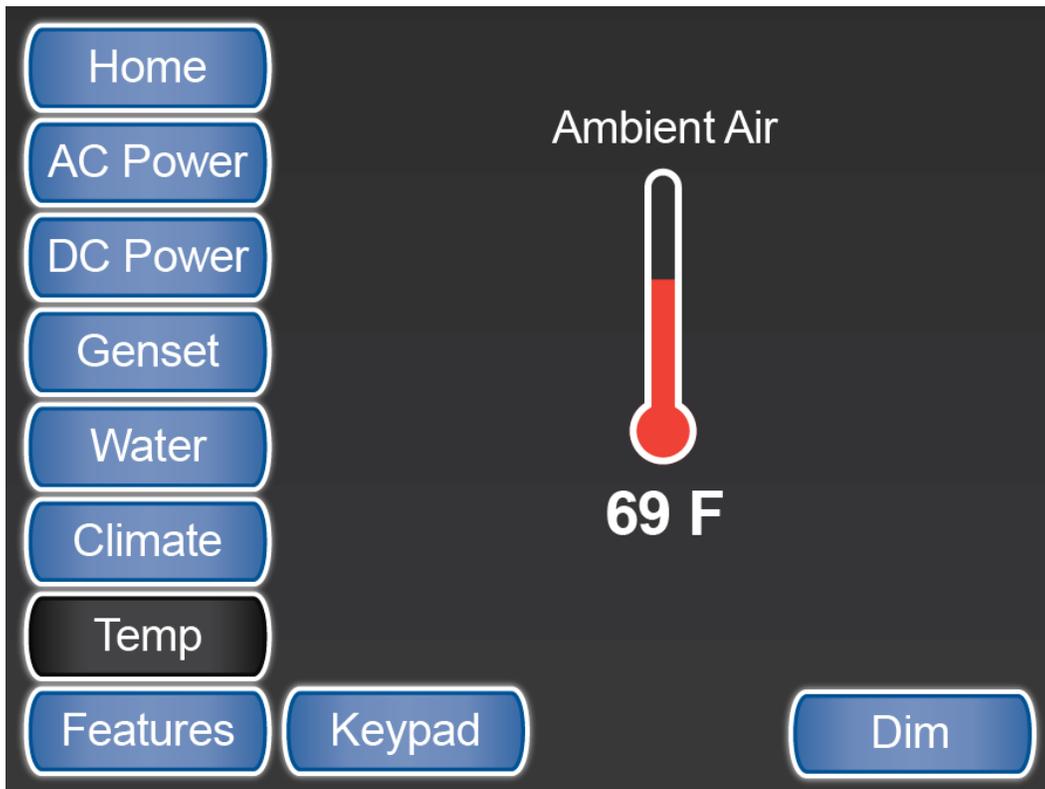
Temp

Overview

Displays the outside ambient air temperature. This screen is only available on coaches not equipped with Floor Heat.

Temp Screen

The Temp screen displays the outside air temperature in a larger display than available from the Home screen. This selection is only available on systems without the optional Floor Heat. If the coach is equipped with optional Floor Heat, the button will read "Floor" instead of "Temp".



SilverLeaf > Temperature screen - for coaches without Floor Heat

Floor Heat

Overview

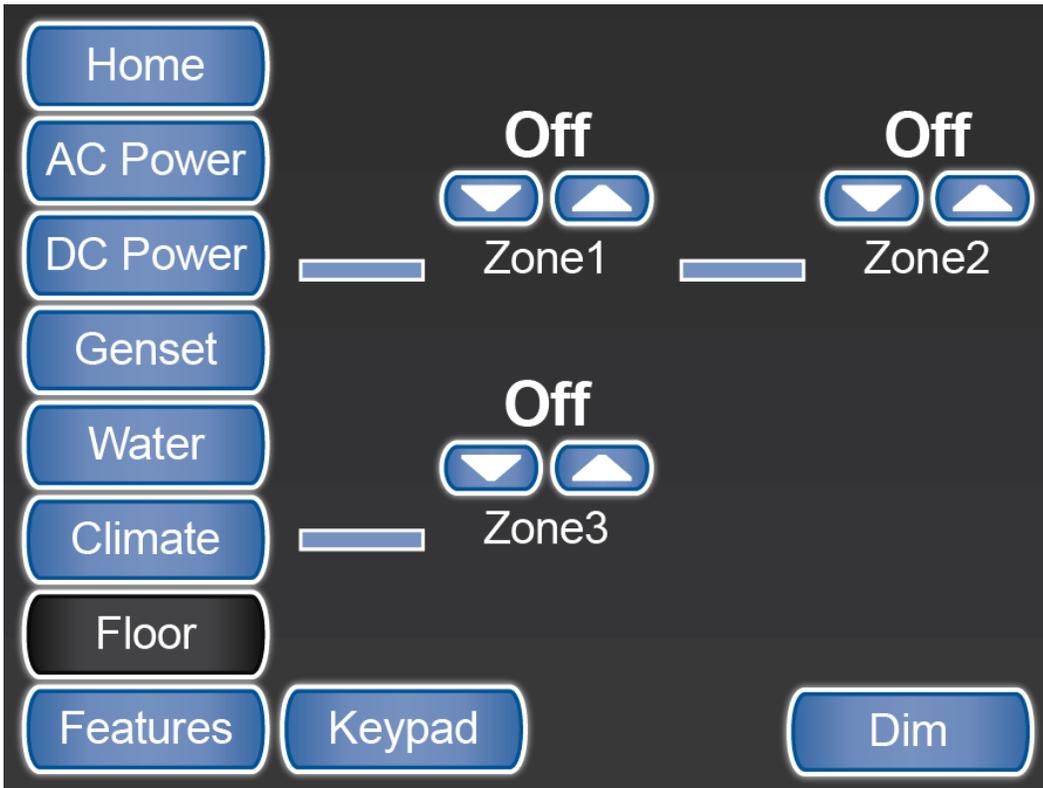
Displays and controls the settings and schedules for Floor Heat.

Floor Heat Screen

The Floor Heat Control System operates by switching the different floor zone heat mats ON and OFF as determined by the intervals and values selected.

Screen 1

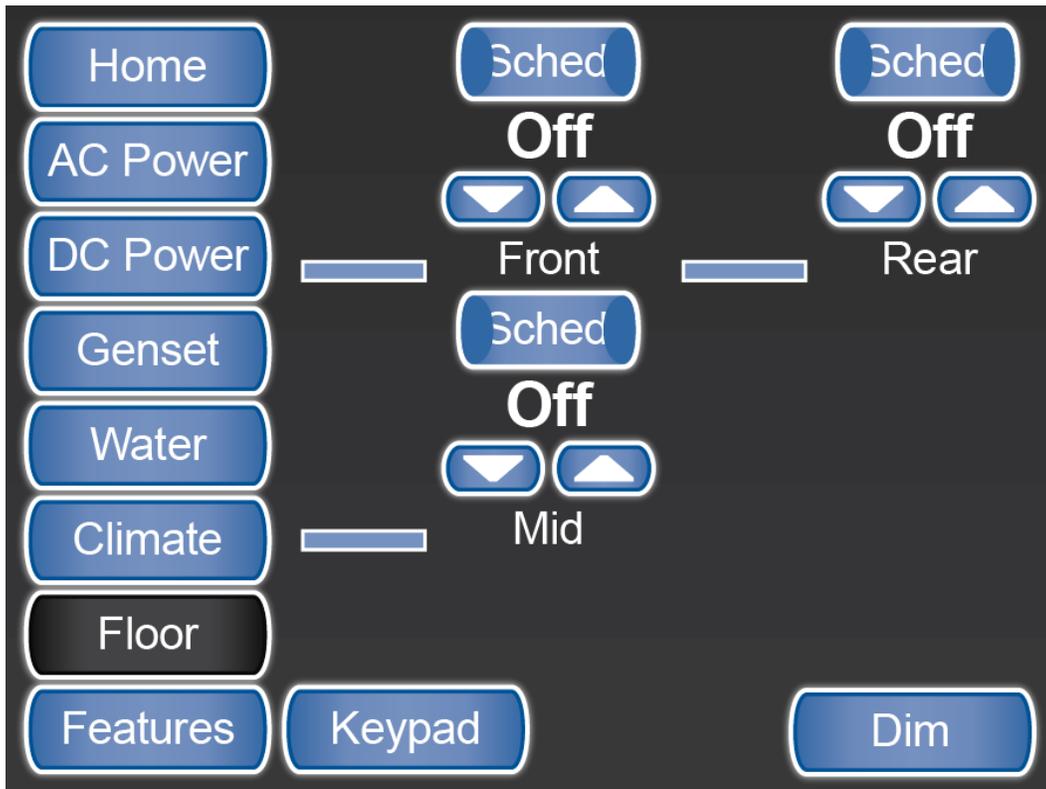
The Floor Heat zone settings are controlled by slider bars. The higher the number selected, the longer the heat mat remains ON. An icon will appear above the down arrow for each zone when that particular zone is active (turned ON).



SilverLeaf > Floor Heat screen 1

Screen 2

The schedule buttons allow the user to set different temperatures to control the Floor Heat system for different times during the day.



SilverLeaf > Floor Heat screen 2

Features 1

Overview

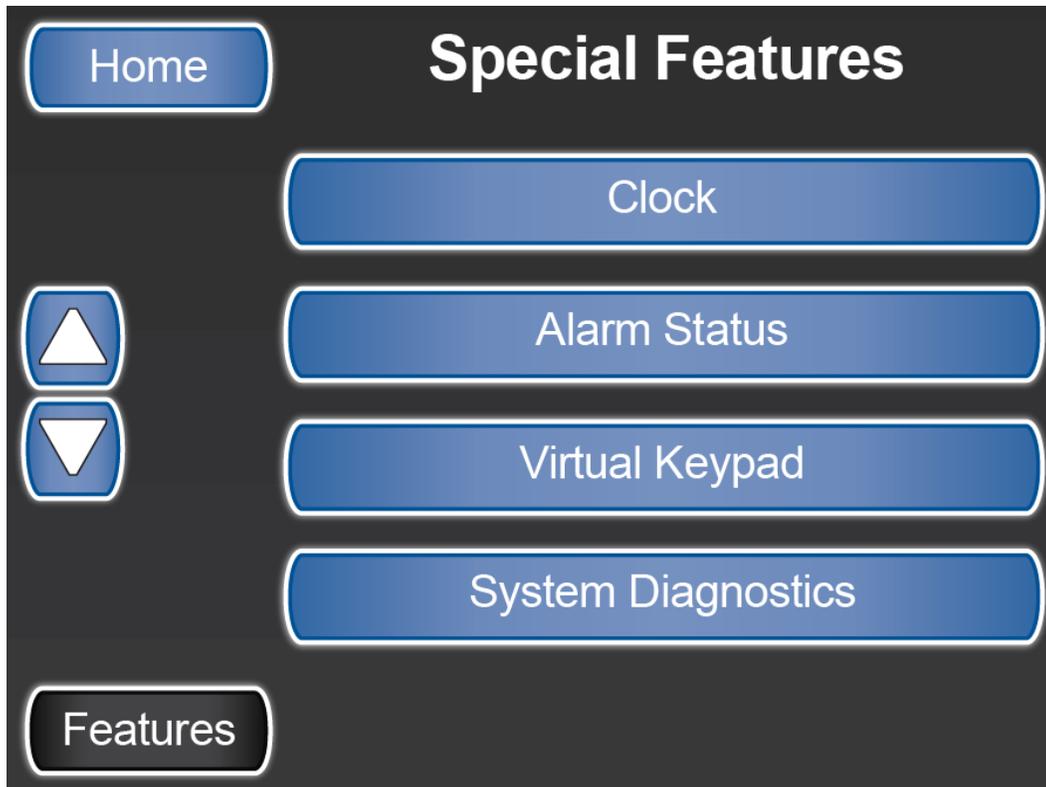
Provides access to the Clock, Alarm Status, Virtual Keypad, and System Diagnostics screens.

Features 1 Screen

The Special Features screens provide access to the functions not shown on the Home screen. The first screen allows access to the following functions:

- Set clock
- Set alarm system
- Check Alarm Status
- Adjust Lights and shades with the Virtual Keypad
- Check RV-C Diagnostic Codes

Click the up and down arrows to scroll to another Special Features screen.



SilverLeaf > Special Features screen 1

Clock

Overview

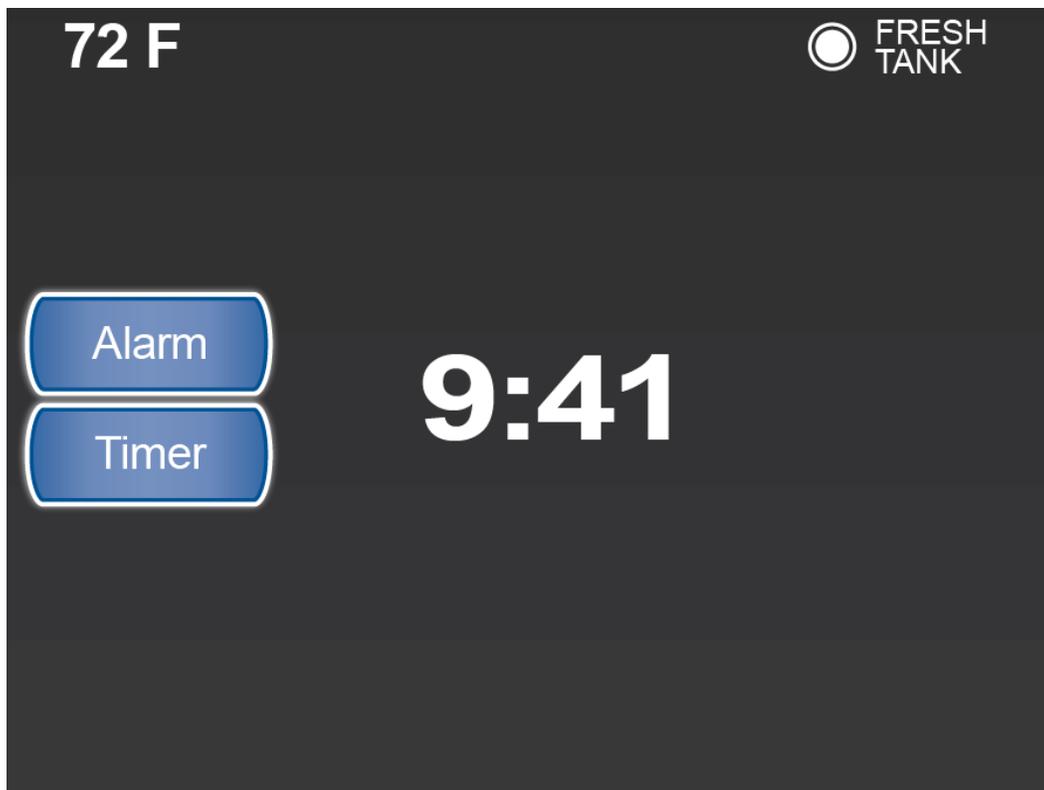
This screen displays the system time, outside temp, and system warnings.

Clock Screen

The Clock screen shows the outside temperature, system warnings, and the system time.

Use this screen to access the Alarm and Timer functions.

Pressing any blank portion of this screen returns you to the Home screen.



SilverLeaf > Features 1 > Clock screen

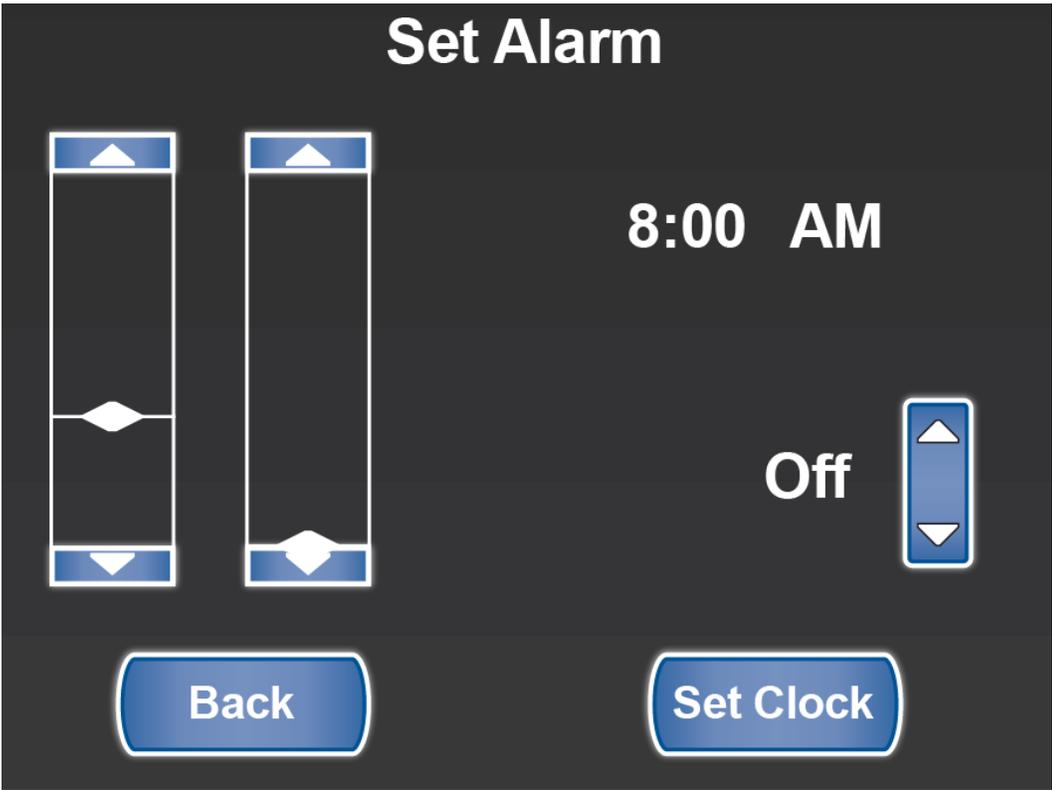
Alarm Button

The Set Alarm screen is accessed from the Clock screen. This screen provides access to the Set Clock screen where you can adjust the system time and date.

Use the slider bars to set the appropriate time you would like to be alerted.

Tap the arrows on the right of the screen to activate the alarm by turning it On or Off.

Set Alarm

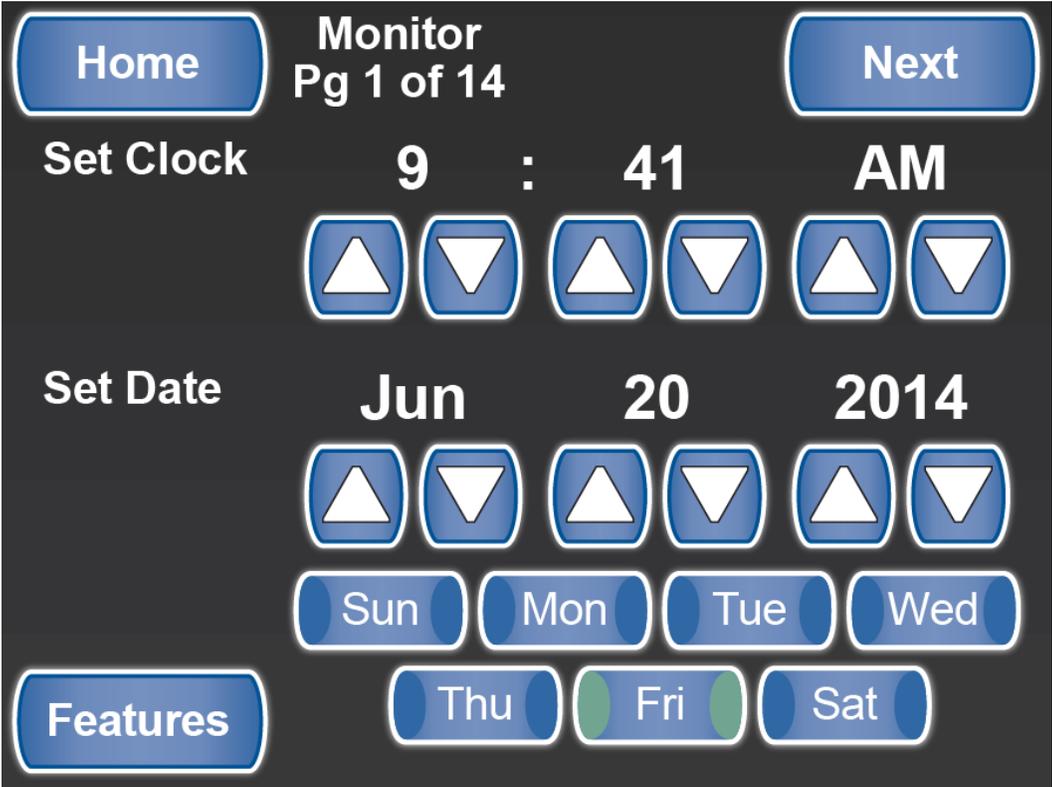


SilverLeaf > Features 1 > Clock > Set Alarm screen

Set Clock Button

The Set Clock screen is accessed from the Set Alarm screen.

Use the up and down arrows to change the time and date.



Timer Button

The Countdown Timer screen is accessed by pressing the Timer button from the Clock screen. This allows you to set the countdown for minutes and seconds.

Use the slider bars to set the appropriate time you would like to countdown.

To start the countdown, press the Start button. You will hear an audible sound when the timer reaches zero.



SilverLeaf > Features 1 > Clock > Countdown Timer screen

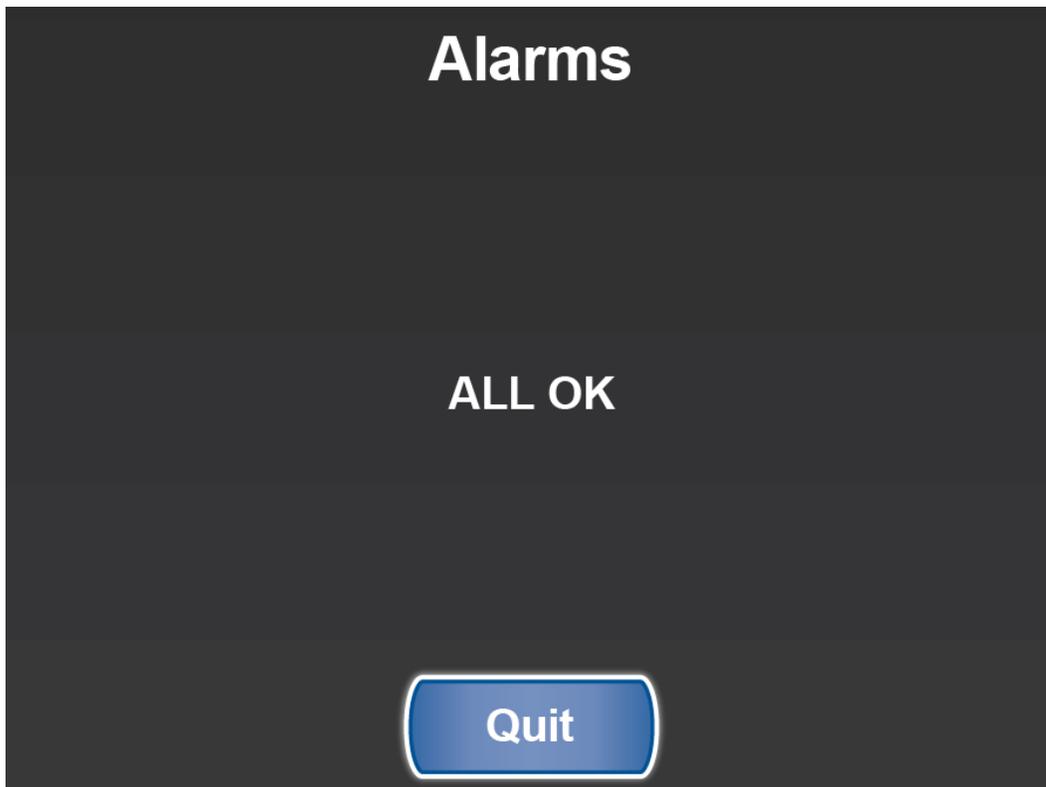
Alarm Status

Overview

The Alarm Status Screen shows any Alarms that have been activated.

Alarm Status Screen

This setting displays system alarms, both active and inactive. The inactive alarms are shown with a line through them.



SilverLeaf > Features 1 > Alarm Status screen

Virtual Keypad

Overview

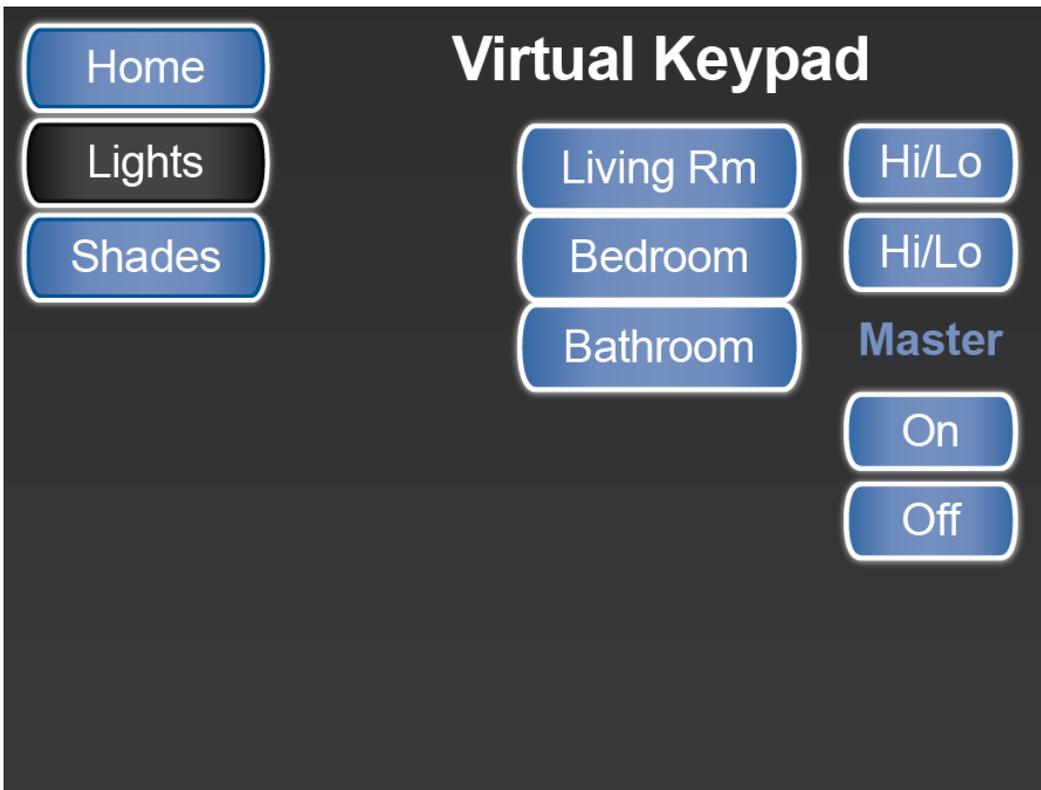
Displays the lighting and shade operation.

Virtual Keypad Screen

The Virtual Keypad screen allows you to control the lights and shades in the coach.

Screen 1

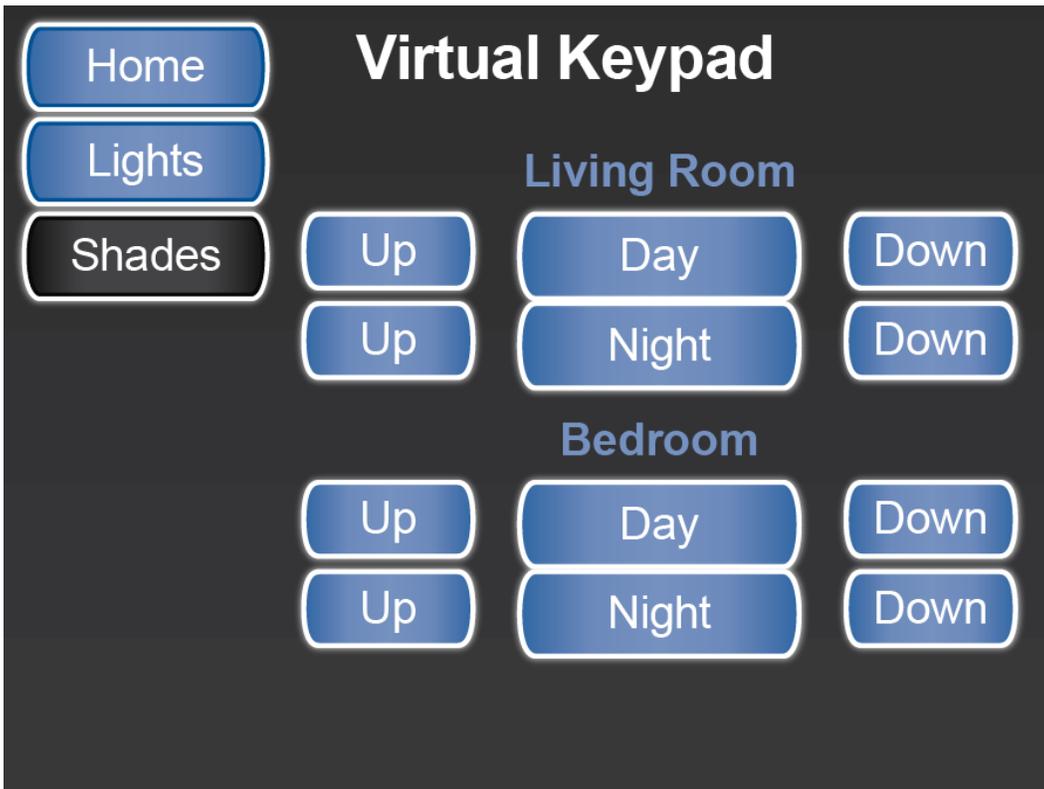
Screen 1 (Lights) displays Living room, Bedroom and Bathroom light controls for the "HI/LO" Settings. It also has a "ON/OFF" Master Switch for all lights.



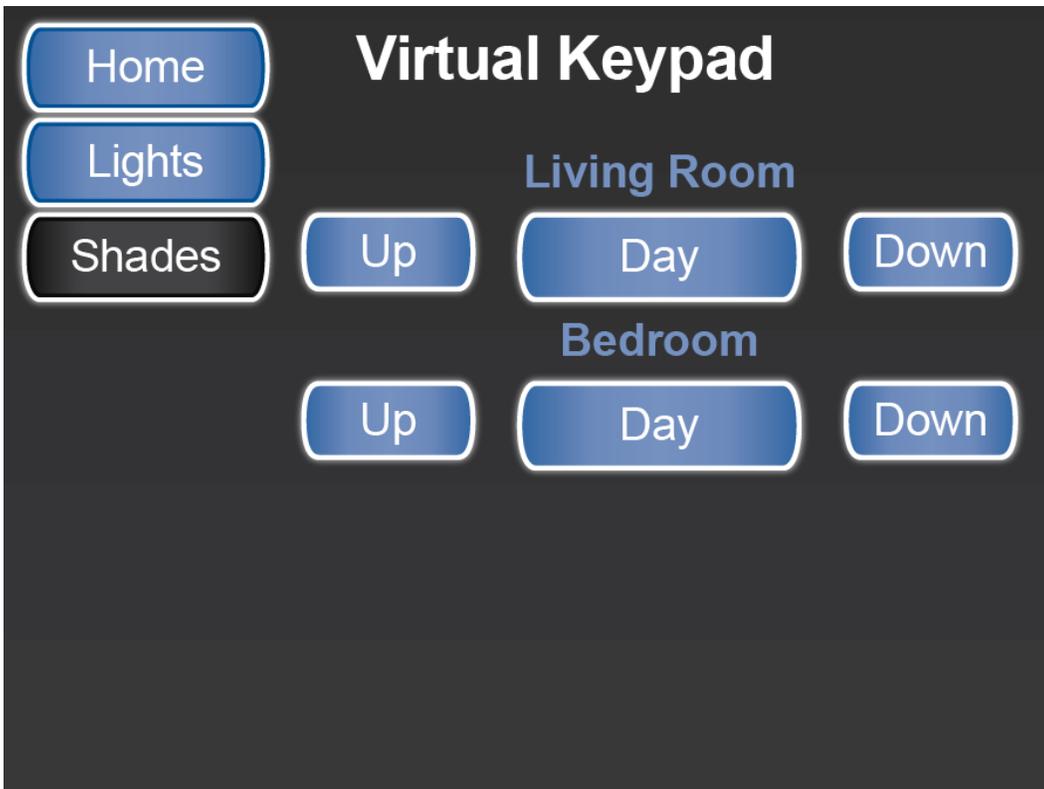
SilverLeaf > Features 1 > Virtual Keypad - Lights screen

Screen 2

Screen 2 (Shades) displays the Living Room and Bedroom shade controls. The UP and DOWN buttons control all shades simultaneously for the given area. Not all coaches are equipped with Night Shades.



SilverLeaf > Features 1 > Virtual Keypad - Shades screen



SilverLeaf > Features 1 > Virtual Keypad - Shades screen (Silhouette shades)

System Diagnostics

Overview

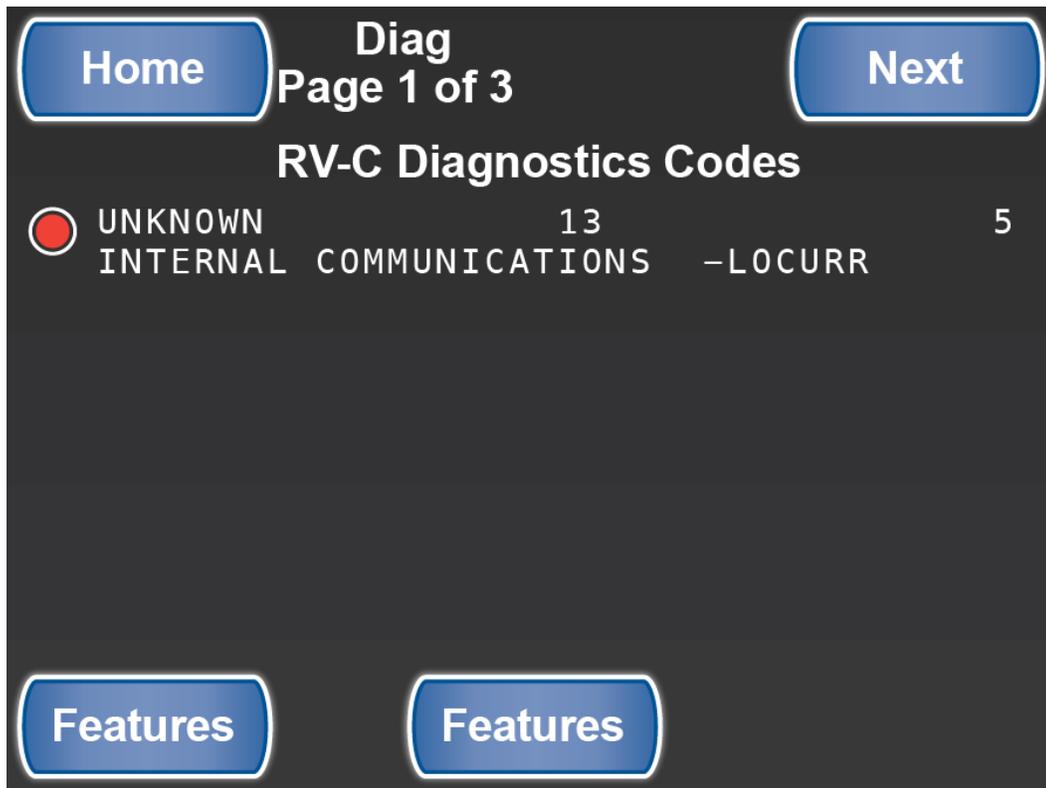
These screens display system faults, communication status info, and additional system data.

System Diagnostics Screen

There are three separate Diagnostics screens that display information. To move through the screens, use the Next and Previous buttons.

Screen 1

Screen 1 displays any system faults present on the control system.



SilverLeaf > Features 1 > System Diagnostics screen 1

Screen 2

Screen 2 displays the System Communication Status information.

Messages Received

Messages Received is the conversation in the Network between the modules and signals or commands given to perform a function. This is Network Traffic Information from the RV-C Network.

Messages Transmitted

Messages Transmitted is the conversation in the Network between the modules and signals or commands given to perform a function. This is Network Traffic Information from the RV-C Network.

Data Receive Overruns

Overruns are meant for deep trouble-shooting on the manufacturing of the SilverLeaf. Newmar will not use this as it keeps data for the SilverLeaf Manufacturing company. This is Network Traffic Information from the RV-C Network.

Data Transmit Overruns

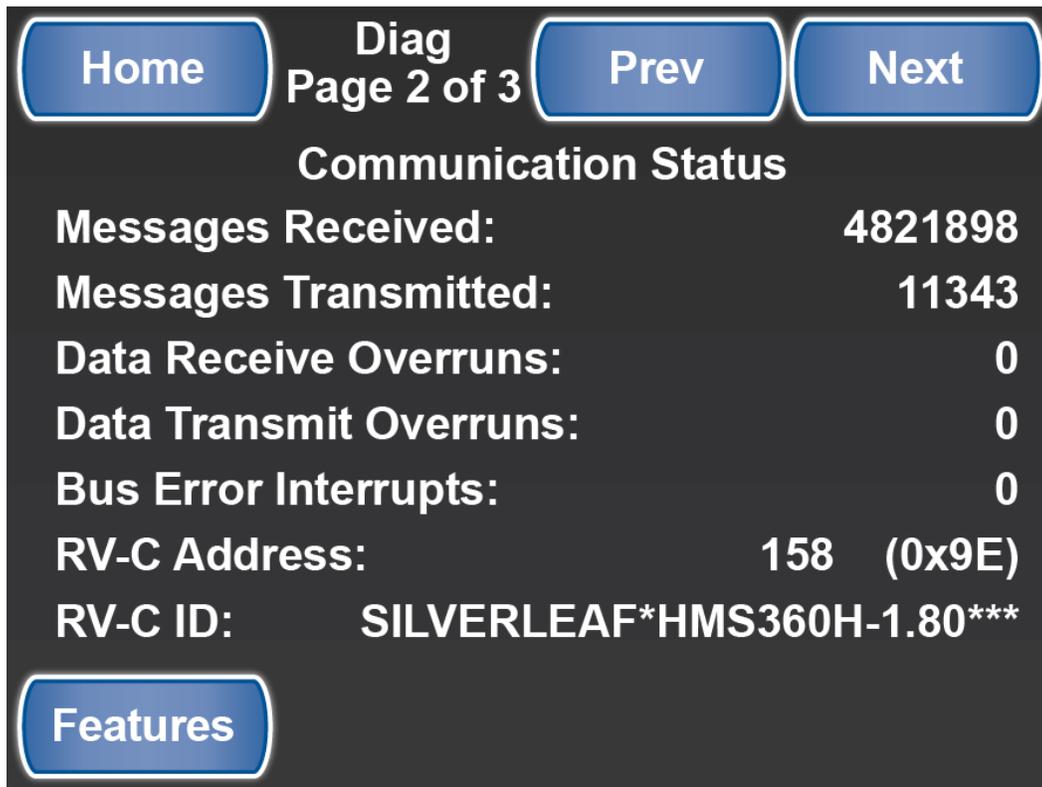
Overruns are meant for deep trouble-shooting on the manufacturing of the SilverLeaf. Newmar will not use this as it keeps data for the SilverLeaf Manufacturing company. This is Network Traffic Information from the RV-C Network.

Bus Error Interrupts

Interrupts are meant for deep trouble-shooting on the manufacturing of the SilverLeaf. Newmar will not use this as it keeps data for the SilverLeaf Manufacturing company. This is Network Traffic Information from the RV-C Network.

RV-C ID

This is the ID of the Module being used to display the information of the RV-C Network.



The screenshot shows a diagnostic interface with a dark background and blue buttons. At the top, there are navigation buttons: 'Home', 'Diag Page 2 of 3', 'Prev', and 'Next'. Below these is the title 'Communication Status'. The main content area displays several metrics in a two-column format:

Messages Received:	4821898
Messages Transmitted:	11343
Data Receive Overruns:	0
Data Transmit Overruns:	0
Bus Error Interrupts:	0
RV-C Address:	158 (0x9E)
RV-C ID:	SILVERLEAF*HMS360H-1.80***

At the bottom left, there is a 'Features' button.

SilverLeaf > Features 1 > System Diagnostics screen 2

Screen 3

Screen 3 displays additional system data.

TM102 Message Count

This displays the amount of Messages received and given to the RV-C Network.

Vehicle Speed

This displays the vehicle speed in Miles Per Hour (MPH).

Engine RPM

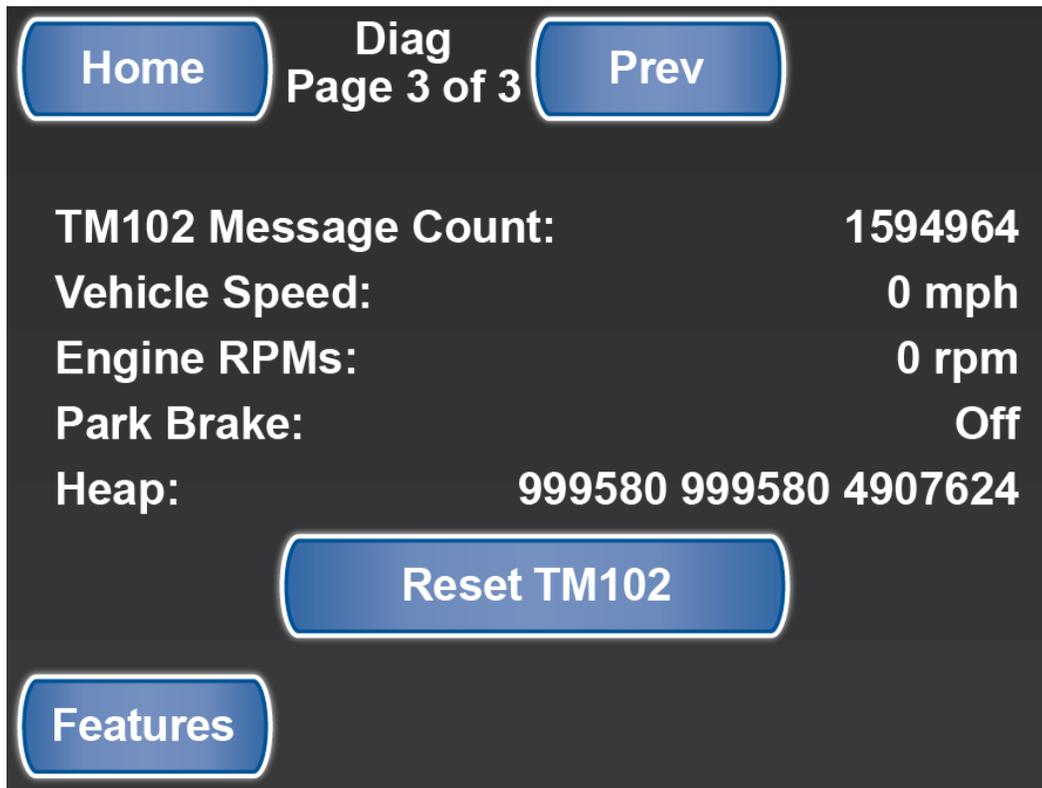
This displays the vehicle engine Revolutions Per Minute (RPM).

Park Break

This displays the Park Break being ON or OFF.

Heap

Heap is the memory available on the Network. This is Network Traffic Information from the RV-C Network.



The screenshot shows a diagnostic screen with a dark background and blue buttons. At the top, there are three buttons: "Home", "Diag Page 3 of 3", and "Prev". Below these, the following data is displayed:

TM102 Message Count:	1594964
Vehicle Speed:	0 mph
Engine RPMs:	0 rpm
Park Brake:	Off
Heap:	999580 999580 4907624

At the bottom of the screen, there is a "Reset TM102" button and a "Features" button.

SilverLeaf > Features 1 > System Diagnostics screen 3

Reset TM102 Button

The "Reset TM102" button will reset the message counts on the first line of this screen.

Features

This returns the user to the Features pages.

Features 2

Overview

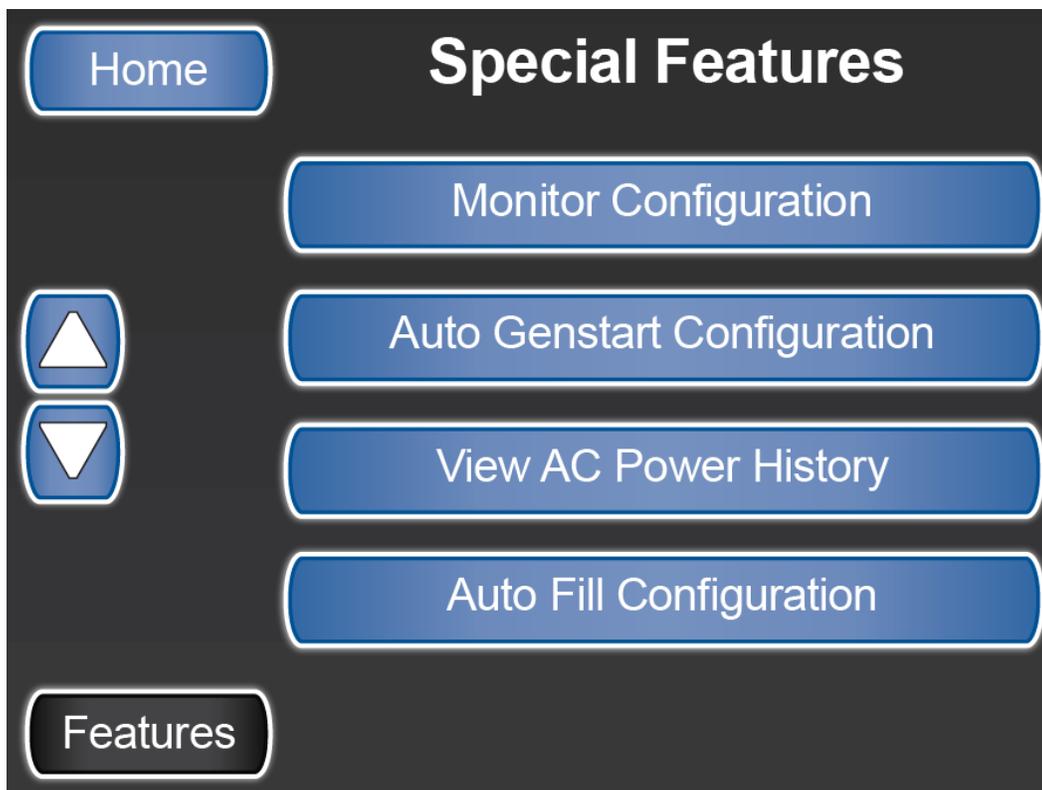
Provides access to the Monitor, AGS and Auto Fill Configs, as well as AC Power History screens.

Features 2 Screen

The Special Features screens provide access to the functions not shown on the Home screen. The second screen allows access to the following functions:

- Change the Monitor Configuration
- Set up the AGS Configuration
- View AC Power History
- Change Auto-Fill Configuration

Click the up and down arrows to scroll to another Special Features screen.



SilverLeaf > Special Features screen 2

Monitor Configuration

Overview

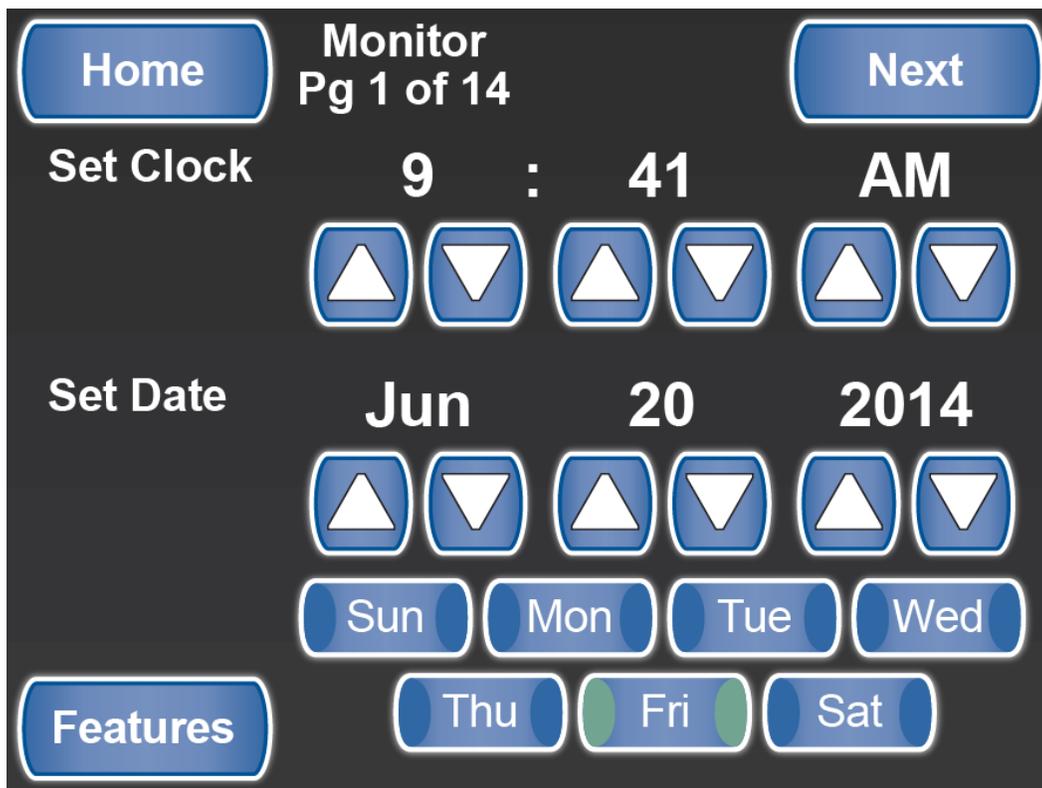
These screens allow you to update system monitor settings that do not require a password.

Monitor Configuration Screen

There are five Monitor Configuration screens that can be accessed without a password. To move through the screens, use the Next and Previous buttons.

Screen 1

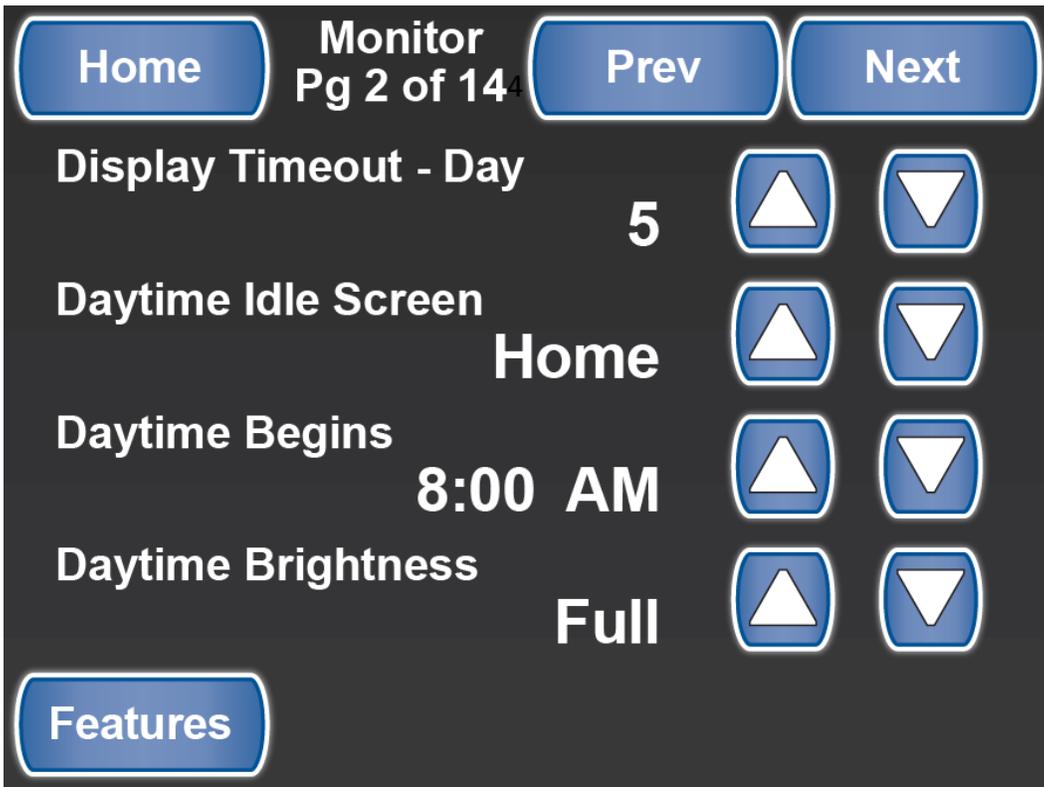
Screen 1 allows you to set the system time and date using the up and down arrows.



SilverLeaf > Features 2 > Monitor Configurations screen 1

Screen 2

Screen 2 allows you to set the Day Time Display Settings using the up and down arrows.



SilverLeaf > Features 2 > Monitor Configurations screen 2

Screen 3

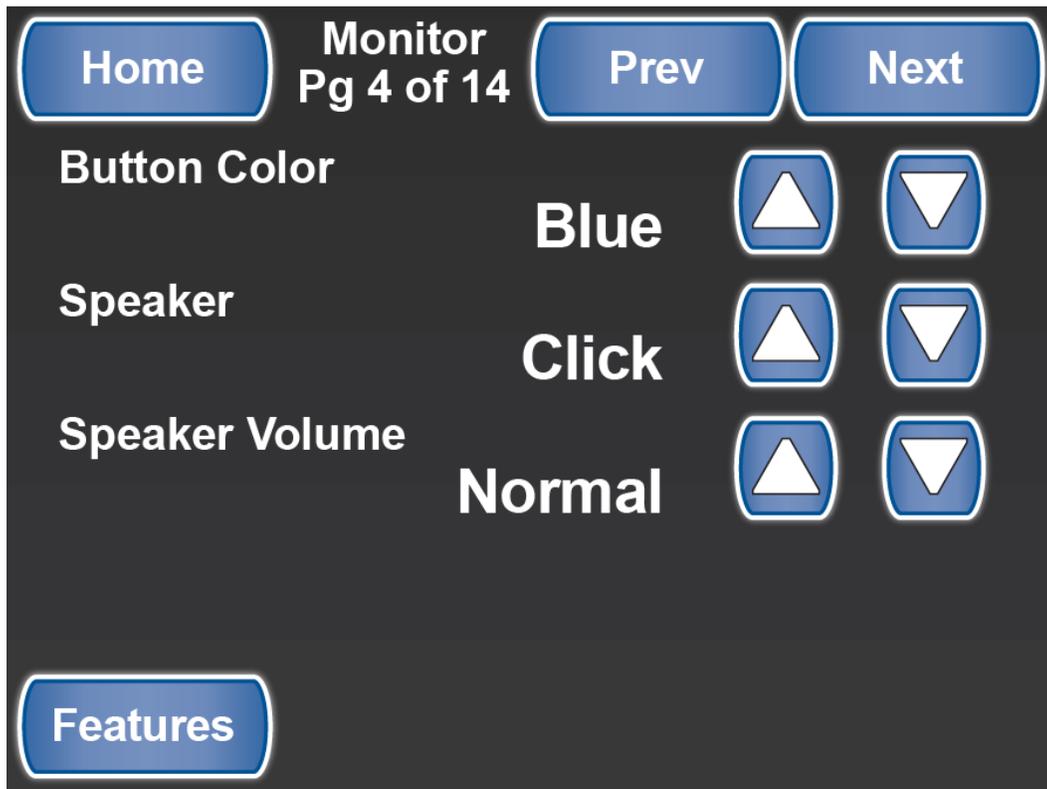
Screen 3 allows you to set the Night Time Display Settings using the up and down arrows.



SilverLeaf > Features 2 > Monitor Configurations screen 3

Screen 4

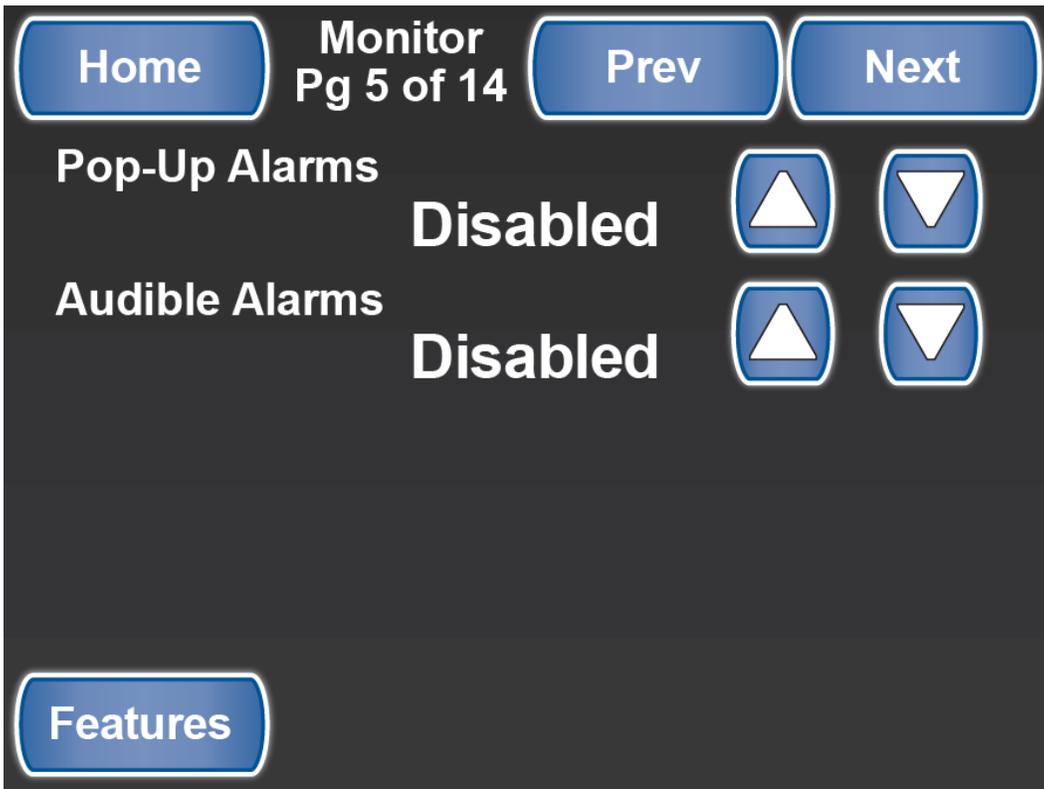
Screen 4 allows you to choose the color of the buttons shown on your display and set the speaker volume.



SilverLeaf > Features 2 > Monitor Configurations screen 4

Screen 5

Screen 5 allows you to change Pop-Up alarms and Audible Alarms to Enable or Disable.



SilverLeaf > Features 2 > Monitor Configurations screen 5

Advanced setting screen



This screen is password protected to allow Qualified Service Technicians access to make changes to the control settings. Changing these control settings to improper values can adversely affect the operation of the control system and may cause damage to the coach.



SilverLeaf > Advanced screen

Auto Genstart Configuration

Overview

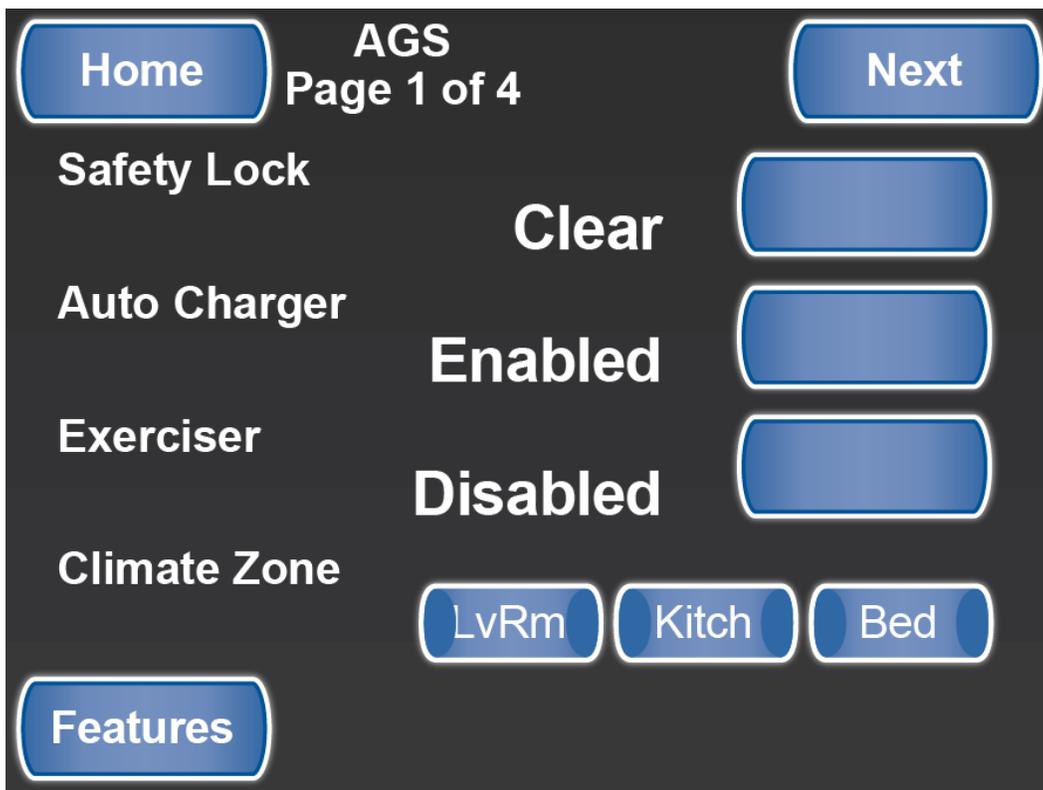
These screens allows you to configure various generator settings.

AGS Configuration Screen

There are four Auto Generator Start (AGS) Configuration screens, which control different functions of the generator.

Screen 1

Page 1 of the AGS screen allows you to change the settings for Safety Lock, Auto Charger, Exerciser, and Climate Zones.



SilverLeaf > Features 2 > Auto Genstart Configuration screen 1

Safety Lock

When set to lock, this function inhibits the generator from automatically starting. Set this function to Lock when the Generator Hood is open. Opening the hood will actuate the Safety Lock Switch that is mounted on the generator mounting frame. You may need to reset this setting after accessing the generator.

Auto Charger

When enabled, this function automatically starts and stops the generator based on the configuration settings for Battery Voltage, Max Run Time, Top Off Voltage, and Top Off Run Time. The generator will not automatically start if shore power is present.

Exerciser

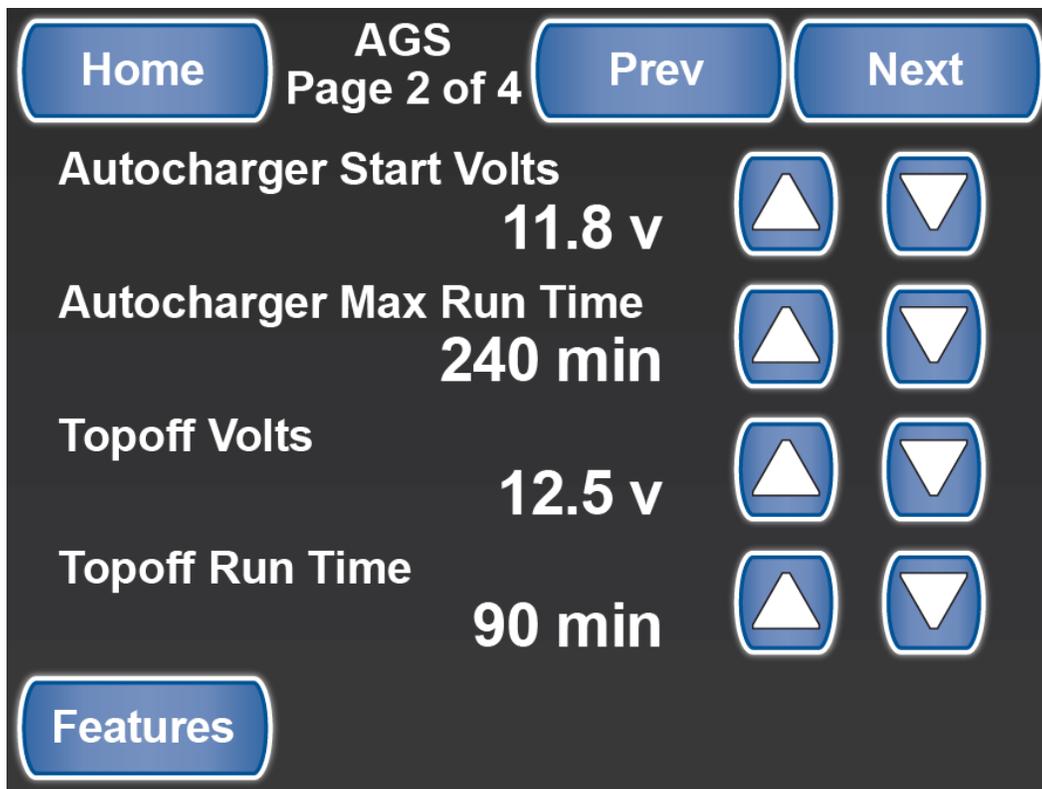
When enabled, this function will automatically run the generator based on the Exerciser Schedule settings. This function will automatically start the generator regardless of the shore power status.

Climate Zone

When enabled, this function will cause the generator to automatically run based on the individual HVAC Zone demand. The Climate Zone AGS function will automatically start and stop the generator. The generator will not automatically start if shore power is present.

Screen 2

Page 2 of the AGS screen allows you to change the settings for Autocharger and Topoff.



SilverLeaf > Features 2 > Auto Genstart Configuration screen 2

Autocharger Start Volts (DC Voltage)

This setting determines the voltage level which automatically starts the generator. When the AGS is enabled and the house battery voltage drops below this value for approximately two minutes, the generator will automatically start and run until the charger goes into Float Mode or the Autocharger Max Run Time setting time has expired.

Autocharger Max Run Time

This setting controls how long the generator will run when started by the Autocharger function.

Topoff Volts (DC Voltage)

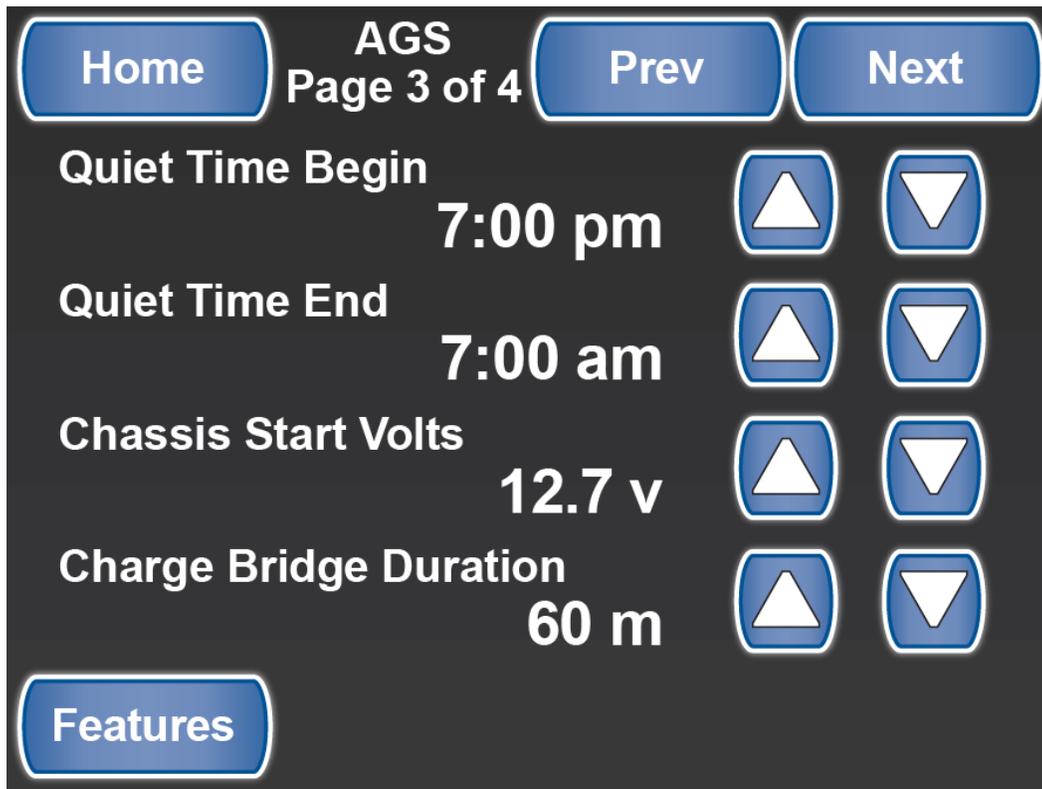
This setting determines the voltage level that will automatically start the generator based on the Topoff Run Time Settings.

Topoff Run Time

This setting determines the amount of time before Quiet Time begins to automatically start the generator. It will run if the Autocharger function is enabled and the house battery voltage is below the Topoff Volts setting.

Screen 3

Page 3 of the AGS screen allows you to change the settings for Quiet Time, Chassis Start Volts, and Charge Bridge Duration.



SilverLeaf > Features 2 > Auto Genstart Configuration screen 3

Quiet Time

This feature allows the user to select the time to begin and end Quiet Time. During this set time period, the Generator will not come on for any reason.

Chassis Start Voltage

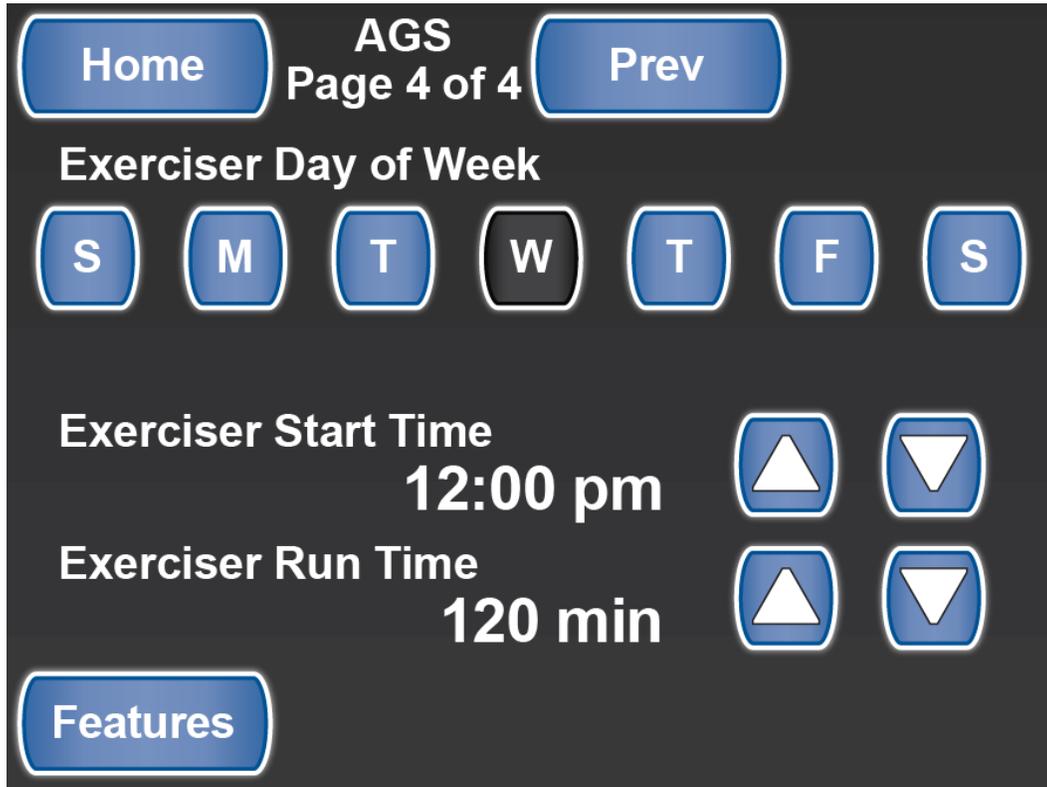
The Chassis Start Voltage sets the DC voltage that automatically starts the generator from low chassis battery voltage.

Charge Bridge Duration

This displays the amount of time the generator will run when the AGS is engaged with a low Chassis battery bank.

Screen 4

Page 4 of the AGS screen allows you to select the day of the week, the start time, and how long to exercise the generator.



SilverLeaf > Features 2 > Auto Genstart Configuration screen 4



The generator should be scheduled to run periodically to prevent rust and corrosion. Newmar recommends that you Exercise your generator at least once per week.

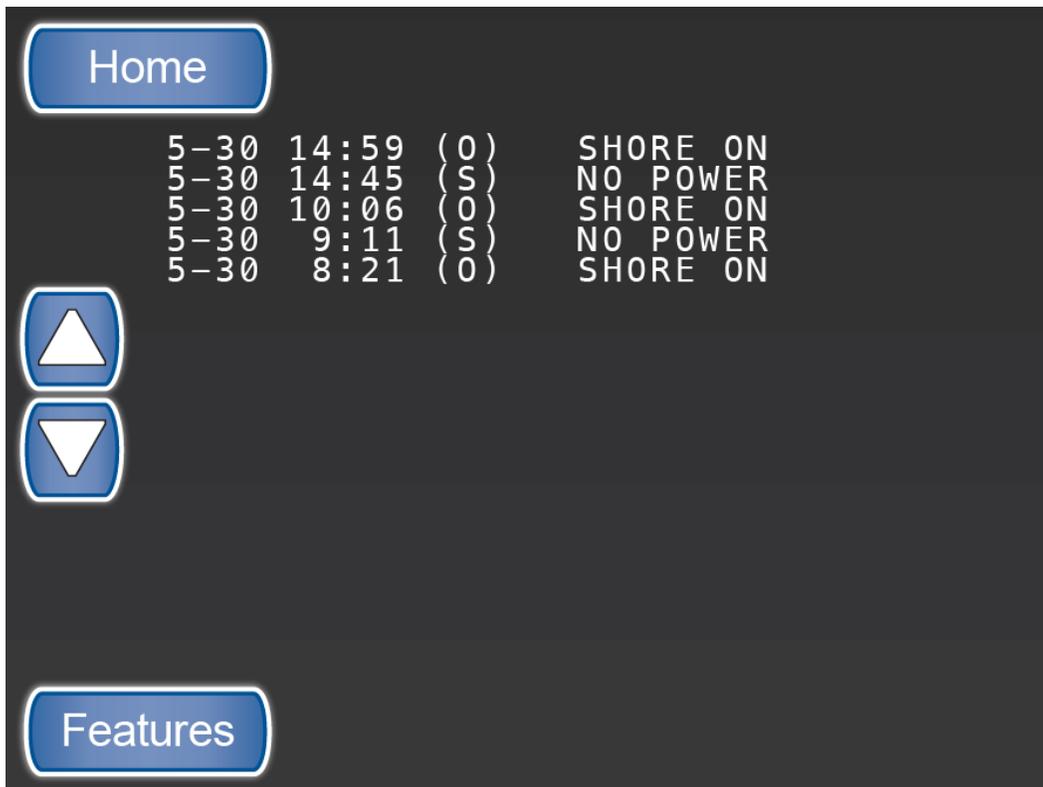
AC Power History

Overview

Displays the AC Power History for the coach.

AC Power History Screen

This screen is accessible from the second Features screen. It displays the AC Power History for the motor coach.



SilverLeaf > Features 2 > AC Power History screen

Auto Fill Configuration

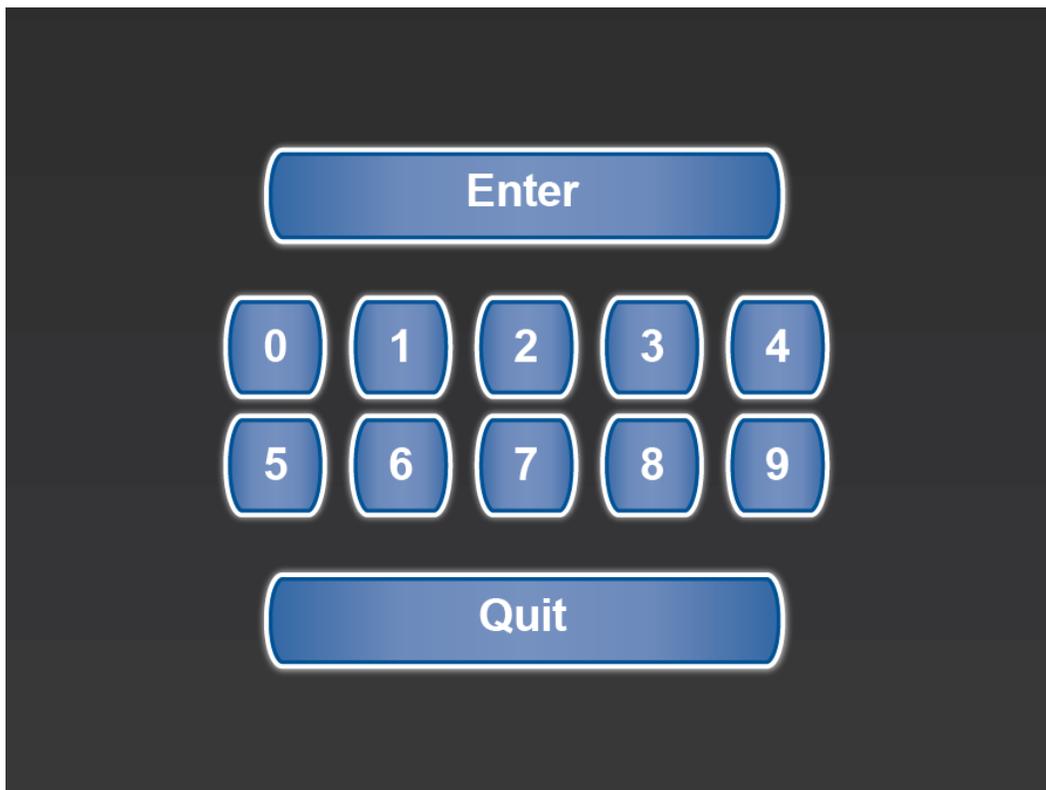
Overview

For altering Auto Fill settings.

Auto Fill Configuration Screen



This screen is password protected to allow Qualified Service Technicians access to make changes to the control settings. Changing these control settings to improper values can adversely affect the operation of the control system and may cause damage to the coach.



SilverLeaf > Advanced screen

Features 3

Overview

Provides access to the Floor Heat Configuration, Warnings Configuration, Tank Calibration and Climate Configuration screens.

Features 3 Screen

The Special Features screens provide access to the functions not shown on the Home screen. The third screen allows access to the following functions:

- Set up Floor Heat configuration
- Set up Warning configurations for tanks and batteries
- Check Tank Calibration
- Change Climate Configuration

Click the up and down arrows to scroll to another Special Features screen.



SilverLeaf > Special Features screen 3

Floor Heat Configuration

Overview

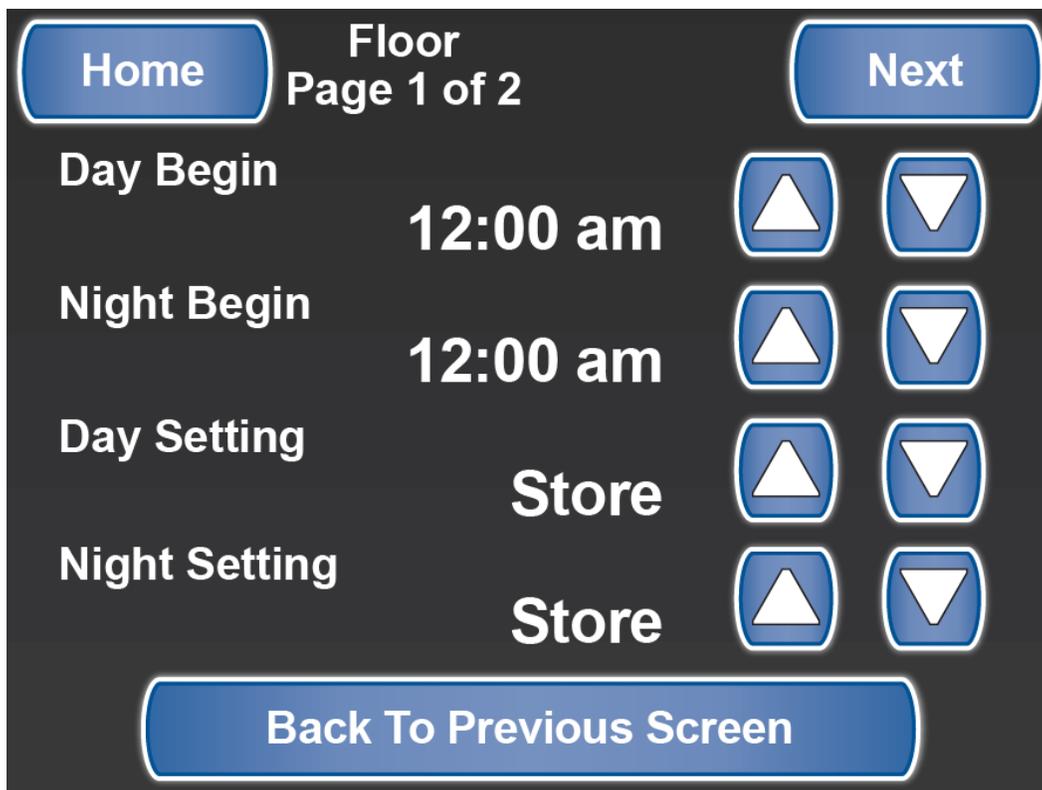
Displays configuration settings for coaches equipped with Floor Heat.

Floor Heat Configuration Screen

There are two Floor Heat Configuration screens. To move through the screens, use the Next and Previous buttons.

Screen 1

Page 1 allows you to set the Day/Night Begin times and the Day/Night Setting ON/OFF.



SilverLeaf > Features 3 > Floor Heat Configuration screen 1

Screen 2

If the coach is equipped with the Floor Heat option, page 2 allows you to assign a Floor Heat Region and name it.

Home **Floor** **Page 2 of 2** **Prev**

Floor 1 Name **Front**  

Floor 2 Name **Mid**  

Floor 3 Name **Rear**  

Back To Previous Screen

SilverLeaf > Features 3 > Floor Heat Configuration screen 2

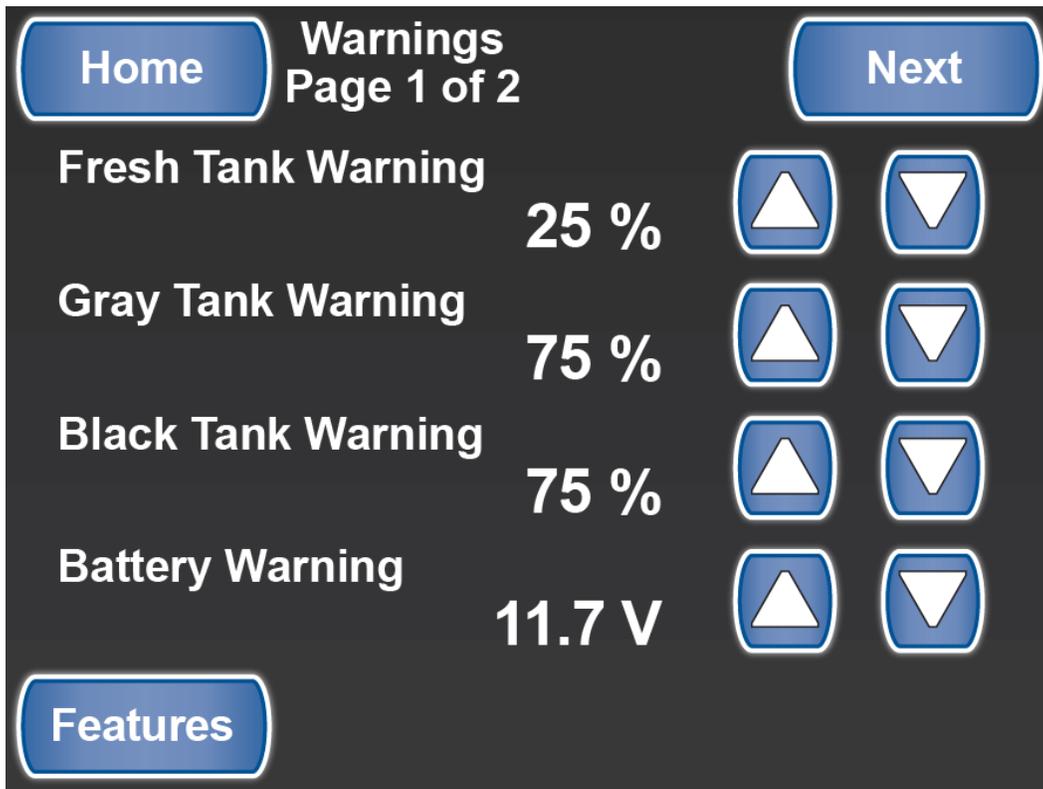
Warnings Configuration

Overview

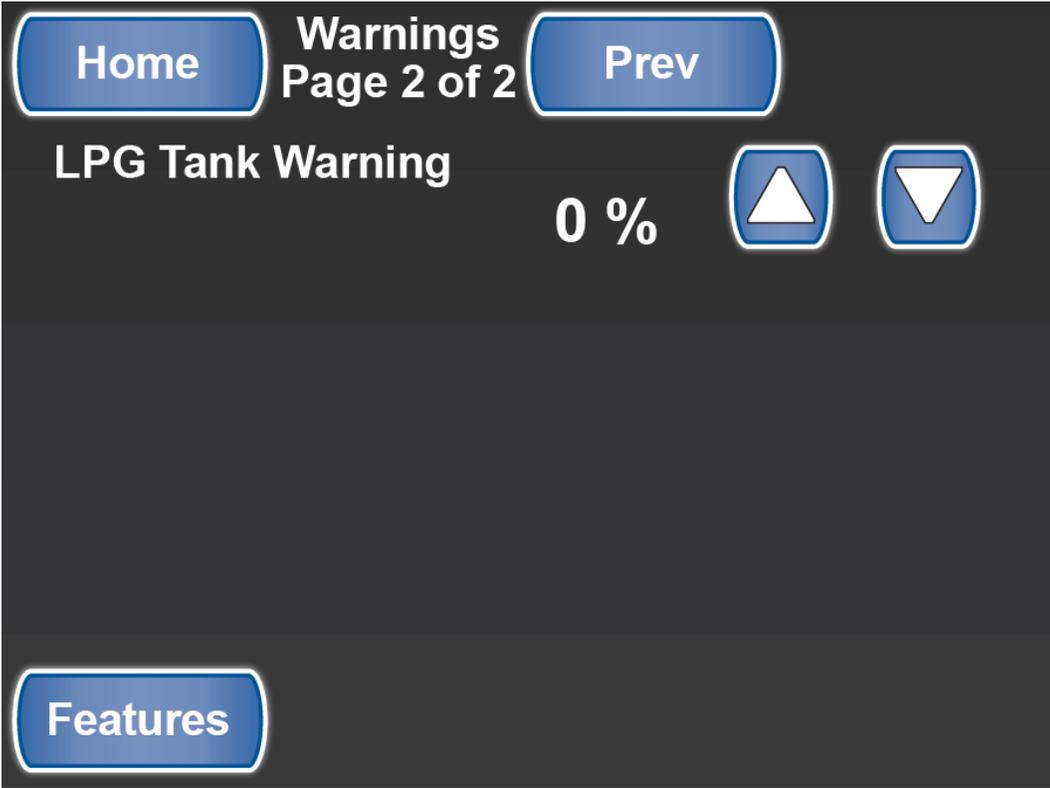
Allows users to set values for Water, House Battery, and LP tank warnings.

Warnings Configuration Screen

Page 1 of the Warning Configurations screen allows you to set a percentage value for the Fresh Water Tank, Gray Water Tank, and Black Water Tank. It also allows you to set a voltage value for the House Battery Warning. If the coach has an LP tank, the warnings are found on Page 2.



SilverLeaf > Features 3 > Warnings Configuration screen 1



SilverLeaf > Features 3 > Warnings Configuration screen 2

Tank Calibration

Overview

Displays tank information and provides access to advanced settings.

Tank Calibration Screen

The *Tank Calibration* screens are used for system setup and diagnostics. The display provides a raw count, as well as a percentage for each of the tank sensors.

Access to Advanced settings and diagnostics is password protected and should only be accessed by a qualified Newmar Service Technician.

The screenshot shows a dark-themed interface for 'Tank Cal' on 'Page 1 of 3'. At the top left is a 'Home' button, and at the top right is a 'Next' button. The main content area displays a table of sensor data:

Sensor	Raw	Level
Fresh Sensor	93	0 %
Gray Sensor	94	0 %
Black Sensor	88	0 %
LP Sensor	4	0 %

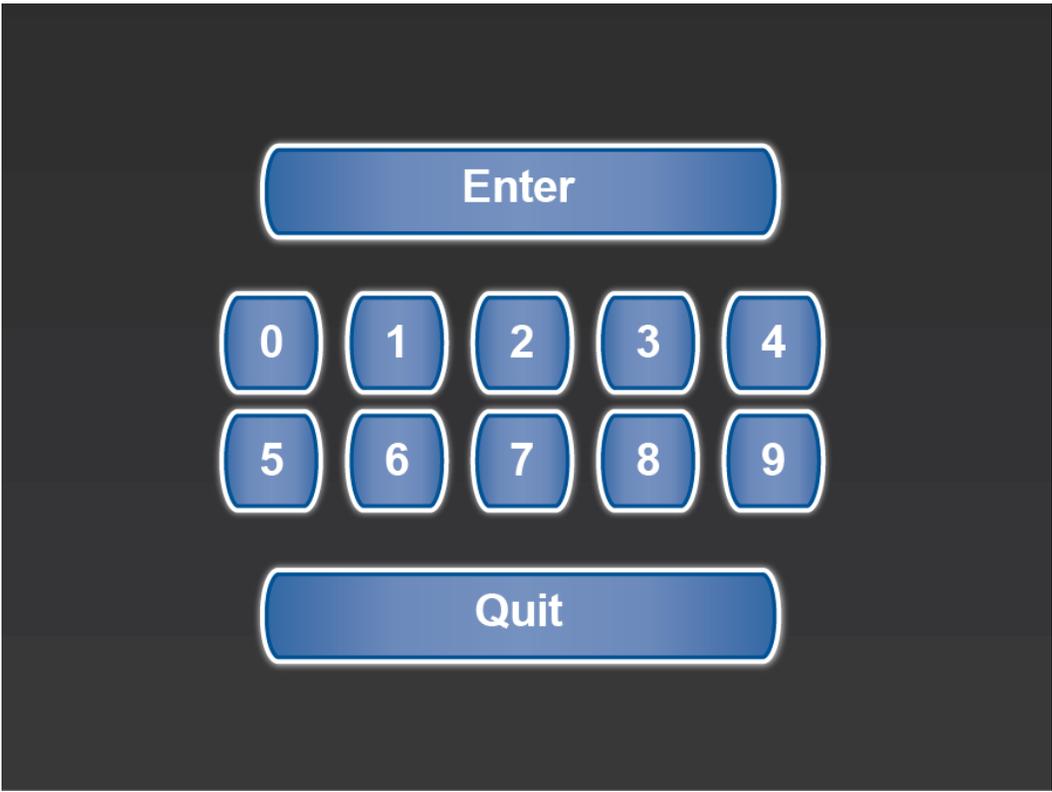
At the bottom left of the screen is a 'Features' button.

SilverLeaf > Features 3 > Tank Calibration screen 1

Advanced Screen



This screen is password protected to allow Qualified Service Technicians access to make changes to the control settings. Changing these control settings to improper values can adversely affect the operation of the control system and may cause damage to the coach.



SilverLeaf > Advanced screen

Climate Configuration

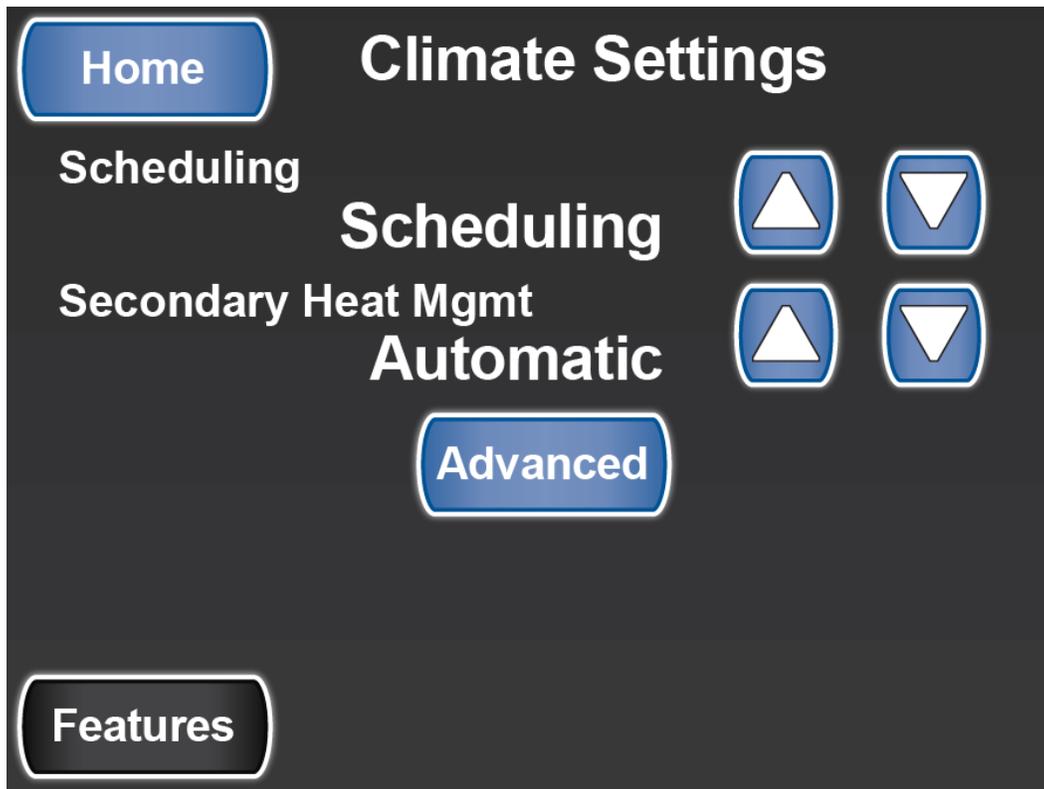
Overview

Provides access to HVAC manual schedule and Advanced settings.

Climate Configuration Screen

The *Climate Configuration* screen allows the user to set manual schedules for HVAC. These settings determine how the OASIS Hydronic Heating System (Secondary Heat) operates.

Secondary Heat Management determines how the HVAC systems are set up. The automatic setting (the default) uses the Heat Pumps as the primary source and the OASIS system as the secondary heat source in boost mode whenever possible.

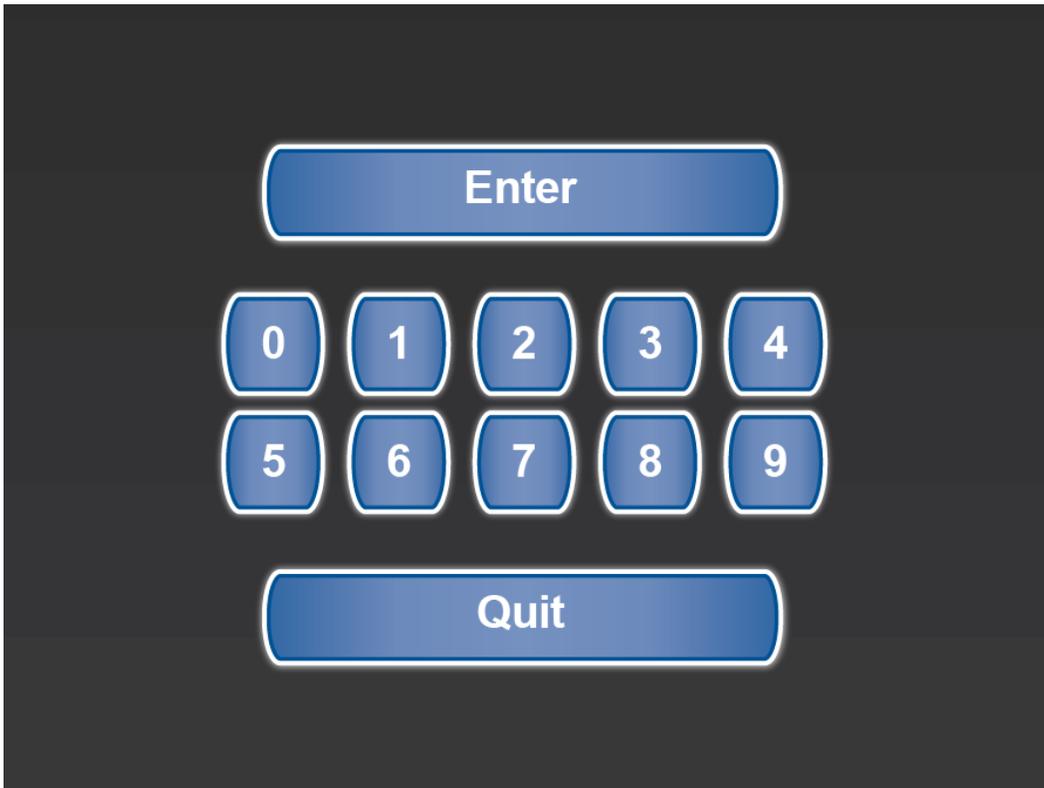


SilverLeaf > Features 3 > Climate Configuration screen 1

Advanced Button



This screen is password protected to allow Qualified Service Technicians access to make changes to the control settings. Changing these control settings to improper values can adversely affect the operation of the control system and may cause damage to the coach.



SilverLeaf > Advanced screen

Features 4

Overview

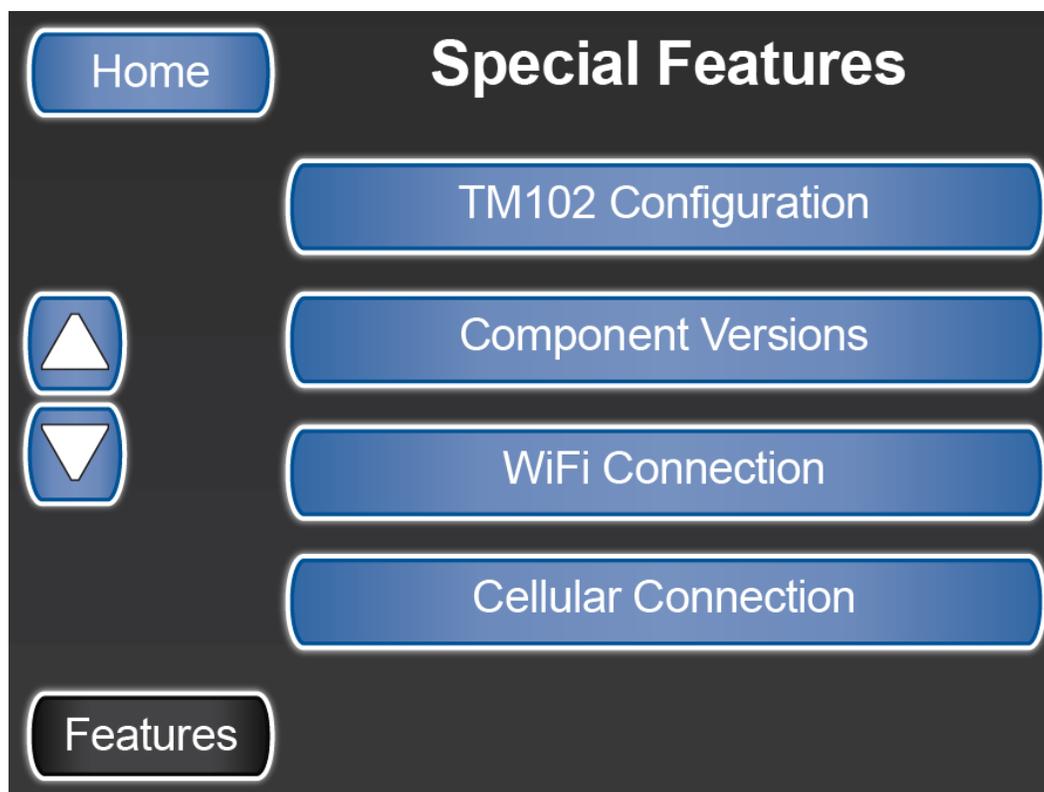
Provides access to the TM102 Configuration, Component Versions, and WiFi & Cellular Connections.

Features 4 Screen

The Special Features screens provide access to the functions not shown on the Home screen. The fourth screen allows access to the following functions:

- View TM102 Configuration
- View Component Versions
- Set up WiFi Connections
- Cellular Connections

Click the up and down arrows to scroll to another Special Features screen.



SilverLeaf > Special Features screen 4

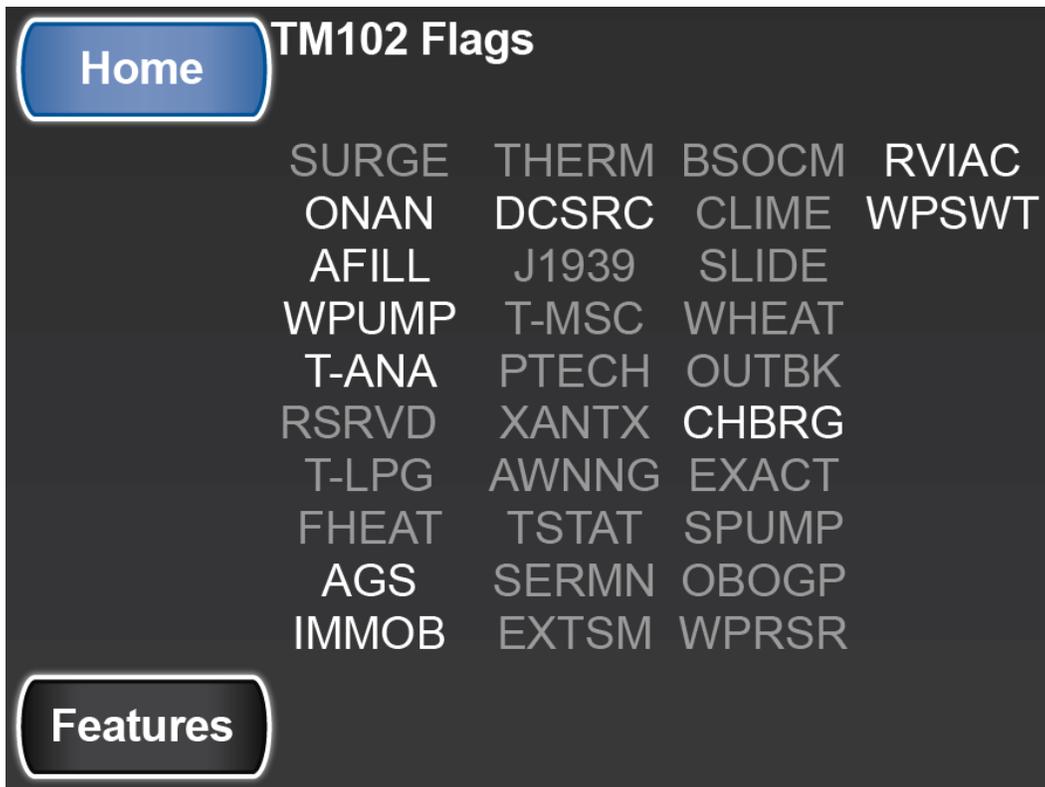
TM102 Configuration

Overview

Displays active components of the SilverLeaf system.

TM102 Configuration Screen

The *TM102 Configuration* screen displays the active system functions by highlighting the active systems on the screen.



SilverLeaf > Features 4 > TM102 Configuration screen

Component Versions

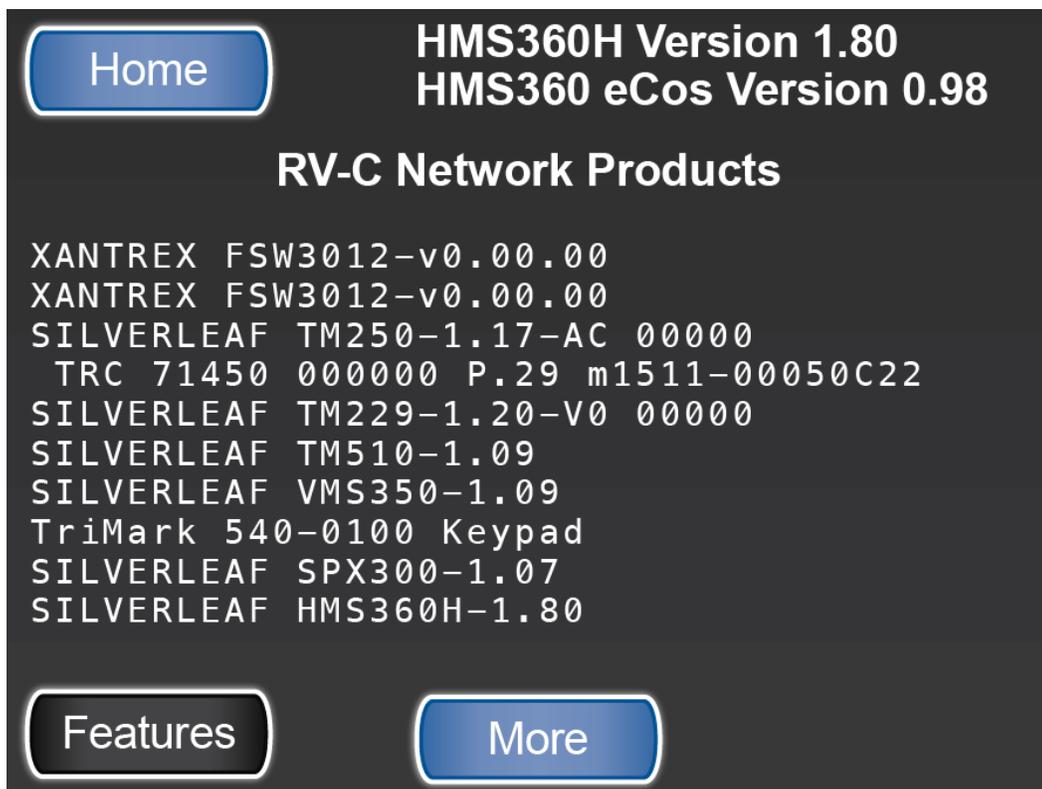
Overview

Displays information about each of the SilverLeaf modules.

Component Versions Screen

The Component Versions screens display all of the RV-C Modules and their firmware versions that are found on the motor coach.

Pressing the "More" button shows additional components.



SilverLeaf > Features 4 > Component Versions screen 1

Home

HMS360H Version 1.80
HMS360 eCos Version 0.98

RV-C Network Products

TriMark 510-0200 I/O Module
ITR-OASIS OASIS_B-1.08
SILVERLEAF TM102A-2.12-V0 00000 530192X
SILVERLEAF TM229-1.19-V0 00000
SILVERLEAF TM510-1.08
SILVERLEAF SPX300-1.05
SILVERLEAF TM550-1.04
SILVERLEAF TM540-0.01 #00 00:00:00:00:0
SILVERLEAF HMS360D-1.64
TriMark 540-0100 Keypad

Features

More

SilverLeaf > Features 4 > Component Versions screen 2

WiFi Connections

Overview

The *TM550 WiFi Connections* screen is accessed from the *Features 4* screen and provides access to WiFi configuration settings.

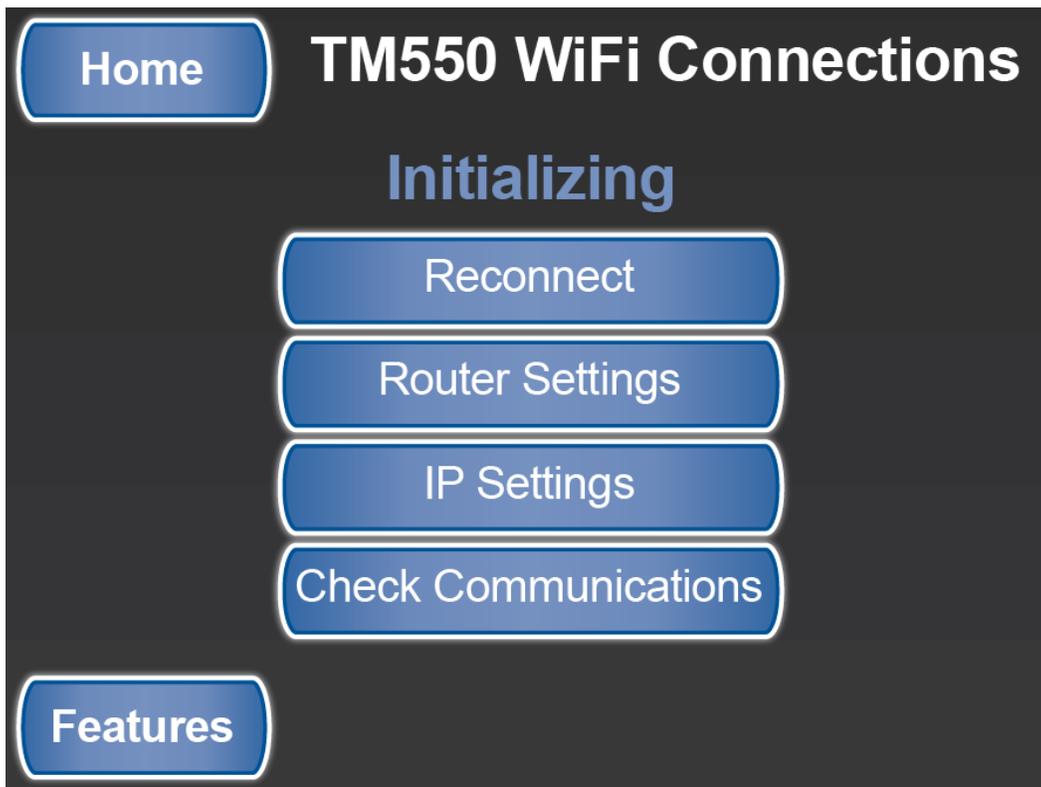
TM550 WiFi Connections Screen

The WiFi Connections screen allows you to:

- Connect the WiFi to a Router
 - Change the Router settings
 - Change IP Settings
 - Check communications
-

Reconnect

The reconnect button will attempt to re-establish a WiFi connection to a previously paired device.



SilverLeaf Features 4 > WiFi Connection screen > Reconnect example

Router Settings

The Router Settings allows you to:

- Change Key
- Change Password
- Change Router ID



SilverLeaf Features 4 > WiFi Connection > Router Settings screen

Change Key

The Change Key takes the user to a password changing screen.



SilverLeaf Features 4 > WiFi Connection > Router Settings > Change Key screen

Change Password

The Change Password button takes you to a password changing screen.



SilverLeaf Features 4 > WiFi Connection > Router Settings > Change Password screen

Change Router ID

The Change Router ID takes you to a Router ID changing screen.



SilverLeaf Features 4 > WiFi Connection > Router Settings > Change Router ID screen

IP Settings

The IP Settings allows you to:

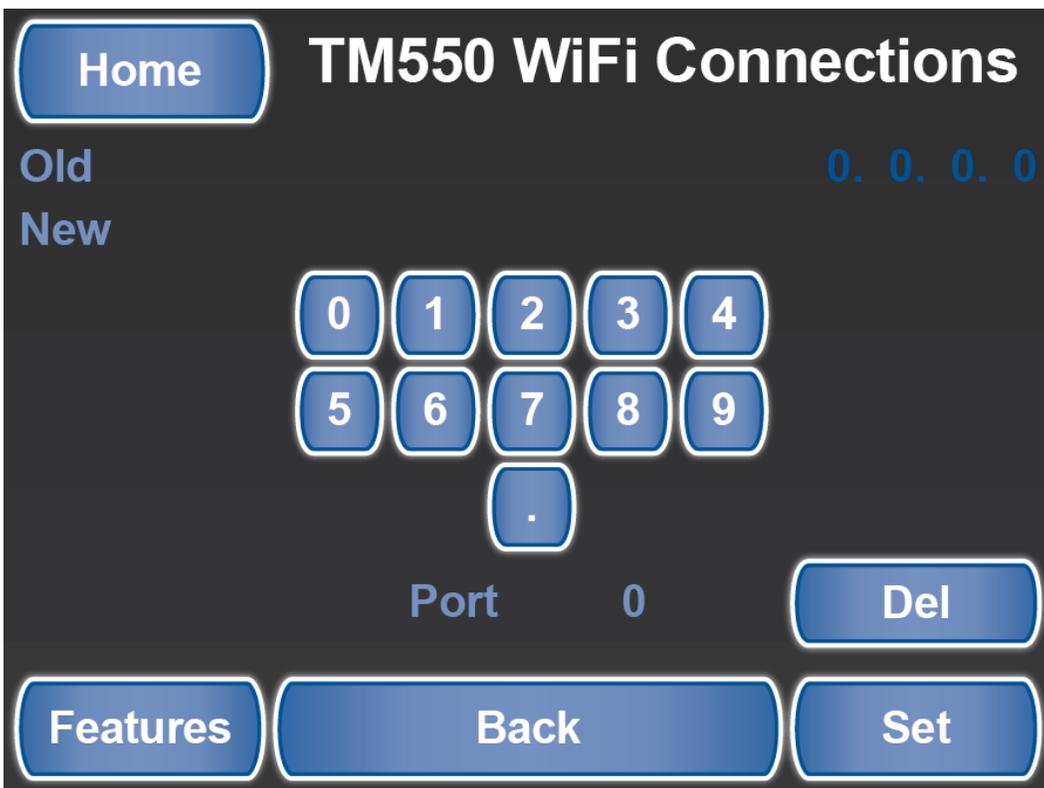
- Change IP Address
- Change Gateway
- Change Subnet Mask



SilverLeaf Features 4 > WiFi Connection > IP Settings screen

Change IP Address

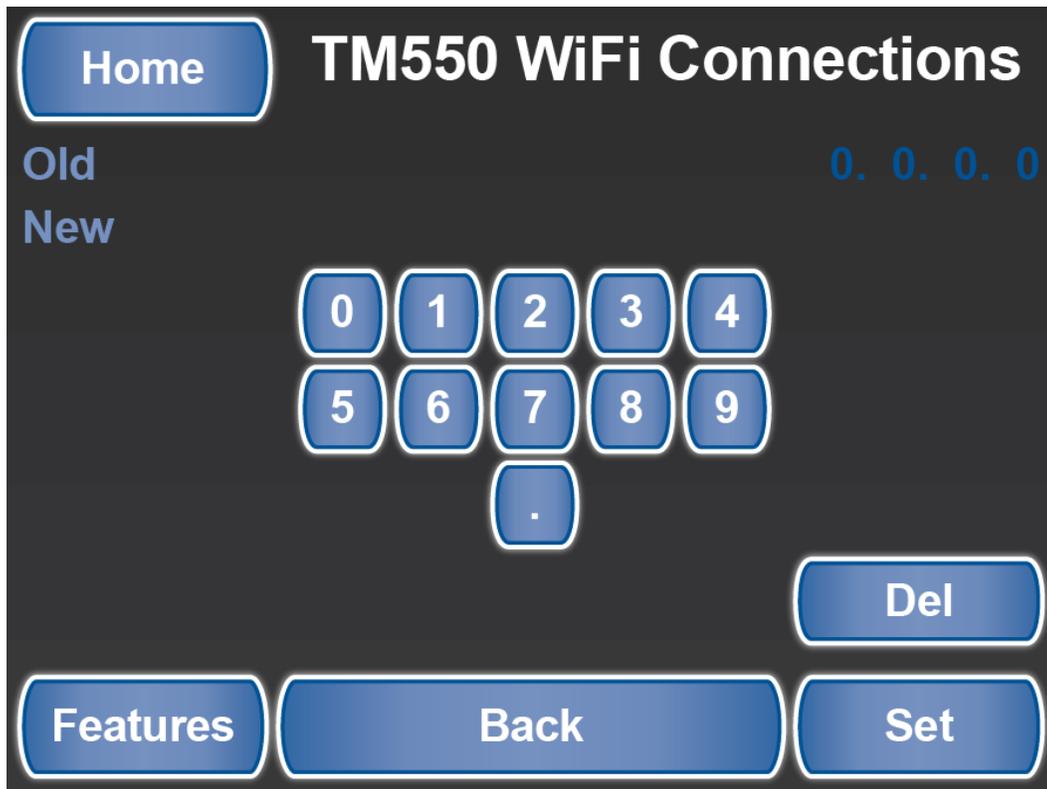
This shows a number screen to allow you to change the IP address.



SilverLeaf Features 4 > WiFi Connection > IP Settings > Change IP Address screen

Change Gateway

This shows a number screen to allow you to change the address.

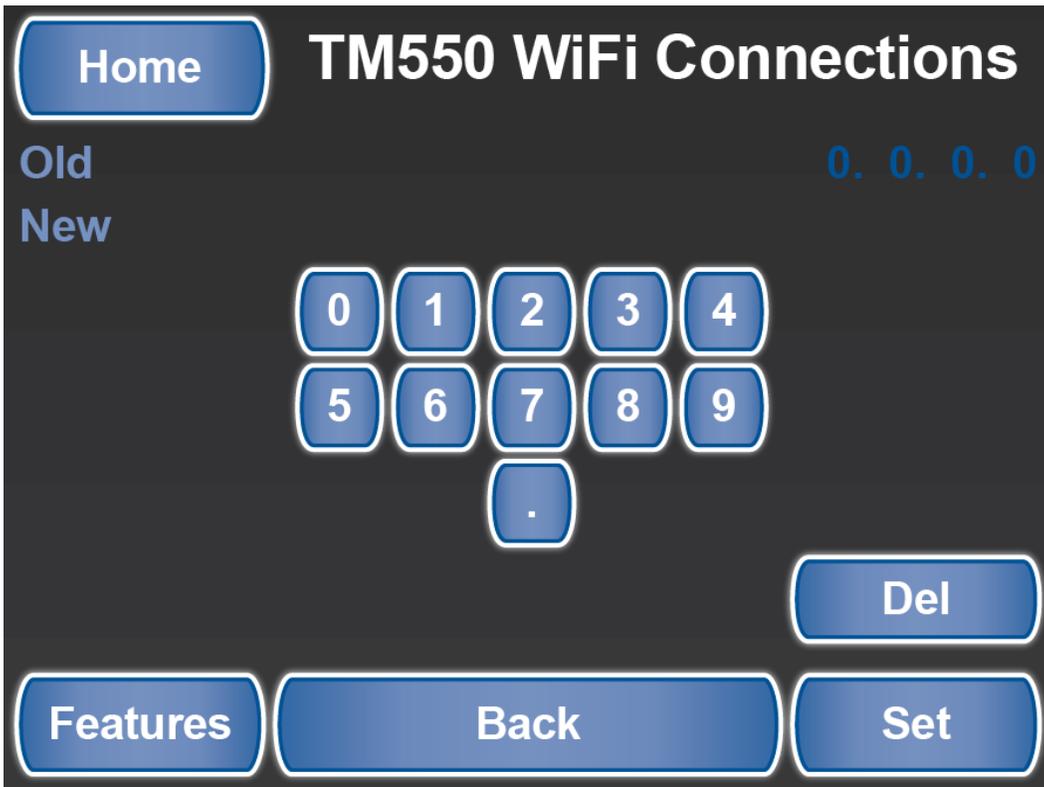


The screenshot shows a dark-themed interface for changing the gateway address. At the top left is a 'Home' button. The title 'TM550 WiFi Connections' is centered at the top. Below the title, 'Old' is followed by the IP address '0. 0. 0. 0' in blue text. Below that, 'New' is followed by a numeric keypad. The keypad consists of buttons for digits 0-9 and a decimal point. To the right of the keypad is a 'Del' button. At the bottom are three buttons: 'Features', 'Back', and 'Set'.

SilverLeaf Features 4 > WiFi Connection > IP Settings > Change Gateway screen

Change Subnet Mask

This shows a number screen to allow you to change the address.



SilverLeaf Features 4 > WiFi Connection > IP Settings > Change Subnet Mask screen

Check Communication

This shows status and information from the WiFi module.



SilverLeaf Features 4 > WiFi Connection > Check Communication screen

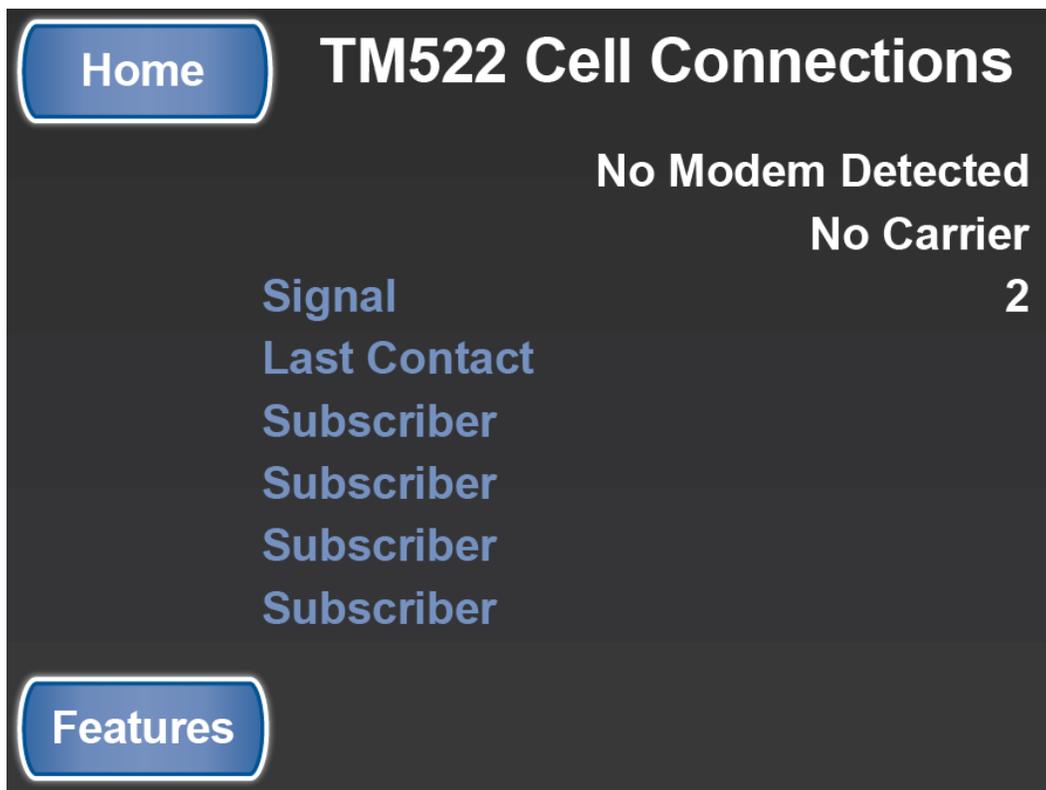
Cellular Connection

Overview

Displays the Cellular Signal, along with its connected Modem.

Cellular Connection Screen

The TM522 Cell Connection shows signal strength, the last contact you had, and multiple subscribers on the network.



Cellular Link

Congratulations! Your Newmar coach is equipped with a cellular link that allows you to monitor and control coach functions from almost anywhere using an ordinary smartphone. You can check your power levels, turn on the air conditioning or heating system, and receive alarms when unexpected things happen. The system uses text messaging technology, so it works any time you and your coach are both within range of ordinary cell service.

Activation

The cellular modem is already equipped with a T-Mobile SIM card provided by Cellsign Technologies. To start using your system, you must first activate the card. Call Cellsign Technologies at 888-639-9040  and be prepared to provide the SIM card ID you received with your system. Once the card is activated, you will be billed by Cellsign Technologies each month for the service. This is the only fee you will pay to use this feature of your coach.

Cellsign has selected T-Mobile for their long-term commitment to supporting the text messaging protocols used by this type of equipment. Contact the carrier for more information, and inform them that you want a text and MMS plan (“2G”) with absolutely no other services – no voice, no data.



Be sure that not only is voice service turned OFF but voice-oriented features such as Voicemail or Call Forwarding are turned OFF as well. These features can interfere with the routing of messages to your unit.

Application

To make the best use of your system, SilverLeaf Electronics has created applications for Android and Apple smartphones. The applications can be found on Google Play and the iTunes store under “SilverLeaf Electronics”. Look for the Newmar “RVC Cellular Client” application.

Installation

Once the application is downloaded, follow these instructions:

1. Enter your modem's phone number into the application. (You will receive a phone number when you activate the SIM card.)
2. Take “Super Administrative Control” of the modem by selecting that option from the application menu. Only one phone can be the SuperAdmin, and this phone controls access for all other phones.
3. If you wish to use multiple phones, using the SuperAdmin phone, select “Enable Another Phone”. Up to four phones may be enabled, and the SuperAdmin can enable and disable phones at any time.



If you change SIM cards, sell the coach, or change phones, remember to “Surrender All Control” with the SuperAdmin phone.

App Use

Get Coach Info

To get information on your coach systems, press the appropriate button in the application. For Android, press “Refresh” and the system will download all the coach data and display it on the screen. For iPhone, only a portion of the data can be retrieved at a time and is displayed in text form.

Change Climate Settings

To change climate settings, press the appropriate button and if prompted, enter the desired temperature. You will receive a confirmation after a small delay.

Get Video Image

To get a video image from the coach cameras, press the appropriate button. For iPhone, you must select the camera first, then after the switch has been confirmed, take the picture. Android users have the two steps combined automatically.

Arm/Disarm Alarms

To use the alarm feature, first enable or disable the alarms desired (Low battery, High Interior Temperature, Low Exterior Temperature). Then select “Arm Alarms” when you leave the coach and “Disarm Alarms” when you return.

Alarm parameters are set at the Newmar factory.

How the App Works

The application works by sending coded messages to the modem. These messages are processed and the modem texts back an appropriate response. Like all text messaging, there can be delays from a few seconds to over a minute for the message to traverse the cellular network.

On iPhones, for security reasons, Apple does not allow the application to send a text message without an additional confirmation step. Every time the application wants to send a message, the phone will display the message to you. Just press “Send” each time.

The system can be used on any phone that supports text messaging. The application is simply a convenience available for smartphone users. Consult the system manual for more information.

Features 5

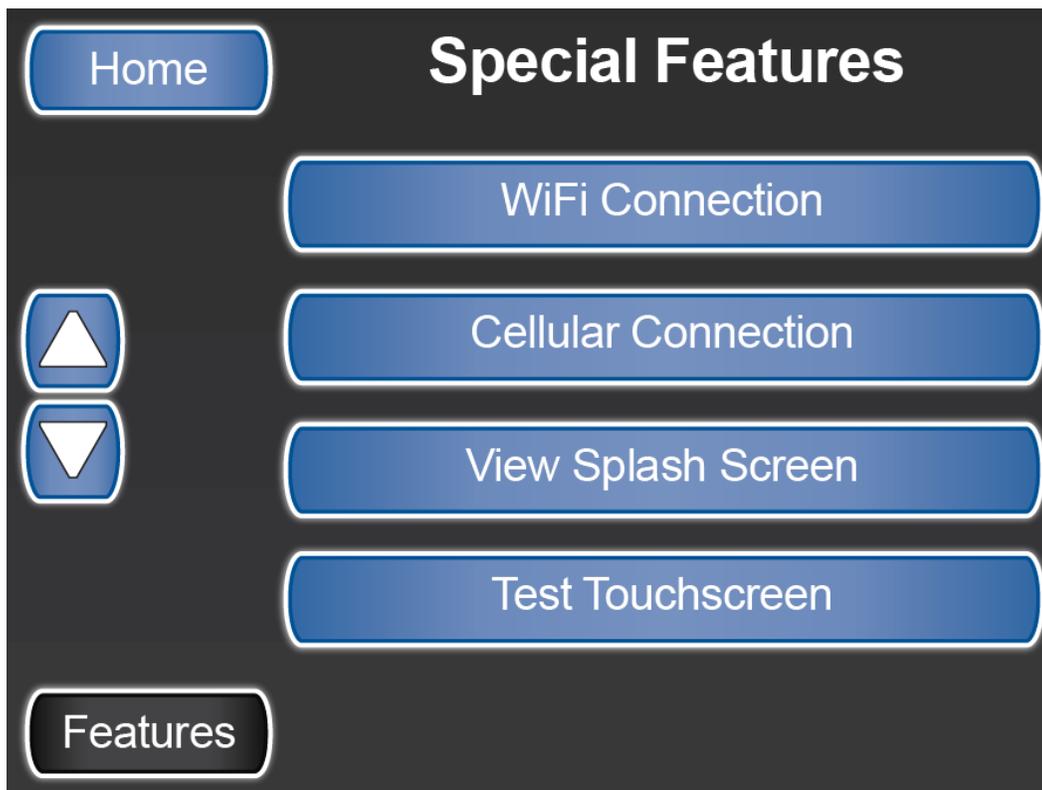
Overview

Provides access to WiFi, Cellular Connection, Splash Screen, and Test Touch Screen.

Features 5 Screen

The Special Features screens provide access to the functions not shown on the Home screen. The fifth screen allows access to the following functions:

- Set up the WiFi Connections
- Set up Cellular Connections
- View Splash Screen
- Test the Touch Screen



SilverLeaf > Special Features screen 5

WiFi Connections

Overview

The *TM550 WiFi Connections* screen is accessed from the *Features 4* screen and provides access to WiFi configuration settings.

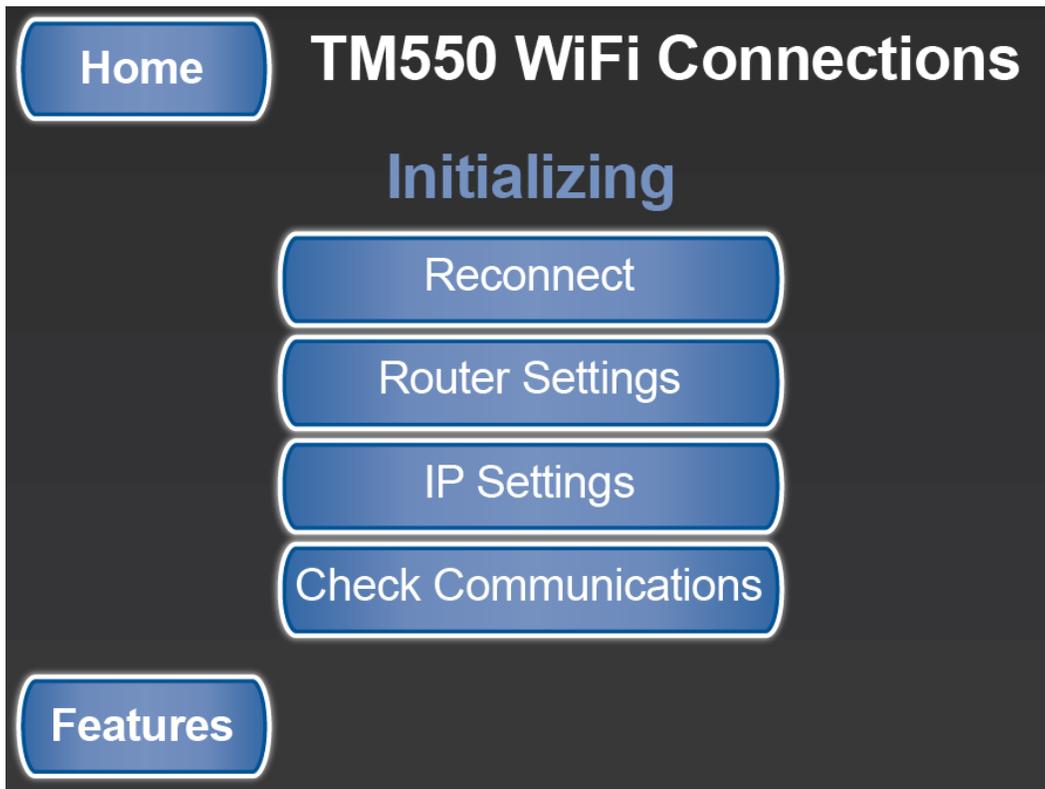
TM550 WiFi Connections Screen

The WiFi Connections screen allows you to:

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 - Check communications
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Reconnect

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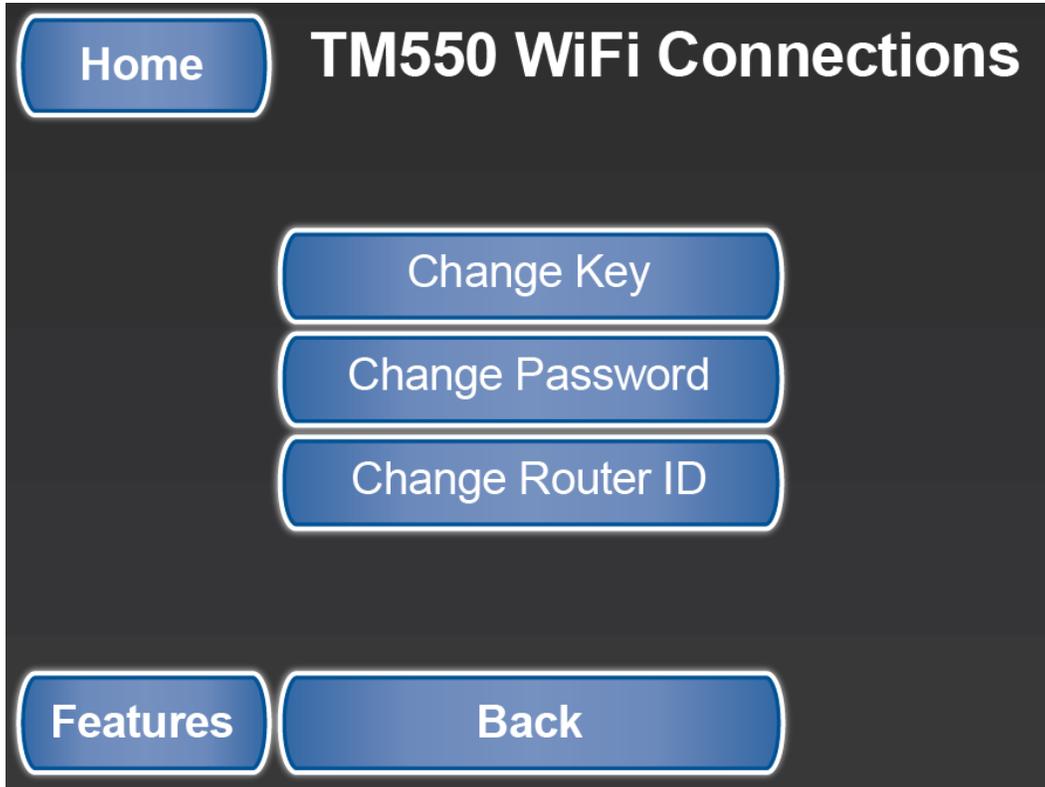


SilverLeaf Features 4 > WiFi Connection screen > Reconnect example

Router Settings

The Router Settings allows you to:

- Change Key
- Change Password
- Change Router ID



SilverLeaf Features 4 > WiFi Connection > Router Settings screen

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SilverLeaf Features 4 > WiFi Connection > Router Settings > Change Key screen

Change Password

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SilverLeaf Features 4 > WiFi Connection > Router Settings > Change Password screen

Change Router ID

The Change Router ID takes you to a Router ID changing screen.



SilverLeaf Features 4 > WiFi Connection > Router Settings > Change Router ID screen

IP Settings

The IP Settings allows you to:

- Change IP Address
- Change Gateway
- Change Subnet Mask



SilverLeaf Features 4 > WiFi Connection > IP Settings screen

Change IP Address

This shows a number screen to allow you to change the IP address.



SilverLeaf Features 4 > WiFi Connection > IP Settings > Change IP Address screen

Change Gateway

This shows a number screen to allow you to change the address.

Home **TM550 WiFi Connections**

Old 0. 0. 0. 0

New

0 1 2 3 4

5 6 7 8 9

.

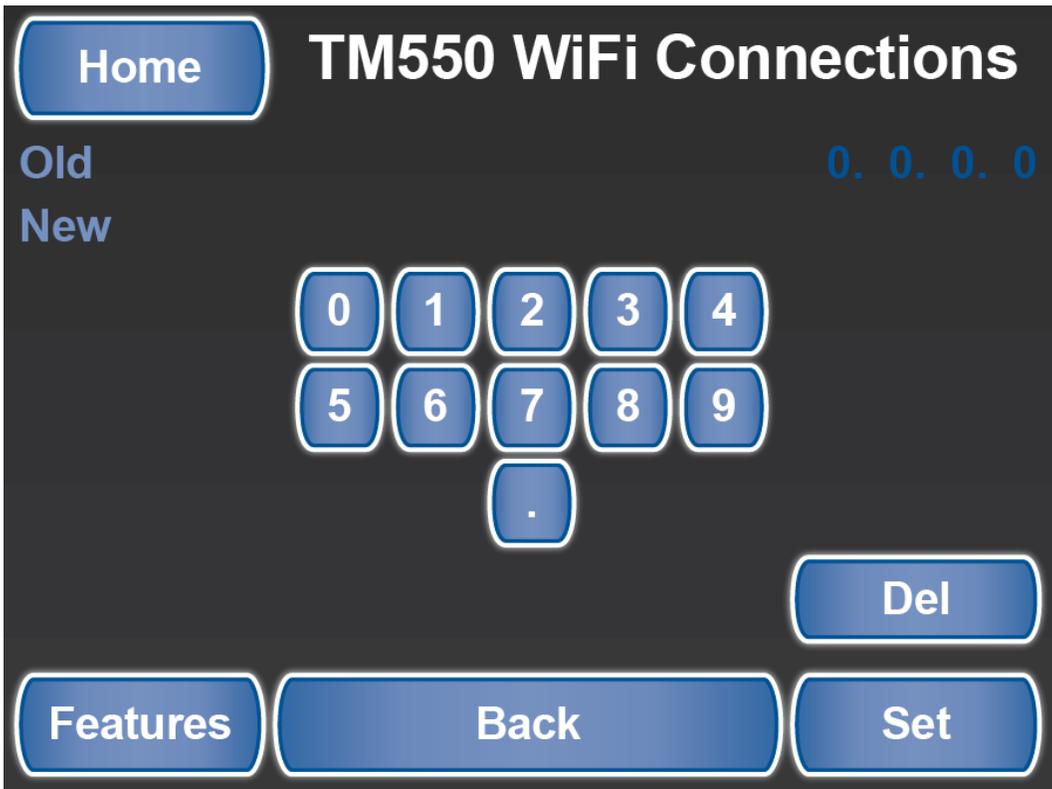
Del

Features Back Set

SilverLeaf Features 4 > WiFi Connection > IP Settings > Change Gateway screen

Change Subnet Mask

This shows a number screen to allow you to change the address.



SilverLeaf Features 4 > WiFi Connection > IP Settings > Change Subnet Mask screen

Check Communication

This shows status and information from the WiFi module.



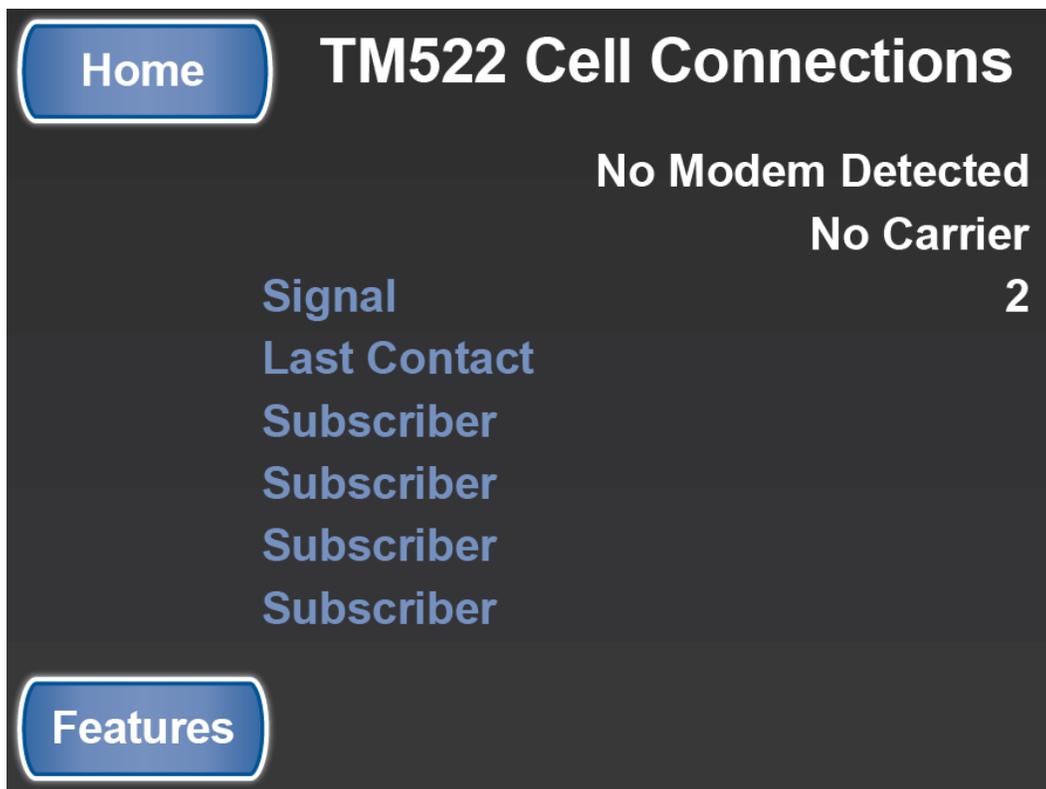
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3. If you wish to use multiple phones, using the SuperAdmin phone, select “Enable Another Phone”. Up to four phones may be enabled, and the SuperAdmin can enable and disable phones at any time.



If you change SIM cards, sell the coach, or change phones, remember to “Surrender All Control” with the SuperAdmin phone.

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Change Climate Settings

To change climate settings, press the appropriate button and if prompted, enter the desired temperature. You will receive a confirmation after a small delay.

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Alarm parameters are set at the Newmar factory.

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The application works by sending coded messages to the modem. These messages are processed and the modem texts back an appropriate response. Like all text messaging, there can be delays from a few seconds to over a minute for the message to traverse the cellular network.

On iPhones, for security reasons, Apple does not allow the application to send a text message without an additional confirmation step. Every time the application wants to send a message, the phone will display the message to you. Just press “Send” each time.

The system can be used on any phone that supports text messaging. The application is simply a convenience available for smartphone users. Consult the system manual for more information.

View Splash Screen

Overview

Displays the Newmar Logo Splash screen.

Splash Screen

Displays the Newmar Logo Splash screen. Tap anywhere on the screen to return to Special Features.



SilverLeaf > Features 5 > View Splash Screen

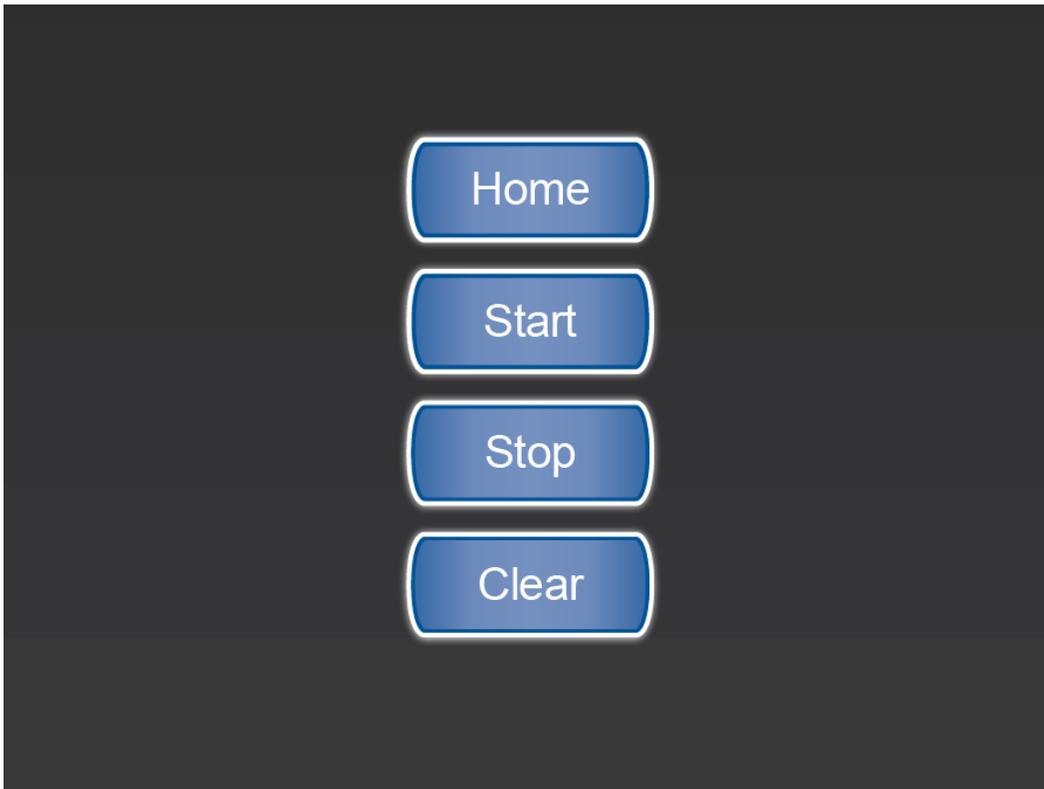
Test Touchscreen

Overview

Provides the ability to recalibrate the touch interface.

Test Touchscreen Screen

The Test Touchscreen feature allows you to recalibrate the touch interface with the display by following the prompts to tap on various points on the screen.



SilverLeaf > Features 5 > Test Touchscreen

Driver Display

Overview

The Driver Display feature provides the driver with convenient access to SilverLeaf functions and settings, as well as engine data, tire pressures, and more.

Driver Display

The SilverLeaf Driver Display is located on the dash and is easily accessible to the driver. The driver has the capability to look at all the exterior coach cameras and also change settings in SilverLeaf, just as they can with the main display in the cockpit, overhead compartment, and the optional bedroom display.



SilverLeaf Dash Keypad and Driver Displays

Control Keypad



SilverLeaf Dash Keypad

Control Knob

Turn the Control Knob to change your feature selection or to change a value on the screen. Press the Control Knob to change the cursor from one mode, Navigation, to the other, Adjustment.

Navigation



When the cursor has a triangular shape, turning the knob will move the cursor up or down the page.

Adjustment



When the cursor looks like a circular arrow pointing at its tail, turning the knob will adjust the selected setting.

Home (SilverLeaf Logo)

The Silverleaf logo (aka Home) button switches the display to show the main gauge screen. Pressing the button a second time switches to the Configuration screen, which allows you to configure the date, time, unit of measure, and tire sensors, as well as clear trip and diagnostic history and view communications.

View

The 'View' button changes whether the vehicle information or one of the exterior cameras (or both) is displayed on the video screen, with or without a camera image in the background. If you press it repeatedly, the unit will cycle through the different viewing modes, as well as the rear and side-view cameras.

House

The 'House' button switches the display to show the House settings and readouts such as Tanks, Generator, AC Power, DC Power, and Floor Heat (if equipped).

Therm

The 'Therm' button switches the display to show the HVAC settings that are controlled by SilverLeaf.

Chassis

The 'Chass' button changes the display to show the Tire Pressure, Chassis Statistics & Metrics, and Diagnostics pages.

Trip

The 'Trip' button switches the display to show current trip statistics, along with the ability to reset stats or view prior trips.

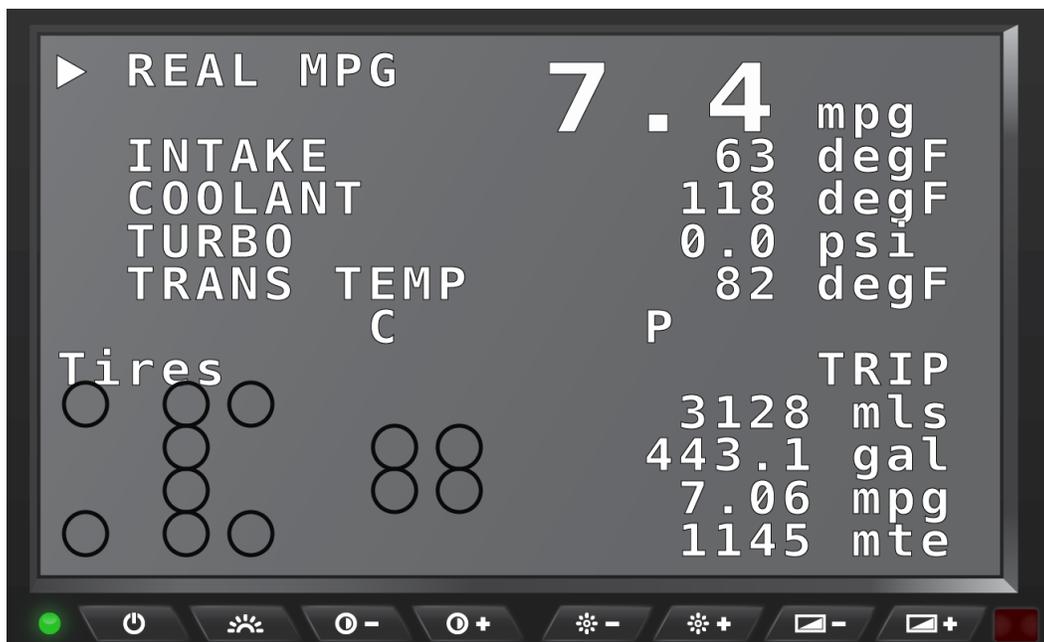
Home :: Gauges

Overview

This screen allows you to view the status of the most popular and important features at a glance.

Home Screen - Gauges

Press the Home button (SilverLeaf logo) on the control keypad to display the *Gauges* screen.



SilverLeaf Driver Display > Home button > Gauges screen

Upper Section

The top portion of the screen displays five different engine and transmission parameters per page. Three unique pages allow for a static choice at the top, such as SPEED, and four others below it. Rotate the knob on the control keypad to change the selected gauge to display, then press the knob to make your selection. Turn the knob again to select another gauge, then press the knob to complete the selection.

NOTE: Due to variations in engine configurations, some of the gauges included in the VMS350 might not be supported.

Whereas most of the gauges are read directly from the engine and transmission, a few gauges are unique to the VMS350. In particular, the "Recent MPG" and "Real MPG" are special data items calculated by the VMS350 to help get the best possible fuel economy.

"Real MPG" shows the fuel economy over roughly the last minute or so, and is intended to allow for adjusting driving technique to realize better fuel economy with headwinds and hills. "Recent MPG" shows the fuel economy over a much longer period and provides a good indication of what driving strategy is working overall.

Middle Section

Near the center of the screen are the indicators for Temperature, Cruise, and Transmission Mode.



Temperature

The Temperature display is located on the left near the middle of the screen and relates to the ambient outside air temperature (when a sensor is installed). Dashes indicate sensor/wiring malfunction or not detected.

Cruise Control

The Cruise Control indicator is located in the center of the line near the middle of the screen. When Cruise Control is ON but not set a lowercase "c" is displayed. When Cruise Control is set, an uppercase "C" is displayed. If no icon is present then Cruise Control is OFF.

Transmission Mode

The Transmission Mode icon is located on the right near the middle of screen and indicates whether the transmission is in "Performance" or "Economy" mode by displaying the letter "P" or "E". The mode can be changed by pressing the "mode" key on the shifter pad. In Performance mode, shift points allow higher RPM's before shifting. In economy mode, the transmission up shifts earlier, and when going up a grade, the transmission will only downshift to 5th, where in Performance mode it may go to 4th to keep the engine in its max torque range. Acceleration is better in Performance mode.

Lower Left Section

When Tire sensors are installed, a map is shown that represents a birds-eye view as though the coach is driving to the left.



This icon indicates that no problem has been detected with this particular tire.



This caution icon indicates that the pressure in the tire may be below the set point for the monitoring system in use. It can also mean the sensor battery is low or the sensor temperature is overly hot.



This warning icon indicates the tire may be significantly below target. This will also trigger an audible buzzer which will buzz until any key is pressed or the knob is turned.



This icon indicates that no data has been received from the indicated sensor. If this icon persists for more than a few minutes the sensor should be checked.

Lower Right Section

The current trip information is displayed in the lower right section of the screen.

Home :: Configuration

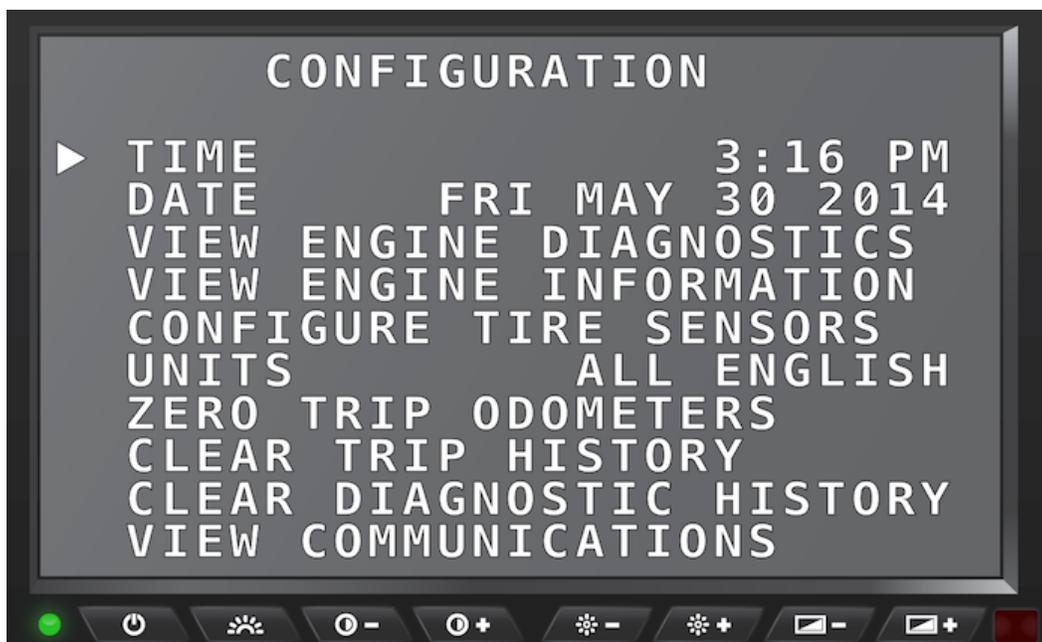
Overview

This screen allows you to set the date, time, unit of measure, and tire sensors, as well as clear trip and diagnostic history, and view communications.

Home Screen - Configuration

Press the SilverLeaf logo button on the control keypad to display the *Configuration* screen. Rotate the knob on the control keypad to change the selected value. Press the knob on the control keypad to make your selection.

Screen 1



SilverLeaf Driver Display > SilverLeaf logo > Configuration screen 1

Time

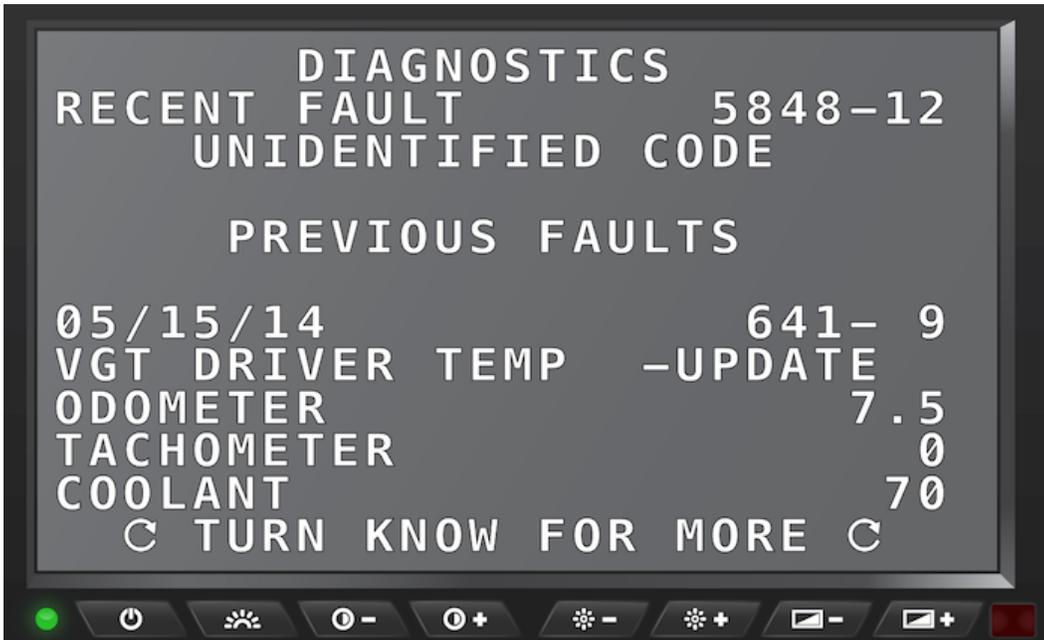
With 'TIME' selected on the *Configuration* screen, press the Control Knob on the keypad to adjust the system time. A portion of the time will start blinking. Turn the knob to adjust the value, then press the knob again to adjust the next portion and continue until finished.

Date

With 'DATE' selected on the *Configuration* screen, press the Control Knob on the keypad to adjust the system date. A portion of the date will start blinking. Turn the knob to adjust the value, then press the knob again to adjust the next portion and continue until finished.

View Engine Diagnostics

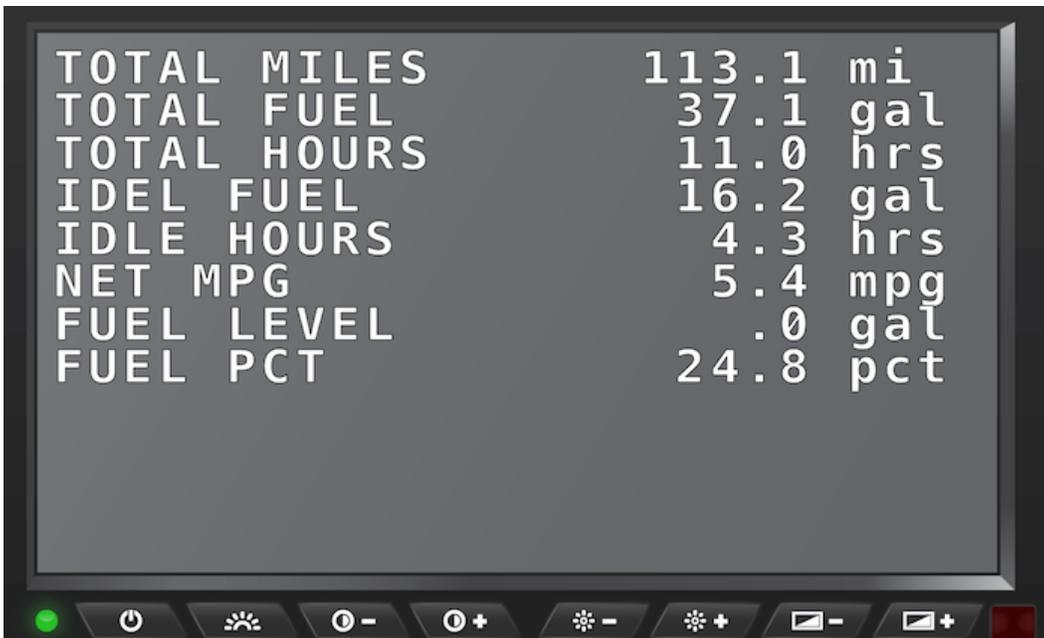
With 'VIEW ENGINE DIAGNOSTICS' selected on the *Configuration* screen, press the Control Knob on the keypad to display the *Diagnostics* screen. This screen displays diagnostic data from the engine, as well as current faults, and a history that can be viewed by scrolling.



SilverLeaf Driver Display > SilverLeaf logo > Configuration > View Engine Diagnostics screen

View Engine Information

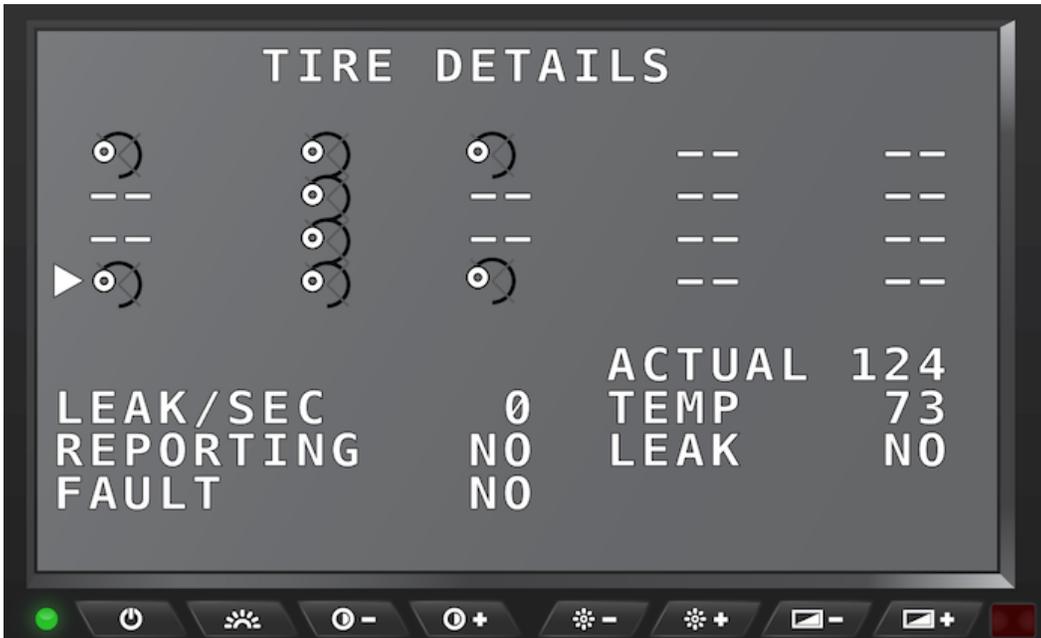
With 'VIEW ENGINE INFORMATION' selected on the *Configuration* screen, press the Control Knob on the keypad to display the Engine Information screen. The options on this screen allow you to view mileage and fuel information.



SilverLeaf Driver Display > SilverLeaf logo > Configuration > View Engine Information screen

Configure Tire Sensors

With 'CONFIGURE TIRE SENSORS' selected on the *Configuration* screen, press the Control Knob on the keypad to display the *Tire Details* screen. The options on this screen allow you to view details provided by the sensors for the selected tire.



SilverLeaf Driver Display > SilverLeaf logo > Configuration > Configure Tire Sensors screen

Units

With 'UNITS' selected on the *Configuration* screen, press the Control Knob on the keypad to select English or Metric units. There are three settings. "English" sets all units to report in English units (miles, Fahrenheit, gallons, etc.). "All Metric" sets all units to Metric (kilometers, Celsius, liters, etc...). "Metric Distances" sets only the speed and odometer units to metric and is convenient when driving in Canada or Mexico.

Zero Trip Odometers

With 'ZERO TRIP ODOMETERS' selected on the *Configuration* screen, press the Control Knob on the keypad to reset the trip odometers. This makes it as though the trip odometers were last reset the day the vehicle was built.

Clear Trip History

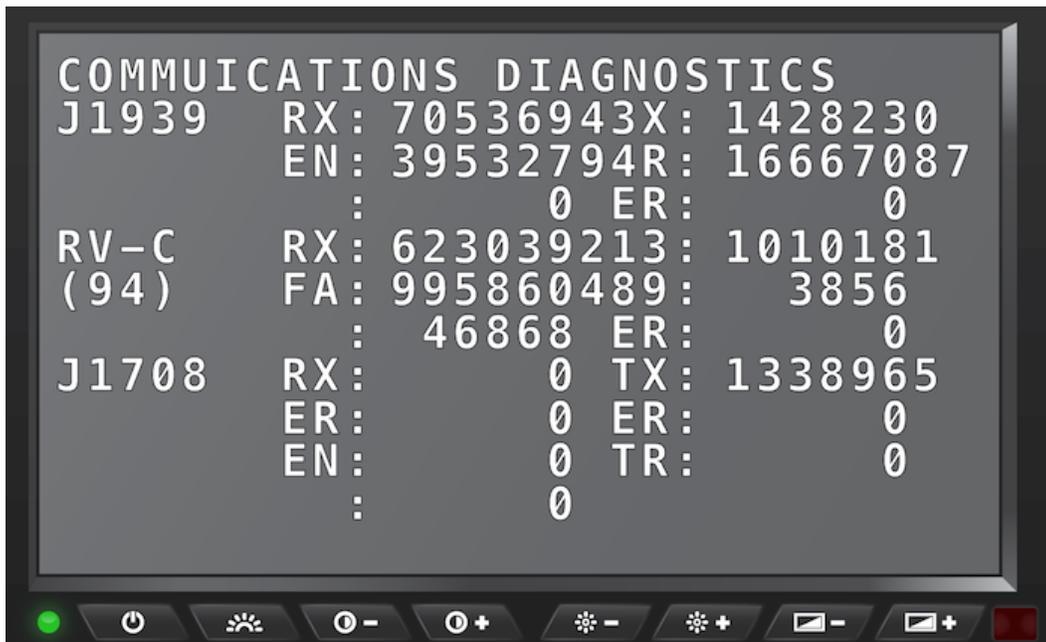
With 'CLEAR TRIP HISTORY' selected on the *Configuration* screen, press the Control Knob on the keypad to remove all trips from the trip history.

Clear Diagnostics History

With 'CLEAR DIAGNOSTICS HISTORY' selected on the *Configuration* screen, press the Control Knob on the keypad to remove all diagnostics codes from the diagnostic history.

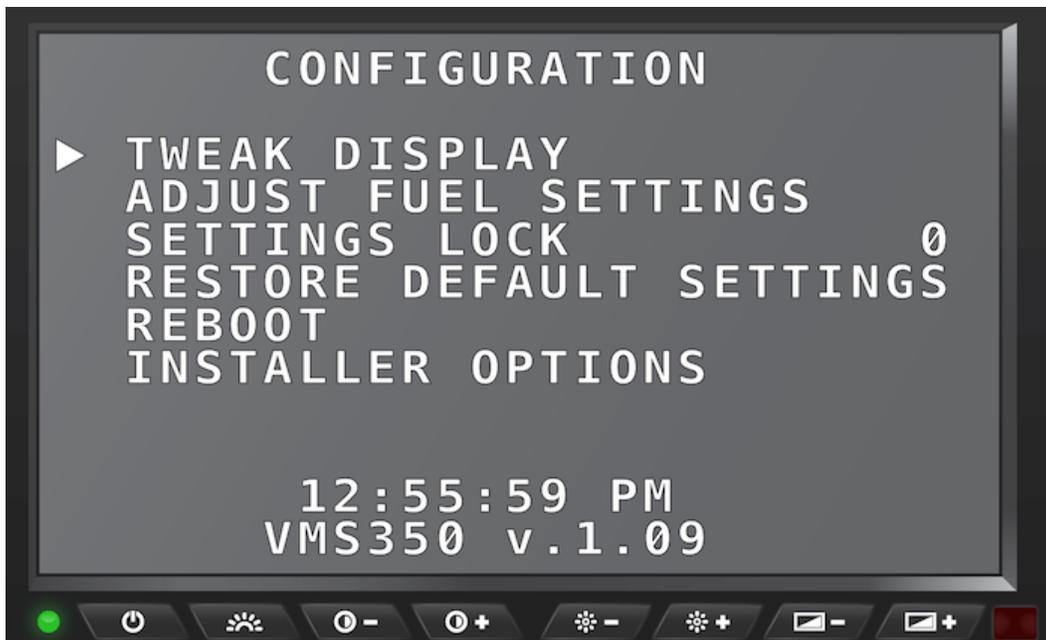
View Communications

This screen is used for troubleshooting during installation.



SilverLeaf Driver Display > SilverLeaf logo > Configuration > View Communications screen

Screen 2



SilverLeaf Driver Display > SilverLeaf logo > Configuration screen 2

Tweak Display

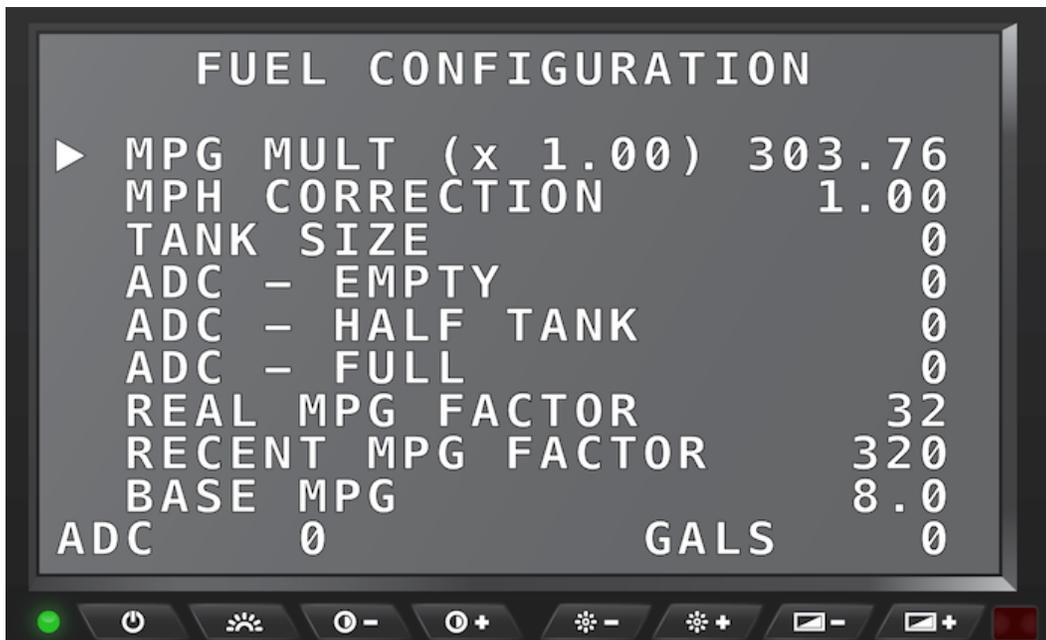
With 'TWEAK DISPLAY' selected on the *Configuration* screen, press the Control Knob on the keypad to display the *Video Configuration* screen. The options on this screen allow you to optimize Driver Display viewing by shifting the screen slightly and changing the brightness and contrast. Select 'QUIT' to go back to the main *Configuration* screen.



SilverLeaf Driver Display > SilverLeaf logo > Configuration > Tweak Display screen

Adjust Fuel Settings

With 'ADJUST FUEL SETTINGS' selected on the *Configuration* screen, press the Control Knob on the keypad to display the *Fuel Configuration* screen. The options on this screen allow you to fine tune or 'skew' the fuel readings to adjust how MPG is factored or to build in a 'reserve' fuel buffer.



SilverLeaf Driver Display > SilverLeaf logo > Configuration > Adjust Fuel Settings screen

Settings Lock

When pushing the knob, this allows you to enter a number code. The correct code will then allow you to access the Installer Option to change settings that were set up at the Newmar factory.

IMPORTANT

This screen is password protected to allow Qualified Service Technicians access to make changes to the control settings. Changing these control settings to improper values can adversely affect the operation of the control system and may cause damage to the coach.

Restore Default Settings

With 'RESTORE DEFAULT SETTINGS' selected on the *Configuration* screen, press the Control Knob on the keypad to return the unit to its factor defaults.

CAUTION

Never reset any of the system components to factory defaults. The modules should be programmed correctly by the manufacturer. Resetting any of the SilverLeaf components may cause physical damage to various systems on the coach, which could cause physical injury.

When in doubt, contact your Support Representative. They can guide you through the best solution for troubleshooting, and, if necessary, replacing the modules at a Newmar Certified Service Center.

Reboot

With 'REBOOT' selected on the *Configuration* screen, press the Control Knob on the keypad to restart the Driver Display.

Installer Options

This option is for installers. With 'INSTALLER OPTIONS' selected on the *Configuration* screen, press the Control Knob on the keypad to access certain advanced options, which are usually only needed during installation.

IMPORTANT

This screen is password protected to allow Qualified Service Technicians access to make changes to the control settings. Changing these control settings to improper values can adversely affect the operation of the control system and may cause damage to the coach.

HOUSE :: Tanks

Overview

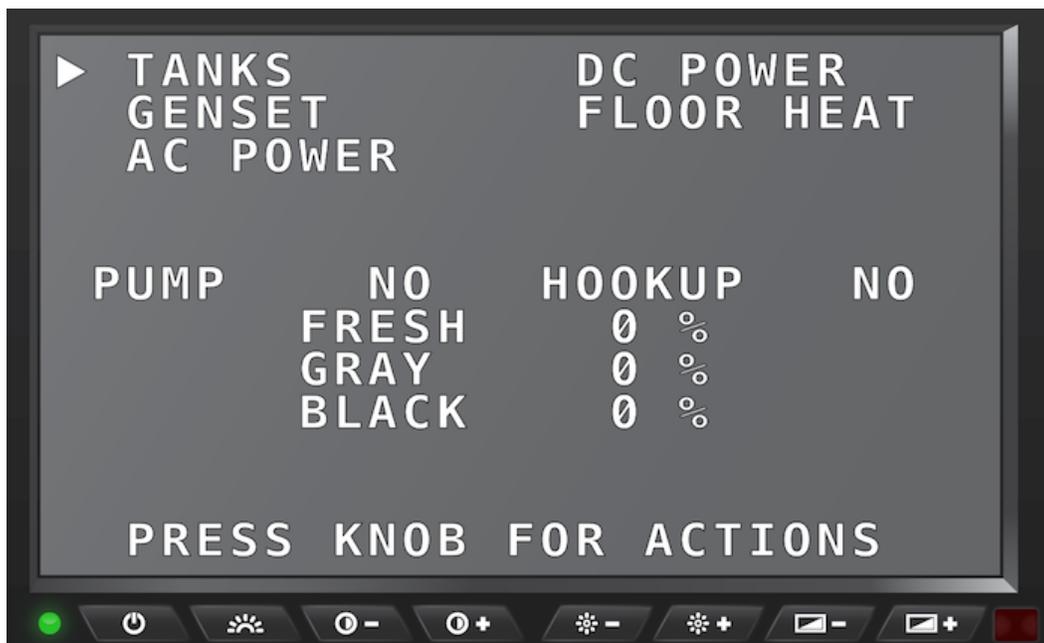
This option displays the status of the water tanks and provides access to the Water System Controls.

House Screen - Tanks

Press the 'House' button on the control keypad to show the *House* screen and display the Tank information.

Tanks Information

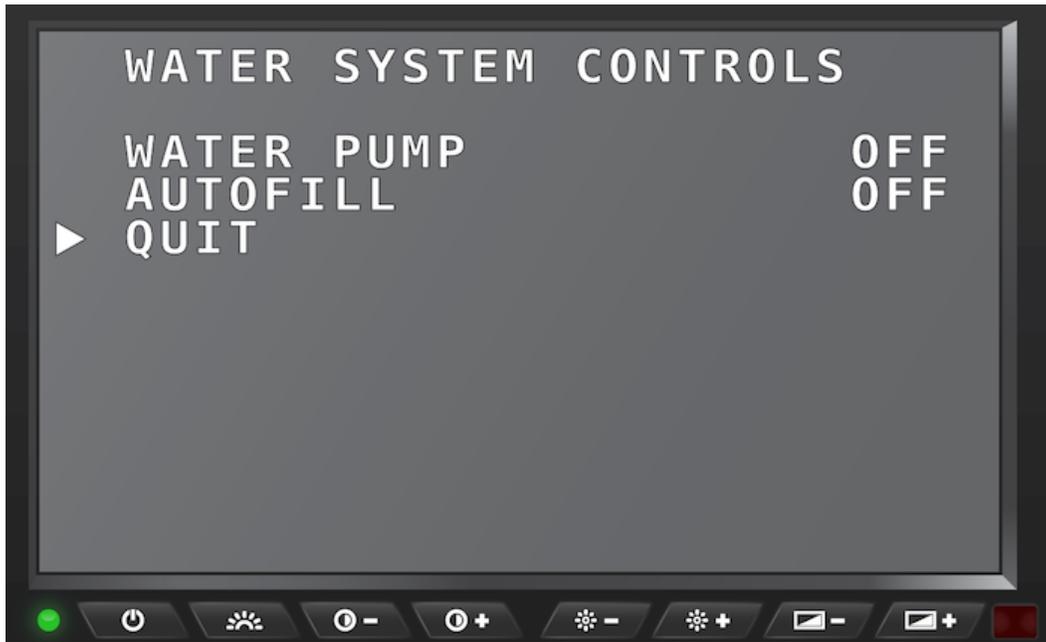
This selection displays the Pump and Hookup statuses, as well as the fill levels for the Fresh, Gray, and Black tanks. The tank values are shown as a percentage.



SilverLeaf Driver Display > House button > Tanks information

Water System Controls

With 'TANKS' selected on the *House* screen, press the Control Knob on the keypad to display the *Water System Controls* screen. This screen allows you to turn the Water Pump ON/OFF, as well as the Autofill feature. Turn the Control Knob to scroll through the options, and press the Control Knob to change the selected setting. Select 'QUIT' to go back to the main *House* screen.



SilverLeaf Driver Display > House button > Tanks > Water System Controls

HOUSE :: Genset

Overview

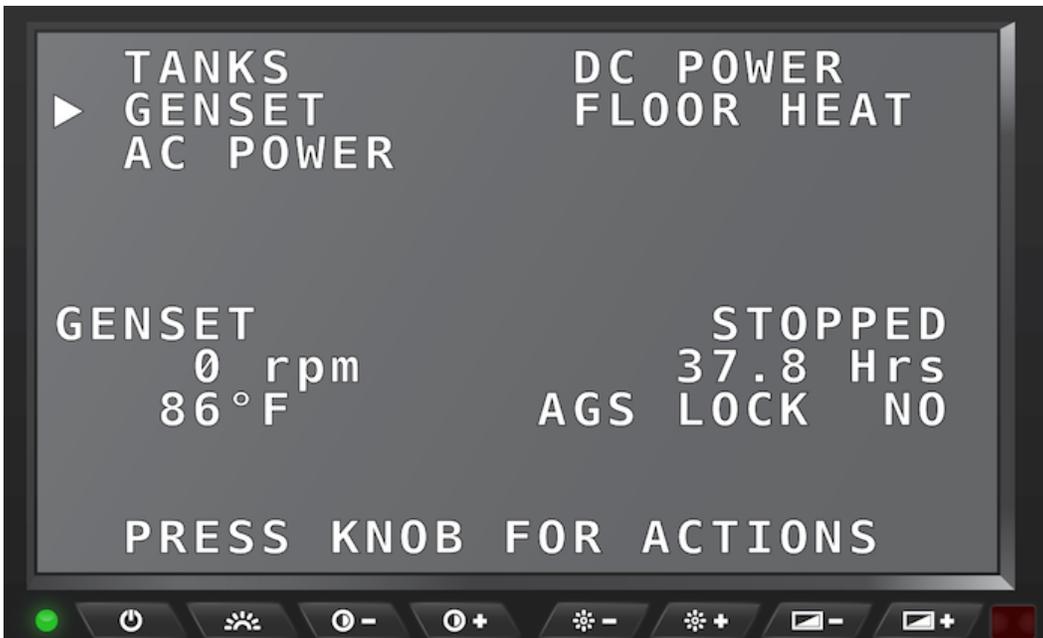
This option displays status and settings for controlling various generator-related functions.

House Screen - Genset

Press the 'House' button on the control keypad to show the *House* screen and display the Genset information.

Genset Information

This selection displays the Genset status, RPMs, temperature, hour meter, and AGS [Auto Gen Start] Lock status.



SilverLeaf Driver Display > House button > Genset information

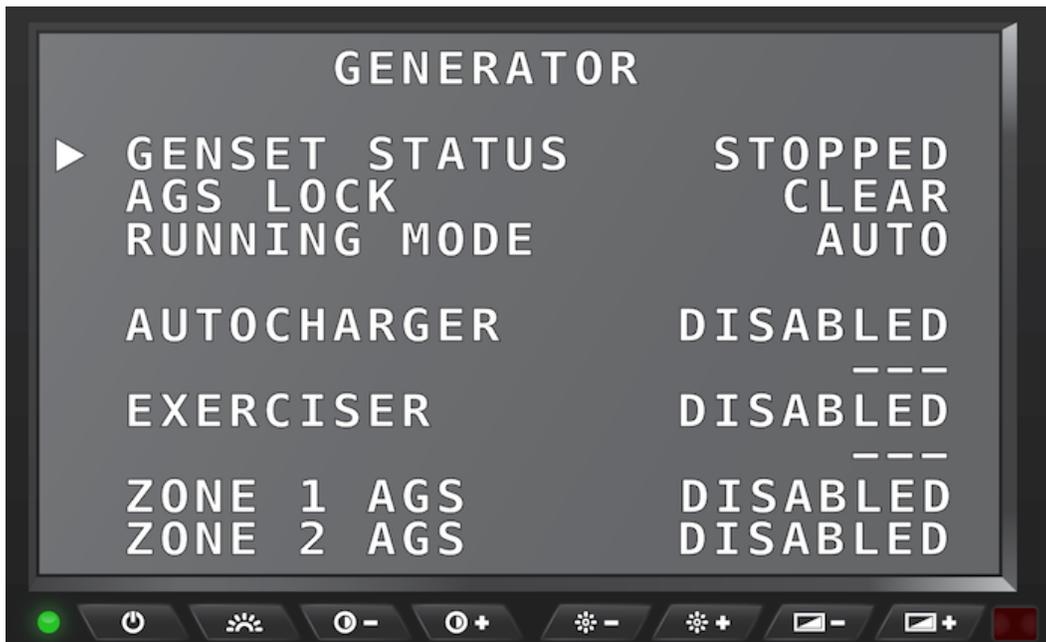
Generator - 1st screen

With 'GENSET' selected on the *House* screen, press the Control Knob on the keypad to display the *Generator* screen.

The options displayed allow you to change the value for:

- Genset Status
- Auto Gen Start Lock
- Generator Running Mode
- Exerciser status
- Zones 1 & 2 Auto Gen Start

Turn the Control Knob to scroll through the options and press the Control Knob to change the selected setting. Scroll all the way to the bottom and select 'QUIT' to go back to the main *House* screen.



SilverLeaf Driver Display > House button > Genset > Generator options 1

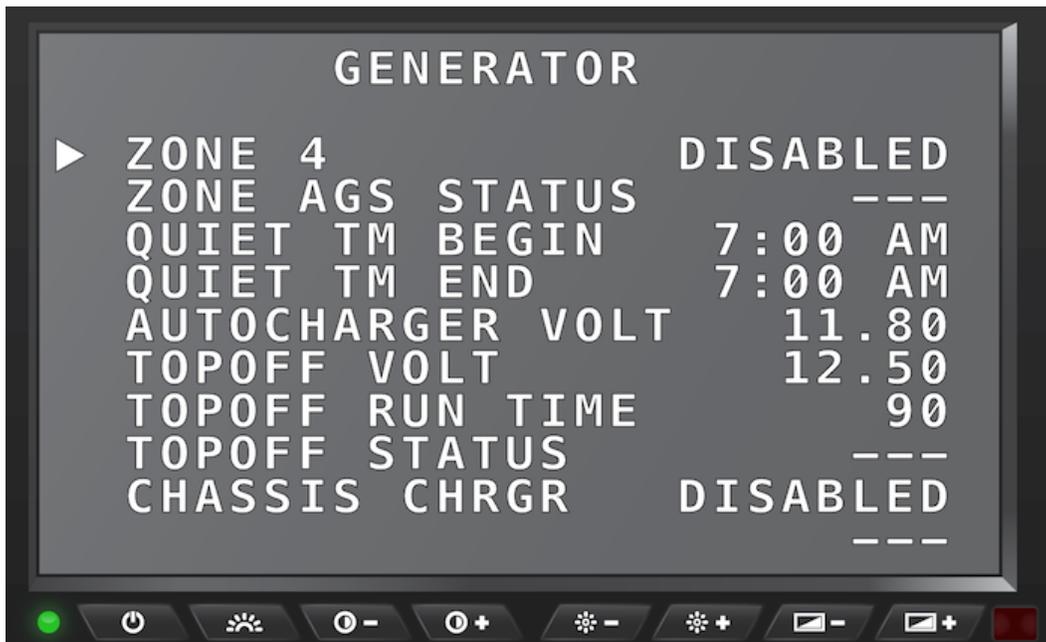
Generator - 2nd screen

With 'GENSET' selected on the *House* screen, press the Control Knob on the keypad to display the *Generator* screen.

Turn the Control Knob to scroll down the screen past the first set of options. The options on this screen allow you to change the value for:

- Zone 4 Auto Gen Start
- Quiet Time Begin & End
- Auto Charger Start Voltage
- Topoff Voltage, Run Time, and Status
- Chassis Charger Status

Turn the Control Knob to scroll through the options and press the Control Knob to change the selected setting. Scroll all the way to the bottom and select 'QUIT' to go back to the main *House* screen.



SilverLeaf Driver Display > House button > Genset > Generator options 2

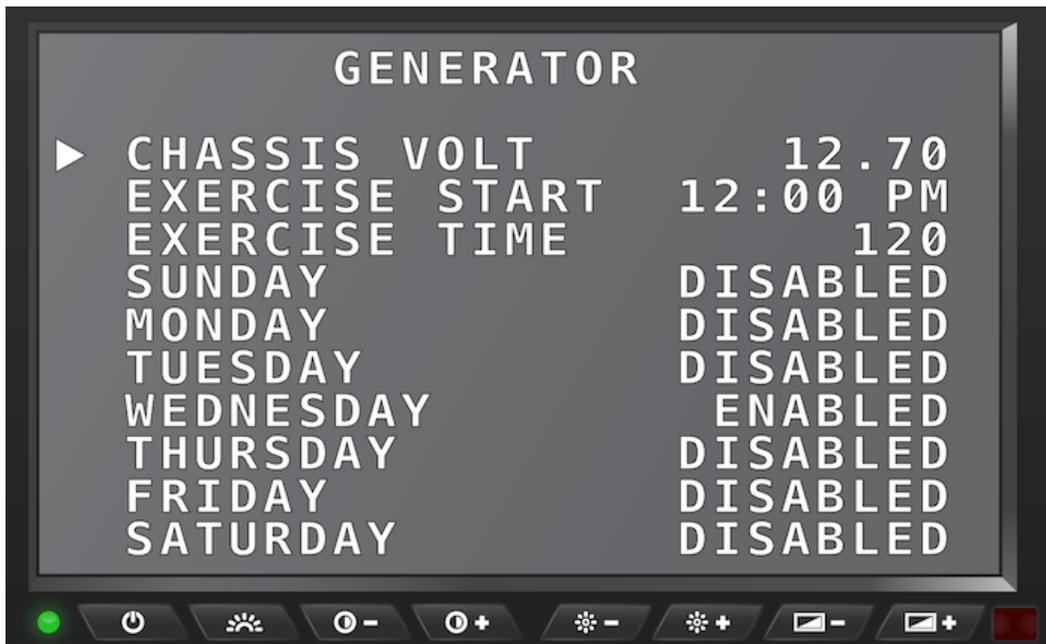
Generator - 3rd screen

With 'GENSET' selected on the *House* screen, press the Control Knob on the keypad to display the *Generator* screen.

Turn the Control Knob to scroll down past the first and second set of options. The options on this screen allow you to change the value for:

- Chassis Voltage
- Exerciser Start Time
- Exerciser duration (in minutes)
- The day(s) of the week to run the Exerciser

Turn the Control Knob to scroll through the options and press the Control Knob to change the selected setting. Scroll all the way to the bottom of the options and select 'QUIT' to go back to the main *House* screen.



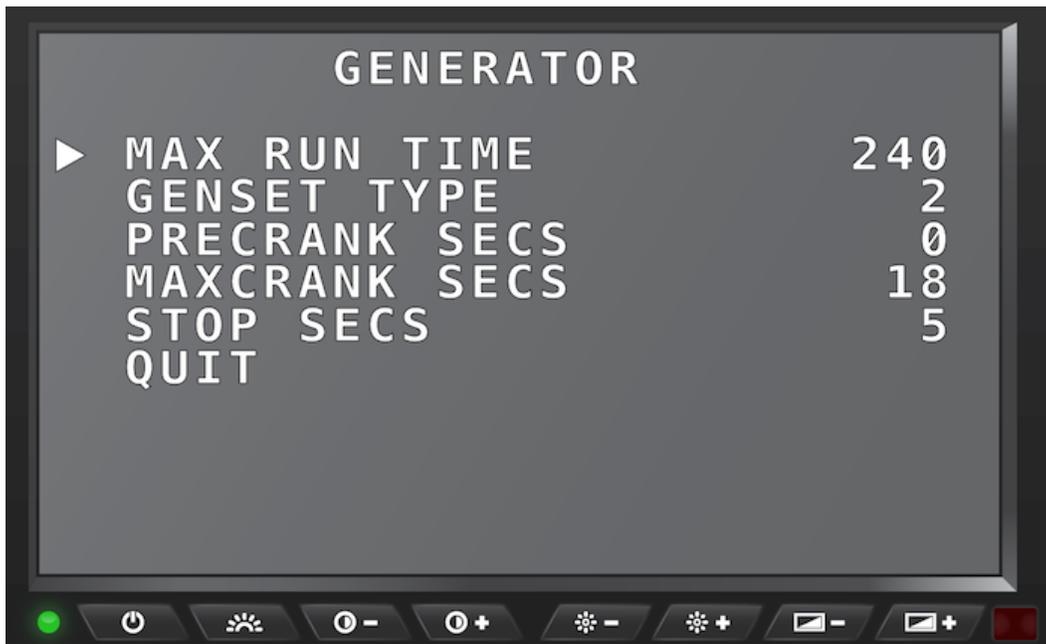
SilverLeaf Driver Display > House button > Genset > Generator options 3

Generator - 4th screen

With 'GENSET' selected on the *House* screen, press the Control Knob on the keypad to display the *Generator* screen. Turn the Control Knob to scroll past the first, second, and third sets of options. The options on this screen allow you to change the value for:

- Maximum Generator Run Time in minutes
- Generator Type
- Precrank Seconds
- Maxcrank Seconds
- Stop Seconds

Turn the Control Knob to scroll through the options and press the Control Knob to change the selected setting. Scroll to the bottom of the options and select 'QUIT' to go back to the main *House* screen.



SilverLeaf Driver Display > House button > Genset > Generator options 4

HOUSE :: AC Power

Overview

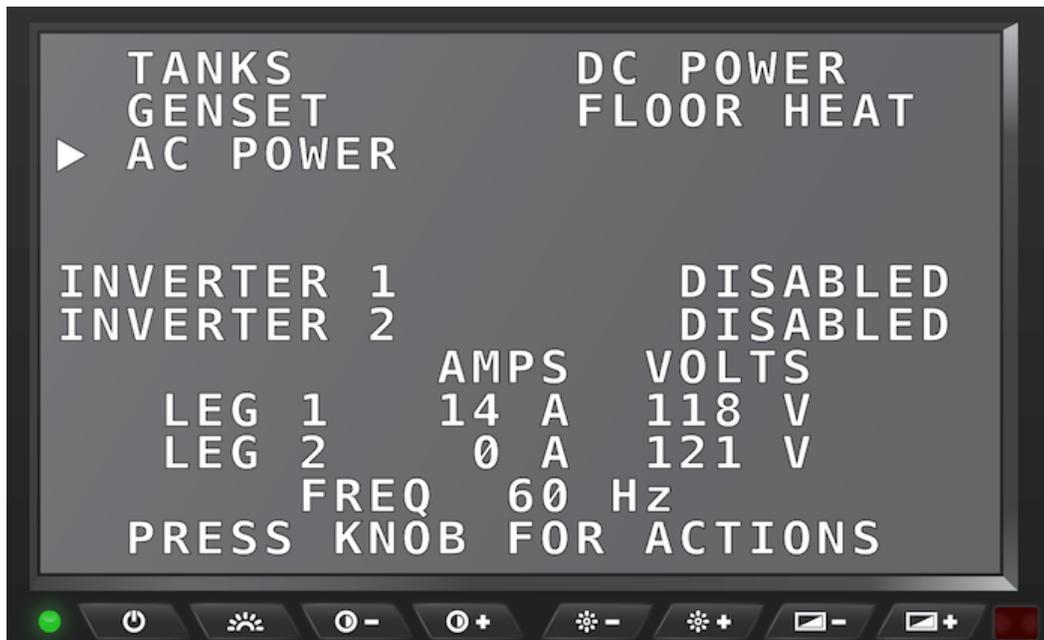
This option displays status and settings for controlling various functions of the 110v AC system.

House Screen - AC Power

Press the 'House' button on the control keypad to show the *House* screen and display the AC Power information.

AC Power Information

This selection displays the status of Inverter 1 & 2, Leg 1 and 2 of the incoming power from the shore or generator power, as well as the Generator Frequency in Hertz.

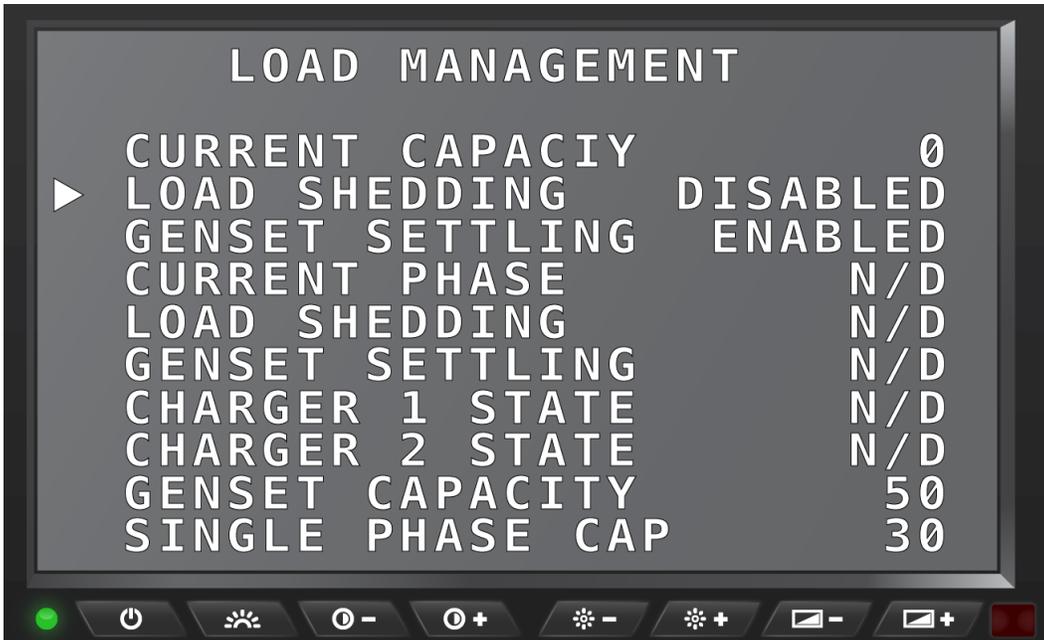


SilverLeaf Driver Display > House button > AC Power information

Load Management

With 'AC POWER' selected on the *House* screen, press the Control Knob on the keypad to display the *Load Management* screen. This screen displays the values for several loads. Scroll to the bottom and select 'QUIT' to go back to the main *House* screen.

Screen 1



SilverLeaf Driver Display > House button > AC Power > Load Management screen 1

Current Capacity

This is the current AC amperage available to the coach in real-time viewing.

Load Shedding

Enabling the Load Shedding function allows the control system to automatically manage the AC power system based on the Capacity settings from Screen 1. The system will 'shed' (turn OFF) system configured AC power devices in order to maintain a maximum phase capacity AC amperage usage.



Newmar recommends the "Load Shedding" function be set to 'Enabled'.

Genset Settling

This setting allows the generator to "settle down" and level out before a load is allowed to be put on the system.



Newmar recommends the "Generator Settling" ["Genset Settling"] function be set to 'Enabled' for proper Auto Gen operation.

Current Phase

This is the current Phase, in which the system is at that time (Single or Dual). This is only reported data from the SilverLeaf.

Load Shedding

This is reported data from the SilverLeaf, which indicates if Load Shedding is active or not.

Genset Settling

This is reported data from the SilverLeaf, which indicates if Genset Settling is active.

Charger 1 State

This tells the current State of Charge for the #1 battery charger.

Charger 2 State

This tells the current State of Charge for the #2 battery charger.

Genset Capacity

This setting specifies the maximum available amperage the Generator can output.



Newmar recommends the "Capacity - Generator" ["Genset Capacity"] function be set to '40 Amps' in coaches equipped with a 10,000 watt generator -- Mountain Aire and London Aire.



Newmar recommends the "Capacity - Generator" ["Genset Capacity"] function be set to '50 Amps' in coaches equipped with a 12,500 watt generator -- Essex and King Aire.

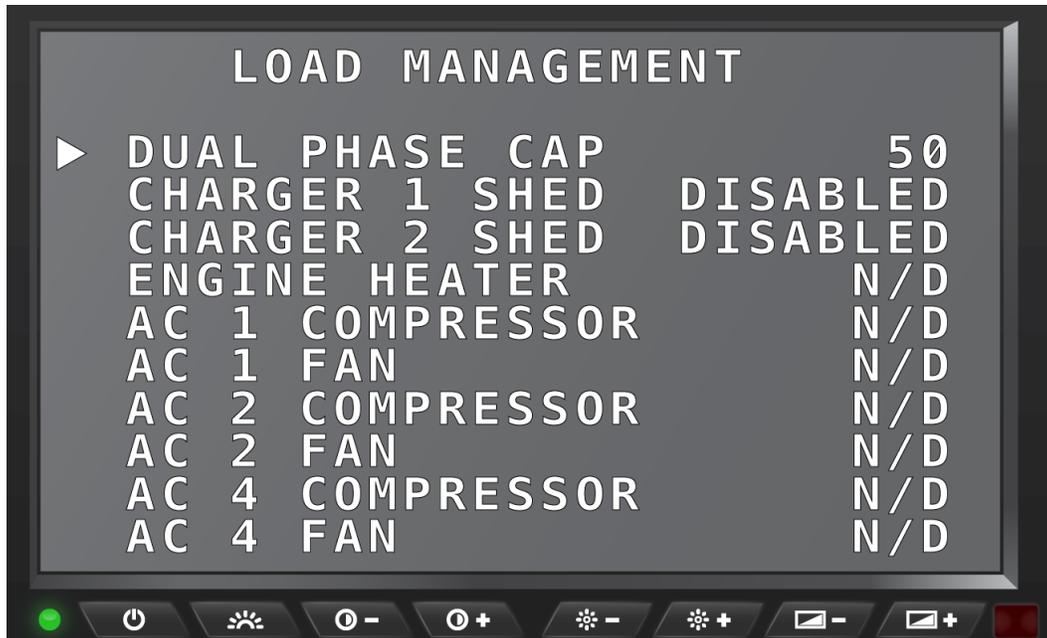
Single Phase Cap

This sets the Load Shedding Amperage value for the Single Phase selection.



Newmar recommends the value for "Single Phase Cap" be set to '30 Amps' or less.

Screen 2



SilverLeaf Driver Display > House button > AC Power > Load Management screen 2

Dual Phase Cap

This setting specifies the maximum available amperage the Generator can output.



Newmar recommends the value for "Dual Phase Cap" be set to '40 Amps' in coaches equipped with a 10,000 watt generator -- Mountain Aire and London Aire.



Newmar recommends the value for "Dual Phase Cap" be set to '50 Amps' in coaches equipped with a 12,500 watt generator -- Essex and King Aire.

Charger 1 Shed

This data displays if the Shedding for Charger 1 is Enabled or Disabled.

Charger 2 Shed

This data displays if the Shedding for Charger 2 is Enabled or Disabled.

Engine Heater

This reported data displays the status of the Engine Heater, whether on or off.

AC 1 Compressor

This reported data displays whether the AC 1 Compressor is Shed or if it is OK. If N/D is displayed, that means NO DATA has been reported from the system at that time.

AC 1 Fan

This reported data displays whether the AC 1 Fan is Shed or if it is OK. If N/D is displayed, that means NO DATA has been reported from the system at that time.

AC 2 Compressor

This reported data displays whether the AC 2 Compressor is Shed or if it is OK. If N/D is displayed, that means NO DATA has been reported from the system at that time.

AC 2 Fan

This reported data displays whether the AC 2 Fan is Shed or if it is OK. If N/D is displayed, that means NO DATA has been reported from the system at that time.

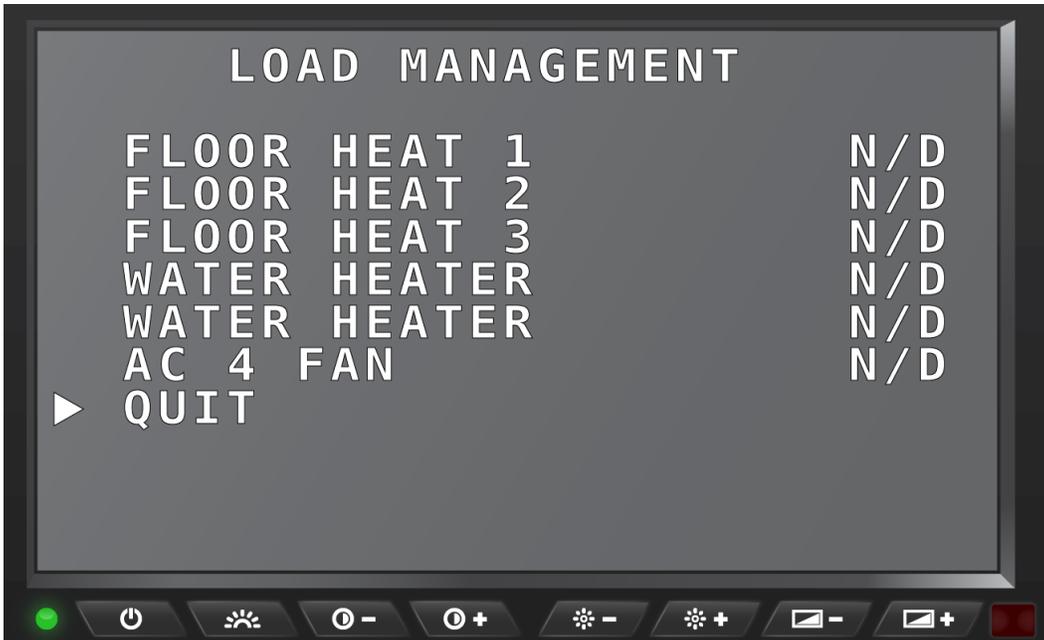
AC 4 Compressor

This reported data displays whether the AC 4 Compressor is Shed or if it is OK. If N/D is displayed, that means NO DATA has been reported from the system at that time.

AC 4 Fan

This reported data displays whether the AC 4 Fan is Shed or if it is OK. If N/D is displayed, that means NO DATA has been reported from the system at that time.

Screen 3



SilverLeaf Driver Display > House button > AC Power > Load Management screen 3

Floor Heat 1

This reported data displays whether the Floor Heat 1 is Shed or if it is OK. If N/D is displayed, that means NO DATA has been reported from the system at that time.

Floor Heat 2

This reported data displays whether the Floor Heat 2 is Shed or if it is OK. If N/D is displayed, that means NO DATA has been reported from the system at that time.

Floor Heat 3

This reported data displays whether the Floor Heat 3 is Shed or if it is OK. If N/D is displayed, that means NO DATA has been reported from the system at that time.

Water Heater 1

This reported data displays whether the First Water Heater AC Heating Element is Shed or if it is OK. If N/D is displayed, that means NO DATA has been reported from the system at that time.

Water Heater 2

This reported data displays whether the Second Water Heater AC Heating Element is Shed or if it is OK. If N/D is displayed, that means NO DATA has been reported from the system at that time.

Quit

This will take the user back to the AC Power Information Screen.

HOUSE :: DC Power

Overview

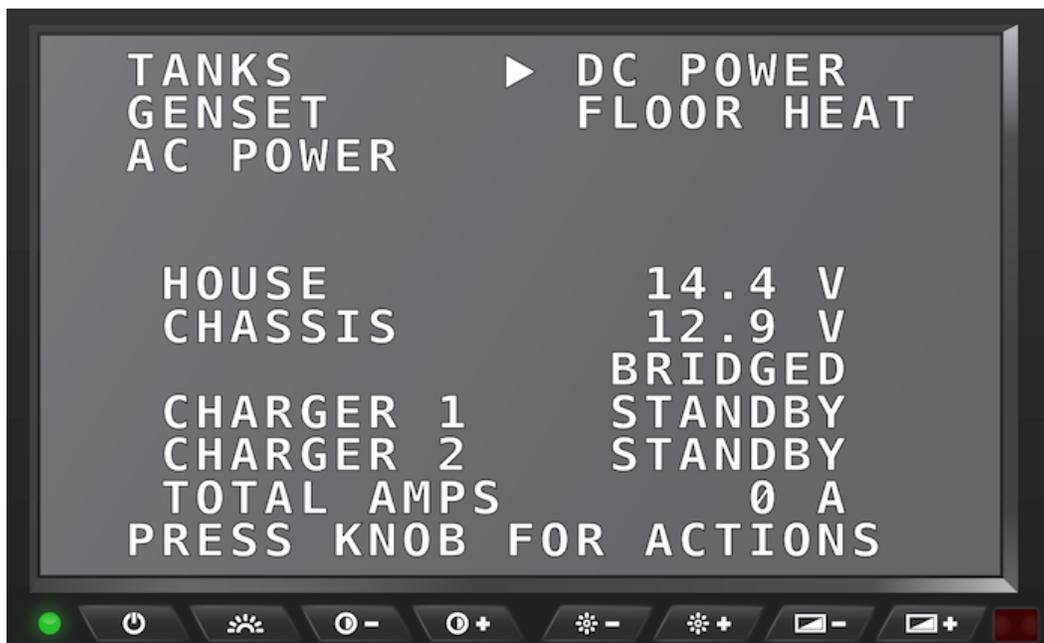
This option displays status and settings for controlling various functions of the 12v DC system.

House Screen - DC Power

Press the 'House' button on the control keypad to show the *House* screen and display the DC Power information.

DC Power Information

This selection displays the House and Chassis voltages, the status for Charger 1 & 2, and the total DC Amps being used.



SilverLeaf Driver Display > House button > DC Power information

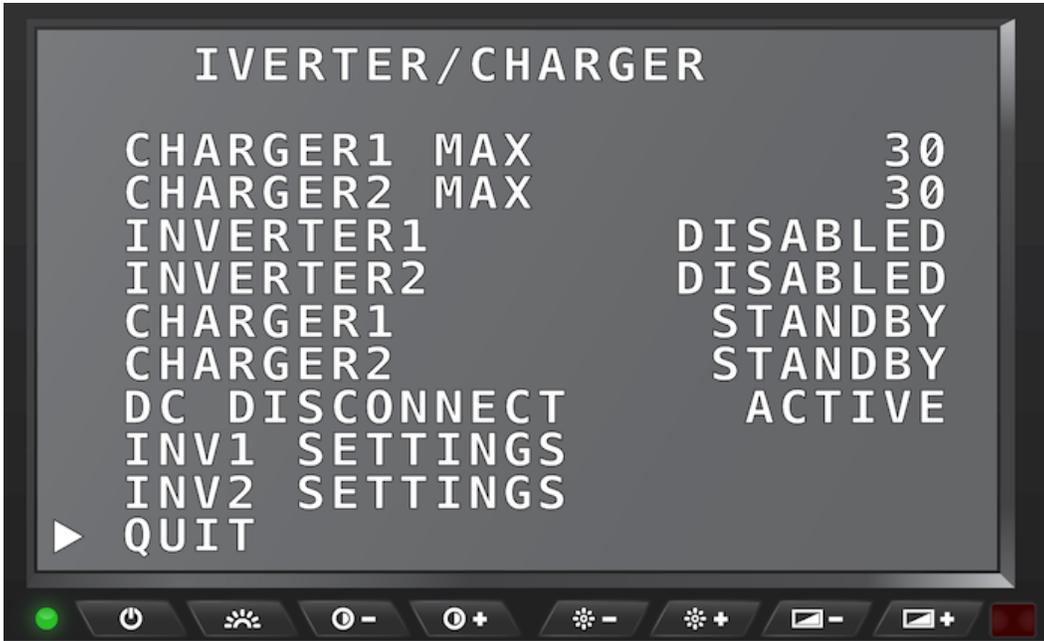
Inverter/Charger

With 'DC POWER' selected on the *House* screen, press the Control Knob on the keypad to display the *Inverter/Charger* screen.

The options on this screen allow you to change the value for:

- Charger 1 & 2 Maximum Amperage Allowed
- Inverter 1 & 2 status
- Charger 1 & 2 status
- 12v DC Disconnect status
- Inverter 1 and 2 settings

Turn the Control Knob to scroll through the options and press the Control Knob to change the selected setting. Scroll to the bottom of the options and select 'QUIT' to go back to the main *House* screen.



SilverLeaf Driver Display > House button > DC Power > Inverter/Charger screen

HOUSE :: Floor Heat

Overview

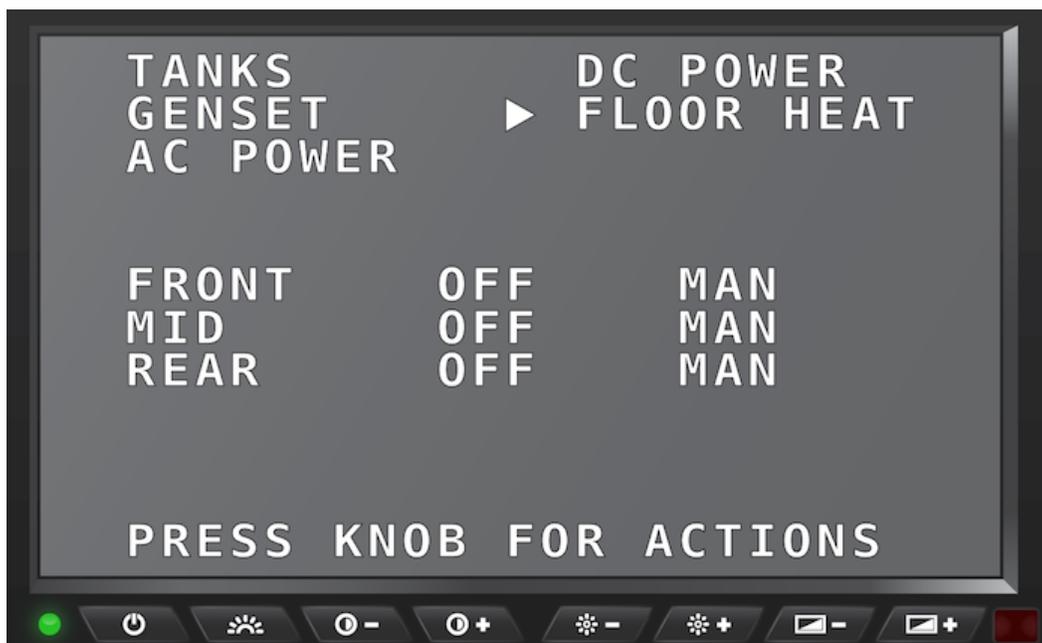
This option displays status and settings for controlling the Floor Heat system in coaches equipped with the Floor Heat option.

House Screen - Floor Heat

Press the 'House' button on the control keypad to show the *House* screen and display the Floor Heat information.

Floor Heat Information

This selection displays the status of the Front, Mid-coach, and Rear heat mats.



SilverLeaf Driver Display > House button > Floor Heat information

Floor Heat Settings - 1st screen

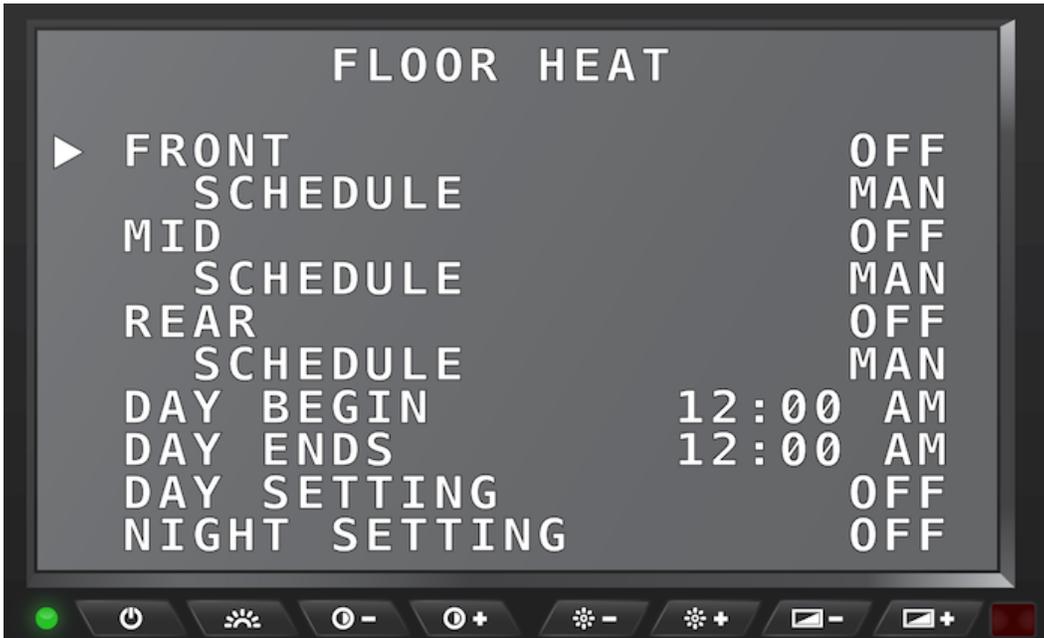
With 'FLOOR HEAT' selected on the *House* screen, press the Control Knob on the keypad to display the *Floor Heat* settings screen.

The options on this screen allow you to change the value for:

- Front, Mid-coach, and Rear status
- Front, Mid-coach, and Rear Schedule settings
- Day Settings
- Day Begin & End Times

- Night Settings

Turn the Control Knob to scroll through the options and press the Control Knob to change the selected setting. Scroll to the bottom of the options and select 'QUIT' to go back to the main *House* screen.



SilverLeaf Driver Display > House button > Floor Heat > Floor Heat settings screen 1

Floor Heat Settings - 2nd screen

With 'FLOOR HEAT' selected on the *House* screen, press the Control Knob on the keypad to display the *Floor Heat* settings screen. Turn the Control Knob to scroll through the options and press the Control Knob to change the selected setting. Scroll all the way to the bottom of the options and select 'QUIT' to go back to the main *House* screen.



SilverLeaf Driver Display > House button > Floor Heat > Floor Heat settings screen 2

THERM

Overview

This option displays three menu pages for settings and values of the HVAC in all zones controlled through the SilverLeaf system.

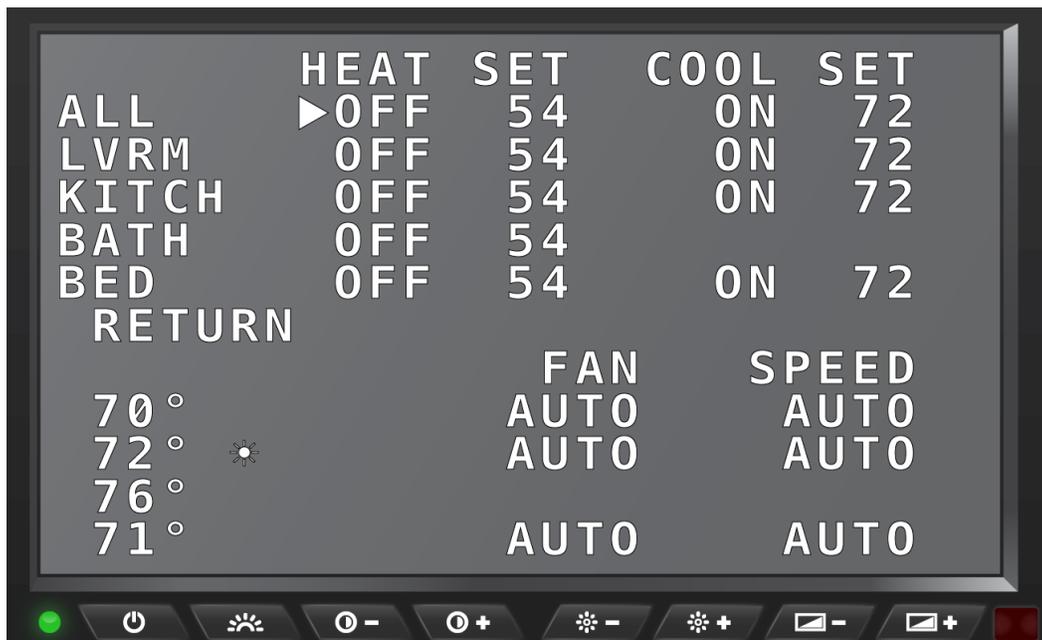
Therm Screen

Press the 'Therm' button on the control keypad to show the HVAC configuration screens. There are three menu pages available for controlling the HVAC systems of the coach when pressing the "THERM" button on the Control Keypad.

These pages allow you to configure unique heating and cooling schedules for day and night. Alternatively, a schedule can be created while you are away from your coach. You may also change the time when "Night" and "Day" begin, which can be particularly useful for early risers.

Screen 1

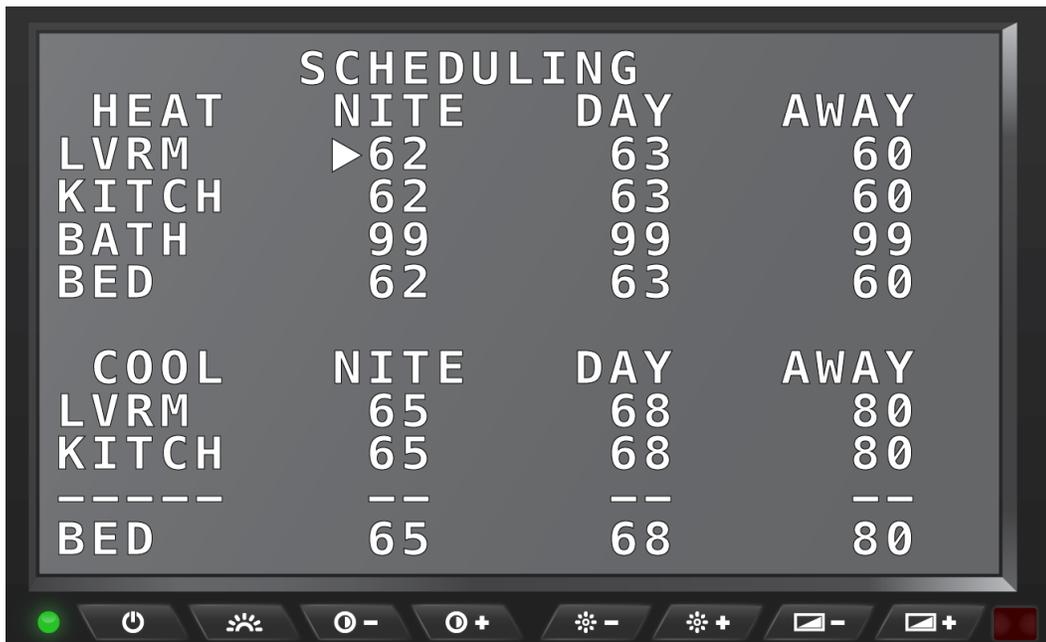
Screen 1 displays the values and settings to all heating/cooling zones. The bath zone only has a heat setting and no cooling option. It also shows the Return/Leave status and the Fan speed settings.



SilverLeaf Driver Display > THERM button > HVAC screen 1

Screen 2

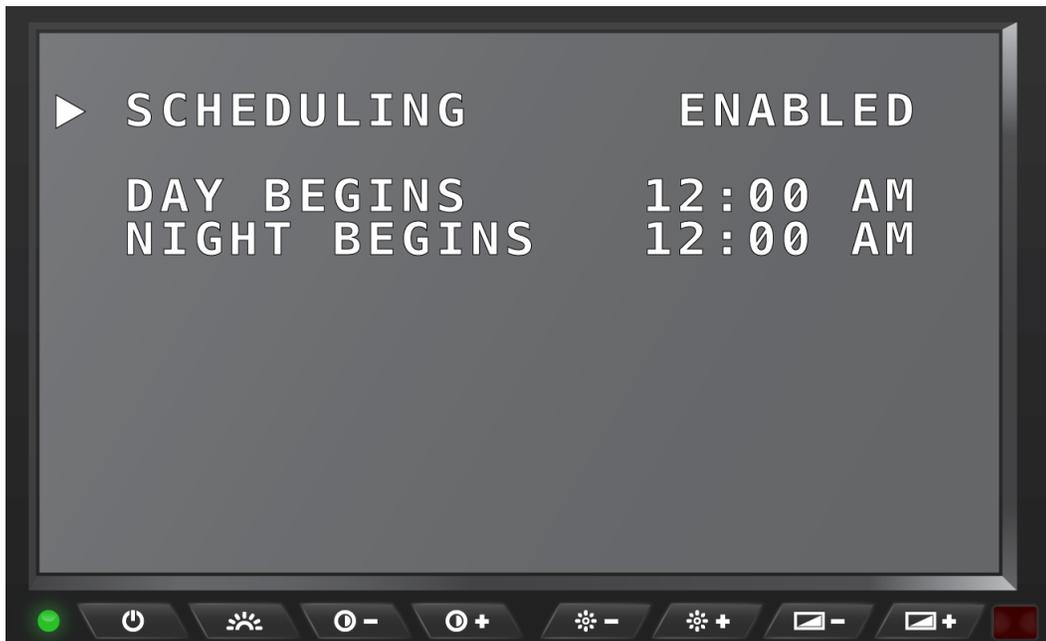
Screen 2 displays the scheduling for night and day on the heating and cooling mode.



SilverLeaf Driver Display > THERM button > HVAC screen 2

Screen 3

Screen 3 displays whether the scheduling is Enabled or Disabled. This is also where you would set the value for when day begins and when night begins.



SilverLeaf Driver Display > THERM button > HVAC screen 3

CHASS

Overview

This option cycles through screens for tire and engine information.

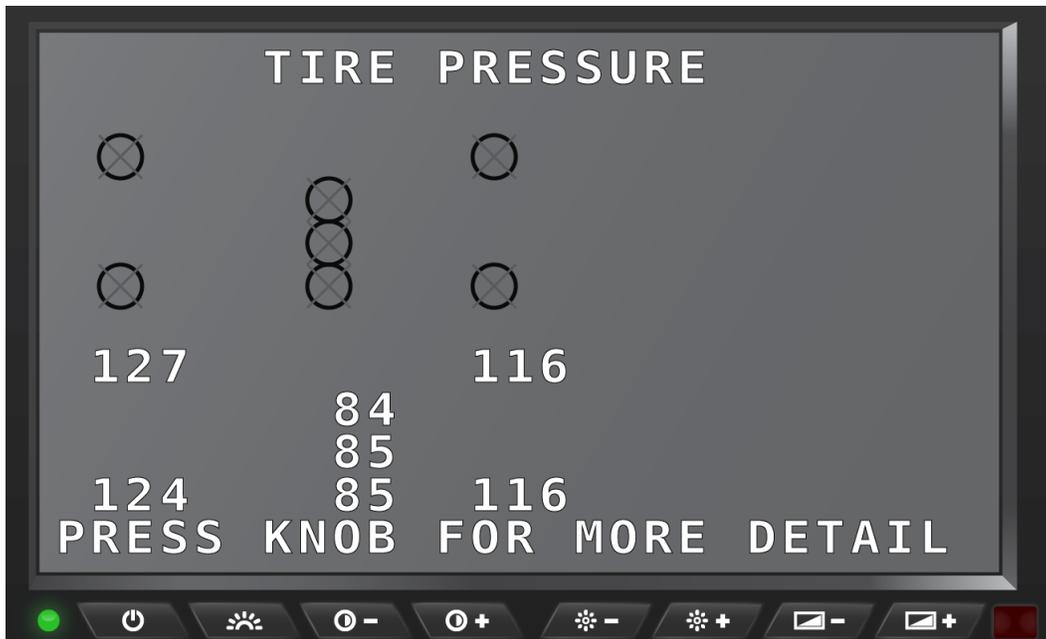
Chassis Screen

Press the 'Chass' button on the control keypad to cycle through tire and engine information screens. There are two screens available for viewing and configuring the tire sensors and two screens available for viewing engine data and diagnostics on the coach.

The Chassis Key displays the status of the pressure of each tire. You can press the knob on any tire to show more detail. The Chassis Key also shows any recent or previous diagnostics and faults, if any. It will also show detailed values such as hours spent at idle, fuel level, total fuel, and net MPG.

Screen 1

This screen displays the Tire Pressures as seen from a birds-eye view of the coach moving to the left. Like the Drive screen, icons may replace tire pressure values if there are tire problems. Rotate the control knob to select a tire, then press the control knob to expand the view of the tire status to show the current pressure, temperature, leak status, and detected fault. The top half of the screen is otherwise identical to the Tire section of the main "Drive" screen.



SilverLeaf Driver Display > CHASS button > Tire Pressure screen

Screen 2

This screen allows you to move, delete, or add tire sensors. Rotate the knob to move from tire to tire. The top left position corresponds to the front tire on the non-driver side of the coach. The bottom half of the screen shows detailed information about the selected tire sensor.

To install a new sensor:

1. Rotate the control knob to move the cursor to the desired position.
2. Press the control knob to select the desired position.
3. Screw the sensor on the tire.
4. A "No Data" icon should appear in the desired position within 30-60 seconds. A regular tire icon should appear shortly after the "No Data" icon. It can take up to five minutes before all tire data, such as signal strength, is collected for the new sensor.



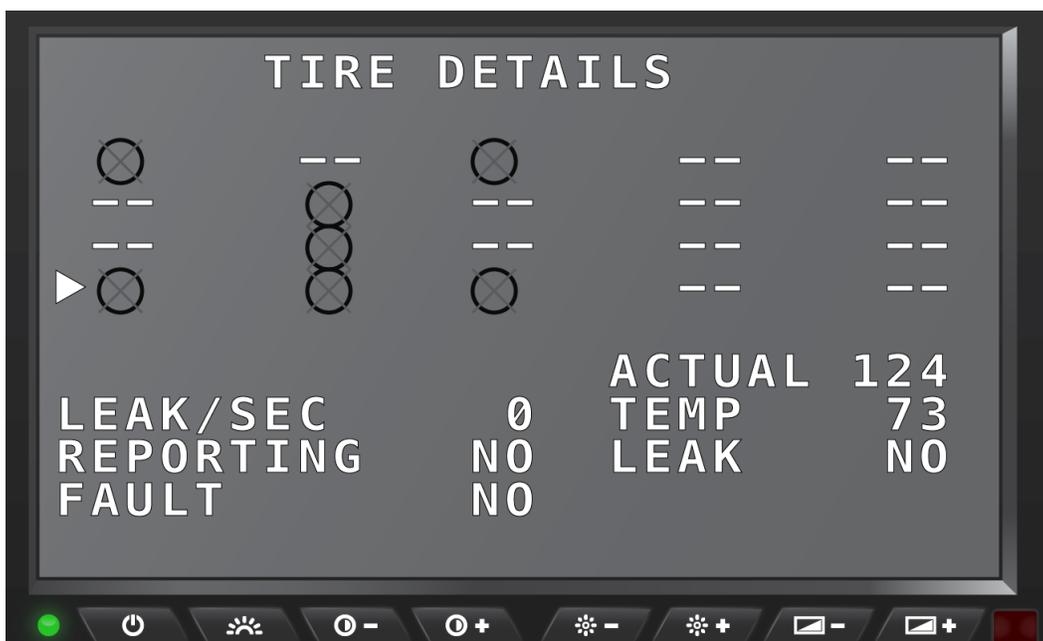
You will have to set the Baseline setting to the new sensor. This will require the Valor Smart tool to do this setup.

To delete a tire:

1. Rotate the control knob to move the cursor to the desired position.
2. Press the control knob to remove the selected tire.

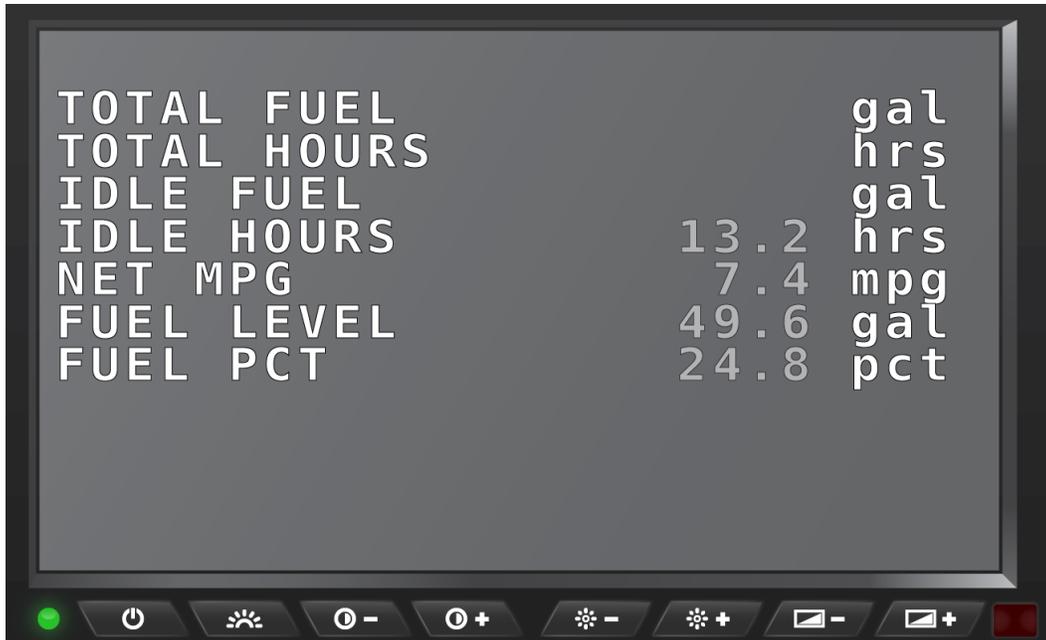
To move a sensor from one tire to another:

1. Delete the tire from the original position as described above.
2. The sensor should be removed and allowed to sit for about two minutes before being reinstalled.
3. Follow the installation procedures above to add the tire to the new location.



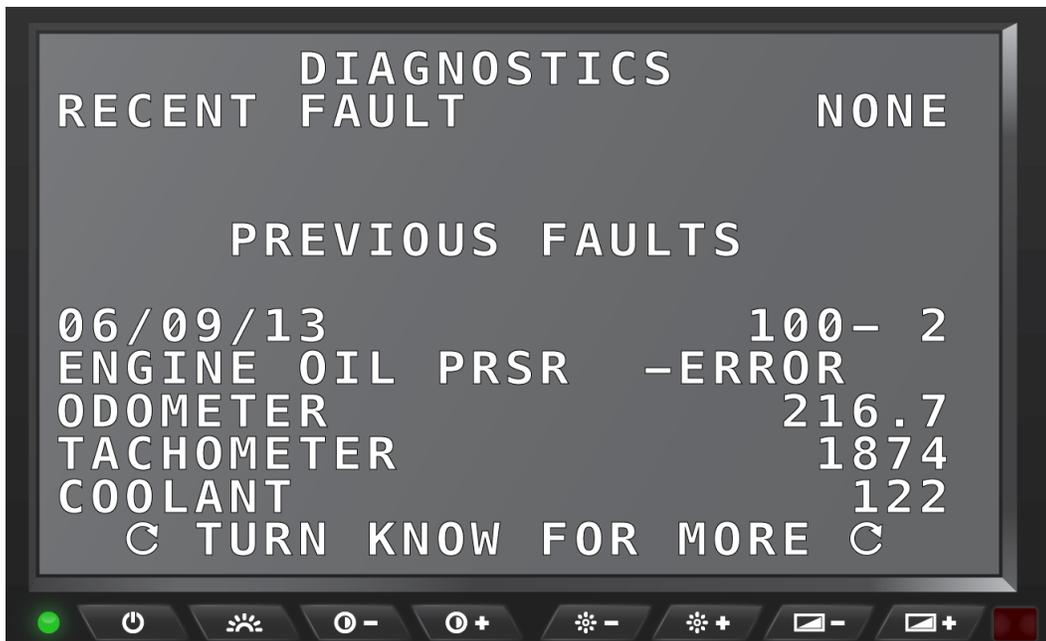
Screen 3

This screen displays information about the fuel level, fuel use, and how many hours of idle time are available with the amount of remaining fuel.



Screen 4

This screen shows diagnostic data from the engine. Current faults are displayed, along with a history of past faults.



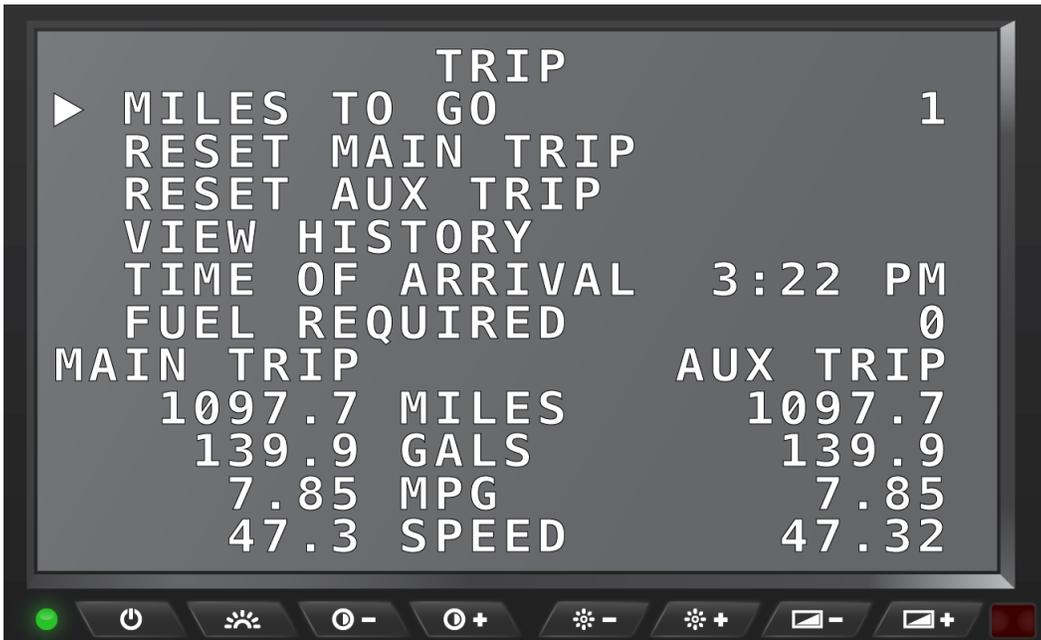
TRIP

Overview

This option displays information about your past and current trips.

Trip Screen

The Driver Display tracks two trips simultaneously. You might use the main trip to track mileage and fuel each time you leave home. The "auxiliary" trip keeps a cumulative total for the season or a year and can be reset at each refueling.



SilverLeaf Driver Display > TRIP button > Trip History screen

Miles To Go

With 'MILES TO GO' selected on the *Trip* screen, press the Control Knob on the keypad to select this option. Rotate the knob to set the value, then the Driver Display will count down the miles while driving and provide a continuing estimate of the "Time of Arrival" and the amount of "Fuel Required". These estimates will be based on the speed and fuel consumption averages for the 'Main Trip'.

By entering the distance to your destination from a GPS or map, for example, a good estimate of the "Arrival Time" and "Fuel Required" can be known. This can help plan and manage stops. The "Arrival Time" can also be watched while adjusting the "Miles To Go" to get the best travel distance on the next leg of your journey.

Reset Main Trip

With 'RESET MAIN TRIP' selected on the *Trip* screen, press the Control Knob on the keypad to clear the odometer and readings for this section. Once cleared, however, this action cannot be undone.

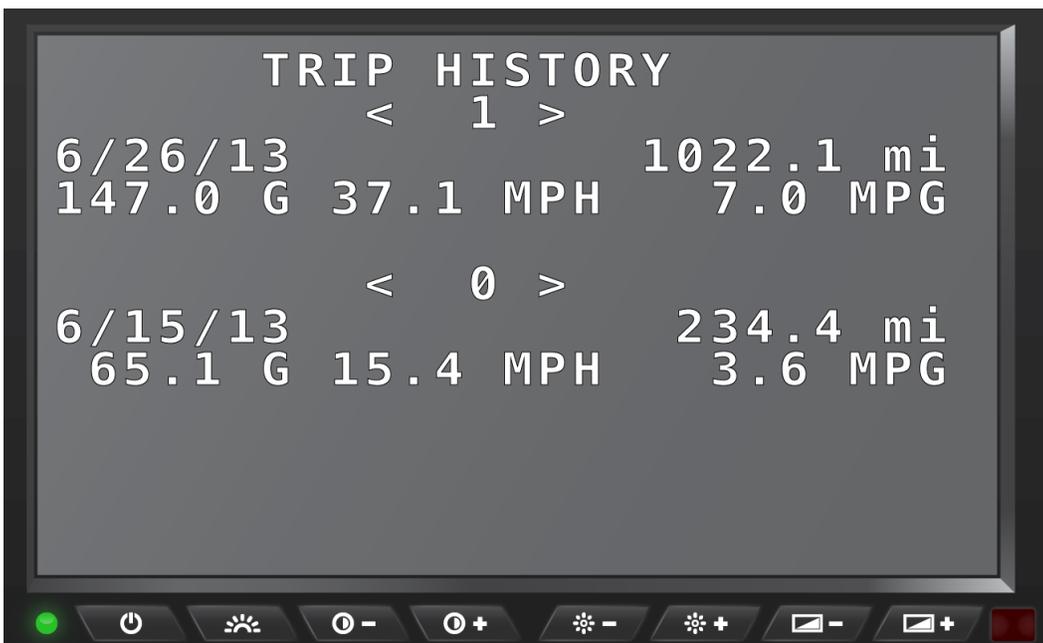
Reset Aux Trip

With 'RESET MAIN TRIP' selected on the *Trip* screen, press the Control Knob on the keypad to clear the odometer and readings for this section. Once cleared, however, this action cannot be undone.

Trip History

With 'VIEW HISTORY' selected on the *Trip* screen, press the Control Knob on the keypad to display the *Trip History* screen.

This screen displays information about past trips. Whenever the 'Main Trip' odometer is reset from the *Trip* screen, the data is recorded in the Trip History. The Driver Display can store up to 64 trips in its history. Rotate the Control Knob to scroll through more entries.



SilverLeaf Driver Display > TRIP button > Trip History screen

Splash Screen

Press the "TRIP" button on the control keypad to display the SilverLeaf Splash screen with the system date and time.



SilverLeaf Driver Display > TRIP button > SilverLeaf Splash screen