FIREFLY INTEGRATIONS

Tech Call Troubleshooting Guide

Version 1

Imagination ~ Innovation ~ Integration

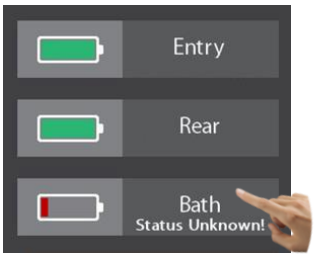
1013 Elroy Drive, Middlebury, Indiana 46540 (574) 825-4600

WIRELESS SWITCH PANELS (SSP17)

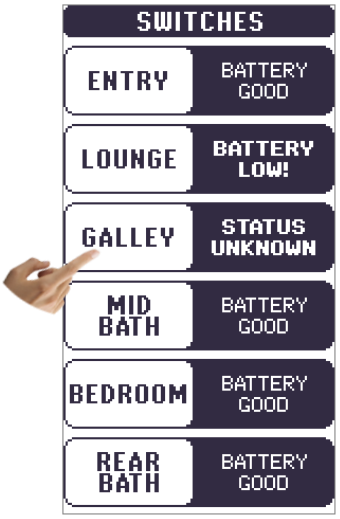
Pushing any button on the Wireless Switch panels should cause the Green LED, located bottom center, to illuminate.

- If the LED illuminates – Battery is good
- If you have No light – ensure that the paper "remove" tab has been removed from the back of the switch panel.
- If it still does not light, replace the battery.

If no switch panel buttons activate their respective circuits - check Switch Pairing.



To check Switch Pairing, go to the settings page on the touch screen and tap Switch Info. If the switch is paired and has a good battery, you will see a battery status symbol.



Status Unknown indicates that either the battery is dead, or the switch panel has lost connection to the touchscreen. Once you have verified that the battery is good, follow these pairing instructions:

1. From the switch info page, locate the switch that needs paired and press and hold on the switch name (not the battery icon) for 7 seconds.
2. Choose Start Pairing.
3. You will now have 30 seconds to walk to the switch and press any 2 buttons simultaneously for 2 seconds.
4. Test the switch panel to see if it functions. Note: it may take up to 5 minutes before the Status Unknown message will disappear from the touchscreen, but the switch will work instantly.

If the switch is still not working, verify that other switches in the coach are working. If others are indeed working, move the defective switch closer to the touchscreen to see if it will start working. If it works closer to the screen, call Firefly for Tech Support. If it does not work at this point, replace the switch. *

WIRED RVC SWITCH PANELS

Network Connection

RVC switches are connected to the CAN network by cables called “drop cables.” The red and black wires supply power to the switch while the blue and white wires provide communication to the network. Many switch panel issues can be caused by loose wiring at this connector known as the Mini Plug. Please see the Network Pinout diagram. It is important to note that occasionally the blue wire may be green.

Network Pinout

Red – 12V positive

White – CAN High

Blue/Green – CAN Low

Black - Ground

Some switches will have a built-in network cable known as a pig tail. Other switches will have a female mini socket on the back and will not have a pig tail attached.

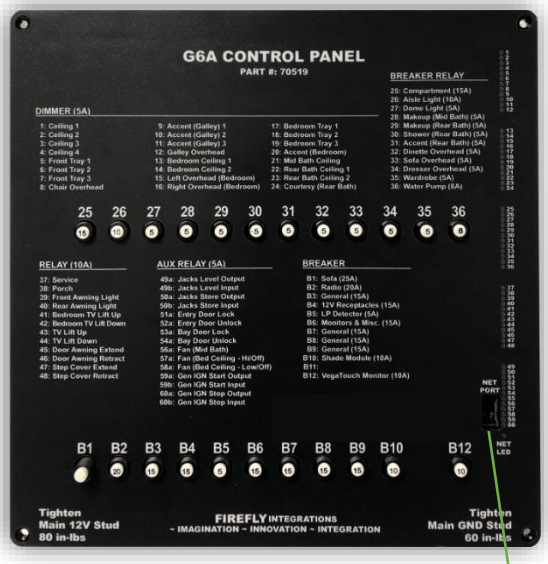
When a wired switch panel is connected to the network, a network status LED light will illuminate solid green. This NET LED will be located underneath the bezel of the switch panel. **If the NET LED status is anything other than solid green, please refer to the Network Troubleshooting Page.**

Removing the Bezel

Note: The cover for each switch panel is removed through inserting a small screw driver or using a finger to gently pry off.

Testing Switches

Test a wired switch by removing it from the wall and plugging it directly into the Net Port. This will help to rule out wiring issues. If the switch works while it is plugged directly in, you’ll know that the switch isn’t defective. You’ll then want to investigate the wiring.



Switches that don’t have a pig tail will require the use of a separate network cable to test at the Net Port. This type of switch can also be tested by removing a working switch and testing at its location.

Net Port – allows direct access to the network

A SWITCH PANEL HAS GONE DARK AND NO LONGER FUNCTIONS.

Remove the switch panel from the wall. Do the network wires seem like they have a loose connection or has one of the wires come loose?

- Yes – repair the wiring and retest the switch
- No – remove the switch from the wall and plug it directly into the power distribution center's Net Port to test (G5, G6, etc.).

Does it work while plugged in directly to the Net Port?

- Yes – There may be a problem with the wiring running to the switch. Check all connections in the wiring running to the switch.
- No – Replace the switch. *

MULTIPLE SWITCH PANELS HAVE GONE DARK AND NO LONGER FUNCTION.

Remove the switch panels from the wall. Do the network wires seem like they have any loose connections or has one of the wires come loose?

- Yes – repair the wiring and retest the switches
- No – remove the switches from the wall and plug them directly into the power distribution center's Net Port to test (G5, G6, etc.).

Do they work while plugged in directly to the Net Port?

- Yes – Check all connections in the wiring running to the switch. Identify if all of the switches are plugged into the same Network Tap. Locate the network tap to identify if it has a solid green LED. If it doesn't have a solid green LED, check the wiring to the Network Tap. Replace the Network Tap if necessary. *
- No – Replace the switches. *

A SWITCH PANEL HAS A FLASHING NET LED.

Remove the switch panel from the wall. Do the network wires seem like they have a loose connection or has one of the wires come loose?

- Yes – repair the wiring and retest the switch.
- No – plug the switch panel into the power distribution panel's Net Port.

Does the NET LED turn Solid Green when plugged into the Net Port?

- Yes – investigate the wiring leading to the switch panel.
- No – replace the switch panel. *

MULTIPLE SWITCH PANELS HAVE A FLASHING NET LED.

See the Network Troubleshoot Guide and perform a Network Resistance Test. Call Firefly Integrations for tech support if you do not measure 60 ohms.

A BUTTON ON A SWITCH PANEL NO LONGER FUNCTIONS.

You will need to ensure that there is not a problem with the distribution panel.
Can you operate the same function from another switch/touchscreen in the coach?

- Yes – the switch panel might be defective and could need to be replaced. Test the switch at another location to rule out the wiring to the switch. Replace the switch if necessary. *
- No – See the Distribution Panel Troubleshooting page.

A SWITCH PANEL LIGHTS UP BUT NO BUTTONS WILL FUNCTION.

Remove the switch panel and check the network connections and the NET LED status. It is likely that one of the communication wires have come loose. If all connections look solid, test the switch in the power distribution center's Net Port. Does it work while plugged in directly?

- Yes – There may be a problem with the wiring running to the switch. Check all connections in the wiring running to the switch.
- No – Replace the switch. *

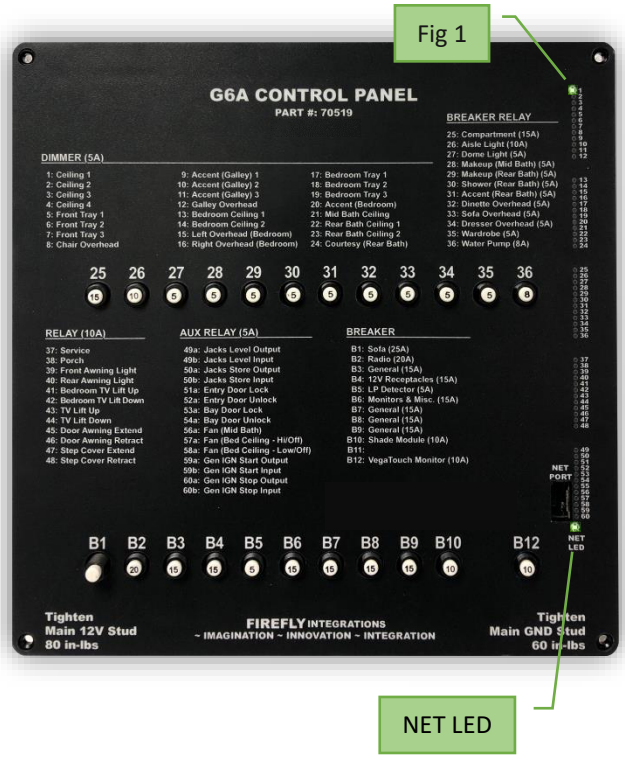
DC Power Distribution Panels

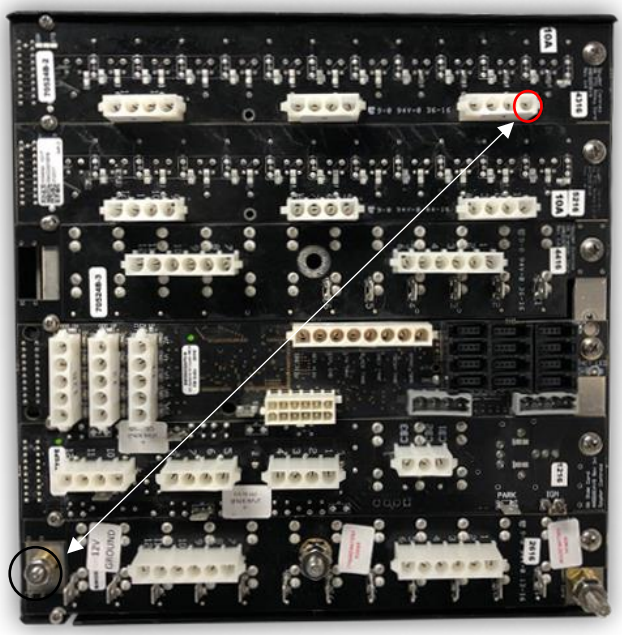
G6A Panel

The G6A control panel is the most common type of power distribution center. This panel receives the signals sent from your switch panels and performs the actions that have been requested by activating and deactivating the required circuits.

Every circuit controlled by the G6A is numbered and listed on the front label (load list). A corresponding numbered LED will illuminate green whenever a particular circuit is on. For instance, if you press the Lounge Light button on your switch panel, the green LED beside circuit 1 will illuminate and the Lounge Light will turn on (Fig 1).

Resettable breakers are also numbered and listed on the G6A label. Simply press the white tip to reset a breaker if one has tripped.





Testing output voltage using a Multi-meter.

<u>Ensure that the G6 circuit is on and that the green LED is illuminated.</u>

To test the output voltage for the Lounge Light example, touch the positive lead to the output pin for Circuit 1 and the negative lead to the ground stud (as pictured).

If you do not measure at least 12V it is likely that the relay card in the G6 will need to be replaced. *

*CONTACT THE COACH MANUFACTURER FOR WARRANTY PROCEDURES.

A GREEN LED ON THE G6 WON'T ILLUMINATE WHEN A BUTTON IS PRESSED ON A SWITCH PANEL.

Ensure that other functions on the switch panel are working and all system Net LED's are solid green. Test the light from another device or location if possible. If the switch panel is not defective, the green LED on the G6 should illuminate when the button is pressed on a switch panel. If you have determined that the switch isn't defective, it is likely that the G6 driver card has an issue and the G6 would need to be replaced. *

THE GREEN CIRCUIT LED FOR A PARTICULAR LIGHT WILL ILLUMINATE, BUT THE LIGHT IN THE COACH IS NOT WORKING.

Let's use the example from the previous page. In this scenario, the Lounge Light button is pressed but the Lounge Light (Ceiling 1) will not turn on in the coach.

First, check the switch panel button for feedback? Did the switch panel button change color?

- Yes – Continue reading.
- No – Troubleshoot the network or the switch panel itself before continuing.

Look at the load list on the G6A panel. Is the Green LED beside circuit 1 illuminated?

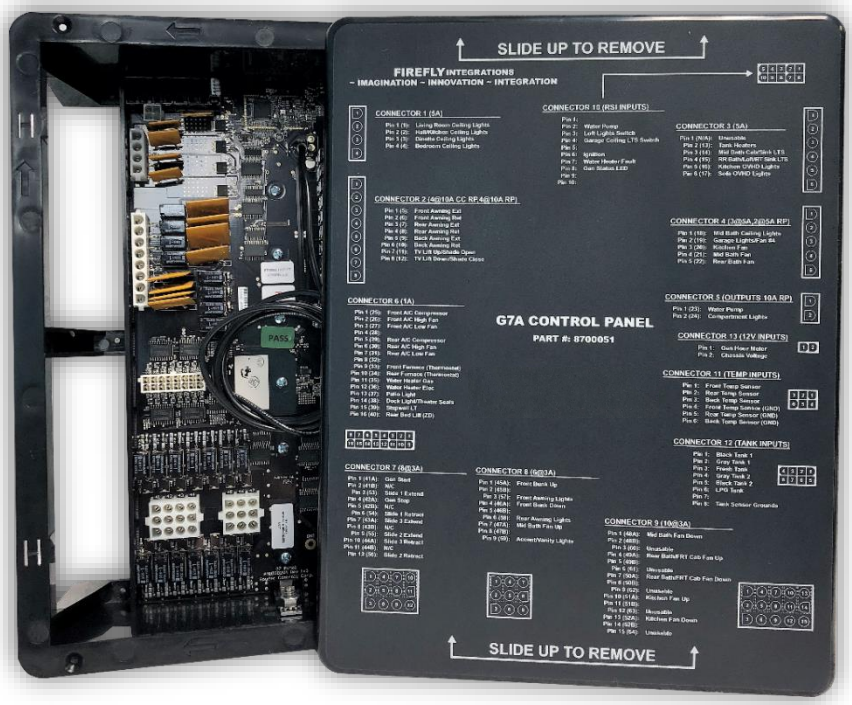
- Yes – the G6 has received the signal from the switch panel. Test the outputs for Circuit 1 on the back of the G6 for 12V output. If an output of 12V is measured, the firefly system is working correctly and the coach wiring will need to be investigated.
- No – Ensure that the switch is not defective. Test with a different switch or plug the switch directly into the Net Port to help determine if the switch has a problem. It is possible that the G6 has a faulty driver card and would need to be replaced. *

LIGHTS ARE COMING ON IN THE COACH WITHOUT BEING ACTIVATED BY A SWITCH PANEL <u>OR</u> LIGHTS IN THE COACH WILL NOT SHUT OFF.

Shut down 12V power to the coach (power cycle) for 10 seconds. Did the lights comes back on automatically when power was returned to the coach?

- Yes – Remove all switch panels from the network that control those particular lights and power cycle the coach again. If the lights still turn on by themselves once power has been reapplied to the coach, check the Green LED on the G6. If it is on, you probably have a faulty driver card and the G6 will likely have to be replaced. * If it is off, check the output voltage on the back of the G6 for the circuits in question. If you are measuring 12V on the circuits in questions while the Green LED is off, you will need to replace the card in question. * You should not be getting an output while the G6 circuit LED is off.
- No – Plug the switches back into the network one at a time to see if they successfully operate. If a switch operates successfully, leave it plugged it in. Add the rest of the switches back into the network one at a time. If any lights automatically turn on once a switch is connected, that switch is defective. *

G7 Panel



The G7 control panel is another common type of power distribution center. This panel receives the signals sent from your switch panels and performs the actions that have been requested by activating and deactivating the required circuits.

Every circuit controlled by the G7 is numbered and listed on the lid (load list). A corresponding LED will illuminate green whenever a particular circuit is on. For instance, if you press the Living Room Ceiling Light button on your switch panel, the green LED beside connector 1 pin 1 will illuminate and the Living Room Ceiling Light will turn on (Fig 2).

Unlike the G6A panel, the G7 panel does not use resettable breakers.

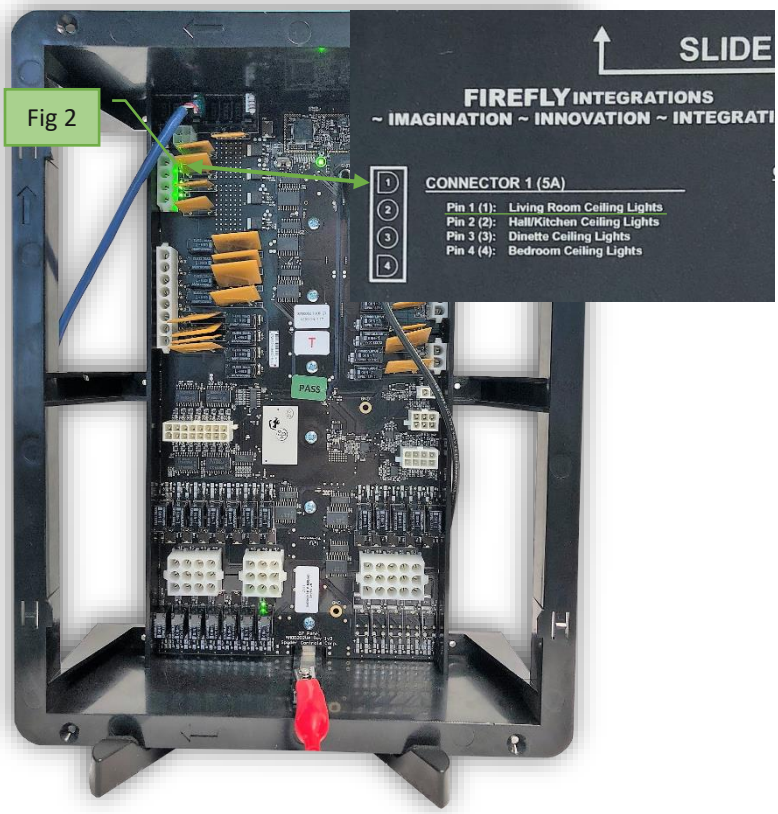
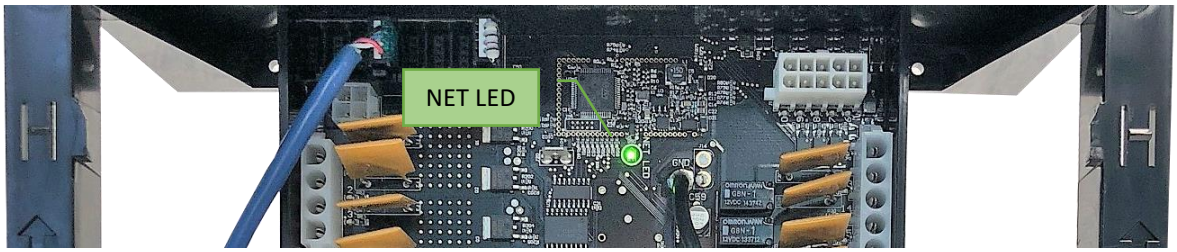


Fig 2

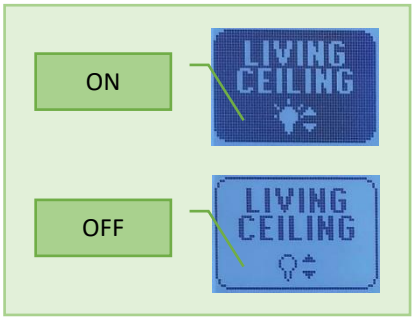
NOTE: ALWAYS POWER CYCLE THE 12V POWER TO THE COACH BEFORE TROUBLESHOOTING.
Simply flip the battery disconnect switch for 10 seconds and turn it back on. A power cycle can fix many problems that seem out of the ordinary.

NOTHING HAPPENS WHEN A BUTTON IS PRESSED ON A SWITCH PANEL OR FROM THE TOUCHSCREEN.
Verify that the NET LED is illuminated solid green on the G7. If the NET LED is flashing, perform a power cycle and check the NET LED again. If the NET LED is displaying anything other than solid green, see the Network Troubleshooting guide.



A BUTTON ON A SWITCH PANEL NO LONGER FUNCTIONS.
Typically G7 panels are used with wireless SSP17 switch panels. Please refer to SSP17 troubleshooting on Page 2.

A FUNCTION WILL NOT WORK FROM THE TOUCHSCREEN.
In this example, we will assume that you are attempting to turn on the Living Room Ceiling Lights. Is the screen showing feedback when you press the Living Ceiling button?



- Yes – With the circuit on, check that the circuit LED is on. Now, check the output on the G7 panel with a multi-meter to make sure that it is sending output voltage. If it is not giving 12V output, replace the G7 panel. * If it is giving output, check the coach wiring to the lights.
- No – Check the NET LED on the back of the touch screen and on the G7 to make sure that they are solid green. If they are, call Firefly Tech Support (574-825-4600).

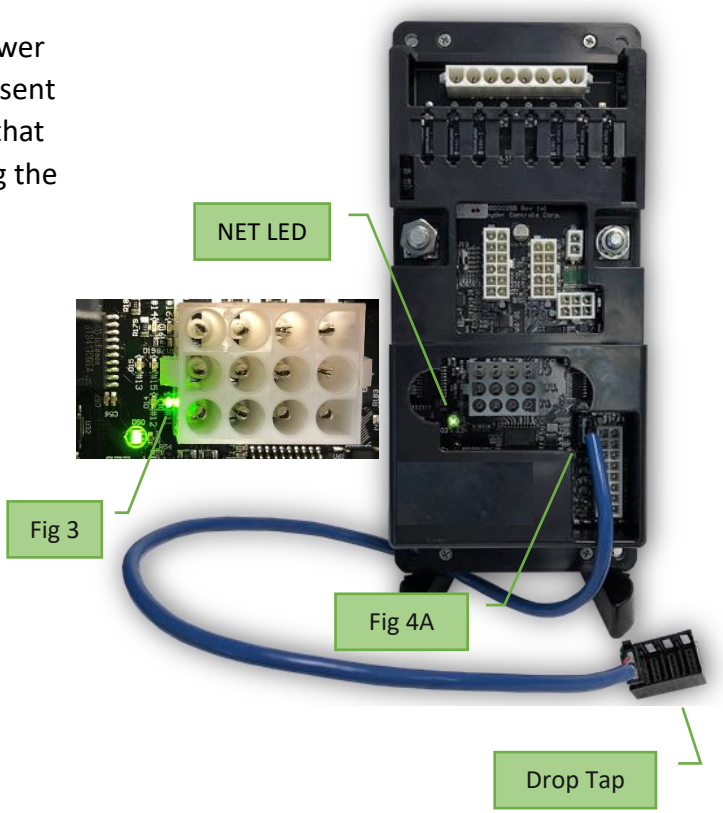
Test Positive Output Channels as shown:

*CONTACT THE COACH MANUFACTURER FOR WARRANTY PROCEDURES.

G8 Panel

The G8 control panel is a more compact type of power distribution center. This panel receives the signals sent from your switch panels and performs the actions that have been requested by activating and deactivating the required circuits.

Every circuit controlled by the G8 is numbered and listed on a black label (load list) which is usually mounted next to the G8 panel. A corresponding numbered LED will illuminate green whenever a particular circuit is on. For instance, if you press the Bath Light button on your switch panel, the green LED for output 11 will illuminate and the Bath Light will turn on (Fig 3).

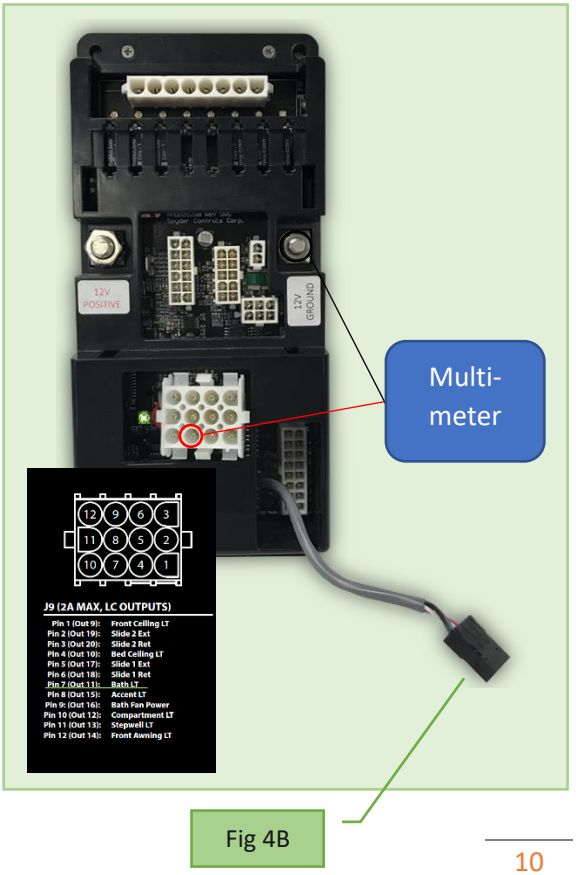


Testing output voltage using a Multi-meter.

Ensure that the G8 circuit is on and that the corresponding green LED is illuminated.

To test the output voltage for the Bath Light example, touch the positive lead to the output pin for output 11 (Connector J9 – Pin 7) and the negative lead to the ground stud (as pictured below).

If the corresponding LED illuminates green and you do not measure at least 12V it is likely that the G8 will need to be replaced. * Note: If you are testing with the plug connected to the G8 panel and are not getting the proper voltage, remove the plug and test the pins directly.



G8 Differences

It is important to note the differences between G8 panels. The newer style (Fig 4A) uses a removeable drop cable connection which runs to a drop tap. The older style (Fig 4B) also runs to a drop tap but the network cable is fixed and cannot be removed.

A GREEN LED ON THE G8 WON'T ILLUMINATE WHEN A BUTTON IS PRESSED ON A SWITCH PANEL.

Ensure that other functions on the switch panel are working and all system NET LED's are solid green. Test the light from another device or location if possible. If the switch panel is not defective, the green LED on the G8 should illuminate when the button is pressed on a switch panel. If you have determined that the switch isn't defective, it is likely that the G8 has an issue and would need to be replaced. *

THE GREEN CIRCUIT LED FOR A PARTICULAR LIGHT WILL ILLUMINATE, BUT THE LIGHT IN THE COACH IS NOT WORKING.

Let's use the example from the previous page. In this scenario, the Bath Light button is pressed but the Bath Light will not turn on in the coach.

First, check the switch panel button for feedback? Did the wired switch panel button change color (Wireless switch panel buttons will not show feedback)?

- Yes – Continue reading.
- No – Troubleshoot the network or the switch panel itself before continuing.

Look at the load list for the G8 panel. Is the Green LED beside output 11 illuminated?

- Yes – the G8 has received the signal from the switch panel. Test the voltage for output 11 on the G8. If an output of 12V is measured, the firefly system is working correctly and the coach wiring will need to be investigated. If less than 12V is showing and you are measuring directly on the wiring harness connector, unplug the connector and test the G8 pins directly to verify.
- No – Ensure that the switch is not defective. Test with a different switch or plug the switch directly into the Net Port to help determine if the switch has a problem. It is possible that the G8 is faulty and would need to be replaced. *

LIGHTS ARE COMING ON IN THE COACH WITHOUT BEING ACTIVATED BY A SWITCH PANEL <u>OR</u> LIGHTS IN THE COACH WILL NOT SHUT OFF.

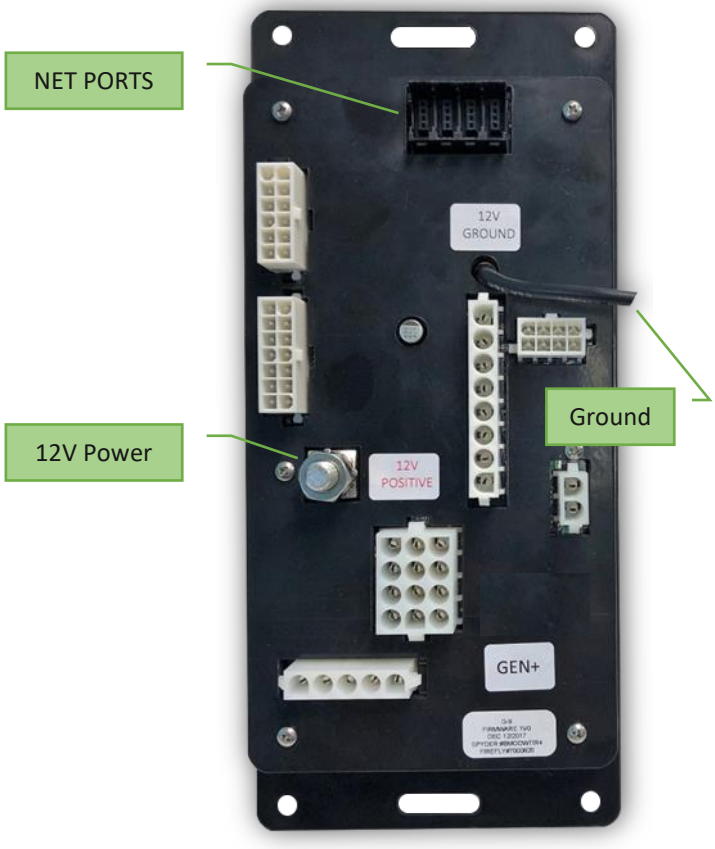
Shut down 12V power to the coach (power cycle) for 10 seconds. Did the lights comes back on automatically when power was returned to the coach?

- Yes – Remove all switch panels from the network that control those particular lights and power cycle the coach again. If the lights still turn on by themselves once power has been reapplied, check the Green LED on the G8. If it is on, replace the G8. *
- No – Plug the switches back into the network one at a time to see if they successfully operate. If a switch operates successfully, leave it plugged it in. Add the rest of the switches back into the network one at a time. If any lights automatically turn on once a switch is connected, that switch is defective. *

G9 Panel

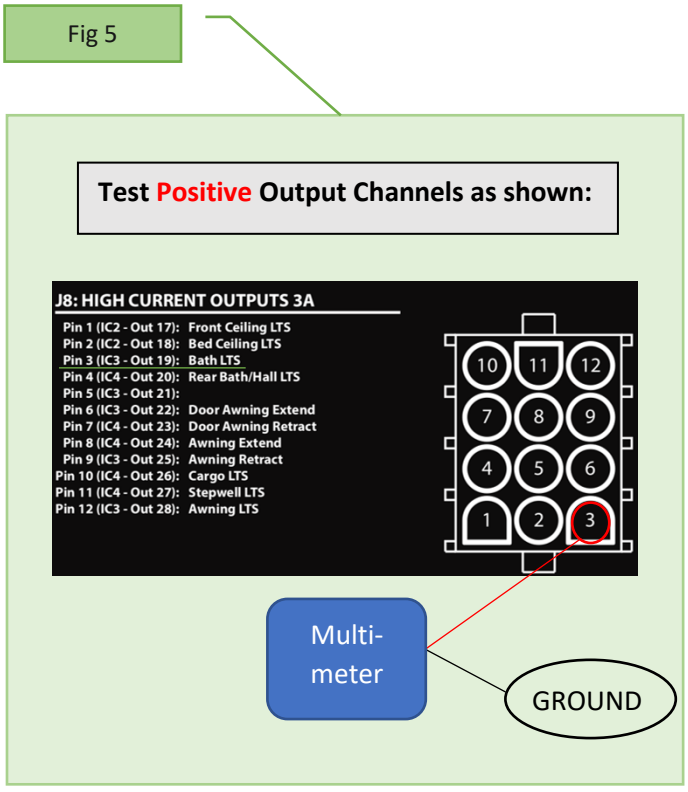
The G9 control panel is another model of power distribution center. This panel receives the signals sent from your switch panels and performs the actions that have been requested by activating and deactivating the required circuits.

Every circuit controlled by the G9 is numbered and listed on a black label (load list) which is usually mounted next to the G9 panel. Note: The G9 will not have individual illuminated LED's for each channel. For instance, if you press the Bath Light button on your switch panel, there will be no illuminated GREEN LED to show that it is currently operational. You will need to check output voltage on that pin if the Bath Light does not come on (Fig 5).



The NET LED will not be visible while looking directly at the front side of the G9 panel. To see the NET LED, view the panel from an angle as shown.

Fig 5



A GREEN LED ON THE G9 WON'T ILLUMINATE WHEN A BUTTON IS PRESSED ON A SWITCH PANEL.

The only LED on the G9 is the NET LED as shown on the previous page. If the NET LED will not illuminate, verify the power going to the G9 panel and see the Network Troubleshooting guide.

THE NET LED IS ILLUMINATED, BUT THE LIGHT IN THE COACH IS NOT WORKING.

Let's use the example from the previous page. In this scenario, the Bath Light button is pressed but the Bath Light will not turn on in the coach.

First, check the switch panel button for feedback? Did the wired switch panel button change color (Wireless switch panel buttons will not show feedback)?

- Yes – Continue reading.
- No – Troubleshoot the network or the switch panel itself before continuing.

Verify the voltage of the Bath Lights output on the G9 (see Figure 1 on the previous page). If you don't measure at least 12V coming directly from the pins, replace the G9. *

LIGHTS ARE COMING ON IN THE COACH WITHOUT BEING ACTIVATED BY A SWITCH PANEL OR LIGHTS IN THE COACH WILL NOT SHUT OFF.

Shut down 12V power to the coach (power cycle) for 10 seconds. Did the lights comes back on automatically when power was returned to the coach?

G9 panels will typically be used with Wireless Switch Panels. Continue reading for Wired Switch Panels.

- Yes – Remove all wired switch panels from the network that controls those particular lights and power cycle the coach again. If the lights still turn on by themselves once power has been reapplied to the coach, check the output voltage for circuit in question on the G9. If it is giving an output, replace the G9. *
- No – Plug the wired switches back into the network one at a time to see if they successfully operate. If a switch operates successfully, leave it plugged in. Add the rest of the switches back into the network one at a time. If any lights automatically turn on once a switch is connected, that switch is defective. *

G5A DC Panel

The G5 DC Panel has been quite popular in previous model year coaches. The system does not use resettable breakers, but instead uses mini fuses on each channel.

Channels 1-24 are not controlled by switch panels. These channels are fused on the panel only. If a function stops responding on one of these channels, test and replace the fuse if necessary.

Replacement Fuse – Mini-Blind Type
(Littlefuse 257 series or Bussman ATM series)
15A Max Fuse – Channels 1-8 & 17-24

Channels 25-36 are Dimming Outputs

- Green Indicator = Channel on
- Red Indicator = Channel On, Fuse blown
  No indicator = Channel off

Channels 37-44 AUX Relay Outputs

- Green Indicator = Channel on
  No indicator = Channel off

Note: A built-in 3A auto-reset PTC fuse for each channel provides over-current protection. The indicator DOES NOT show when this fuse is open or in short-circuit condition.

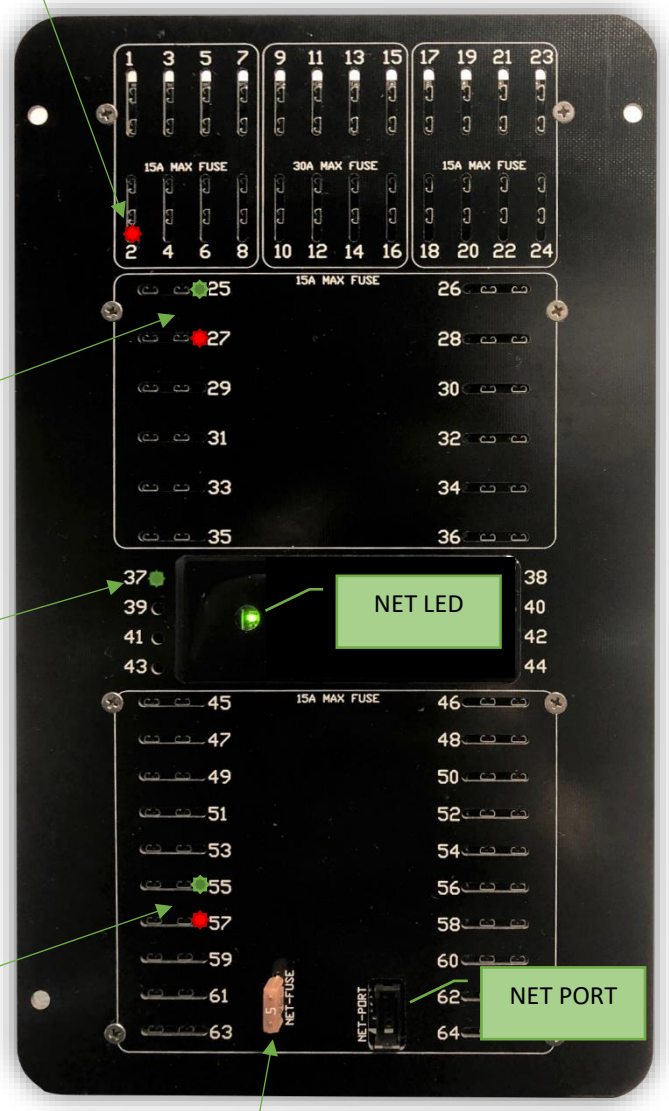
Channels 45-64 Relay Outputs

- Green Indicator = Channel on
- Red Indicator = Channel On, Fuse blown
  No indicator = Channel off

(Littlefuse 257 series or Bussman ATM series)

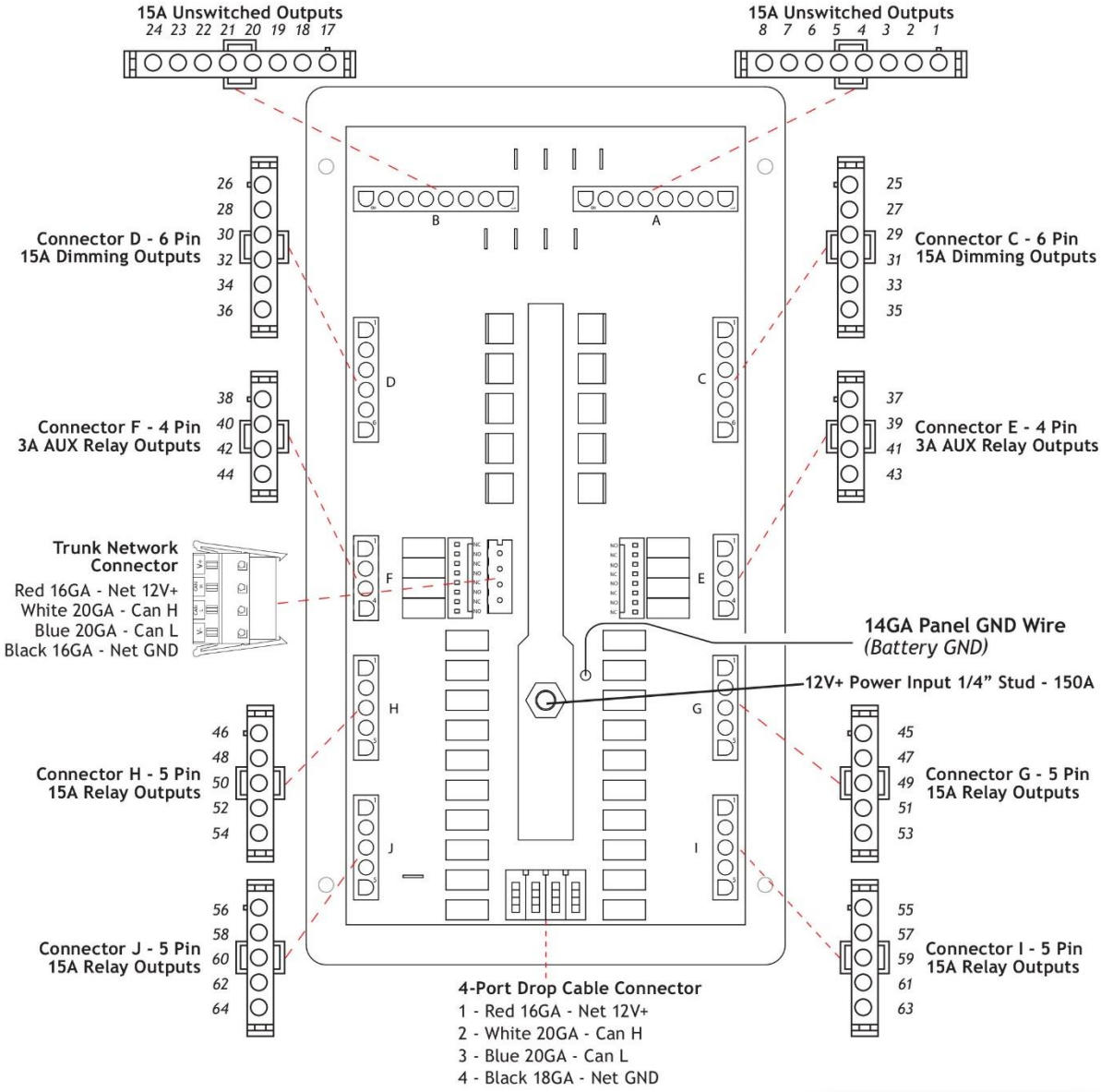
Channels 1-24 Unswitched/Fused Outputs

- Red Indicator On = Fuse blown
  Red Indicator Off = Fuse good or no active load

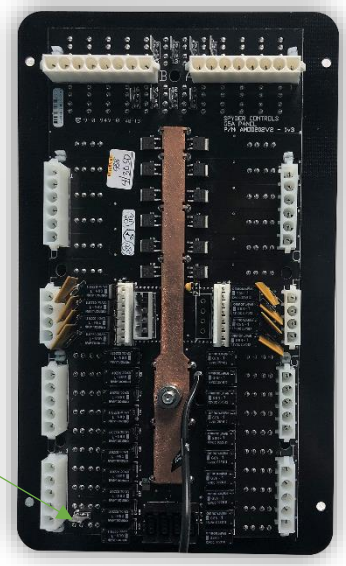


Net Fuse 5A Max – This fuse provides power to the network powered devices only (typically all switch panels). NOTE: this fuse does not have an indicator light for fuse status.

G5A Panel Rear Diagram



G5 Replacement – If you replace a G5 and circuits 62 and 64 will not function, you need to run 12V+ to this spade.



G5D DC Panel

Channels F1-F24 are not controlled by switch panels. These channels are fused on the panel only. If a function stops responding on one of these channels, test and replace the fuse if necessary.

Replacement Fuse – Mini-Blind Type
(Littlefuse 257 series or Bussman ATM series)
15A Max Fuse – Channels F1-F8 & F17-F24
30A Max Fuse – Channels F9-F18

Channels F1-F24 Unswitched/Fused Outputs

- Red Indicator On = Fuse blown
  Red Indicator Off = Fuse good or no active load

Channels 1-16 are Dimming Outputs

- Green Indicator = Channel on, fuse good
- Red Indicator = Channel On, fuse blown
- Orange indicator = Channel on, no fuse in place
  No indicator = Channel off

Channels 17-40 Relay Outputs

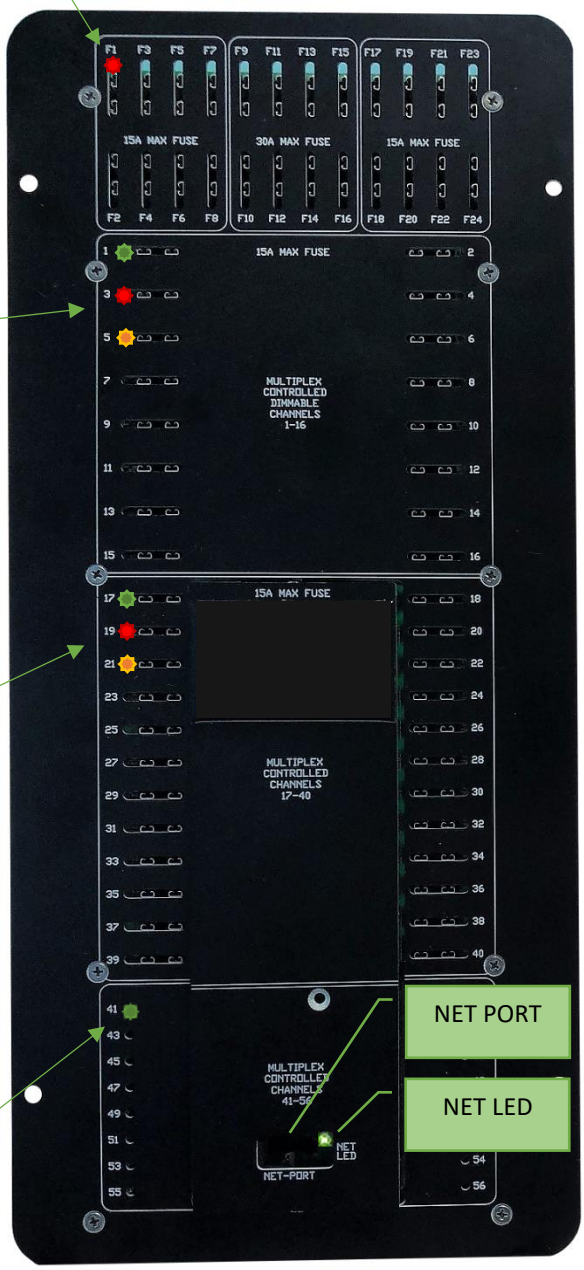
- Green Indicator = Channel on
- Red Indicator = Channel On, Fuse blown
- Orange indicator = Channel on, no fuse in place
  No indicator = Channel off

(Littlefuse 257 series or Bussman ATM series)

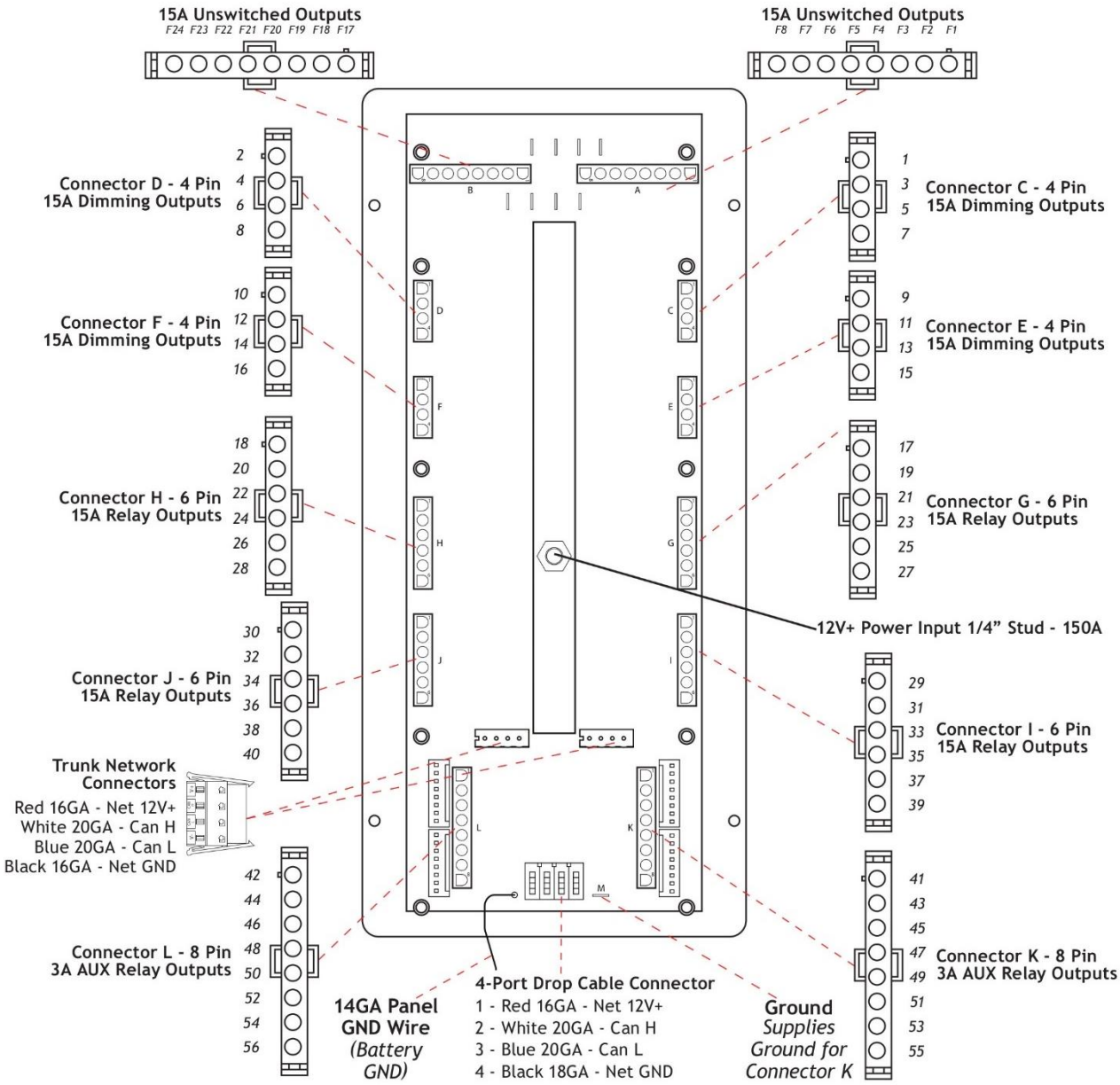
Channels 41-56 AUX Relay Outputs

- Green Indicator = Channel on
  No indicator = Channel off

Note: A built-in 3A auto-reset PTC fuse for each channel provides over-current protection. The indicator DOES NOT show when this fuse is open or in short-circuit condition.



G5D Panel Rear Diagram



A LIGHT CIRCUIT/CHANNEL STAYS ON CONSTANTLY AND CANNOT BE TURNED OFF BY THE SWITCH PANEL.

At the G5 control panel, check to see if the GREEN indicator LED for that circuit is constantly ON even when the assigned switch is turned ON and OFF.

Always ON – Cycle the 12V Master Power OFF then ON. Note: Before pressing ANY switch panel buttons, return to the G5 Panel and check the status of the LED for the circuit in question.

- If LED is still ON, unplug the assigned connector on the rear of the G5 for the circuit/channel in question and test the voltage on the output.
  - If the Green LED is still ON and the output is still ON, replace the G5 Panel. *
  - If the Green LED is now OFF and there is no output voltage present, check the load or the wiring between the G5 panel output and the load.

Now OFF – If the Green indicator LED turns On and OFF, verify the wiring to the load or the load itself.

A LIGHT CIRCUIT/CHANNEL STAYS OFF CONSTANTLY AND CANNOT BE TURNED ON BY THE SWITCH PANEL.

Press the ON button on the switch panel that controls the circuit in question. Does the status LED on that button turn ON?

YES – Proceed to the G5 control panel and check the status of the indicator LED for that specific fuse or circuit. What color is it?

- RED – Replace the fuse and verify if the circuit now works properly.
- Green – Check the voltage for the assigned pin/wire coming out of the assigned output connector on the rear of the G5 panel.
  - If there is voltage, check the wiring between the G5 panel and the load or the load itself.
  - If there is NO voltage, check for a loose or damaged fuse or fuse holder.
- NO LED Illuminated – RE-Verify the switch panel button LED is still ON and verify that you are looking at the correct circuit on the G5 panel. If this checks out, replace the G5. *

NO – Verify that the switch panel and the G5 are online by looking at the status of the NET LEDs.

- NET LED is RED or RED/ORANGE – See the Network Troubleshooting Guide.
- Net LED's are all SOLID GREEN – Remove the switch panel and plug it directly into the front of the G5 NET PORT.
  - If the LED indicator on the switch panel button DOES turn ON when the ON button is pressed, proceed to the Network Troubleshooting Guide.
  - If the LED indicator on the switch panel button still does not turn ON when the ON button is pressed, replace the switch panel. *

A DIMMING LIGHT CIRCUIT/CHANNEL IS ALWAYS ON DIMLY.

Press and hold the ON button to see if the light gets brighter and then HOLD the OFF button to see if the light gets dimmer. Next, press the OFF button to see if the light turns OFF.

- If lights are working as described above, everything is working properly.
- If the lights dim up and down but do not turn OFF, continue reading.

At the G5 control panel, check to see if the GREEN indicator LED for that circuit/channel is constantly on, even when the assigned switch is turned ON and OFF.

LED ALWAYS ON – Cycle the 12V Master power OFF and ON. Before pressing any switch panel buttons, return to the G5 panel and check the state of the GREEN indicator LED for the circuit in question.

- If LED is still ON, unplug the connector on the rear of the G5 for the circuit/channel in question and test the voltage on the output.
  - If the GREEN LED is still ON and the output is still ON, replace the G5 panel. *
  - If the GREEN LED is now OFF and there is no output voltage present, check the load or the wiring between the G5 panel output and the load.
- If the LED is now OFF, return to the switch panel/button for the circuit in question and verify it is now working.

If the GREEN indicator LED turns ON and OFF, verify the wiring to the load or the load itself.

Power Management Module (PMM)

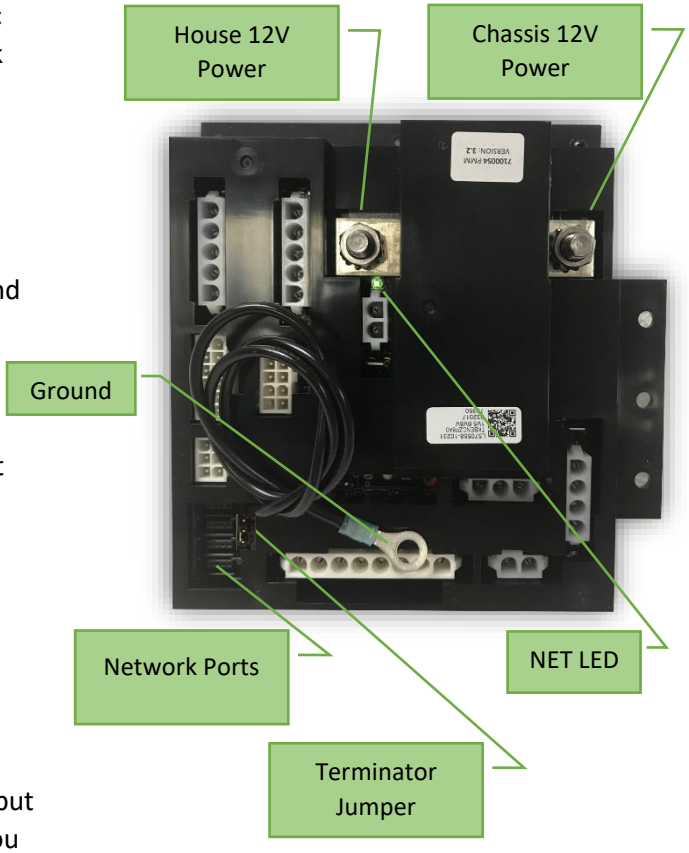
The Power Management Module contains the coach logic and is the sole source for inputs to the RVC network (tank sensors, thermistors, etc.).

POWER CYCLE THE PMM BEFORE TROUBLESHOOTING.

Power Cycle – Turn off your House battery disconnect switch and remove the Chassis 12V power lug from the PMM. After 10 seconds, Flip the House switch back on and reconnect the Chassis power lug. This will have restarted the system.

Note: Simply disconnecting the House 12V power from a battery disconnect switch inside the coach will not restart the PMM.

Troubleshoot the system by verifying that the NET LED is solid green. If it is not, see the Network Troubleshooting page of this manual.



Troubleshooting Examples:

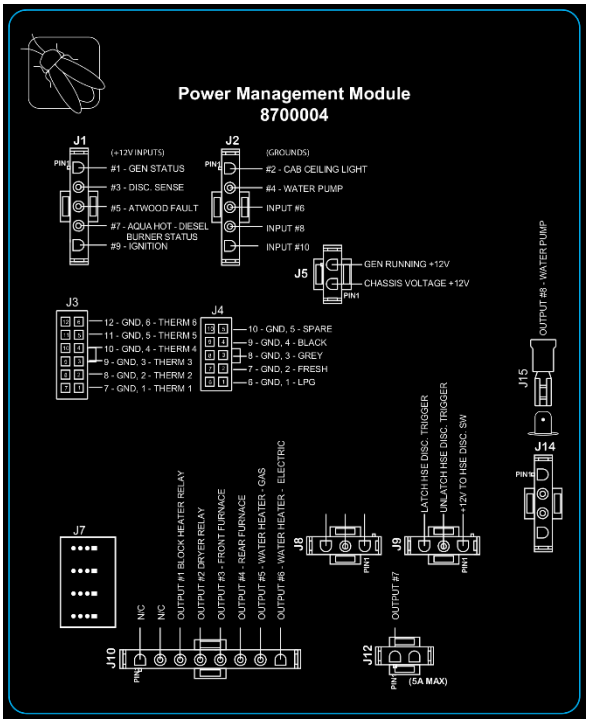
REAR FURNACE WON'T TURN ON
Turn on the circuit from the touchscreen and test for output voltage on Connector J10 – Output #4 Rear Furnace. If you measure less than 12V, replace the PMM. *

LPG SCREEN DISPLAY READS NEARLY FULL (98% FOR EXAMPLE) BUT THE TANK IS EMPTY.
The PMM is not reading resistance. Replace the LPG gauge.

SOME THERMISTORS ARE READING NEGATIVE DEGREES (-127° FOR EXAMPLE).
Check the wiring to connector J3. The thermistor wires are installed to the wrong pins or the wiring/thermistors are faulty or not connected. Make sure that the pins are securely pushed into their connectors.

GENERATOR HOURS AREN'T BEING SAVED TO THE SYSTEM.
Check the wire running from the generator to connector J5 – pin 2. The PMM isn't receiving a signal from the generator if the system gen hours aren't being saved.

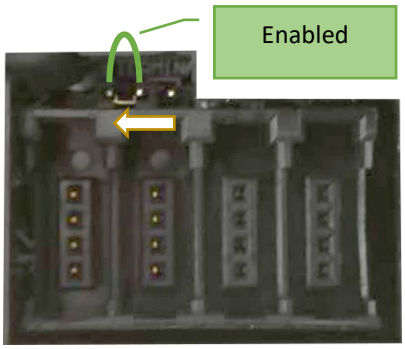
THE WATER PUMP WON'T TURN ON.
Check the Water Pump pin on connector J2 for ground. Verify that the spade connector for J15 is plugged in.

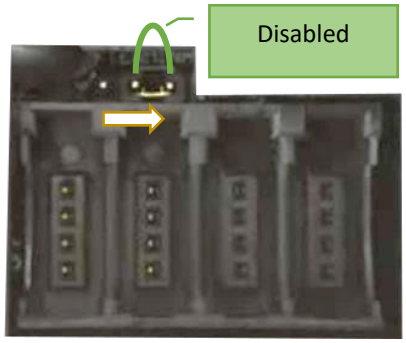


*CONTACT THE COACH MANUFACTURER FOR WARRANTY PROCEDURES.

Terminator Jumper

If you are experiencing network issues and are not measuring 60 ohms when you measure network resistance, check the terminator jumper. If this jumper is on the wrong 2 pins, this will cause the network resistance to double. For example, a healthy network that measures 60 ohms with 2 active terminators, will measure 120 ohms of resistance if this terminator becomes disabled.



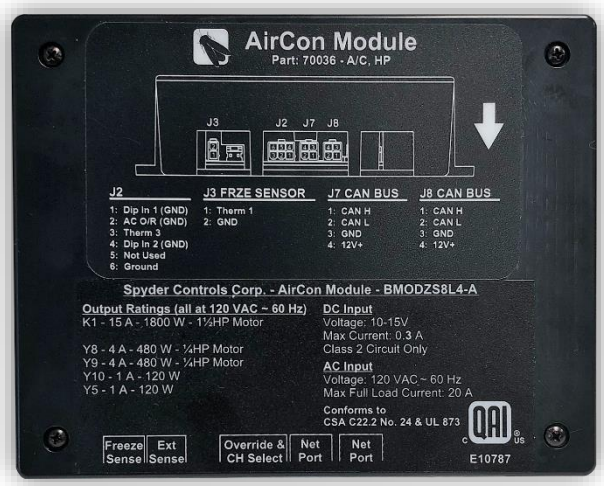


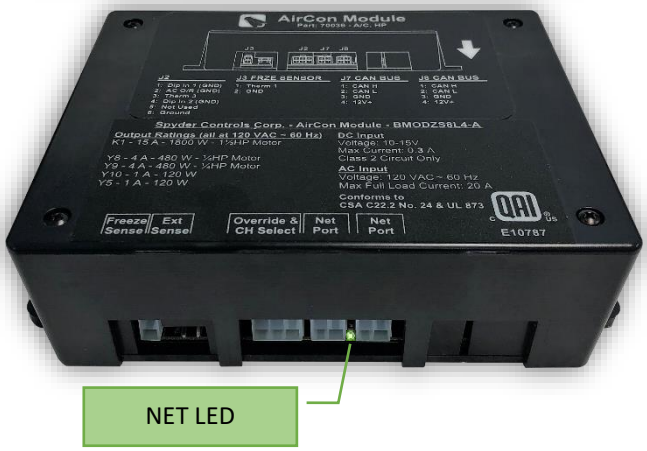
AirCon Module

The AirCon Module is designed to interface with air conditioning units in RV applications to allow them to be controlled via RV-C.

AirCons use relays to control the 120v power that goes to the compressors, fans, reverse valve, and heat strip in the AC unit. They also connect to the freeze sense inside the AC unit to be able to monitor the status and intelligently handle defrost cycling.

Up to four AirCons can be used on a single network. Each AirCon will need to be addressed individually on connector J2. See the table below for address settings.





Troubleshooting

AN AIR CONDITIONING UNIT IS TURNING ON WITH AN AC REQUEST FROM A DIFFERENT ZONE.
The AirCon has probably been addressed incorrectly. See the chart below for addressing details.

AN AIR CONDITIONER SHUTS DOWN AFTER APPROXIMATELY 30 SECONDS.
Make sure that the freeze sensor is installed correctly or replace the freeze sensor if necessary.

AN AIR CONDITIONER WILL NOT FUNCTION, BUT THE SCREEN SHOWS THAT IT IS CURRENTLY ON.
Check to make sure that the NET LED is solid green. If not, check the network wire running to the AirCon.
Check to make sure that 120v power has been ran to the AirCon and that it is hooked up correctly.
Make sure that the AC override toggle switch is in the correct position.

Address Chart (Connector J2)		
Address	**Dip In 1**	**Dip In 2**
1	Open	Open
2	Ground	Open
3	Open	Ground
4	Ground	Ground

Vent Fan Module

The Vent Fan Module is designed to interface with all vent fan units in RV applications to allow them to be controlled via RV-C.

Vent Fan Modules incorporate rain sensing which automatically closes lids when moisture is sensed.

Up to four Vent Fans can be used on a single network. Each Vent Fan will need to be addressed individually on connector J7. See the table below for address settings.

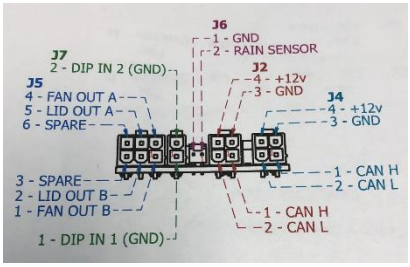
VENT FANS ARE NOT WORKING

Verify the following:

The NET LED should be solid green. If not, check the wiring to the RVC plug.

Check how the module has been addressed (connector J7). If you find that the module had been addressed incorrectly, fix the wiring and power cycle the coach. The coach must be power cycled before the address change will be recognized.

If the module has a solid green LED and has been addressed correctly, contact Firefly Integrations for further assistance.



Address Chart (Connector J7)		
Address	**Dip In 1**	**Dip In 2**
1	Open	Open
2	Ground	Open
3	Open	Ground
4	Ground	Ground

Slide Controls

The G5 HCR-10 Slide Module is used to extend and retract slides and can control up to four individual slides. Reversed polarity between the two spades for each slide is used to switch between extending and retracting the slide. When operating in either mode, you will see the operational LED illuminate while the slide is in motion. If you have the corresponding LED but no movement, check for voltage between the two spades for the slide in question. If you have no LED or Voltage, check for 12V coming to the module. If you verify 12V coming to the module (to the correct inputs), replace the module. *

Each slide will have a Manual Slide Override button that can be used to Extend or Retract a slide in a situation where the network slide control fails to work. Simply press and hold the specific microswitch to engage the slide room's travel.

TESTING A SLIDE MODULE WITH A MULTI-METER

Touch your leads to the extend and retract spades on the slide module as shown in Figure 6 (Kitchen). When Kitchen Extend is pressed on the switch panel, 12V positive should be sent to the EXT spade. Once retract is pressed, the voltage will flip and 12V positive will be sent to the RET spade. The Operational LED will flash whenever a channel is in operation.

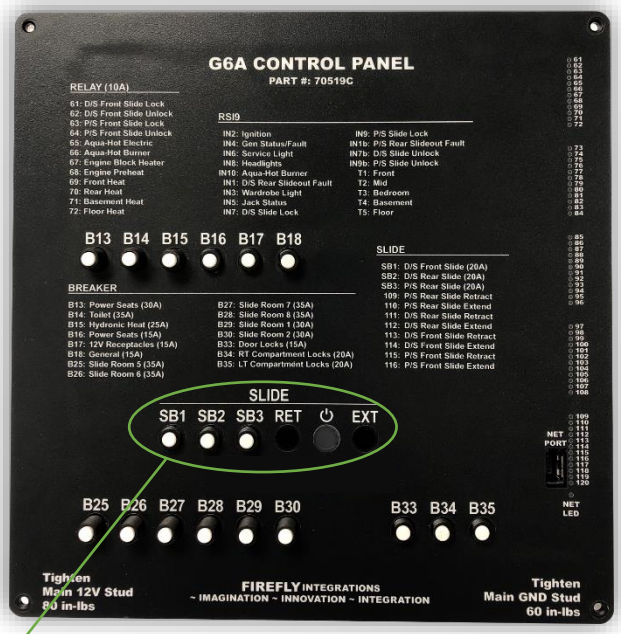
IF A SLIDE IS NOT EXTENDING/RETRACTING:

- Verify that the ignition is turned on.
- Verify that the ignition and power spades have not been swapped.
- Verify that the NET LED is solid green.
- Test the appropriate slide channels with a multi-meter.
- Try to operate the slide with the manual override.
- Replace the slide module if necessary. *

*CONTACT THE COACH MANUFACTURER FOR WARRANTY PROCEDURES.

G6 PANELS WITH SLIDE OVERRIDES

Some G6 panels will use an internal slide relay card instead of a slide module to control slide room travel. If a slide room fails to travel you will need to check the following:



Slide Breakers – Press the white tipped breaker to reset if it has popped out (tripped).

Slide Overrides – Insert a thin object (such as a pencil) to press and hold the internal extend or retract switches to manually run the slide rooms in or out. Notice: All rooms will move at the same time while using the overrides.

- Check the G6 NET LED and switch panel NET LED to ensure that they are illuminated solid green.
- Verify that a white tipped breaker hasn't tripped and reset it if necessary.
- Verify that the circuit LED on the G6 is illuminating green while pressing extend or retract from the switch panel. If a green circuit LED is illuminating, check the output voltage for that circuit on the back of the G6 panel for voltage. If it is not giving at least 12V positive output, replace the slide card. *
- If a circuit LED for a slide will not illuminate, test the switch panel to see if it is defective or try and operate the slide from a different device. If the switch is not defective and a green circuit LED will not illuminate on the G6, replace the G6. *

G5 Shade Modules

These stand-alone modules each operate up to 8 independent window shade motors in a very compact form factor. Built-in H-bridge configuration, over-current protection and ignition/park brake disable inputs are standard features. G5 Shade Control modules can also be used to operate other medium-current motor loads that require reverse polarity type outputs.

1 Operational LED

Each channel pair has an operational LED that will illuminate Orange while the shade is moving up or Green while moving down.

2 12V Ignition Input

While Ignition input is active (12V+) channels 1-4 will not respond to any master commands. All down commands (channels 1-4) require a hold to operate and the command is momentary.

Dipswitch Setting

12V+ Power Input

NET LED

Ground

SHADE MODULE A Part #7000050	
1A:	P/S Shade UP
1B:	P/S Shade DOWN
2A:	P/S Blind UP
2B:	P/S Blind DOWN
3A:	Entry Shade UP
3B:	Entry Shade DOWN
4A:	Entry Blind UP
4B:	Entry Blind DOWN
5A:	D/S Shade UP
5B:	D/S Shade DOWN
6A:	D/S Blind UP
6B:	D/S Blind DOWN
7A:	Front Shade UP
7B:	Front Shade DOWN
8A:	Front Blind UP
8B:	Front Blind DOWN
CONNECTORS A AND B – 8 PIN	2A Output/Channel

Network Pinout

Red – 12V positive

White – Can H

Green – Can L

Black - Ground

SHADES HAVE STOPPED WORKING.

A typical coach can have up to 3 different shade modules. You will need to identify which shade module is malfunctioning. Once you locate the shade module in question:

- Verify that the NET LED is solid green.
- Verify that the Ignition and Power spades are connected and haven't been swapped.
- Verify that the dipswitch settings are correct
- Verify that the Molex plugs are connected to the shade module.
- Test the shade module channels with a multimeter to see if they are giving 12V output

TESTING SHADE MODULES WITH A MULTI-METER.

Each shade will operate in pairs. In the example below, when the button to operate P/S Shade Up is pressed, the operational LED for channel 1 will flash and 12V positive will be sent to channel 1A. When the button for P/S Shade Down is pressed, the operational LED will flash, and the polarity will flip to send 12V to channel 1B.

Test all channel pairs to determine if a shade module is defective. If you verify that all channels are giving output voltage, investigate the wiring to the shades. If a shade module is not giving output voltage, test the switch panel that controls the shades and replace the shade module if necessary. *

Note: G5 shade modules are only intended to be used with shade motors that implement their own internal limits for shade travel.

Note: Not all coaches will use Shade modules. It is possible for shade controls to be handled by a power distribution center such as a G6A panel. See the DC Power Distribution Panels section of this manual for information on how to test outputs.

*CONTACT THE COACH MANUFACTURER FOR WARRANTY PROCEDURES.

4.3” Touchscreens

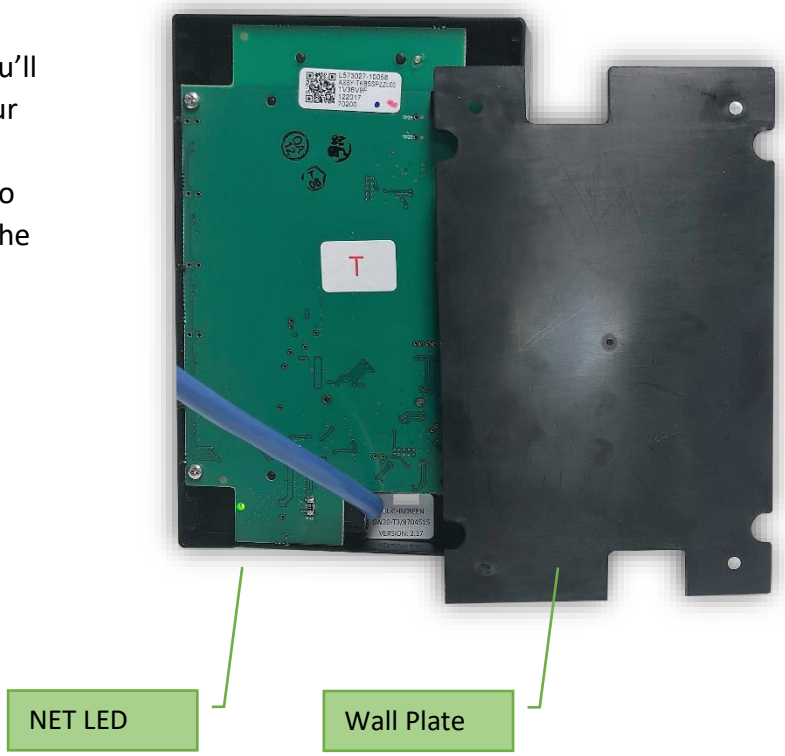
The 4.3” monochrome touchscreen integrates familiar hard button functionality with soft button technology to create a powerful and intuitive coach interface.

Pressing a hard button will take you to that particular menu where you will be able to press soft buttons to activate or deactivate circuits.

When a soft button is selected it will display as dark gray. This color change is known as “showing feedback.”

All lighting soft buttons work by toggling On/Off with each press. Lighting soft buttons with up/down arrows are dimmable. Simply press and hold these soft buttons to ramp the lights up and down. Other navigation pages may appear at the bottom of the screen that will take you to other menus.

If a touchscreen fails to show feedback, you’ll need to check the NET LED status. Use your fingers to gently pry the screen from the corners to release it from the wall plate. To reinstall the screen, simply line it up with the wall plate and gently press to snap it back into place.



NOTE: NEVER START TROUBLESHOOTING UNTIL ALL RELATED NET LED'S ARE CHECKED.
If any NET LED status is anything other than SOLID GREEN please refer to the network troubleshooting page.

IS THE CORRECT FLOORPLAN SELECTED?
Always verify that the floorplan is selected before you begin troubleshooting. If an incorrect floorplan (or no floorplan) is selected, it is likely that the screen won't operate correctly. To select a floorplan (from the settings screen), simply press and hold the currently selected floorplan area for 7 seconds and lift your finger. Now choose the correct floorplan from the menu.

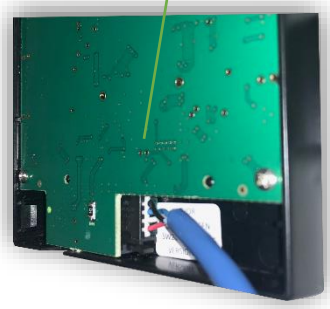
A SOFT BUTTON ON THE TOUCHSCREEN WON'T RESPOND.
If you suspect that some part of the Firefly system has malfunctioned (after you have performed a power cycle) click on the Settings button of the touchscreen and check the GUI and LC versions.

Do the GUI and LC numbers match?
It is recommended that the GUI and LC versions match each other for optimal performance. The number to the left of the decimal is the software version and the number to the right of the decimal is the version revision.

You should never have a version discrepancy, such as a GUI 2.X with an LC of 3.X. These are different versions and are not designed to work with each other. The numbers to the right of the decimal point aren't quite as important but could still be causing performance issues if they don't match up perfectly. If the versions don't match up, that means that the wrong hardware was installed by the coach manufacturer. A programmer switch (part # 70011) can be ordered from Firefly Integrations to rectify the situation but this is not covered under warranty. (GUI, LC, Make, Model, Serial # and problem description required when ordering.)

Software Versions

Back of switch



Does the LC read .255?
If the LC is reading .255, this means that the screen is most likely disconnected from the coach logic controller. Remove the screen from the wall and inspect the network cable at both ends. The blue and white wires are the communication lines. Make sure that these are still connected to the mini plug and have not become loose. It might be possible to give the connector a squeeze with a pair of pliers to fix the connection issue. If it does not help, replace the network cable. *

*CONTACT THE COACH MANUFACTURER FOR WARRANTY PROCEDURES.

7” Spectrum Touchscreens

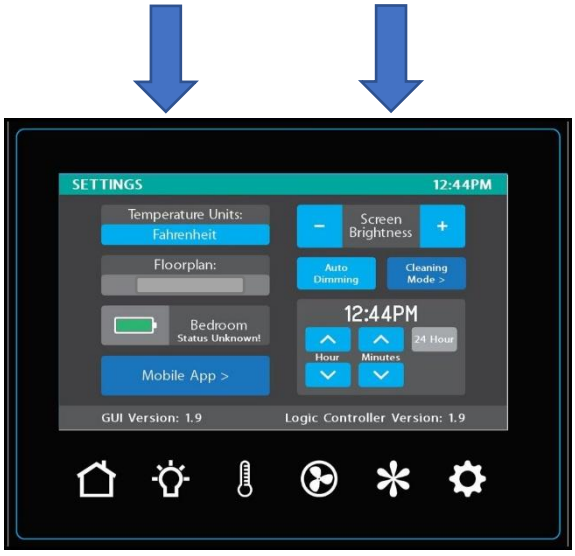
The 7” Spectrum touchscreen uses only soft buttons to control all functions of the system.

The row of navigation buttons at the bottom of the screen will transport you from menu to menu with the press of a button.

When a soft button is selected it will display as blue. This color change is known as “showing feedback.”

All lighting soft buttons work by toggling On/Off with each press. Lighting soft buttons with up/down arrows are dimmable. Simply press and hold these soft buttons to ramp the lights up and down.

If a touchscreen fails to show feedback, you’ll need to check the NET LED status. The Net LED is located on the back of the touchscreen. To remove the screen from the wall, place your fingers along the top edge of the screen and press down while pulling the screen towards you at the same time. This will release the touchscreen from the wall. Be sure not to drop it once it releases from the wall. To reinstall the screen, simply line it up with the wall plate and snap it back into place.



IS THE CORRECT FLOORPLAN SELECTED?

Always verify that the floorplan is selected before you begin troubleshooting. If an incorrect floorplan (or no floorplan) is selected, it is likely that the screen won't operate correctly. To select a floorplan, simply press and hold the currently selected floorplan area for 7 seconds and lift your finger. Now choose the correct floorplan from the menu.

A SOFT BUTTON ON THE TOUCHSCREEN WON'T RESPOND.

If you suspect that some part of the Firefly system has malfunctioned (after you have performed a power cycle) click on the Settings button of the touchscreen and check the GUI and LC versions.

Do the GUI and LC numbers match?

It is recommended that the GUI and LC versions match each other for optimal performance. The number to the left of the decimal is the software version and the number to the right of the decimal is the version revision.

You should never have a version discrepancy, such as a GUI 2.X with an LC of 3.X. These are different versions and are not designed to work with each other. The numbers to the right of the decimal point aren't quite as important but could still be causing performance issues if they don't match up perfectly. If the versions don't match up, that means that the wrong hardware was installed by the coach manufacturer. A programmer switch (part # 70011) can be ordered from Firefly Integrations to update the LC version but this is not covered under warranty. The GUI version of a color screen cannot be updated. If the GUI version is reading lower than the LC version, replace the screen. *

Does the LC read .255?

If the LC is reading .255, this means that the screen is most likely disconnected from the coach logic controller. Remove the screen from the wall and inspect the network cable at both ends. The blue and white wires are the communication lines. Make sure that these are still connected to the mini plug and have not become loose. It might be possible to give the connector a squeeze with a pair of pliers to fix the connection issue. If it does not help and all other NET LED's are solid green, replace the network cable. *

*CONTACT THE COACH MANUFACTURER FOR WARRANTY PROCEDURES.

7” Lyra Touchscreens

The 7” Lyra touchscreen uses only soft buttons to control all functions of the system.

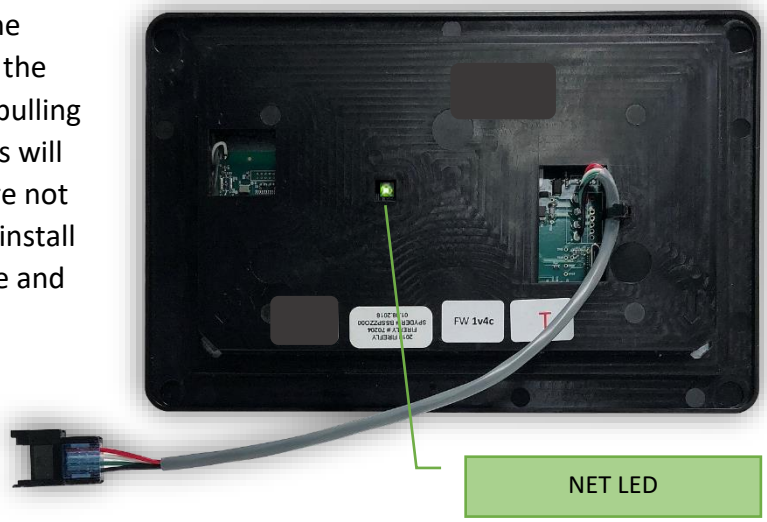
The vertical row of navigation buttons at the left edge of the screen will transport you from menu to menu with the press of a button.

When a soft button is selected it will display as blue. This color change is known as “showing feedback.”

All lighting soft buttons work by toggling On/Off with each press. Lighting soft buttons with up/down arrows are dimmable. Simply press and hold these soft buttons to ramp the lights up and down.

If a touchscreen fails to show feedback, you’ll need to check the NET LED status. The Net LED is located on the back of the touchscreen. To remove the screen from the wall, place your fingers along the top edge of the screen and press down while pulling the screen towards you at the same time. This will release the touchscreen from the wall. Be sure not to drop it once it releases from the wall. To reinstall the screen, simply line it up with the wall plate and snap it back into place.

Navigation Buttons along left edge.



NET LED

Vegatouch Touchscreens

Vegatouch is a state-of-the-art coach control interface which allows the user to easily monitor and control many major systems in the coach.

Vegatouch screens come in 10” and 7” models.

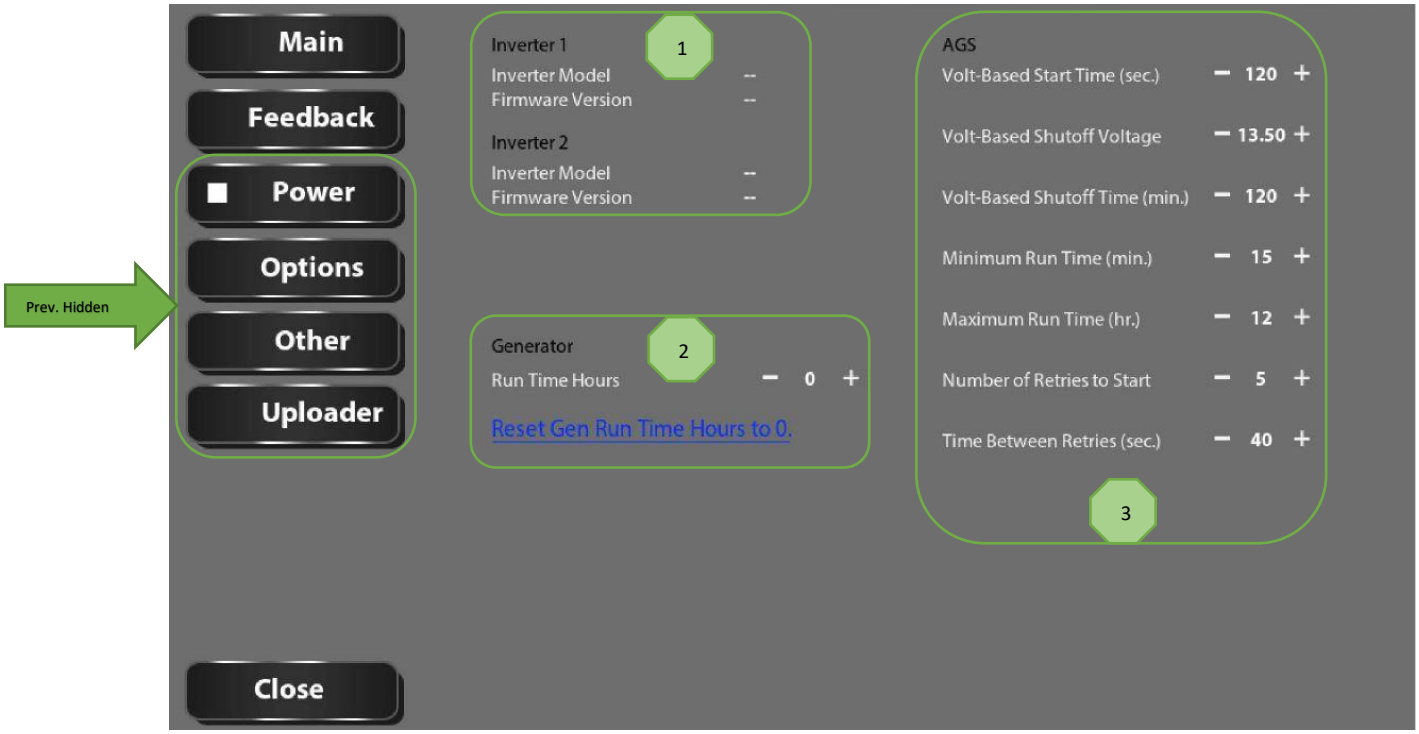
Many of our Vegatouch systems integrate with Crestron to incorporate A/V control, as well as mobile coach control with smart devices.

VERIFY THE CURRENTLY SELECTED FLOORPLAN AND OPTIONS BEFORE TROUBLESHOOTING.

Press and hold the Question Mark for 7 seconds to enter the Vegatouch software versions screen.

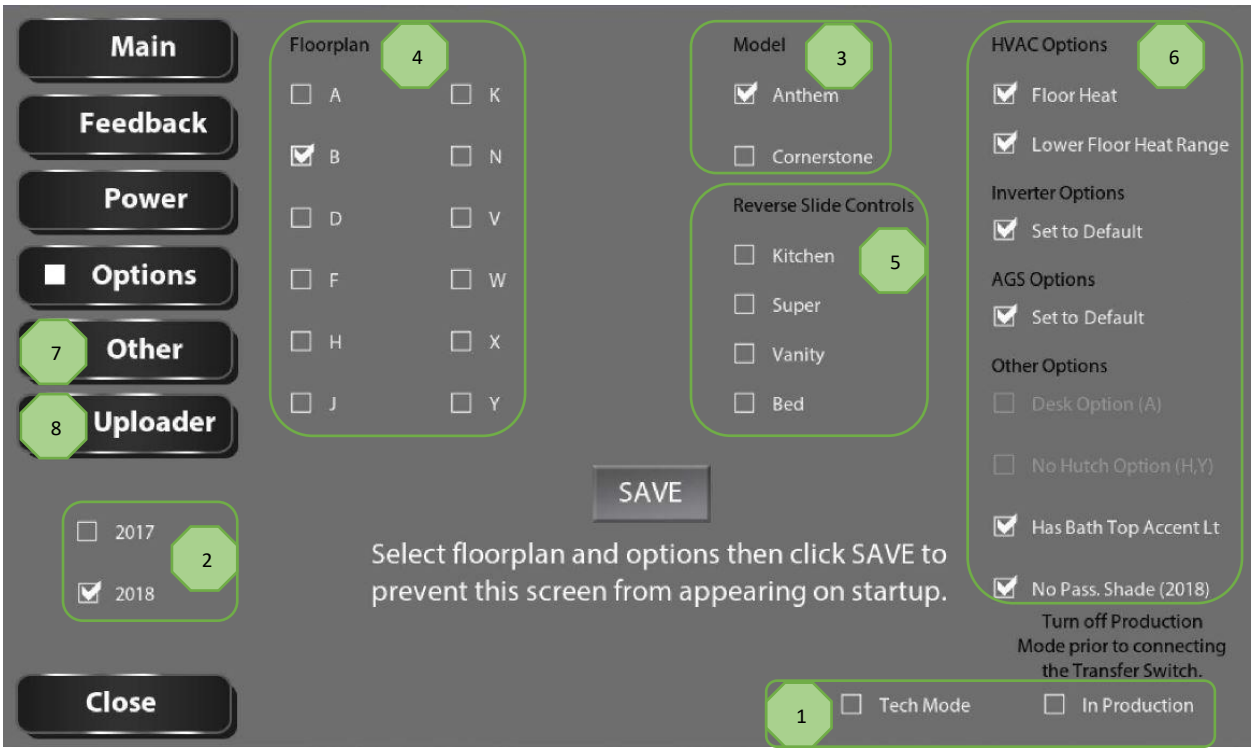
Tap just inside of each corner on the Vegatouch logo ★ (one at a time) to make hidden navigation tabs appear on the left side of the screen.

1 Inverters - Displays information from your Inverters.



2 Generator - Tap +/- to adjust the Generator hours saved to the system or tap Reset to set the hours to zero.

3 AGS - Tap +/- to set your desired AGS values.



1. Mode Selector- Choose tech mode for faster operation. Choose production mode before you're finished working on the coach.
2. Year Selector- Choose the desired year (version) of Vegatouch for the coach.
3. Model Selector- Choose Anthem or Cornerstone.
4. Floorplan- Choose the appropriate coach floorplan.
5. Reverse Slide Controls- Check the box if you need a slide to reverse direction.
6. Misc. Options- It is recommended to select Defaults for Inverter and AGS defaults.
7. The "Other" tab contains tools for troubleshooting screen hardware and software, generally in a bench environment.
8. The "Uploader" tab will only be used when replacing the Vegatouch screen with a newer version. Please see the Vegatouch Replacement Guide for more information.

The Feedback screen will show the status of every circuit in the system. The text will display white when on and black when off.

The HVAC and Tanks information will always be displayed in white.

PRESS CLOSE TO EXIT THE SETUP SCREENS AND RETURN TO VEGATOUCH HOME.

VEGATOUCH HAS LOST COMMUNICATION (MESSAGE CENTER NOTIFICATION).

Locate the battery disconnect switch near your entry door. Use that switch to power cycle the coach (turn 12V power off for 10 seconds and turn it back on). Note, the lights will go out in your coach while performing the power cycle.

If the error message persists after the system has booted back up, check the NET LED status for each G6. If they are displaying anything other than solid green, see the Network Troubleshooting page.

If the LED's are solid green, check the CAN cable on the back of the Vegatouch to ensure that no wires are loose. Replace the cable if necessary. *

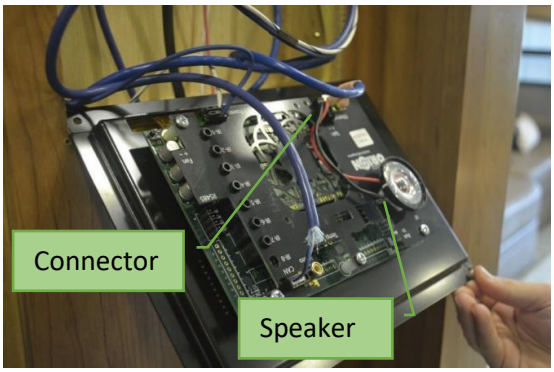
If this error happens often, contact Firefly Integrations for additional support.

AUDIBLE ALARMS HAVE STOPPED FUNCTIONING.

From the Message Center, check to make sure that the Speaker Icon (Chime) hasn't been turned off. Also, it is possible that the alarm has been muted for certain hours. Verify that the "Mute Alarm Chime Between" box is unchecked.

AUDIBLE ALARMS HAVE STOPPED FUNCTIONING…CONTINUED.

Verify the speaker is connected to the Vegatouch (back side of the screen). Also verify that the wires are connected to the speaker.



THE TIME IS INCORRECT ON VEGATOUCH (JAYCO).

The Xite radio probably needs to be connected to the coach router. From the Xite, click on Menu and then Vegatouch. You should now see a WIFI symbol that you can click to enter the router's password. The password is located on the router's Firefly label.

A/V NO LONGER FUNCTIONS ON VEGATOUCH.

Press and hold the question mark in the lower right-hand corner of the Vegatouch panel for 10 seconds and a software versions list will appear on the screen. Does the Crestron version say Lost Connection?

- Yes – Power cycle the RMC3 processor and router (SEE THE NEXT PAGE).
- No – Check AV wiring. Diagrams are available from the coach manufacturer.

THE CRESTRON APP WON'T CONNECT TO THE COACH.

It is important to note that if you are unable to connect to the coach from the Crestron mobile app, you need to verify the following:

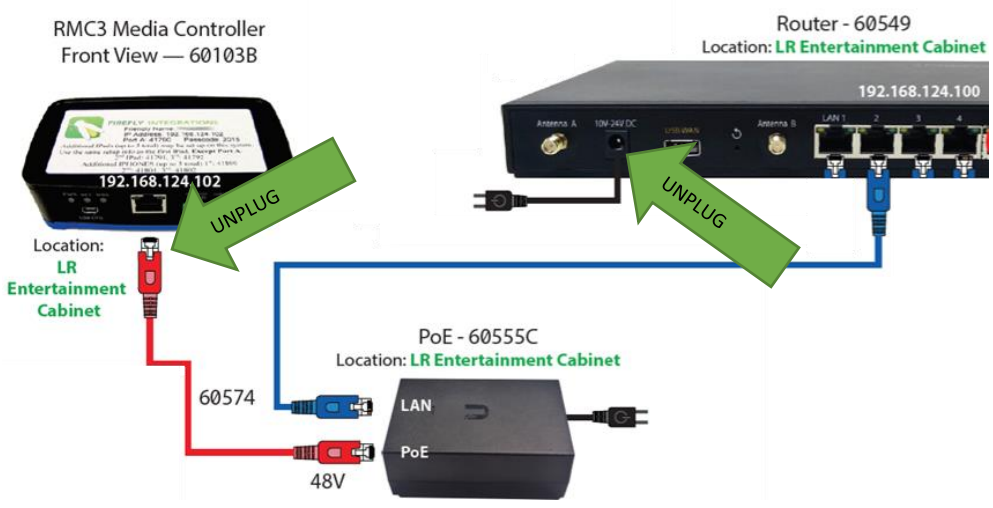
- You are connected to the coach's WIFI signal.
- You are using the most current Crestron App.
- You are using the correct Crestron App for your device.
  (IPAD – CRESTRON MOBILE PRO G) (IPHONE – CRESTRON MOBILE PRO) (ANDROID)
- You are not using the Free Crestron app to operate a coach.
- The operating system on your device is up to date.
- Your app has been setup according to the instruction manual located at www.vegatouch.com.

Press and hold the question mark in the lower right-hand corner of the Vegatouch panel for 10 seconds and a software versions list will appear on the screen. Does the Crestron version say Lost Connection?

- Yes – Power cycle the RMC3 processor and router (SEE BELOW).
- No – Contact Firefly Integrations for additional support.

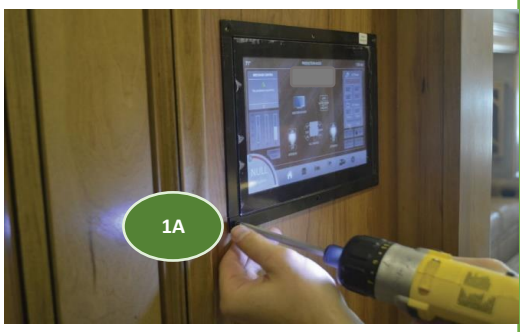
POWER CYCLE THE RMC3 PROCESSOR AND ROUTER.

- UNPLUG THE RED CABLE FROM THE RMC3
- UNPLUG THE ROUTER'S POWER CABLE
- PLUG THE RMC3 CABLE BACK IN
- PLUG THE ROUTER CABLE BACK IN
- ALLOW 2 MINUTES FOR THE SYSTEM TO REBOOT



VegaTouch Screen Replacement

Check Current Settings



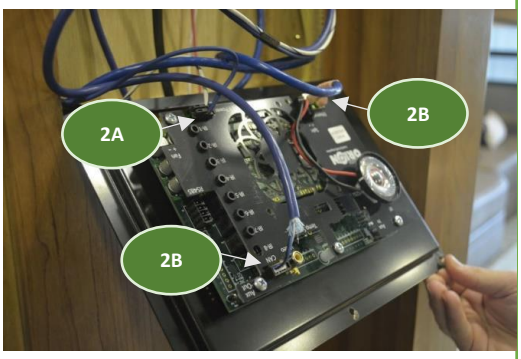
1. On your current screen, press and hold the Question mark for 7 seconds (3A) to enter the Service Page.
2. Tap inside each corner of the VegaTouch image (one at a time) to show hidden options (4A). Tap the Options tab to view your settings (5A).
3. Options Page: Write down all checked settings.

Floorplan_____ Reverse Slide_____ HVAC_____

Inverter and AGS (Set to Default)

Other_____

Removing the Touchscreen



1. Remove magnetic bezel and unscrew touchscreen from the wall using square bit/large philips bit (1A).
2. Remove the power cable (2A) from the back of the touchscreen. Next, remove the CAN and Ethernet cables (2B).
3. Reverse this procedure to plug the cables into the new screen.

IMPORTANT!

Please ensure **CONTROLLER APP** is selected in New Touchscreen Configuration Utility Step 4. Uploading any other option may cause damage to the system.

New Touchscreen Configuration

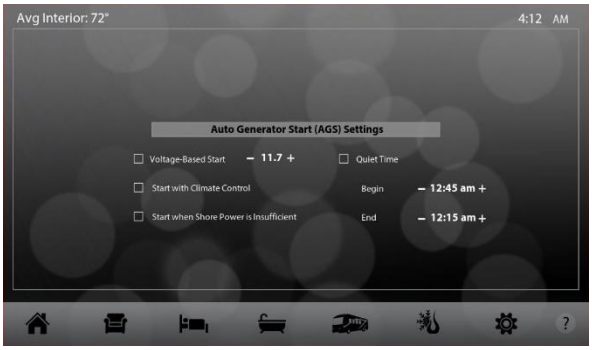
1. Press and hold the Question mark for 7 seconds (3A).
2. Tap inside each corner of the VegaTouch image to show hidden options (4A).
3. Go to Options Page (5A) and check settings you have saved from the old screen.
4. Go to Uploader Page (6A) and select **Controller App** (7A).
5. Hit the down arrow to select **Config Instance 1** and click Upload (8A).
6. Once the uploader has finished, the screen has successfully been configured (9A).
7. Cycle 12-volt power to complete the installation.

NOTE: Do not be concerned if your installation stops at 99% and times out. Simply cycle the power (New Touchscreen Configuration - Step 7) to complete the installation.

AGS Setup

Press and hold the Auto Gen button from the Vegatouch Settings screen to enter the AGS Settings screen.

Tap the boxes to enable your desired AGS triggers. If you enable Quiet Time, tap the +/- keys to set the quiet time hours.



Vegatouch Mira Modules

Vegatouch Mira is a wireless control module that easily connects to any Android or iOS device to give total control to many electrical, electronic and mechanical systems in your coach. Pair any device with the coach's built-in interface to monitor and control many coach components.

It is important to note that there is no external NET LED on this device. To install, simply connect a network cable to the Net Port on this device.

See the next page for setup instructions.

Troubleshooting:

I CAN'T CONNECT TO MIRA WITH MY SMARTPHONE/TABLET.
Make sure that Bluetooth is enabled on your smartphone/tablet and follow the setup instructions on the next page. Always make sure that you are using the most current version of the Mira app. Update the app if necessary.

WHEN I TRY TO CONNECT, THE SCREEN SAYS "SYNCING" AND NOTHING HAPPENS (OR SAYS OUT OF RANGE).
Click on the settings page of your touchscreen and verify that your coach's floorplan is selected. If the floorplan is blank, Mira won't be able to connect.

The network cable could also be faulty. Inspect the cable at both ends and replace it if necessary. If the cabling and setup seem to be correct, contact Firefly Integrations about possibly replacing the Mira module.

CAN I ADD AN AFTERMARKET MIRA MODULE TO A COACH?
Contact Firefly Integrations for more information about upgrading to Mira.

Vegatouch Mira Setup

Notice: Make sure that Bluetooth is turned ON on your smart device settings before proceeding.

Locate the Login Information:

The login information can be found by clicking on the settings page of the color touchscreen or from the Mira module's label.

Note: If dashes appear for the Mira ID and PIN, the screen is not connected to the Mira module. Check the network cable and replace if necessary. *

Download:

Download Vegatouch Mira from the Google Play store or the App Store. Once the download has finished, install the app and open it.

Setup:

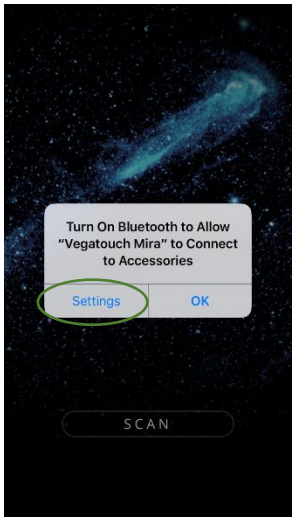
Tap SCAN to find the Mira Module's signal. After scanning, any Mira Module in your area will appear on the screen. Tap the ID # that matches the one on your Mira label or screen. Enter the PIN number and press AUTHENTICATE to connect to the system.

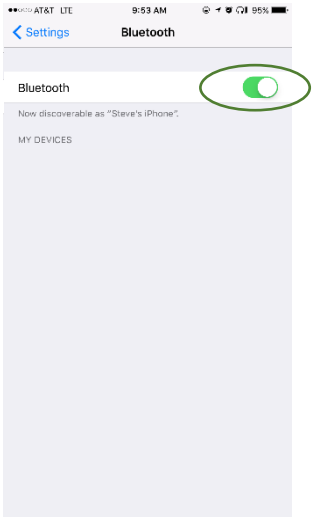
*CONTACT THE COACH MANUFACTURER FOR WARRANTY PROCEDURES.

Notice: iOS Setup Tips

Turn on Bluetooth to allow Vegatouch Mira to connect to Accessories.

If you do not have Bluetooth turned ON in your iOS settings you will see this screen. Do not click OK, you must click SETTINGS. Your Bluetooth Settings page will now appear and you should turn Bluetooth ON.

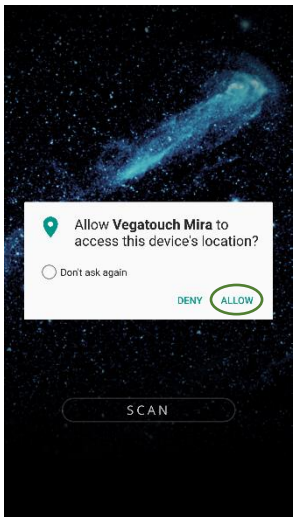




Notice: Android Setup Tips

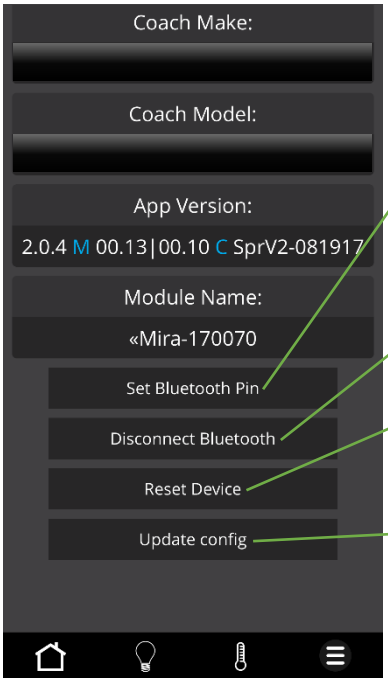
Allow Vegatouch Mira to access this device's location.

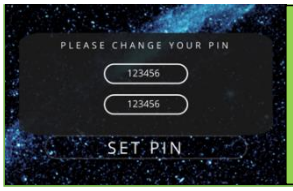
Mira will need to be allowed access to your location. Click ALLOW when you see this screen.



App Settings:

Access the App Settings page by pressing the Gear icon on the App Navigation Bar.





Tap to set your own personalized Bluetooth pin to eliminate the chance of another Mira owner accidentally controlling your module.

Tap to disconnect your device from Mira.

Tapping Reset Device will completely restart the Module and reconnect once it has powered back up.

Tapping Update Config will force a download of the config from the cloud.

Vegatouch Pluto

Vegatouch Pluto is a wireless control module that easily connects to any Android or iOS device to give total control to many electrical, electronic and mechanical systems in your coach. Pair any device with the coach's built-in interface to monitor and control many components.

It is important to note that there is no external NET LED on this device. To install the hardware, simply connect a network cable to the Net Port on this device.

Download the FREE Vegatouch Pluto App from the APP STORE or GOOGLE PLAY.

Pluto connects to your phone via WIFI. To setup Pluto, simply connect your phone to Pluto's WIFI signal (just as you would at a WIFI hotspot) and enter the pin located on the MOBILE APP page.

MY PHONE SHOWS AN IMAGE OF PLUTO AND SAYS "DOWNLOAD COMPLETE" BUT NOTHING HAPPENS.

If you see this image, you are not currently connected to Pluto's WIFI. Open your phone's WIFI settings and try connecting again.

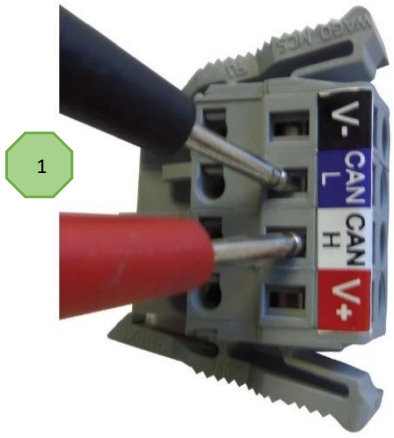
THE CONNECTION SCREEN ONLY SHOWS DASHES.

If only dashes display for the login info, Pluto is not currently connected to the network. Check the network drop cable connections from the Pluto module to the network. Replace the cable if necessary. *

*CONTACT THE COACH MANUFACTURER FOR WARRANTY PROCEDURES.

Network Troubleshooting

Resistance Test:



1

If you suspect a network issue, the first test to do is a resistance test. Take a multimeter and turn it to OHMS. The reading can be taken anywhere CAN L and CAN H are present.

The easiest place to take this measurement will be on a trunk cable connector (Example 1), which can be found on the RSI-9 if installed in the coach.

POWER MUST BE TURNED OFF TO THE ENTIRE COACH!

If the coach comes with an RSI-9 but does not include a trunk cable connector, simply place the probes on CAN L and CAN H of the trunk port (Example 2).

2

Put 1 probe on CAN L and the other on CAN H. Your reading should be around 60 OHMS. If the reading is around 120 OHMS, there is usually only one terminator in the system. If you get 120 OHMS, make sure both terminators are connected to all wires appropriately, then retest.

Keep in mind that if the drop/trunk cable running from the terminator back to the trunk connection has the network connection interrupted, the terminator can no longer add resistance to the system.

Panel Network Status Indicator – Applies to any device with a network indicator:

- Fast flashing Green Light (4 times/sec) – Device is attempting to make initial connection.
- Slow flashing Green Light (1 time/sec) – Device was online but has been offline for at least 5 sec.
- Solid Green – Device is connected to network and is communicating properly.
- Solid Red – Device has gone offline and is not connected to a network.
- Alternating Red & Orange – Device has gone offline and is trying to re-connect (within 30 sec).
- Alternating Green & Orange – Device is currently online but has gone offline 2 or more times.

NOTE: It is very helpful to have an accurate Network Wiring Diagram (NWD) to follow while troubleshooting network wiring issues. These are available from Firefly Integrations.

All devices (switch panels and control panels/modules) instantly go offline (SOLID RED) as soon as the network is powered up.

Verify all CAN network measurements (as outlined above) at various points throughout the network.

- CAN H and CAN L voltage measurements out of range.

  - This is usually caused by a short to 12V, ground or between CAN H and CAN L. Begin isolating parts of the trunk and drop cable to locate the issue.

  - Various devices on the network can also be unplugged to follow the process of elimination to determine if there is a specific device causing the problem.

Carefully check each of the connectors at every drop tap and device to verify the proper wire order/pinout as listed above.

- A pair of CAN H and CAN L wires in the wrong order on the connector will cause devices to go offline even though the network measurements will be in the proper range.

Multiple devices go offline over a period of time or whenever there is significant network activity (i.e. – Light Master or Shades Master buttons are pressed).

Intermittent network performance is typically caused by one or more of the following:

- Drop cables that exceed the 20ft drop length from the main trunk line.
- Improper installation or location of the network terminators.
- Poor grounds on devices that are not network powered located throughout the coach (not using the same ground as the Network powered components).
- Use of non-CAN specification network cable.
- Voltage loss at the ends of the network due to poor connections, improper power supply, low battery voltage or excessive trunk or drop cable lengths.

A single device does not connect or goes offline in the installed location but works when plugged directly into the NET PORT on the front of your DC Panel.

Verify the drop cable connector/termination for that specific location using the connector diagrams and network measurements shown above.

Check for a damaged drop cable or drop tap for that location.

Technical Support

Technical Support is available Monday – Friday, 7:30am – 5:00pm EST.

Firefly Integrations
1013 Elroy Drive
Middlebury, Indiana 46540

Phone: (574) 825-4600 Option 1

Support@fireflyint.com

www.fireflyintegrations.com

Follow us on Facebook @Fireflyintegrations

WARRANTY PROCEDURES

Firefly Integrations, LLC (hereafter FFI) endeavors to use high quality components in the development of our advanced 12V electrical systems. Our products are throughly tested prior to shipment. This permits FFI to offer a guarantee against defects in workmanship on FFI system parts.

No other express warranty applies: This warranty is the sole and exclusive warranty. No employee, agent, dealer, or other person is authorized to alter this warranty or make any other warranty on behalf of FFI.

What is Covered?

a. This warranty covers any defects in materials or workmanship during the warranty period, excluding any and all exemptions stated below.

How Long Does Coverage Last?

a. This warranty lasts for a period of one (1) year from the date of retail sale of the coach.

b. This warranty is limited to a maximum of two (2) years from original installation by a qualified professional if the coach is not sold within 12 months of the manufacturing date.

What is Not Covered? (Exemptions)

a. Products that have been altered, modified, repaired, or serviced by anyone other than the service facilities authorized by FFI to render such services.

b. Products with serial numbers or other distinguishing numbers or codes that have been altered or removed.

c. Products that have been subject to accident, misuse, abuse, fire, water damage, acts of God, improper installation, or operated contrary to the instructions contained in the Owner's Manual, at any time before or after original installation.

d. Damage by operation beyond the specifications of the product. (i.e. using inappropriate fuse size, etc.)

e. Use of any other network wiring other than FFI network wiring; other network wiring will damage the FFI system and will effectively void the warranty on the part(s) and/or system.

f. Labor and/or expenses incurred.

What Will FFI Do?

a. Run a diagnosis of each returned item.

b. Repair or replace any defective parts. Replacement parts may be new or refurbished at FFI's sole discretion.

c. Alternatively, at FFI's sole discretion, FFI **may** provide a credit for returned part(s), not exceeding the original sale value of the returned part(s), if this method is agreed upon prior to the return. Credit will not be issued until the return has been received by FFI and diagnosis of the returned part(s) has been completed.

How to Get Service

a. Contact FFI via email at warranty@fireflyint.com to receive a Return Goods Authorization (RGA). A RGA must be obtained before any product can be returned to FFI.

b. Once the RGA has been assigned by FFI, the RGA must be referenced on the paperwork to be returned.

Delivery of Returned Item(s)

a. The Returnee is responsible for packaging the returned part(s) appropriately, with sufficient protection against shipping damage; FFI will not be responsible for any damage to the returned part(s) due to improper packaging.

b. It is the returnee's responsibility to provide a description of the problem and/or diagnosis, unit number from which the returned part(s) are from, and the correct address to ship the repaired and/or replaced products to.

c. The repaired or replaced part(s) will be returned from FFI freight prepaid via UPS Ground.

Diagnosis Testing

a. If part(s) being replaced are within the timeline of the Firefly Warranty, but testing the returned part(s) during diagnosis proves the item(s) to be either without defect or non-warrantable, all costs and shipping charges of the part(s) will be charged to the recipient of the part(s).

Please contact your coach Manufacturer for their specific warranty procedures.