



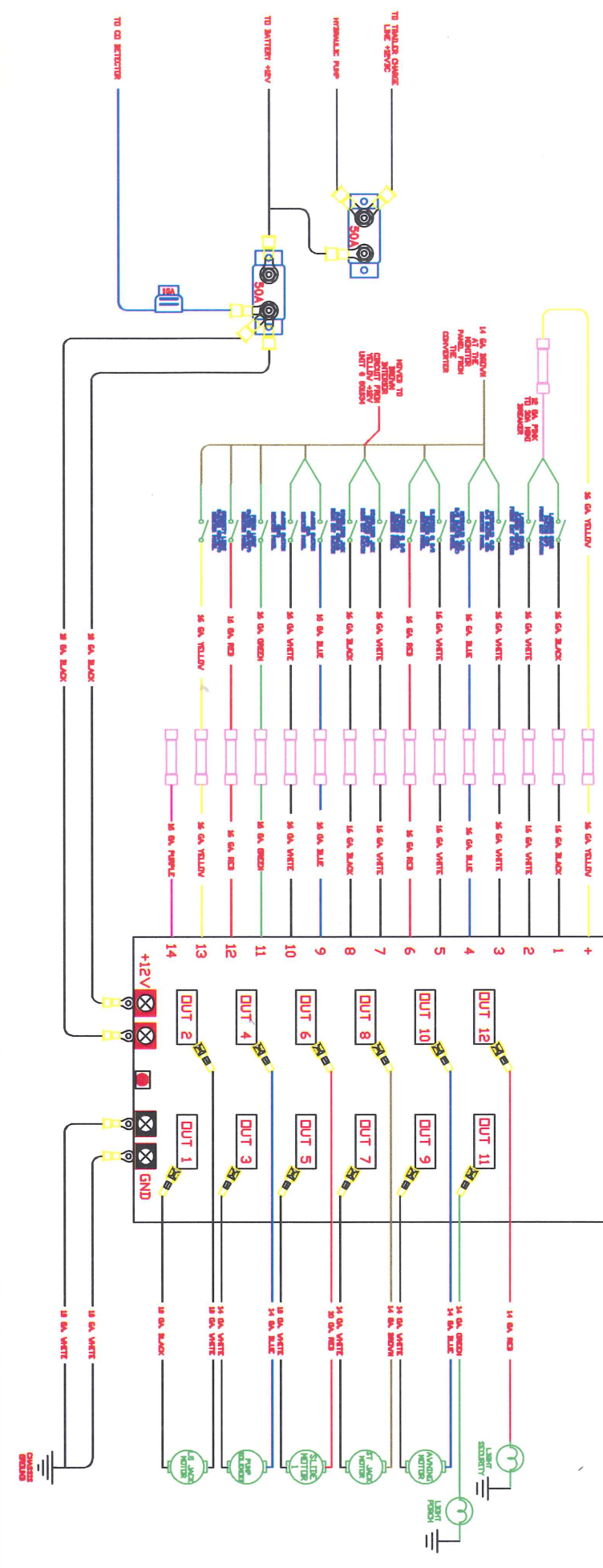
Keystone 18 Button RF Remote and RF Load Control Module Installation Guide

Revision C

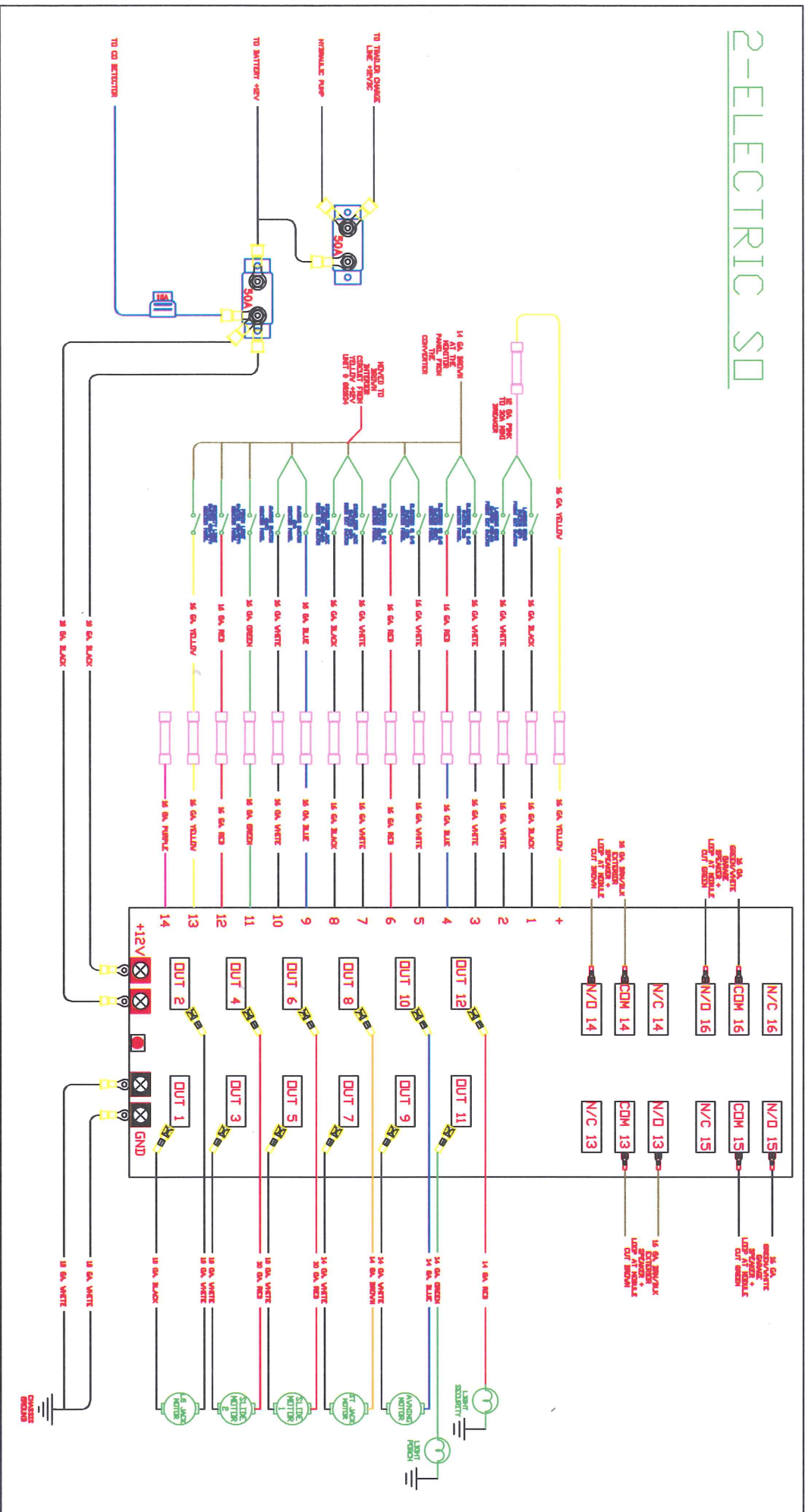
1/7/2010

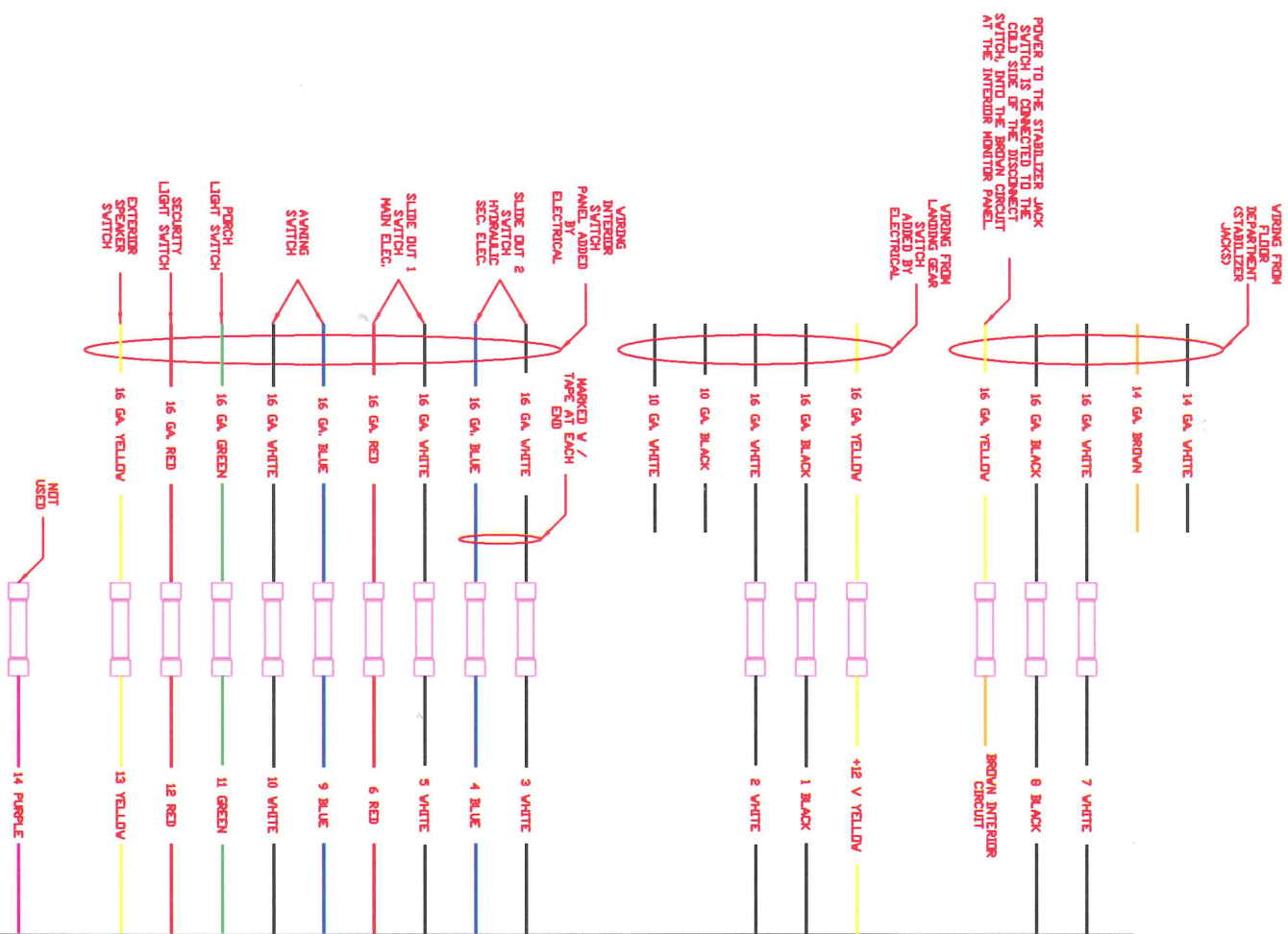
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1-ELECTRIC SD HYDRAULIC SD



2-ELECTRIC SD





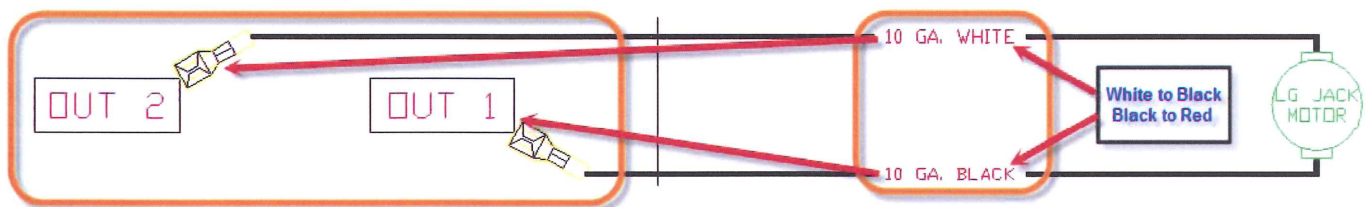
MODULE

RF Load Control Module Output Connections

Outputs 1 and 2

Landing Gear Jacks

The Landing Gear Jacks motor is connected to outputs one, (1) and two, (2) via a .250" female fast on connector. The 10 gauge black wire connects to output one (1,) and the 10 gauge white wire connects to output two (2). The 10 gauge black wire is connected to the red wire at the motor, and the 10 gauge white wire is connected to the black wire at the motor. See below:

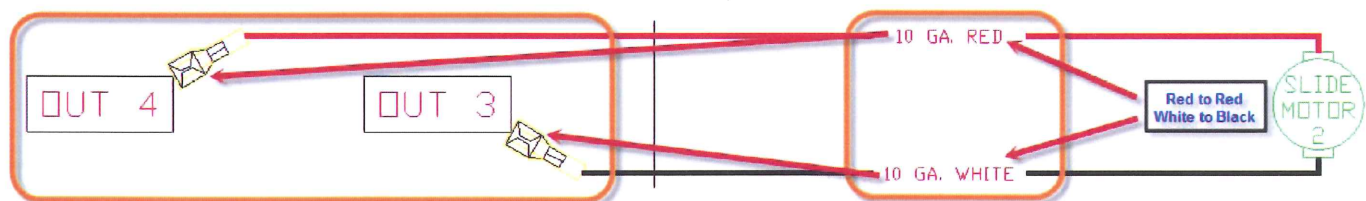


Outputs 3 and 4

Non Main Room Electric Slide Out or Hydraulic Slide Outs (One to Three)

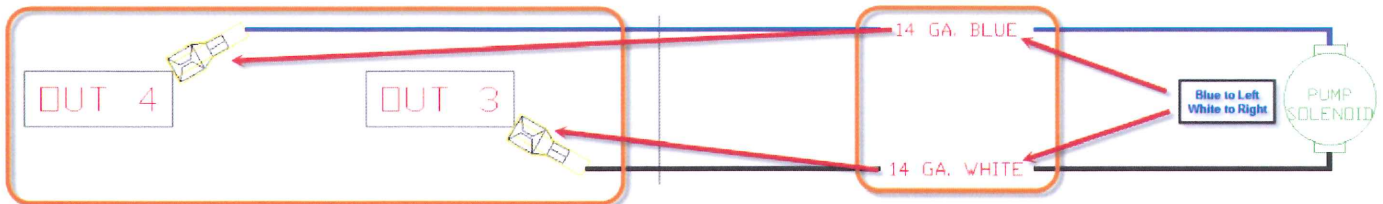
Electric

The Non Main Room Electric Slide Out motor is connected to outputs three (3) and four (4), via a .250" female fast on connector. The 10 gauge white wire connects to output three (3), and the 10 gauge red wire connects to output four (4). The 10 gauge white wire is connected to the black wire at the motor, and the 10 gauge red wire is connected to the red wire at the motor. See below:



Hydraulic

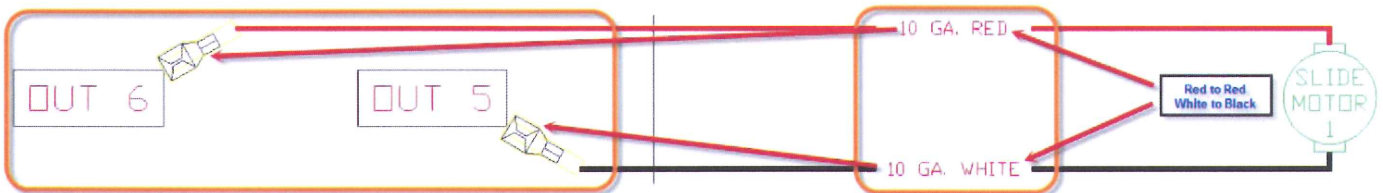
The Hydraulic Slide Out(s) pump solenoid is connected to outputs three (3) and four (4), via a .250" female fast on connector. The 14 gauge white wire connects to output three (3), and the 14 gauge blue wire connects to output four (4). The 14 gauge white wire is connected to the right most pump solenoid terminal, and the 14 gauge blue wire is connected to the left most pump solenoid terminal. See below:



Outputs 5 and 6

Main Room Electric Slide Out

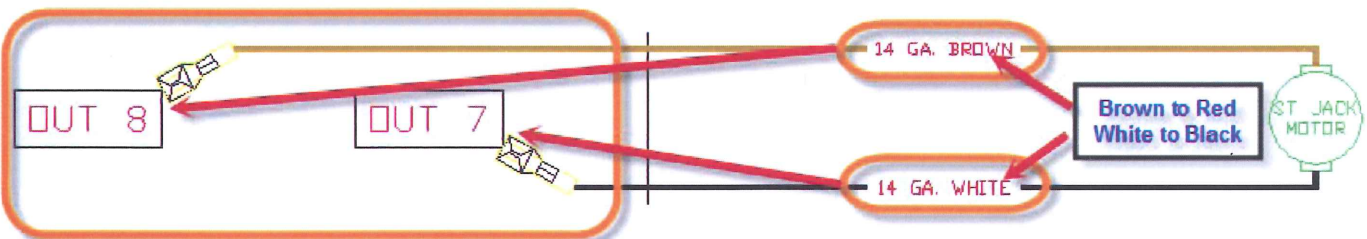
The Main Room Electric Slide Out motor is connected to outputs five (5) and six (6), via a .250" female fast on connector. The 10 gauge white wire connects to output five (5), and the 10 gauge red wire connects to output six (6). The 10 gauge white wire is connected to the black wire at the motor, and the 10 gauge red wire is connected to the red wire at the motor. See below:



Outputs 7 and 8

Stabilizer Jacks

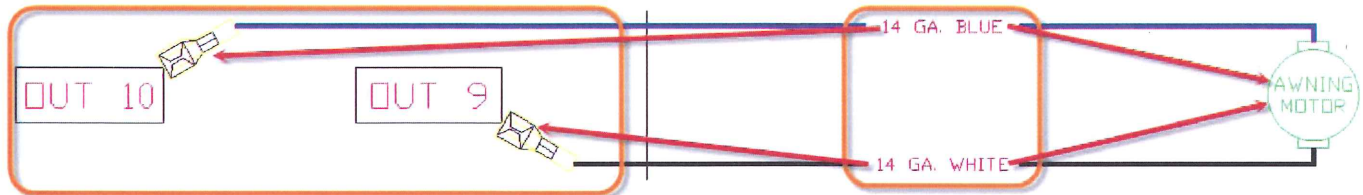
The Stabilizer Jacks motor is connected to outputs seven (7) and eight (8), via a .250" female fast on connector. The 14 gauge white wire connects to output seven (7), and the 14 gauge brown wire connects to output eight (8). The 14 gauge white wire is connected to the black wire at the motor, and the 14 gauge brown wire is connected to the red wire at the motor. See below:



Outputs 9 and 10

Awning

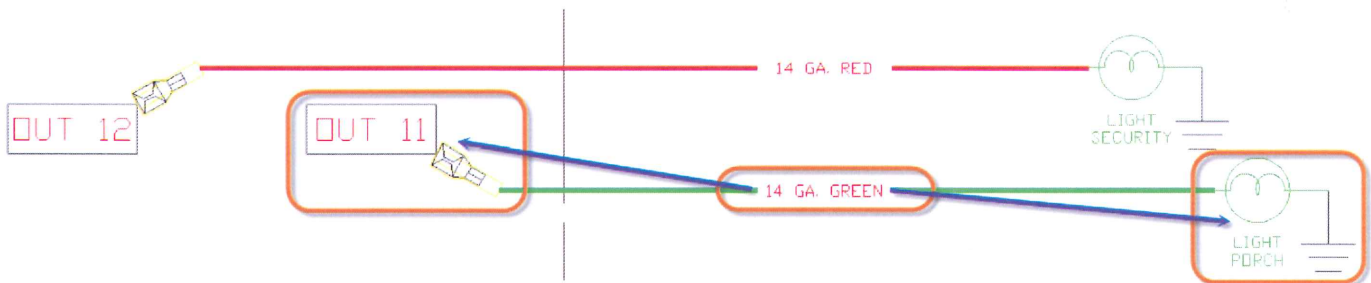
The Awning motor is connected to outputs nine (9) and ten (10), via a .250" female fast on connector. The 14 gauge white wire connects to output nine (9), and the 14 gauge blue wire connects to output ten (10). The 14 gauge white wire and 14 gauge blue wires are connected to corresponding wires at the motor. See below:



Outputs 11 and 12

Porch light

The Porch Light is connected to output eleven (11) via a .250" female fast on connector. The 14 gauge white wire connects to ground on the chassis, and the 14 gauge green wire connects to output eleven (11). The 14 gauge white wire is connected to the ground wire at the light, and the 14 gauge green wire is connected to the yellow porch light bulb wire on the porch light. See below:



Security Lights (Docking Lights)

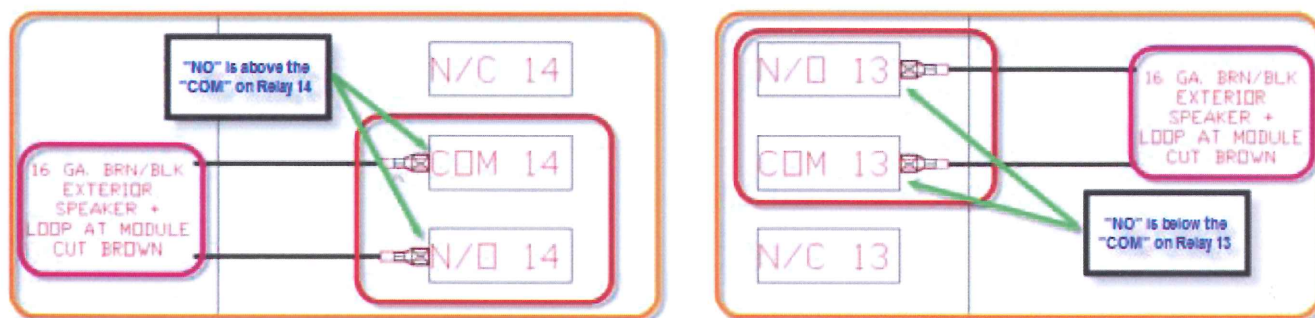
The Security (Docking) Lights are connected to output twelve (12) via a .250" female fast on connector. The 14 gauge white wire connects to ground on the chassis, and the 14 gauge red wire connects to output twelve (12). The 14 gauge white wire is connected to the ground wires at the lights, and the 14 gauge red wire is connected to the light bulb input wires on the round exterior lights. See below:



Outputs 13 and 14

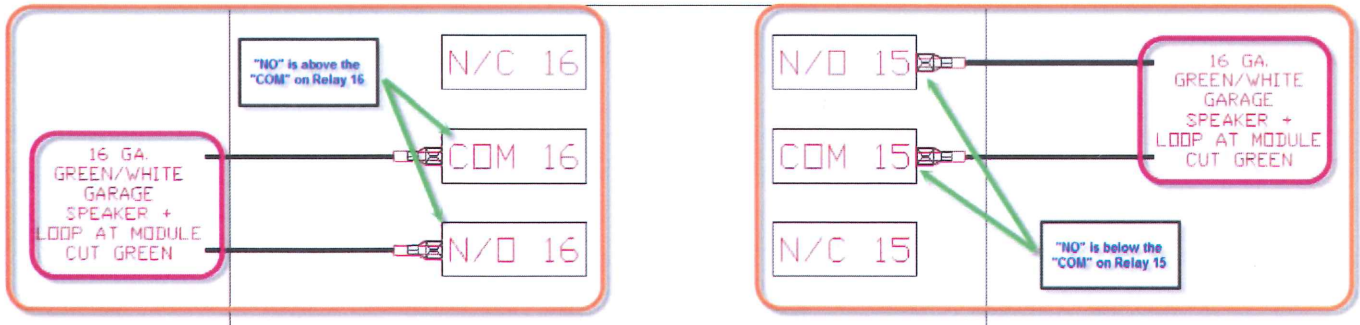
Exterior Speakers

The exterior speakers are connected to the front left and right channels of the Sony CDX-DV2200. These are the white, white/black (front left), gray, and gray/black (front right), respectively. The Exterior speaker wires will route to the RF Load Control Module, where they will be "Looped", and then route to the speakers. The brown wires will connect to terminals "Com" and "NO" on outputs 13, and 14 respectively. Note that the "Common" terminals are in the center of all relays, 13, and 14 but the "NO" terminal change orientation from below the "Com" on 13 to above the "Com" on 14. The positive side of the speaker wires, the solid brown, will be cut in half and a .250" female fast on connector will be crimped to each cut wire. The negative wires will be left intact. It is imperative to ensure that when a positive speaker wire is cut that the two halves of that wire is connected to one relay, either 13 or 14. Do not mix these wires up; as this will cause the radio malfunction, and the speaker will not sound, or operate correctly. See below:



Garage Speakers

The garage speaker wires will now be connected to the rear left and right channels of the Sony CDX-DV2200. These are the green, green/black (front left), purple, and purple/black (front right), and then routed to the RF Load Control Module, "Looped", and then routed to the speakers. The 16 gauge green and white wires will connect to terminals "Com" and "NO" on outputs 15, and 16 respectively. Note that the "Common" terminals are in the center of all relays, 15, and 16 but the "NO" terminal change orientation from below the "Com" on 15 to above the "Com" on 16. The positive side of the speaker wires, the solid green, will be cut in half and a .250" female fast on connector will be crimped to each cut wire. The negative wires will be left intact. It is imperative to ensure that when a positive speaker wire is cut that the two halves of that wire is connected to one relay, either 15 or 16. Do not mix these wires up; as this will cause the radio malfunction, and the speaker will not sound, or operate correctly. See below:



RF Load Control Module Input Connections

+12V DC Input for Exterior Switches

The RF Load Control Module provides a +12V DC output which will power the Landing Gear and Stabilizer Jack Switches. This will be a yellow 16 gauge wire labeled "+12V".

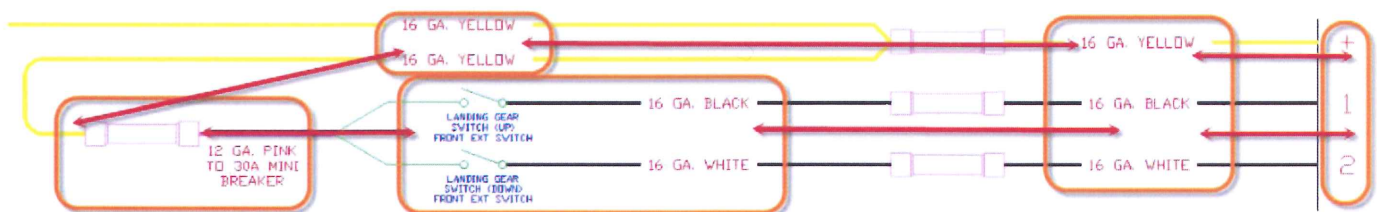
+12V DC Input for Interior Switches

The interior switches are located on the monitor, or control panel area, located inside the living quarters. These switches include Awning, Slide out, up to two (2), Security Lights, Porch Light, and Exterior Speakers. All of the switch "Common" terminals are connected to the "Brown" 14 gauge interior light circuit, routed from the converter to the panel.

Inputs 1 and 2

Landing Gear Jacks

The 16 gauge black and 16 gauge white wire connected to the switch in the following manor; 16 gauge black to red on the switch, 16 gauge white to black on the switch, and 16 gauge yellow to pink on the switch. These three wires connect directly to the corresponding 16 gauge wires on the input harness of the RF Load Control Module, black to black (Input 1), and white to white (Input 2). There will need to be a yellow 16 gauge power wire routed from the rear switch (Com - pink) to the yellow wire labeled "+" on the input harness of the RF Load Control Module. See Below:

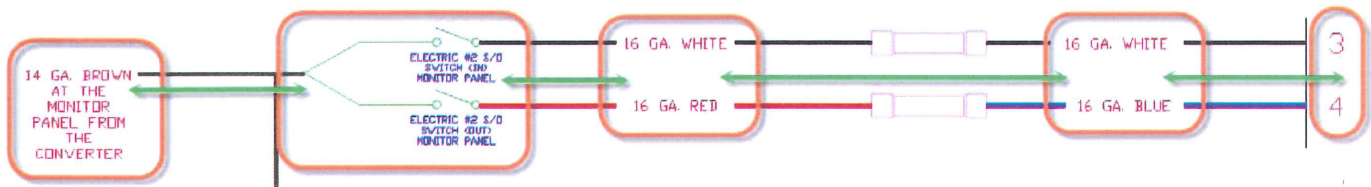


Inputs 3 and 4

Non Main Room Electric Slide Out or Hydraulic Slide Outs (One to Three)

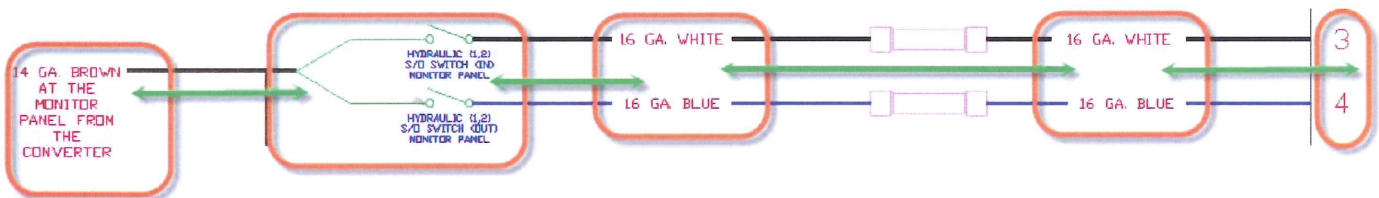
Electric

There are two wires, a 16 gauge white wire and a 16 gauge red wire connected to the switch located on the interior control panel. These wires connect directly to the corresponding 16 gauge wires on the input harness of the RF Load Control Module, white to white (Input 3), and red to red (Input 4). See Below:



Hydraulic

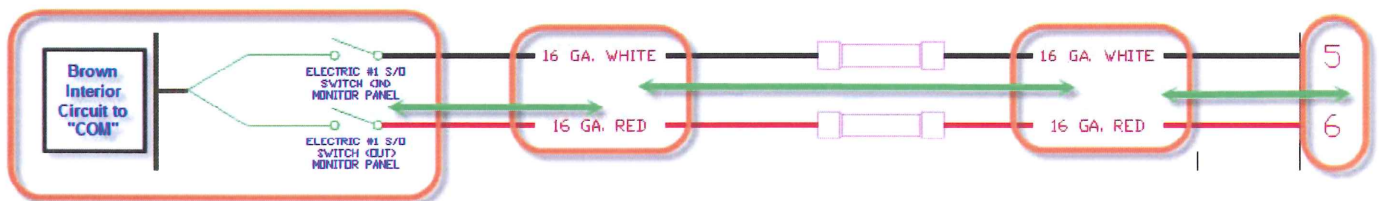
There are two wires, a 16 gauge blue wire and a 16 gauge white wire connected to the switch located on the interior control panel. These wires connect directly to the corresponding 16 gauge wires on the input harness of the RF Load Control Module, white to white (Input 3), and blue to blue (Input 4). See Below:



Inputs 5 and 6

Main Room Electric Slide Out

There are two wires, a 16 gauge white wire and a 16 gauge red wire connected to the switch located on the interior control panel. These wires connect directly to the corresponding 16 gauge wires on the input harness of the RF Load Control Module, white to white (Input 5), and red to red (Input 6). See Below:

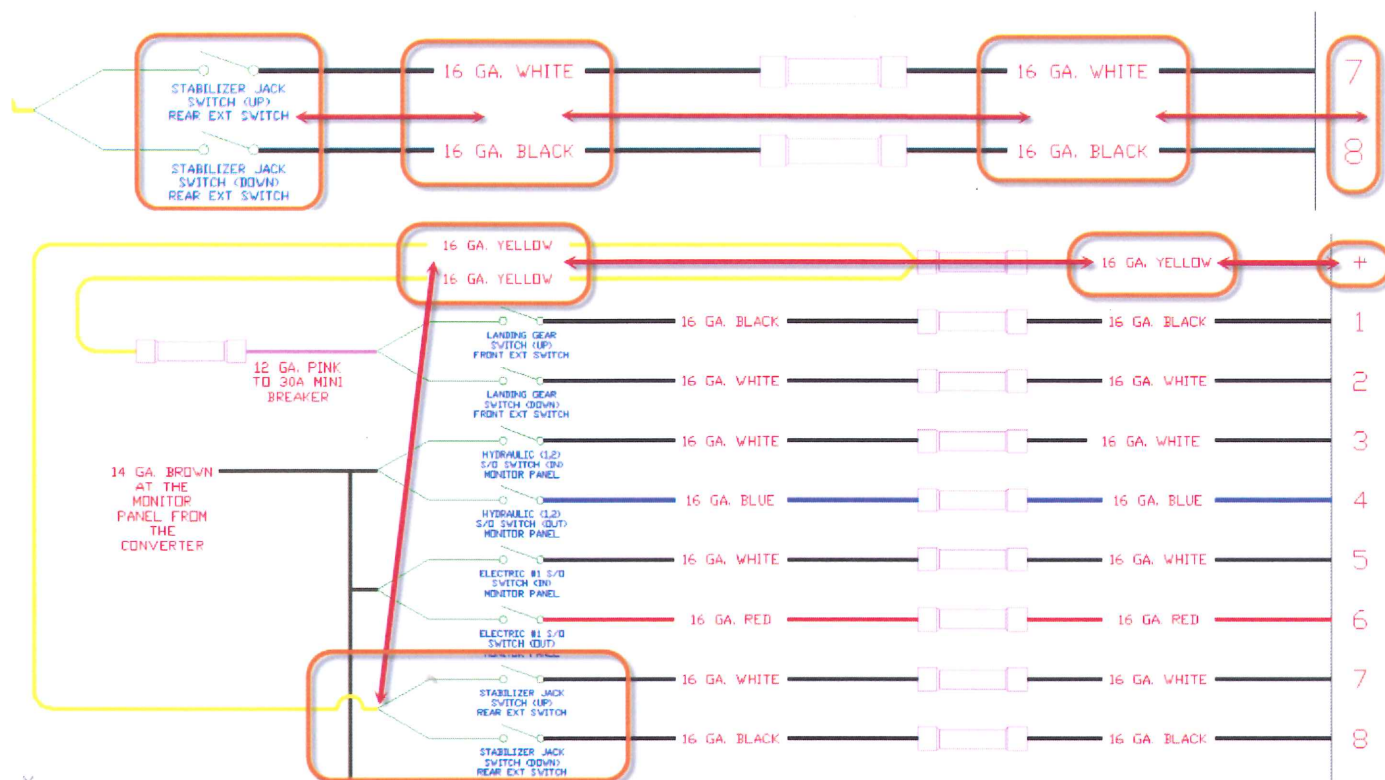


Inputs 7 and 8

Stabilizer Jacks

16 gauge black and 16 gauge white wire connected to the switch in the following manor; 16 gauge black to black on the switch, 16 gauge white to green on the switch, and 16 gauge yellow to red on the switch. These three wires connect directly to the corresponding 16 gauge wires on the input harness of the RF Load Control Module, black to black (Input 7), and white to white (Input 8). There

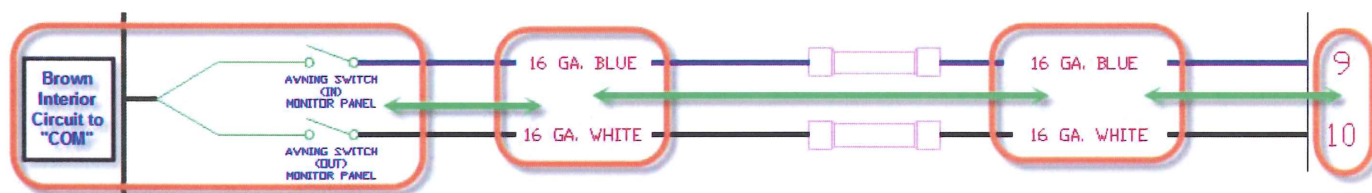
will need to be a yellow 16 gauge power wire routed from the rear switch (Com - red) to the yellow wire labeled “+” on the input harness of the RF Load Control Module. See Below:



Outputs 9 and 10

Awning

The 16 gauge blue and 16 gauge white wire connected to the switch located on the interior control panel. These wires connect directly to the corresponding 16 gauge wires on the input harness of the RF Load Control Module, blue to blue (Input 9), and white to white (Input 10). Note that the Awning Module will be removed, and the center, “COM” terminal of the Awning switch connects to the brown interior light circuit. The 16 gauge blue wire and 16 gauge white wire connect to the terminals above and below the “COM”, respectively. See Below:

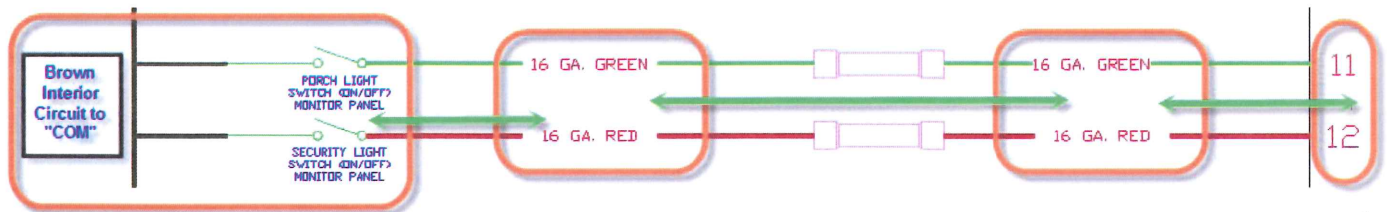


Inputs 11 and 12

Porch light and Security Lights

There are two wires, a 16 gauge green wire and a 16 gauge red wire connected to the switches located on the interior control panel. The green wire is connected to the Porch Light switch, and the

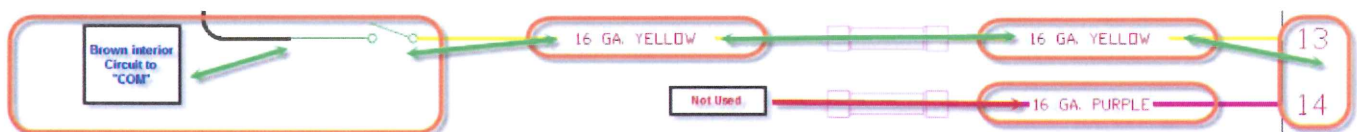
red wire is connected to the Security Light switch. The center, "COM" terminals of the Porch Light switch and Security Light switch connect to the brown interior light circuit. These wires connect directly to the corresponding 16 gauge wires on the input harness of the RF Load Control Module, green to green (Input 11), and red to red (Input 12). See Below:



Outputs 13 and 14

Exterior Speakers

Both outputs, 13 and 14, are tied to input number 13 of the RF Load Control Module. There is one wire, a 16 gauge yellow wire connected to the Exterior Speaker Disconnect switch located on the interior control panel. The center, "COM" terminal of the Exterior Speaker Disconnect switch is connected to the brown interior light circuit. The 16 gauge yellow wire connects directly to the corresponding 16 gauge yellow wire on the input harness of the RF Load Control Module, yellow to yellow (Input 13), and the 16 gauge purple wire, (Input 14), is not used, but may be used in the future for a Garage Speaker Disconnect switch.. See Below:

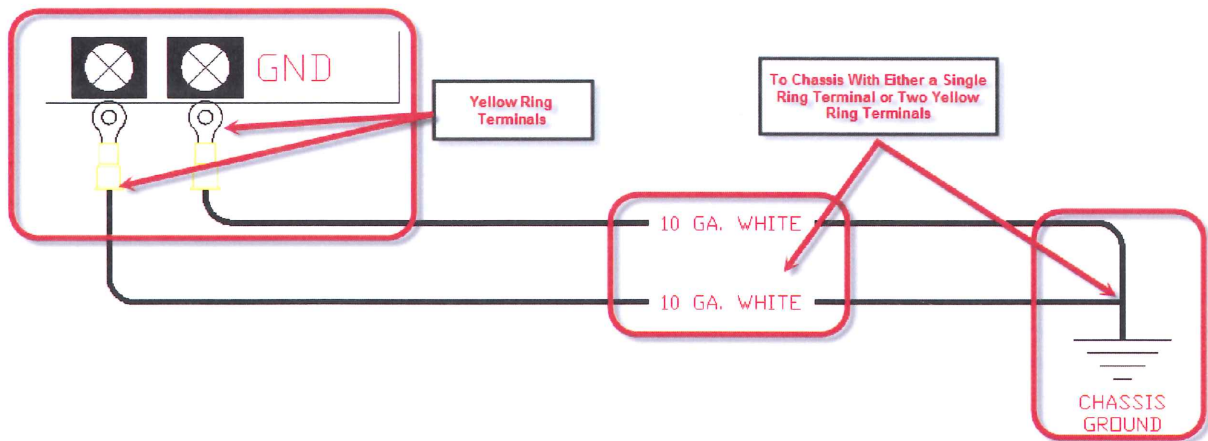


Step 3 Main Power and Ground

- Power
- Ground

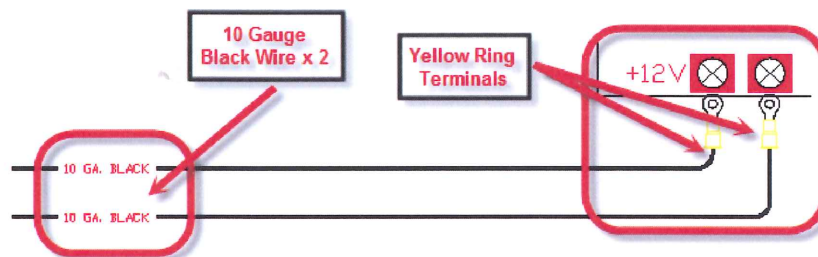
Ground

After all connections are made the next step is to connect the RF Load Control Module to chassis ground. This will be done via two 10 gauge wires, with yellow ring terminals crimped on the module ends, and both opposing ends receiving, either a single ring terminal, properly sized, to accompany two (2) 10 gauge wires, or individual yellow ring terminals. The wires will be attached to the metal chassis surface, with a clean, bare metal surface, and a tight connection. See below:

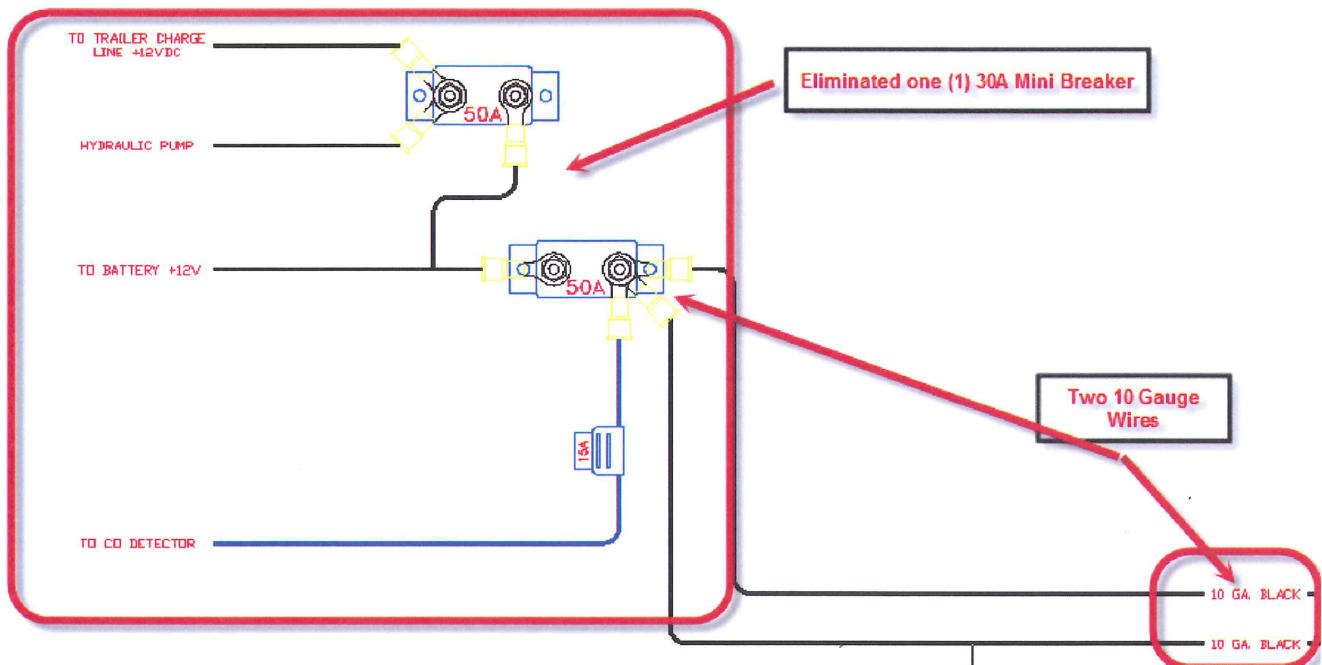


Power

The power wires connected to the RF Load Control Module will consist of two 10 gauge black wires with yellow ring terminals crimped on the module ends, and both opposing ends receiving, either a single ring terminal, properly sized, to accompany two (2) 10 gauge wires, or individual yellow ring terminals. The connection to the RF Load Control module is shown below:



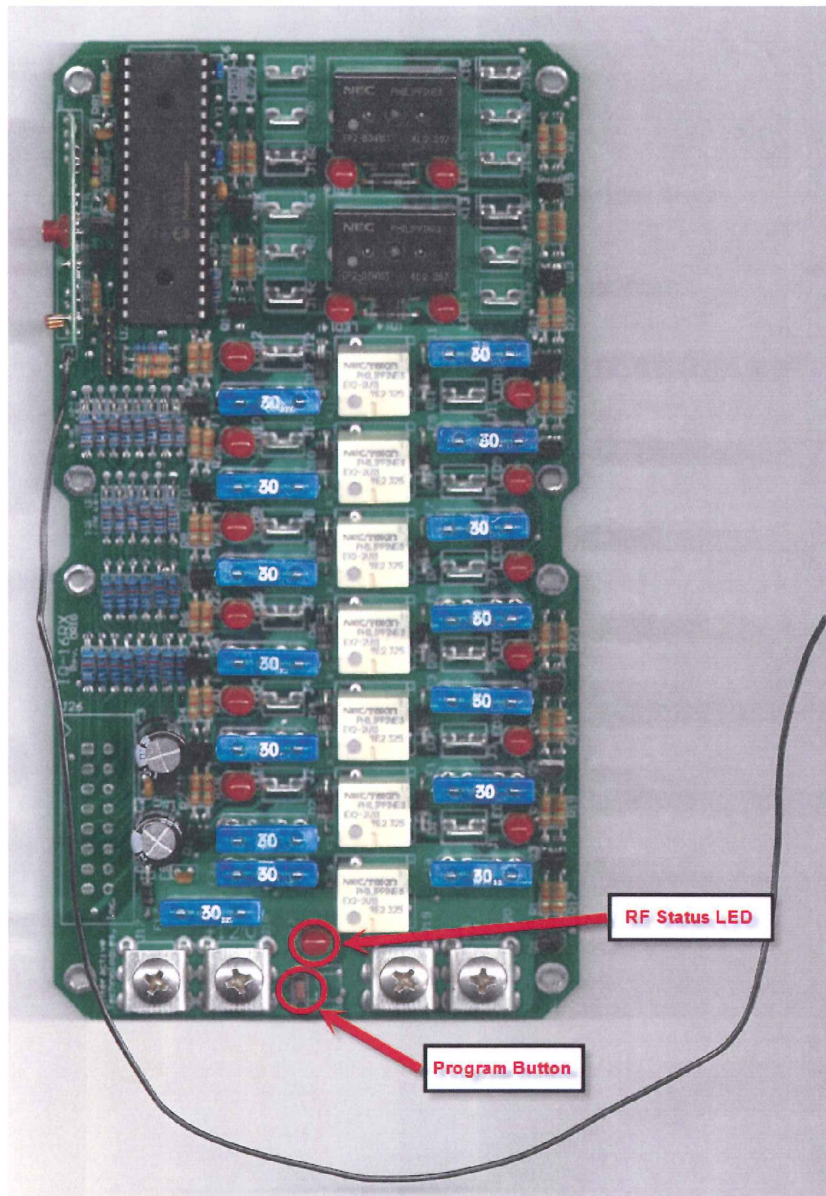
The power connection will be made via two 10 gauge wires, connected to the load side of the single 50A mini breaker, which the red 10 gauge slide out power is connected to. See below:



Status LED – Program Button

The Program Button is located on the right side of the RF Load Control Module Board, in between the power and ground terminals and to the direct right of the Status LED, near the right edge of the PCB.

The Status LED is located on the right side of the RF Load Control Module Board, in between the power and ground terminals and to the direct left of the Program Button, near the right edge of the PCB. See below:



Status LED

The Status LED will illuminate solid red when the unit has power. The Status LED will start flashing whenever it receives a signal on the same frequency that has the same sync frame data as our remote. Our receiver is very sensitive and will pick up on the slightest amount of noise. Because of this it won't consider any transmission valid until after the sync frame data has been received. This could help someone troubleshoot RF interference. If the range is decreased, remove the lid, and see if the Status LED is flashing.

Program a Remote

To program a remote control, depress the program switch. The LED will turn off; indicating programming mode has been entered. Press any button on the remote and the LED should begin to flash indicating a valid signal has been received and the remote has been programmed. The led will continue flashing as long as the remote button is held down. Release the programming button to exit programming button.

The RF Load Control Module will store up to eight (8) remote codes, and will hold them in static memory. The components come pre-programmed to the 18 button remote control.

Clear All Memory

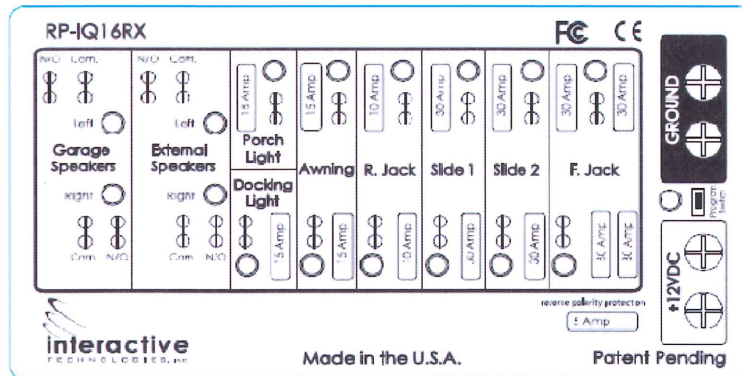
When the program switch is depressed, the LED will go out indicating entrance into programming mode. To erase all remotes continue holding for 30 seconds. After 30 seconds the LED will quickly flash 3 times indicating all programmed remotes are erased. The 3 quick flashes of the LED will continue to be repeated until the programming button is released.

Channel Status LED's

There are 16 different Channel Status LED's located on this board. The LEDs will illuminate whenever the control circuitry sends the signal to activate that output. It does not matter if the fuse is blown or not. The channel can be activated by either the RF remote control, or the switches. If a device is not working, and the LED is illuminated by a switch, the remote, or both, the likely result would be a blown fuse. Most outputs work in reverse polarity, or a paired configuration. Outputs 1 and 2, landing gear, 3 and 4, slide out 2, 5 and 6, slide out 1, 7 and 8, stabilizer jacks, 9 and 10, awning, 13 and 14, outside speakers, and 15 and 16, garage speakers. Outputs 11, 12, are independently controlled, and are not active simultaneously, unless activated at the same time.

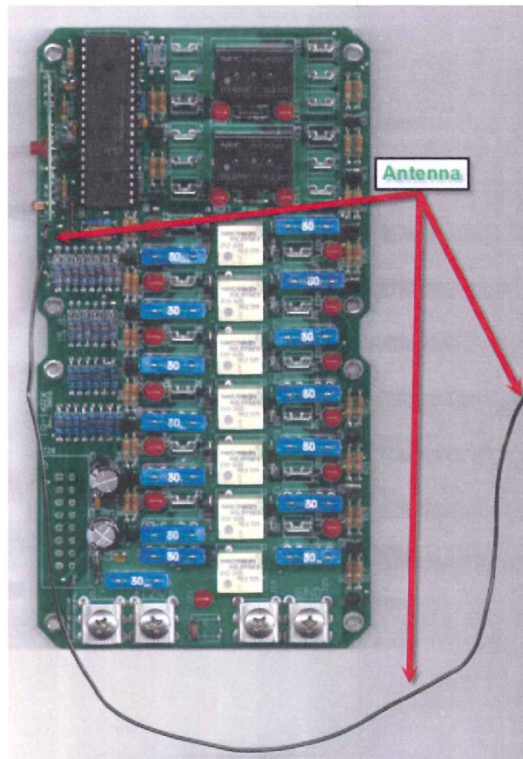
Fuses

There is a reversing polarity fuse, 5A, which will blow if power and ground are reversed, to keep the electronics on the board safe. Outputs 1 through 12 are also fused. You can ascertain the value of each fuse by reading the label on the cover. The label also depicts the placement of each channel status LED. See the label below:



Antenna

The antenna needs to be routed outside of the box, and left unconnected to anything. The antenna cannot be connected to anything or damage to the units will ensue. See below:



Remote Control

The remote control has the ability to operate multiple functions. There are functions that will be limited due to current, safety, and precautionary constraints.

1. The operation of any non-vector load or device is not impeded by any other function or command activated by the RF remote control or the physical switch inputs connected to the input section of the RF Load Control Module. The loads that are unaffected in these applications are as follows:

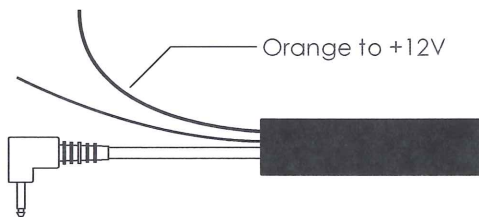
- Radio Power Off
- Radio Source / ON
- Radio Mode
- Seek +
- Seek -
- Radio Volume UP
- Radio Volume Down
- Garage Speaker ON / OFF
- Exterior Speaker ON / OFF
- Porch Light
- Docking Light

2. The operation of any Vector Load will be limited to one (1) function and one (1) vector at any given time. The program will be written in a manner that limits the operation based off of a "first come first serve" priority rank. To elaborate, any RF input that is active will be overridden by the physical switch input connected to the input section of the RF Load Control Module. All RF vector load inputs requested will be shunted until the switch input command and operation is complete. The Vector Loads are defined as the following:

- Slide Out 1
- Slide Out 2
- Landing Gear
- Stabilizer Jacks
- Awning

3. The 18 button remote control has a safety, error checking feature in that the operation of any vector command will require the function button to be depressed for greater than 3 seconds. After the function has been initialized the user will have ten (10) seconds to input a vector, or direction command. If the vector command is not "seen" by the RF Load Control module within the five second time interval, the vector command will not activate anything, and a function button will need to be depressed again, before activation of the vector command can commence.

- 1 Connect the ORANGE wire to +12V
- 2 Press and Hold  AND 
- 3 This Clears All Programmed Remotes from the Receiver



- 1 Connect the ORANGE wire to +12V
- 2 Press Any Button on Remote
- 3 Disconnect from +12V
- 4 Remote is Now Programmed to the Receiver





**For technical assistance please contact
RiverPark Inc.**

1-800-442-7717

www.riverparkinc.com

**21953 Protecta Drive
Elkhart, IN 46516**

RF Remote System

Owners Manual



RIVERPARK



Operation Guide

This RF (Radio Frequency) remote is designed to operate key functions of your recreational vehicle at the touch of a button and is powered by two CR2032 3- volt batteries that are easy to replace.

The switches in your recreational vehicle will override the remote control.

Example: If you were to operate the awning with the remote and another individual retracted the jacks with the switch, the awing operation would cease until the switch for the jacks were released.

To Operate

- **Front(F) /Rear (R) Jacks**
- **Awning (AWN)**
- **Electric Slide Outs (1 & 2)**

To Extend/Retract Front (F) and Rear (R) Jacks

1. Press and hold (F) or (R) for a minimum of three seconds to activate.
2. Next press and hold DN/OUT▼ to extend or press and hold UP/IN ▲ to retract.

After a function button is pressed for 3 seconds you have 10 seconds to input a command, failure to do so will result in a time out and you will need to repeat the process

(AWN) Awning To Activate /Retract

1. Press and hold (AWN) for a minimum of three seconds to activate.
2. Next press and hold DN/OUT▼ to extend or press and hold UP/IN ▲ to retract.

Slide Outs (1) & (2)

1. Press and hold (1) for Main Slide Out, (2) for Non Main Electric or Hydraulic Slide Out(s) for a minimum of three seconds to activate.
2. Next press and hold DN/OUT(▼) to extend or press and hold UP/IN ▲ to retract.



To Operate

- **Porch Light**
- **Docking/Security Lights**
- **External Speakers**
- **Garage/Cargo Speakers**

(P) Porch Light

1. Press (P) Porch light to turn on/off.

(D) Docking Lights

1. Press (D) Docking or Security lights to turn on/off.

(EXT) External Speakers

1. Press (EXT) External Speakers to turn on/off.

(GAR) Garage Speakers

1. Press (GAR) Garage Speakers to turn on/off.

To Operate Radio

- **Mode AM/FM**
- **Seek Up / Down**
- **Volume**
- **Off**

(MODE) -To select the radio band (FM/AM) also selects between Aux front (iPod/MP3) and Aux rear, TV audio.

Vol (▲) - To adjust volume up.

Vol (▼) - To adjust volume down.

SEEK (▲) - Press to seek forward, chapter, or station. Press and hold to fast forward, disc, track, or station.

SEEK(▼) - Press to seek backward, chapter, or station. Press and hold to rewind or skip back, disc, track, or station.

(SRC)- Source. To power on; change the source (Radio/Disc/Aux).

(Power) **Power-** Press and hold to power completely off.



Component Parts

Parts

RP-1Q16RX

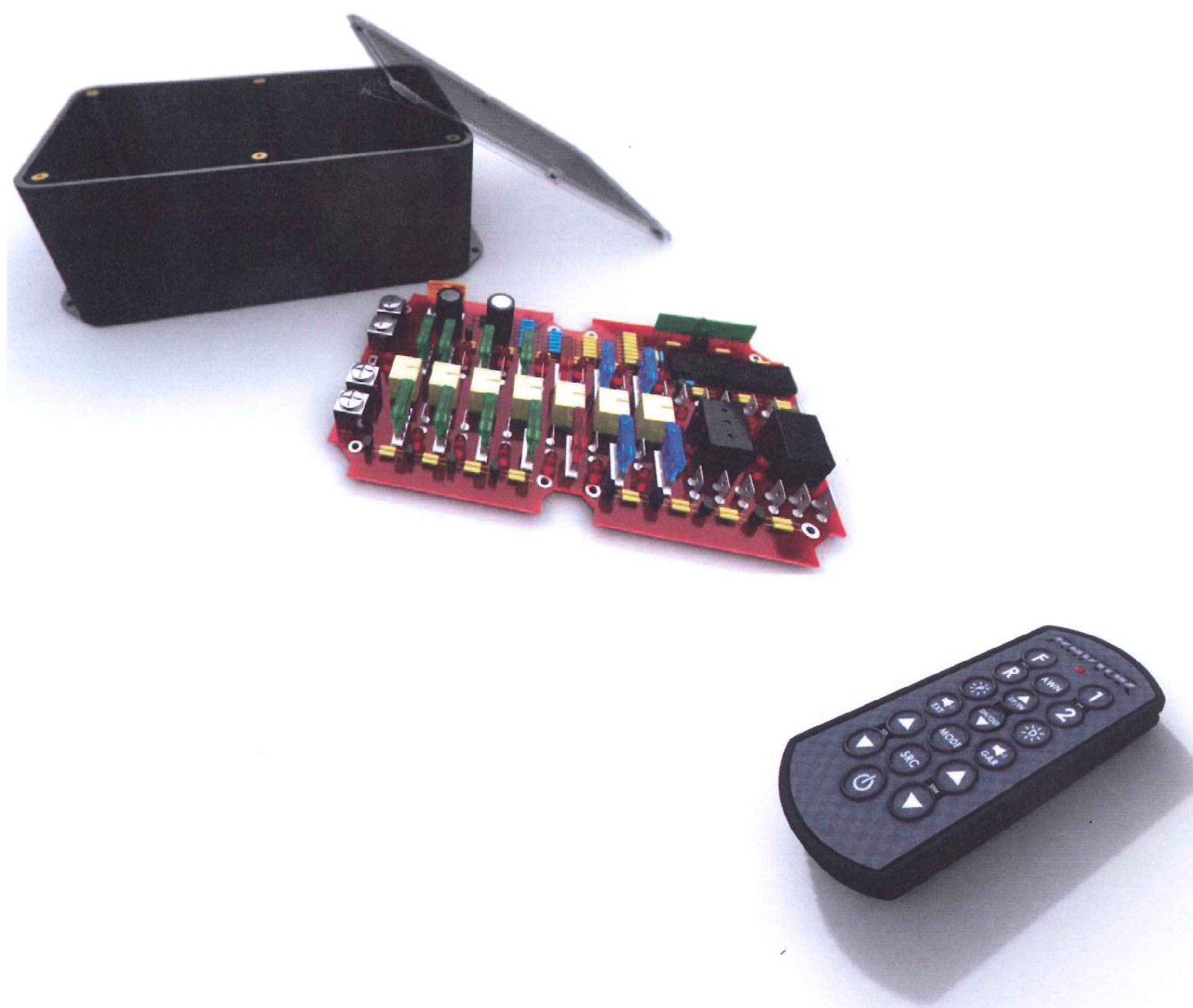
Relay Control Board with Housing

DS18-RAPTOR

18 Button Remote

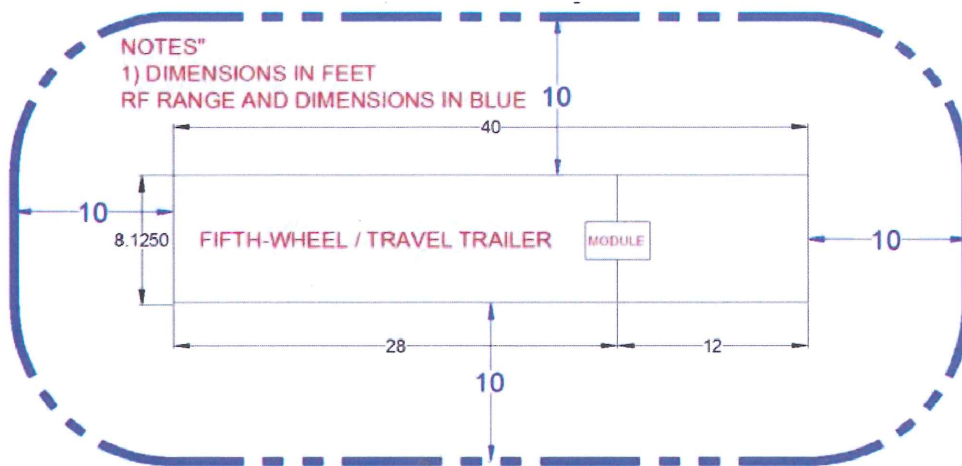
12SS18-ASSY

Sony Stereo Module



RF Range

The range of the system depends on multiple variables. Expectations for range under normal operating circumstances should meet, or exceed ten feet from the unit. There are extenuating circumstances that can cause extreme deprivation of the aforementioned range, and therefore hinder or limit its performance to less than a ten (10) foot radius. However that would not deem the unit defective, it would however signal the user that the unit is in an area where RF optimization is not adequate.



RF Range Inhibitors

The following variables and criteria can affect the operational range of the RF remote control system.

1. Not installing the RF Load Control Module in the recommended location.
2. Modification or misplacement of the antenna
3. Covering the RF Load Control Module with any type of metal object (specific care if the module is installed in the cargo area)
4. RF interference from outside, uncontrollable sources, such as power lines, cell towers.

Battery Life

Battery life is a direct derivative of the amount of "time used", and therefore cannot be defined. It is however recommended that the user replace the batteries in the remote at an interval no greater than six months. This will ensure that the remote transmitter has adequate battery power available for signal transmission.