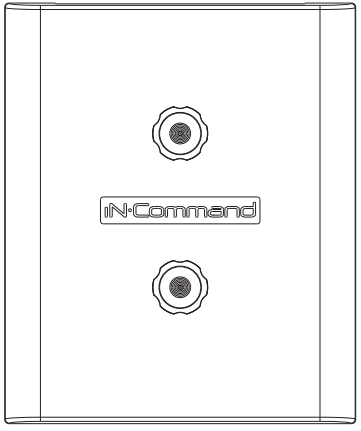
iN·Command®

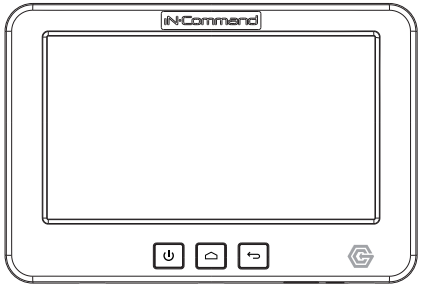
CONTROL SYSTEMS

NCSP3

RV CONTROL AND MONITORING SYSTEM

Installation and Operation Manual





Patent # (D776,068)
Patent # (D762,644)
Patent # US 9,679,735

Important Safety Information

Read the iN-Command Manual, and these warnings and instructions carefully before using this product. Failure to follow the use instructions in this owner's manual, or improper use of the Mobile Application, Display Commander and/or Body Control Module, could result in personal injury, including death.

Do not operate while vehicle is being driven. The Mobile Application, Display Commander and/or Body Control Module should not be used while the vehicle is being driven. Use of the Mobile Application, Display Commander and/or Body Control Module while the vehicle is being driven is dangerous and may cause personal injury or property damage.

For adult use only. The Mobile Application, Display Commander and Body Control Module are intended for adult use only, and are not to be used by persons under the age of 18. Use by children may cause personal injury or property damage.

Operate only when you have a clear line of sight. Do not operate any moving parts (including, but not limited to, awnings, jacks and slides), unless you have a clear line of sight to the moving part. The Mobile Application, Display Commander or Body Control Module may be used only if you are giving instructions to, and receiving instructions from, another person at least age 18 or older who can clearly see the moving part. Failure to follow these instructions may result in serious personal injury or property damage.

Do not operate under the influence of alcohol or drugs. Do not operate the Mobile Application, Display Commander or Body Control Module while under the influence of alcohol or drugs. Doing so may result in personal injury or property damage.

Avoid moisture. To reduce the risk of fire or electric shock, do not expose this equipment to rain or moisture.

Use recommended accessories. To reduce the risk of fire or electric shock and annoying interference, use only the recommended accessories.

• TABLE OF CONTENTS

TABLE OF CONTENTS 3
INTRODUCTION 4
Thank You! 4
Features 4
Precautions 4
Packing List 4
INSTALLATION 5
Tools and Supplies 5
Disconnecting the battery 5
Selecting the Mounting Location 5
Mounting the Display Commander (DC) 5
WIRING 6
SETUP MENU LIST 7
TRAVEL LOCKOUT (Safety) 8
OVERRIDE SWITCHES* 9
SPECIFICATIONS 10
FCC Notes 10
PASSCODE PROTECTION 11
SETTINGS 11
Text Editing 11
Scroll List Editing* 13
Triggers 14
Generator Fuel 14
Alarm Inputs 14
Passcode 14
Set Passcode Timer 15
Change Passcode 16
Clear Passcode 16
MOBILE DEVICES: 17
Pairing Mobile Device to DC 18
CHECKING ACTIVE BLUETOOTH SESSION 22
HVAC 23
Vent Fans 23
Fan Only Mode 23
AC Cooling 23
Heating 24
Auto 24
HVAC Schedule 25
AUTO GENERATOR START 25
Generator Schedule 26
Date & Time 27
SOFTWARE UPDATE* 28
RESET: FLOOR PLAN 31
TOUCH SCREEN CALIBRATION 32
SYSTEM CALIBRATION* 33
TROUBLE SHOOTING 35

• INTRODUCTION

• Thank You!

Thank you for choosing a iN-Command product. We hope you will find the instructions in this owner's manual clear and easy to follow. If you take a few minutes to look through it, you'll learn how to use all the features of your new iN-Command system for maximum enjoyment.

• Features

Features of iN-Command system include:

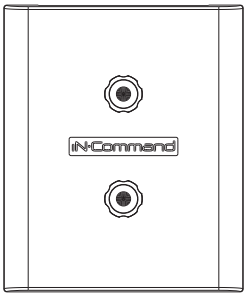
- Simultaneous control by up to three Android Devices and one iOS Device
- Control four zones of Interior Lighting
- Control three zones of Exterior Lighting
- Monitor all water and fuel tank levels
- Control and monitor the Water Heater (switches between LP, AC, or both)
- Control and monitor the Water Pump
- Control and monitor the Generator (including all faults)
- Control Awnings & Awning Lights
- Control Electric and Hydraulic Slides
- Control Jacks (non-automatic function)
- 4 Programmable Auxiliary 12V Triggers
- 4 Alarm Inputs (12V)
- Monitor Battery Voltage with Low Voltage Alert
- Auto Generator Start

• Precautions

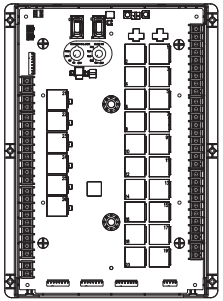
- **Use the Proper Power Supply.**
  This product is designed to operate with a 12 volt DC, negative ground battery system (the standard system in a North American vehicle).
- **Use Authorized Service Centers.**
  Do not attempt to disassemble or adjust this precision product; contact a professional for assistance.
- **Avoid Moisture.**
  To reduce the risk of fire or electric shock, do not expose this equipment to rain or moisture.
- **Avoid Cleaning Products.**
  The front of this unit should only be cleaned with a slightly damp cloth. Do not use cleaning products.
- **Use Recommended Accessories.**
  TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK AND ANNOYING INTERFERENCE, USE ONLY THE RECOMMENDED ACCESSORIES.

• Packing List

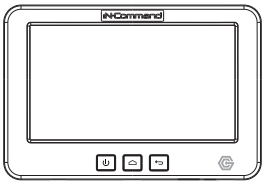
(1) Cover, (2) Thumb Screws



(1) Body Control Module (BCM)



(1) Display Commander (DC)



• INSTALLATION

It's a good idea to read all of the instructions before beginning the installation.

• Tools and Supplies

You will need these tools and supplies to install your iN-Command:

- Phillips screwdriver
- #2 square drive bit
- Wire cutters and strippers
- Electrical tape
- Volt meter/test light
- Crimping tool
- Fork Crimp connectors
- Minimum of 24 gauge wire required to connect DC to BCM
- 10 gauge wire for power and slide connections
- 14 and 18 gauge wire for all other connections
- Four #8 PH (0.164" x 0.75") screws for the DC
- Six #8 PH (0.164" x 1.0") screws for the BCM

• Disconnecting the battery

To prevent a short circuit, be sure to turn off 12V power and remove the negative (-) battery cable prior to installation.

• Selecting the Mounting Location

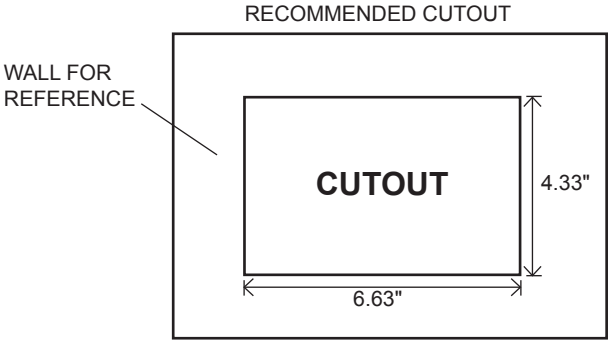
Select a mounting location, taking care to avoid the following:

- Places exposed to heat-radiating appliances such as electric heaters
- Adjacent to other equipment that radiates heat
- Poorly-ventilated or dusty places
- Moist or humid locations

• Mounting the Display Commander (DC)

- Use the mounting hole diagram to measure and cut a mounting hole, allowing space below for future programming via USB drive
- Route power wires through the hole and connect
- Check and ensure correct operation
- Mount the unit using four #8 PH (0.164" x 0.75") screws
- Attach Trim ring

CUTOUT FOR DISPLAY COMMANDER (DC)



NOTE: Before cutting the mounting hole, make sure the area behind the mounting location is clear of wires, fuel and vacuum or water lines; ensure there is at least a 2.75"clearance below the Display Commander to allow for programming by USB stick.

- **WIRING**

The wiring diagram depicts all the wiring connections required for proper operation of the unit.
BODY CONTROL MODULE (BCM) CONNECTIONS

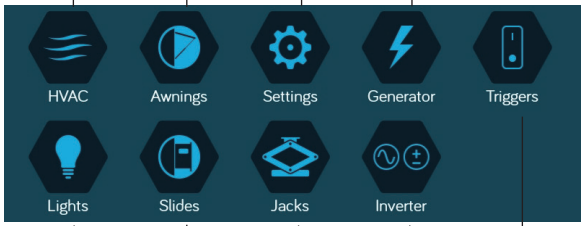
• SETUP MENU LIST

Awings	
Awning Light	No, Yes
Awning 1	In, Out
Awning 2	In, Out

HVAC (Zone1, Zone2, Zone3)	
Mode	On, Off, Fan, Cool, Heat, Auto
Vent	Open, Shut
Vent Fan	Off, Low, Medium, High
Schedule	Start time, Stop time

Lights	
Light Group 1	No, Yes
Light Group 2	No, Yes
Light Group 3	No, Yes
Light Group 4	No, Yes
Awing Light	No, Yes
Dimmer Light 1	No, Yes
Dimmer Light 2	No, Yes
Dimmer Light 3	No, Yes

Slides	
Hydraulic	In, Out
Slide 1	In, Out
Slide 2	In, Out
Slide 3	In, Out
Slide 4	In, Out
Slide 5	In, Out



Settings	
Bluetooth	Scan
Wi-Fi	On, Off, Scan, Add
Date & time	Edit
Edit	
Passcode	Setting
Brightness	Up, Down
Calibration	Set
System Reset	Floor Plan , Factory
Information	Information notes
Software	DC/App/BCM Updat
Administration	

Generator	
Prime, Start, Manual	
Schedule	Start time, Stop time

Tiggers	
Trigger 1	No, Momentary , Latch
Trigger 2	No, Momentary , Latch
Trigger 3	No, Momentary , Latch
Trigger 4	No, Momentary , Latch

Inverter

Jacks	
Front	Up, Down
Rear	Up, Down

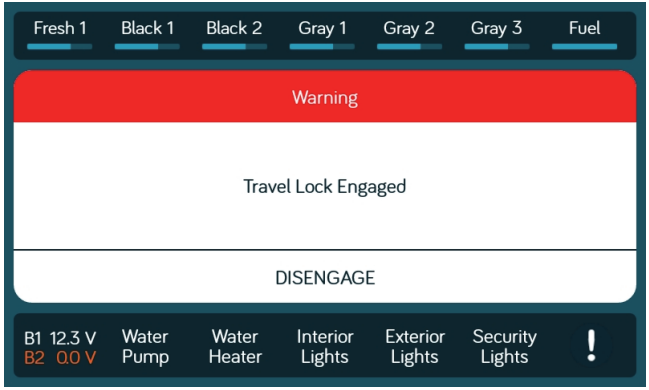
• TRAVEL LOCKOUT (Safety)

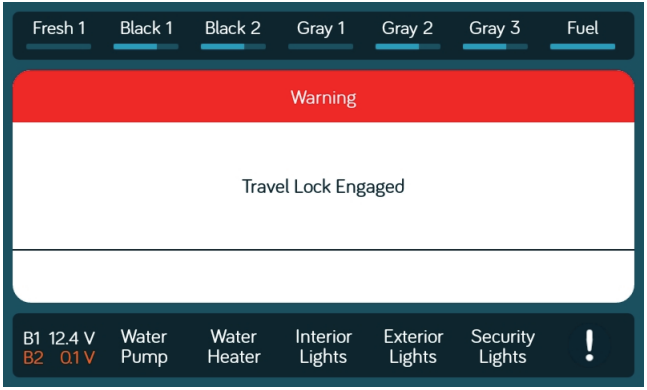
iN-Command is equipped with a Travel Lockout feature to ensure certain system functions are unavailable during transit.

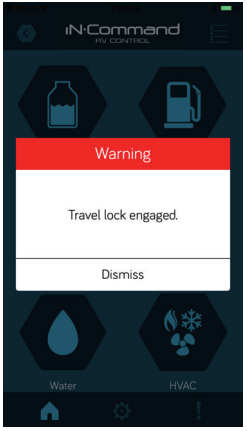
When the Brake Signal on the tow vehicle is activated, the iN-Command will lock down all motorized functions. The Display Commander (DC) and mobile devices will also display “Travel Lock Engaged” and the affected buttons will cease to activate.

The lights, water pump, water heater, generator and tanks sensors will continue to function.

To turn the Travel Lock off, press "Disengage" on the Display Commander (DC), inside the RV, once the brake signal has been removed.



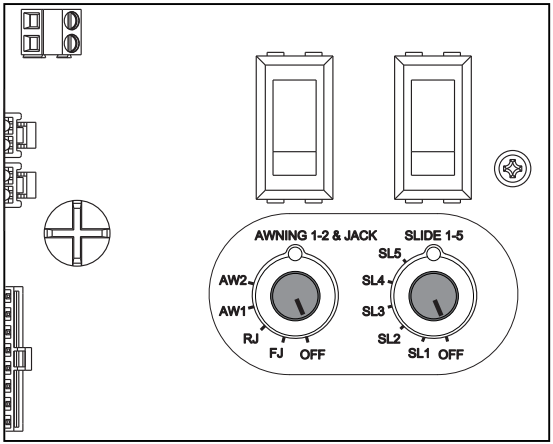




• OVERRIDE SWITCHES*

The Body Control Module has a bank of override switches.
The rotary switches below each rocker switch correspond to an electric function* made by the Display Commander.
The left switch controls the awning and jacks.
The right switch controls the slides.
To use the override switches, locate the switch needed to actuate the desired component. Rotate the switch underneath the rocker switch to select the motor. Press up or down on the switch.
The switch is momentary and will activate the motor only while pressed in either direction.

*** The hydraulic overrides are located on the hydraulic pump; consult the hydraulic pump owner's manual for more information.**



• SPECIFICATIONS

Display Commander (DC)
Operating Voltage 12VDC
Maximum Current Draw . . . . . 1.5A@9VDC
Minimum Operating Voltage 9VDC
Maximum Operating Voltage 16VDC

Body Control Module (BCM)
Operating Voltage 12VDC
Maximum Current Draw . . . . . 8.5A@12VDC
Minimum Operating Voltage 9VDC
Maximum Operating Voltage 16VDC

NCSP3 System
EPROM Non-Volatile Memory . . . . . YES
Bluetooth Version . . . . . 4.0 BLE

General
Body Control Module . . . . . 14.9” (W) x 17.9” (D) x 1.8” (H)
Display Commander . . . . . 7.7” (W) x 5.2”(D) x 1.3” (H)

• FCC Notes

NOTICE 1:
The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

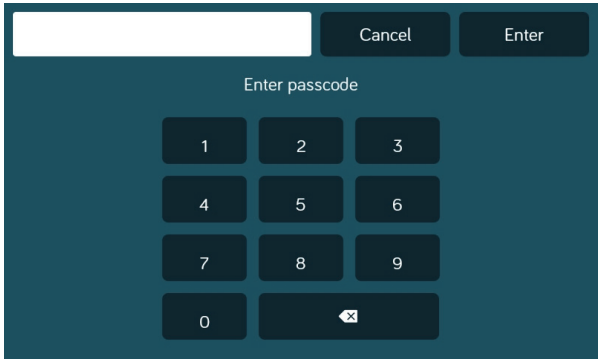
NOTICE 2:
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

IMPORTANT NOTE:
To comply with the FCC RF exposure compliance requirements, the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. No change to the antenna or the device is permitted. Any change to the antenna or the device could result in the device exceeding the RF exposure requirements and void user’s authority to operate the device.

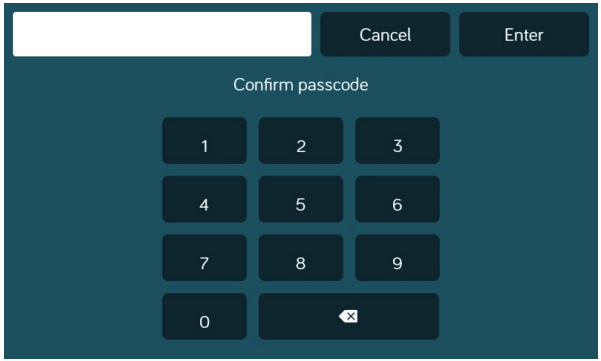
This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.
However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

• PASSCODE PROTECTION

A passcode is required to access the system.
On the first time use of the system, the user is required to enter and confirm a new passcode.



Confirm the new passcode.



• SETTINGS

From the Menu screen you can:

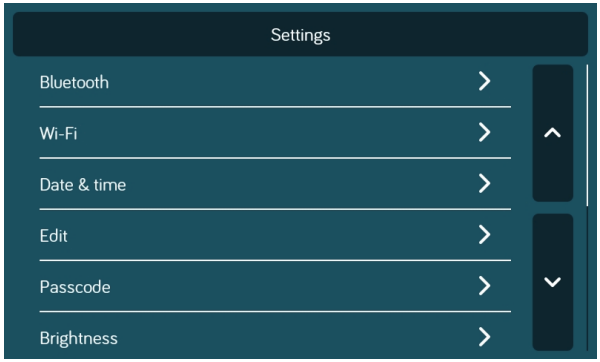
- Edit iN-Command function text
- Reposition functions
- Enable/disable functions
- Change the switch properties (from momentary to latch)
- See the status of iN-Command
- Connect devices with Bluetooth
- Change the passcode
- Reset the floor plan
- Control the brightness of the DC screen
- View IN-Command's Legal documents and customer support information.

The Setup button is used by the manufacturer.

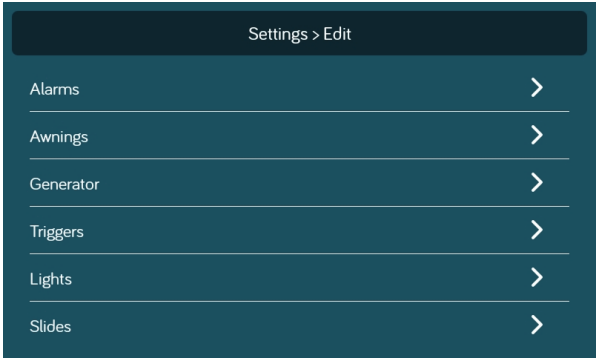
• Text Editing

1. Select "Settings"

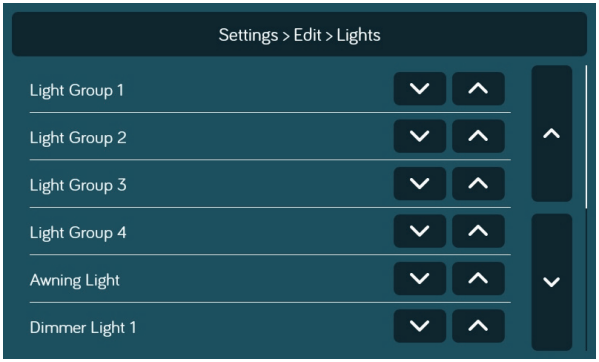
2. Press “Edit” to enter “Edit” page



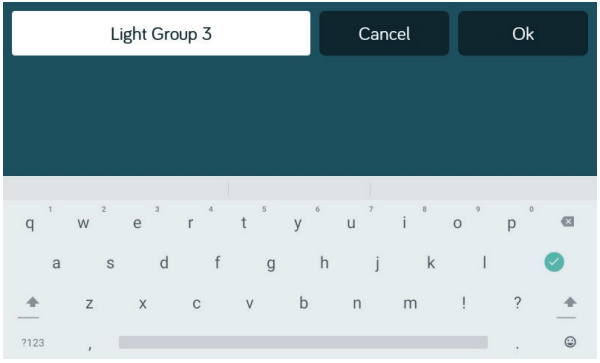
3. Select the function to edit.



4. Long press the intended text, e.g., "Light Group 3"



5. Use the keyboard to edit the name, then press "Save"

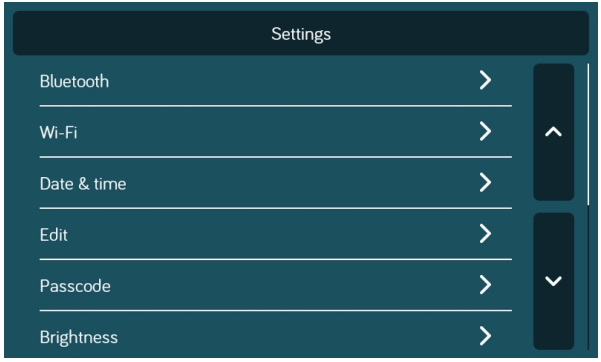


Note: Editing the text on the DC will not change the text on a device’s App.

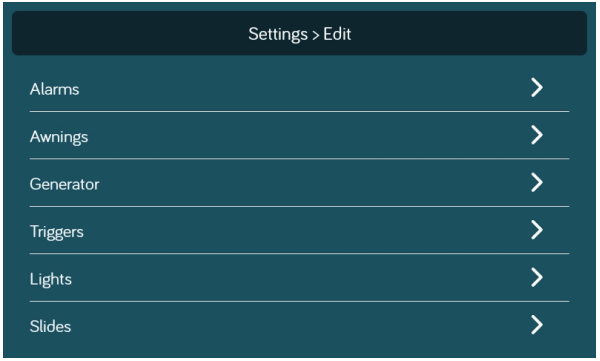
• Scroll List Editing*

1. Select “Settings”.

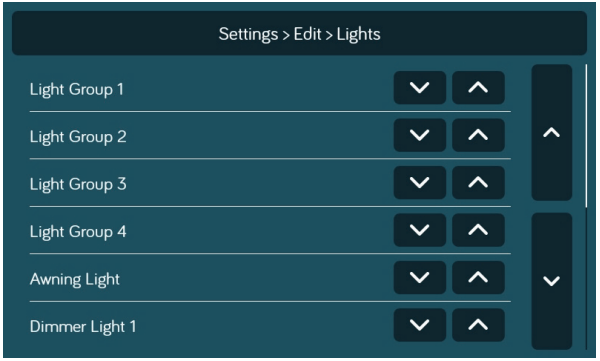
2. Press “Edit” to enter “Edit” page



3. Select the funcition to edit.

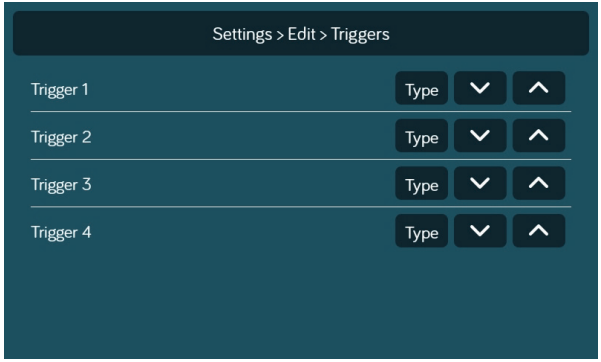


4. Use the Up and Down arrows next to the function to move the item in the list.



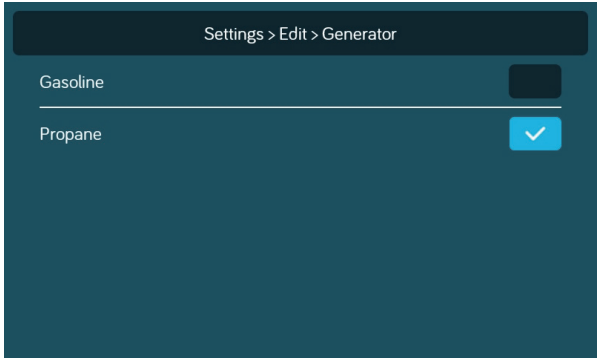
• Triggers

Triggers can be added to the system. “Momentary” or “Latch” can be selected for each Trigger. Note: Desired devices need to be correctly wired to the BCM to function.



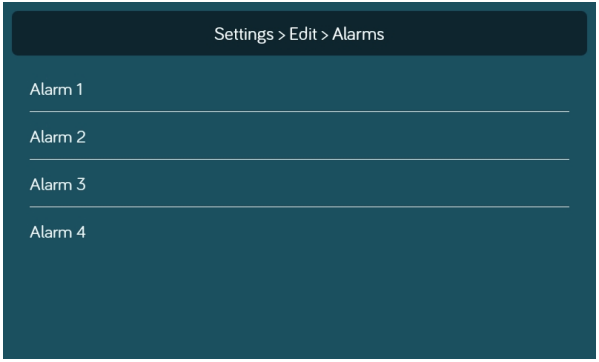
• Generator Fuel

In the Generator Page, Gasoline or Propane can be selected for the fuel type.



• Alarm Inputs

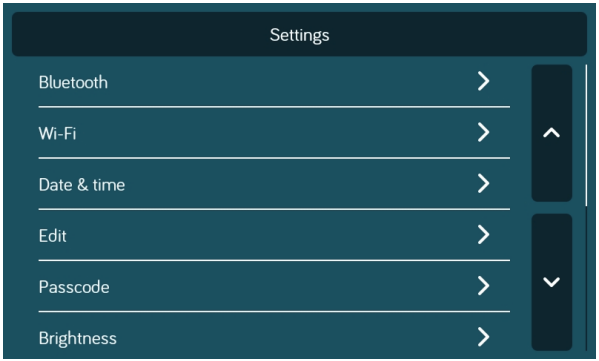
Alarm inputs can added to the system.
Note: Desired devices need to be correctly wired to the BCM to function.



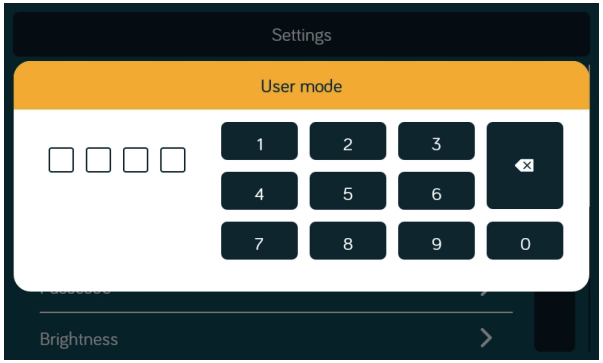
• Passcode

1. Select “Settings”.

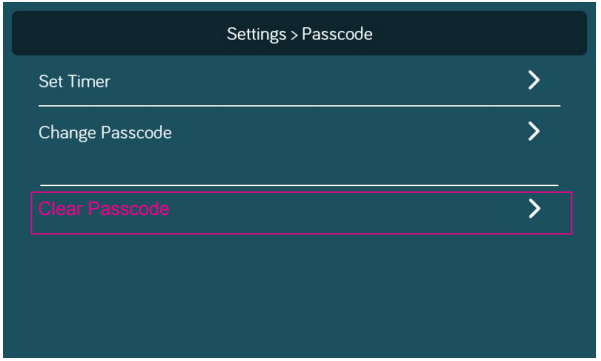
2. Press “Passcode” to enter passcode setup.



2.1 Enter the correct passcode to proceed.

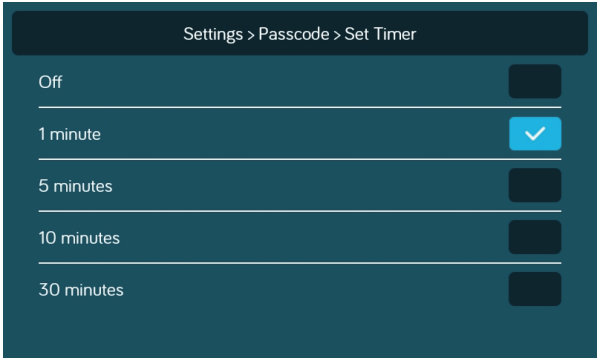


3. The passcode setup window will open.



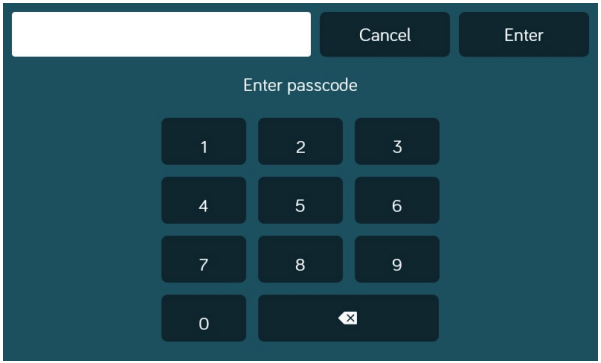
- **Set Passcode Timer**

Press “Set Timer” select the idle time to activate the passcode protection.

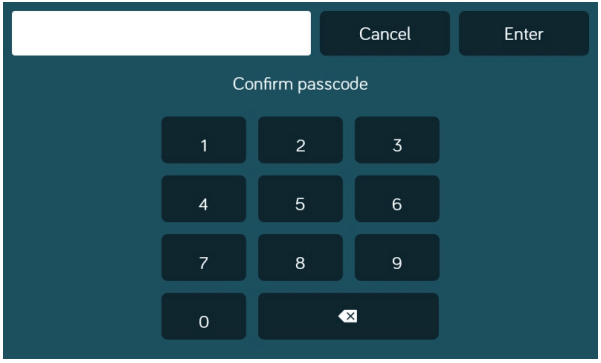


•Change Passcode

1. Press the “Change Passcode” button to change to a new passcode.
2. Enter the new passcode.



3. Confirm new passcode.



•Clear Passcode

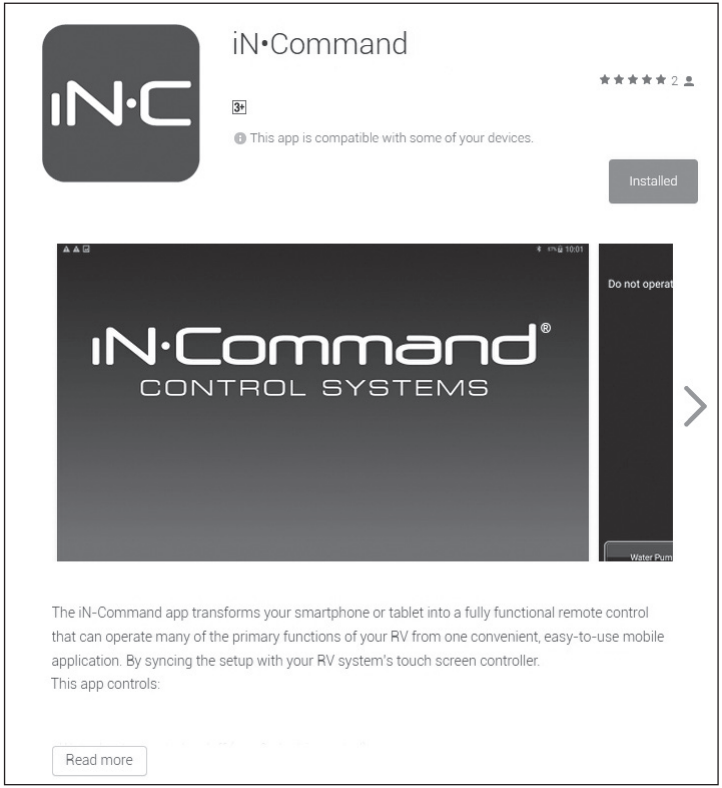
Press the “Clear Passcode” to clear the passcode.
This will restart the App, take the user to the End-User License Agreement, and have the user setup a new passcode.

- **MOBILE DEVICES:**

iN-Command is able to pair to Android and iOS devices using the iN-Command App.
Visit the Google Play and Apple App stores on your mobile device to check compatibility of your device.

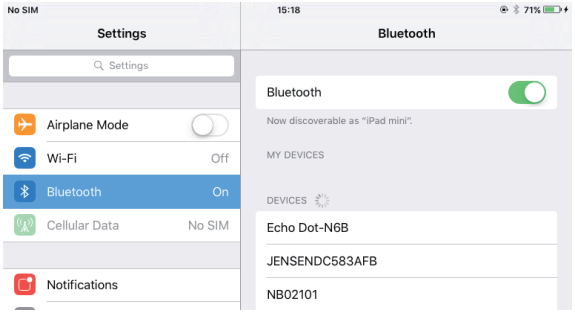
Seven mobile devices are able to be paired to iN-Command at one time, but only 1 iOS and 3 Android devices are able to be **actively** paired; meaning, 3 Android devices and 1 iOS device can all actively control the iN-Command functions.

To use another device not actively paired to iN-Command, 1 device needs to shut down its iN-Command App to allow another device to actively pair. To do this simply select the power button on the App or shut down the App in the device's settings menu.



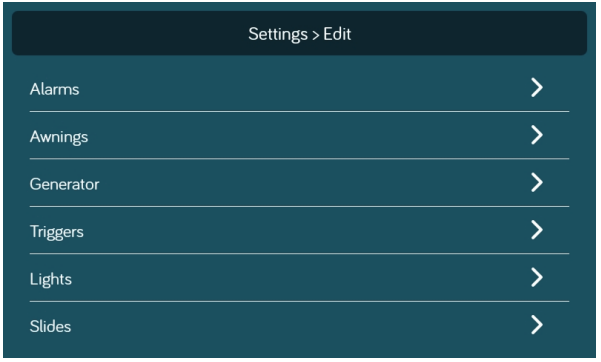
• Pairing Mobile Device to DC

1. Enable "Bluetooth" in the system settings of the mobile device

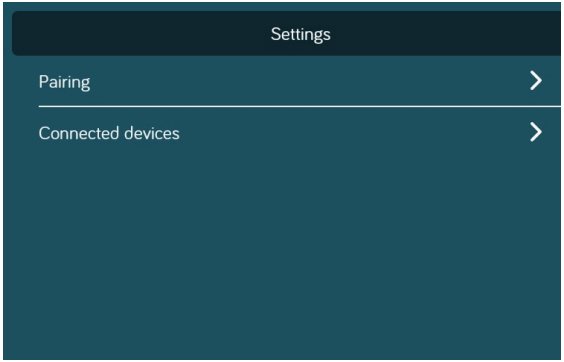


2. From the DC Home page, select "Settings"

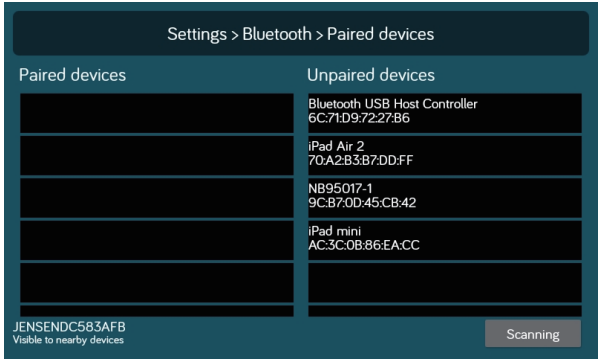
2.1 Select the "Bluetooth" tab.



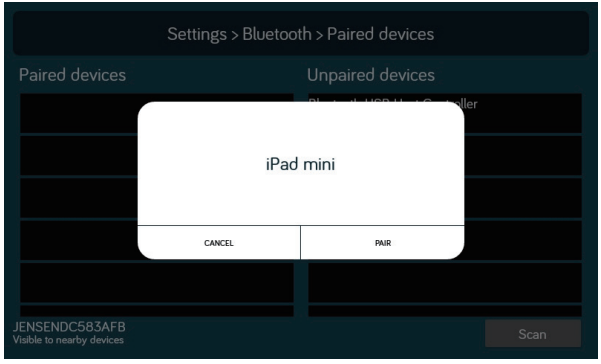
2.2 Select "Pairing" to pair devices and view current paired devices.



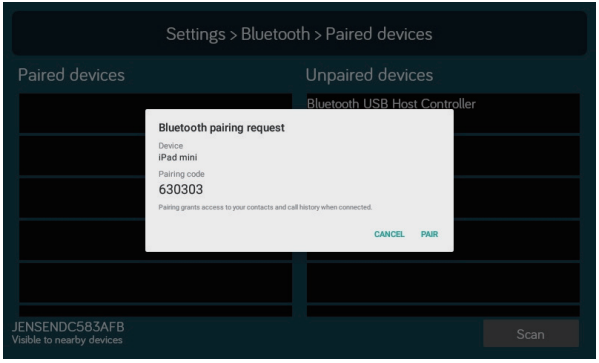
2.3 Press Scan to start scanning for Unpaired devices.
Locate the mobile device in the Unpaired Device list.
Select the device by pressing it.



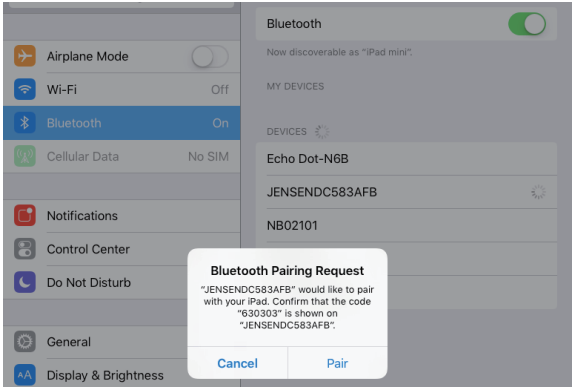
2.4 A Popup with the device name will apear on the display.
Pass "Pair"



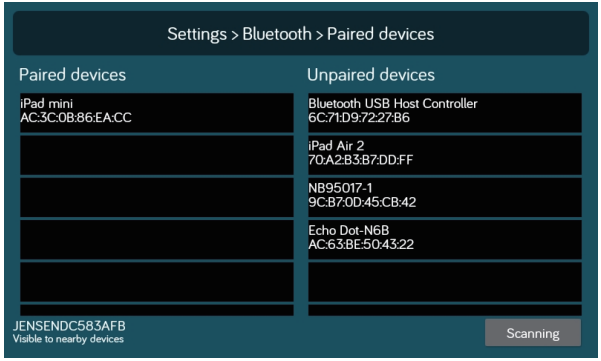
2.5 A Bluetooth Pairing request will appear on the DC and mobile device.
2.6 Press "Pair" on the DC.



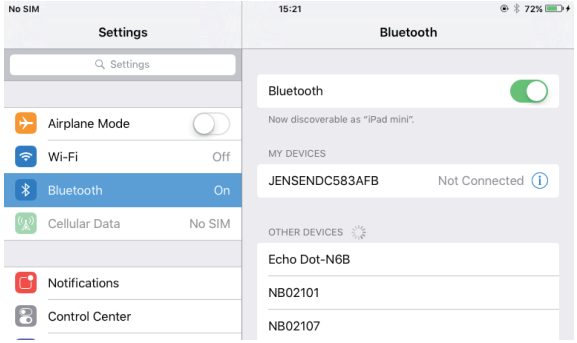
2.7 Press "Pair" on the mobile device.



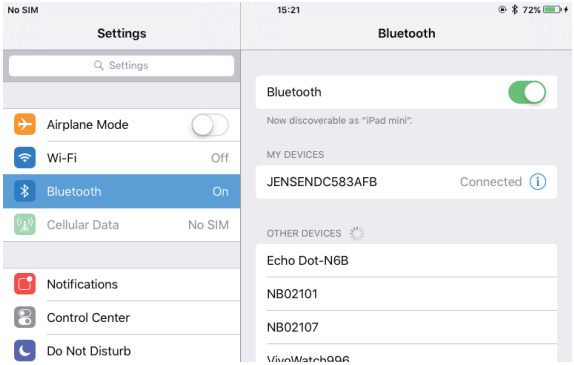
2.8 The mobile device will be displayed in the "Paired Devcies" list on the DC



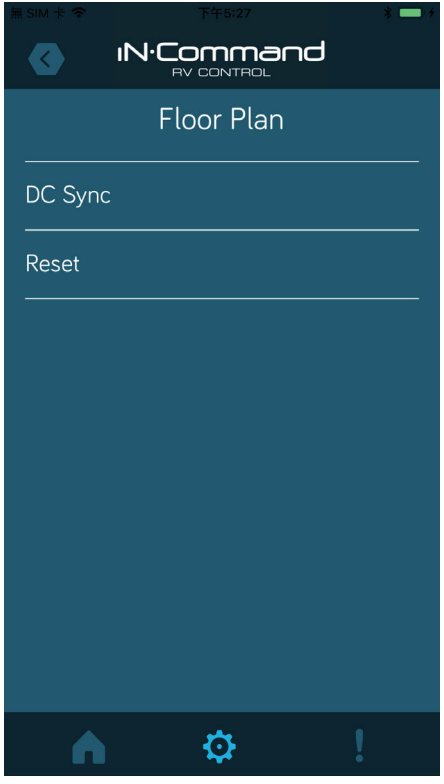
2.9 The DC will be displayed on the mobile device list in the format " JENSENDCXXXXX". Press the DC on the mobile device to connect with it.



2.10 The mobile device now shows that the DC is connected.

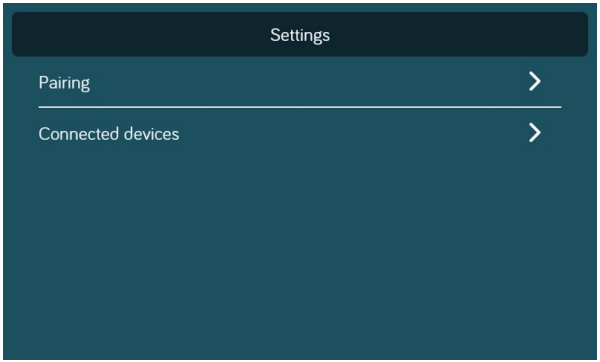


4. Reset Floor Plan
   Press the “Reset” button in the Menu page to load the floor plan configuration from the DC. The current settings will be lost/replaced.

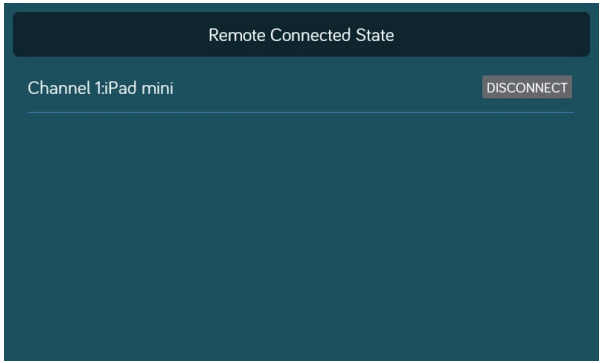


• CHECKING ACTIVE BLUETOOTH SESSION

1. Select “Status”.



2. The page shows information of current active Bluetooth devices.



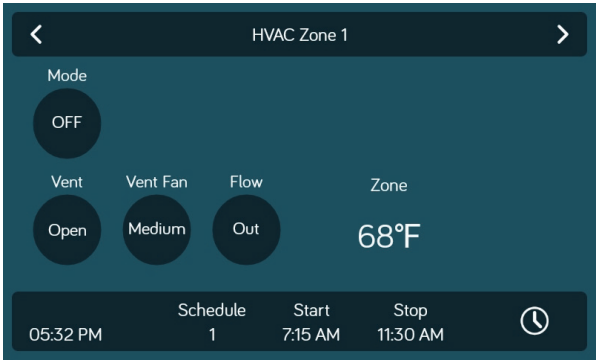
* To disconnect a handheld device, press “Disconnect”, or simply shut down the device’s App. This function is used to disconnect a device that is not actively being used, and to allow another device to be connected.

• HVAC

From the HVAC page, you can control the Heating, Ventilation and Air conditioning functions in the RV.
Witch iN-Command, you can control up to 4 HVAC zones and schedule times for the HVAC function to be active.

•Vent Fans

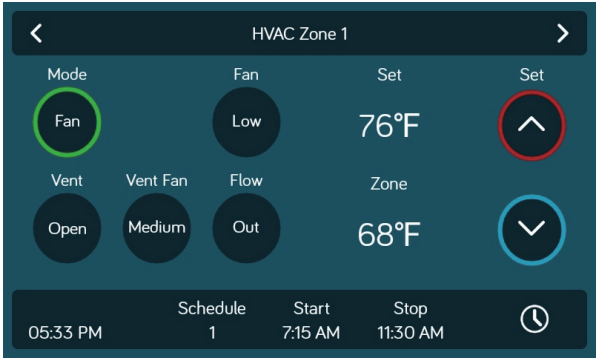
The Vent Fans for each zone can be opened, closed, change the fan speed and change the flow.



•Fan Only Mode

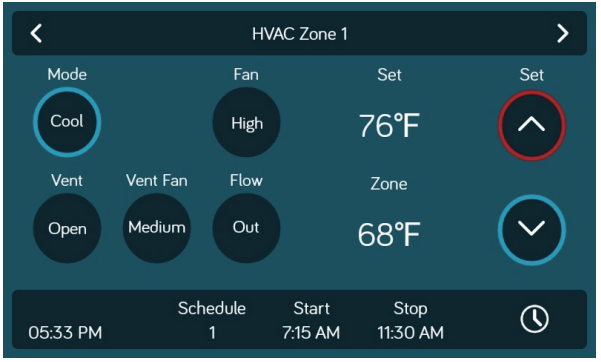
1. To have just the AC fan operating in a zone, select the desired Zone, the press the "Mode" button to switch to Fan mode.

2. Press the " Fan" button to switch between Low and High fan speeds.



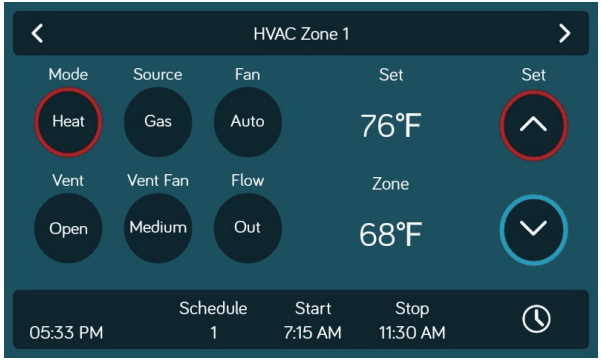
•AC Cooling

1. Select the desired Zone. Press the "Mode" button to switch to "Cool" mode.
2. Use the "Set" up and down arrows to set the desired temperature for the zone.
3. Press the "Fan" button to switch between Low,High and Auto fan speeds.



•Heating

1. Select the desired Zone. Press the "Mode" button to switch to "Heat" mode.



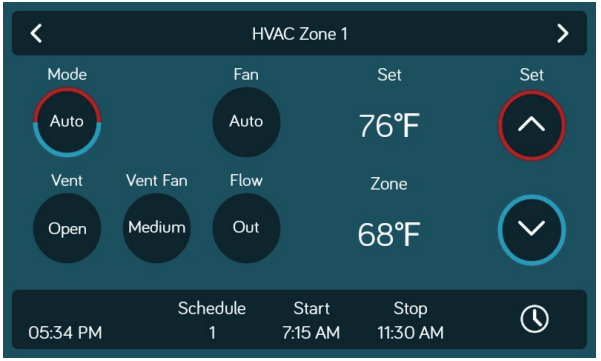
2. Press the "Source" button to select between Gas and Electric.(Available Heat sources depend on Floor Plan)

3. Use the "Set" up and down arrows to set the desired temperature for the zone.

4. Press the "Fan" button to switch between Off, Low, High and Auto. (Off is not available in Electric Heat Source.)

•Auto

Auto Mode will automatically switch between Cool and Heat modes to reach the desired Set temperature.
(Heat Mode is only available in Zones with Heat Mode selected on Floor Plan).



1. Select the desired Zone. Press the "Mode" button to switch to "Auto" mode.

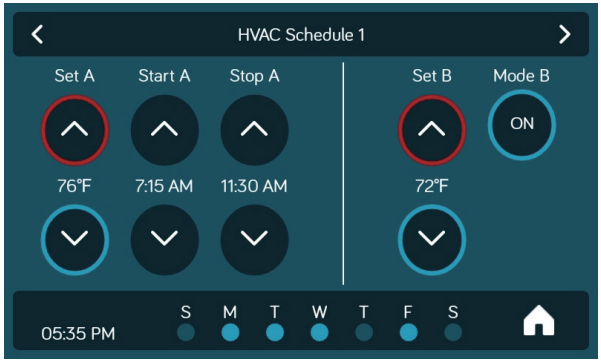
2. Use the "Set" up and down arrows to set the desired temperature for zthe zone.

3. Press the "Fan" button to switch between Off, Low, High and Auto.

•HVAC Schedule

The Schedule function allows you to set a temperature and choose a start and stop for when you want the HVAC function to operate.

1. Press the "Clock" icon at the bottom right corner of the HVAC home screen to enter the Schedule page.



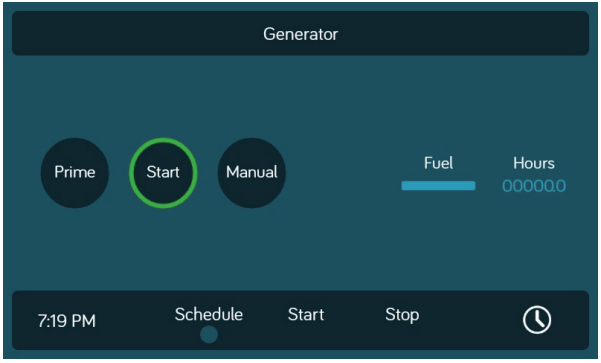
2. Use the "Set" up and down arrows to set the desired temperature.

3. Use the " Start" and "Stop" arrows to set the time frame that you want the HVAC function to operate.

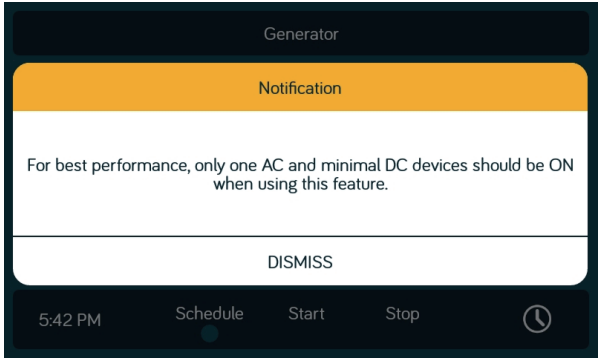
• AUTO GENERATOR START

1. Press the "Generator" icon.

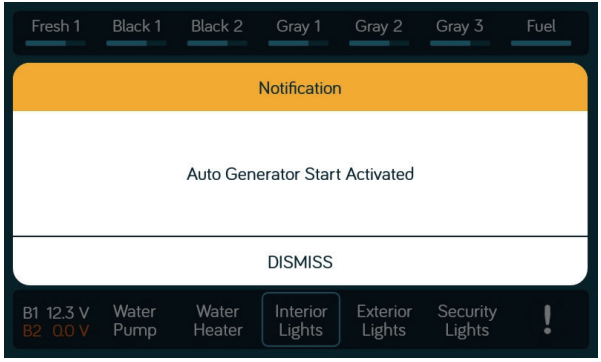
2. Press the "Manual" button to switch to "Auto" and activate Auto Gen Start.



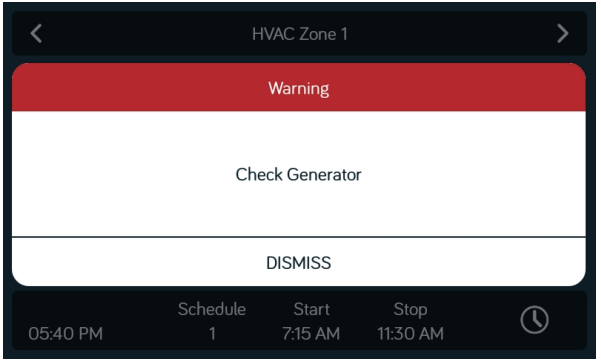
3. If the battery voltage is less than 11.8 volts for 3 minutes, the system will start the generator.
   To ensure the best performance and reliability, only one airconditioner and minimal 12V devices should be left on while using the Auto Generator feature.



4. If the generator is started, the system will run the generator for 60 minutes.



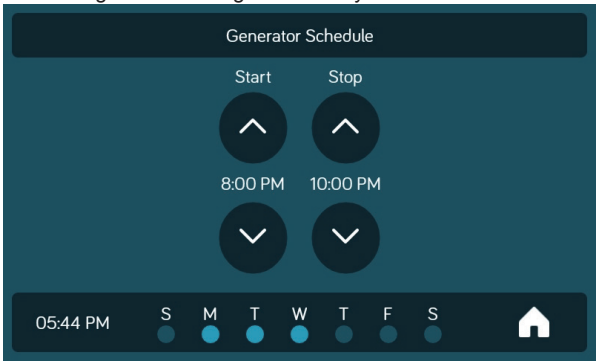
5. The system wil attempt to start the generator 3 times. If it fails to start after the third attempt, the system will turn off the Auto feature and display a "Check Generator" fault.



•Generator Schedule

There is a Generator Schedule function to setup specific times for the generator to operate.

1. While in the Generator page, press the clock icon at the bottom right of the page.
2. From the Schedule page, you can set the Start and Stop times for the generator along with the days of the week.

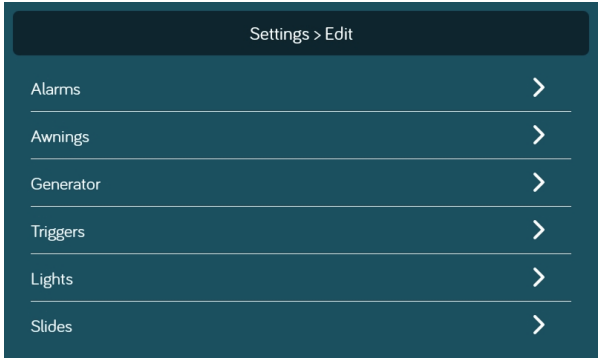


•Date & Time

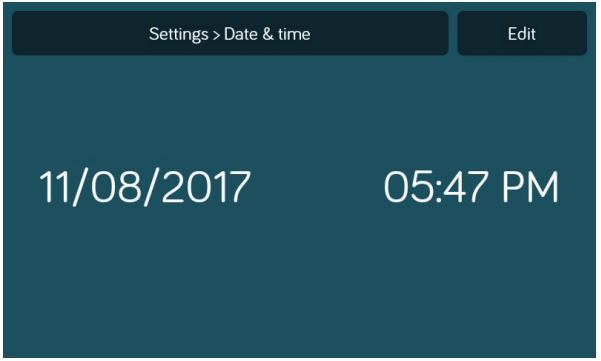
The Date & Time feature is used for the Generator and HVAC scheduling functions.

1. Select "Settings".

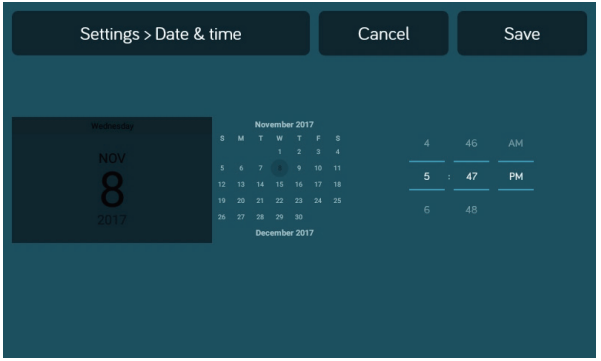
2. Press Date & Time.



3. In the Date & Time page, press the "Edit" tab to adjust the date and time.



4. Use the Calendar to select the Date and the Clock to change the time. Press Save.

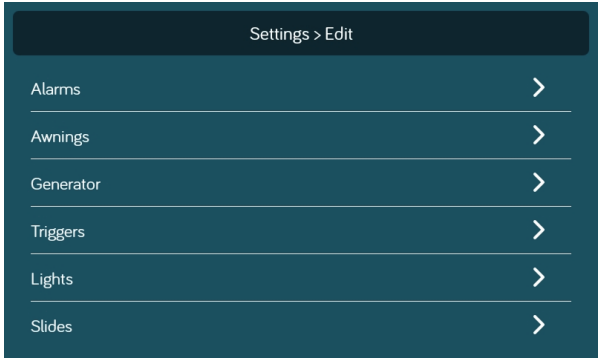


• SOFTWARE UPDATE*

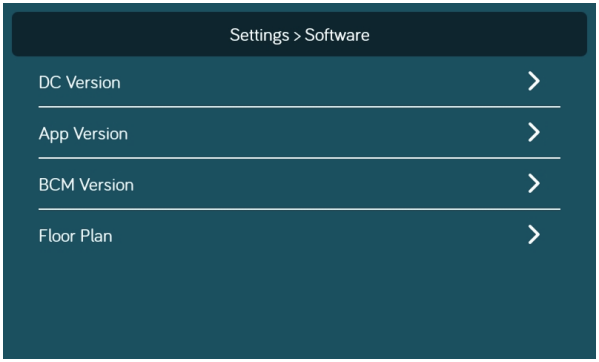
Software updates include floorplan redesigns and App version updates.

1. Insert USB drive loaded with updated software into the USB port at he bottom of the DC.
2. Select "Settings" enter the Settings page.

3. In the Settings page, select the "Software" tab.



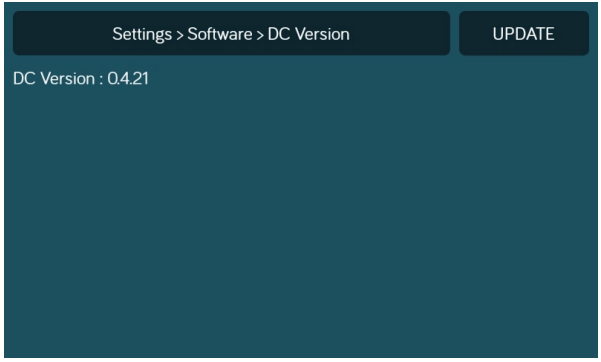
4. In the software page, you can choose to update the Floor Plan, DC Version, App Version and BCM Versions.



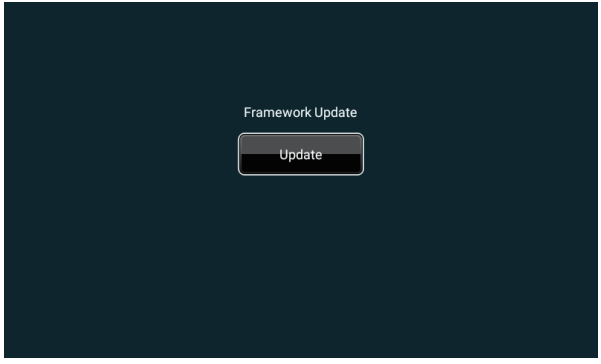
The system will look for specific file names for software updates.
- File name: “NCSP3-DC VXXXX.zip” > DC OS update (xxxx is the version number)
- File name: “ncspdcap_vxxxx.apk” > DC App update (xxxx is the version number)
- File name: "RVS005(NCSP3)Vxxxx_All.bin" > BCM update (xxxx is the version number)

5. The system must be updated in the following order to prevent loss of communication between the DC and BCM.
   1. DC
   2. BCM
   3. App

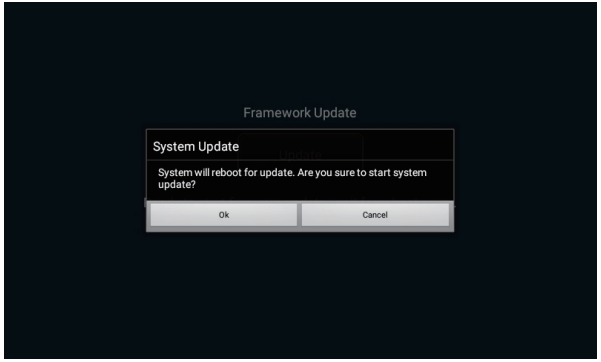
6. Press the DC Version to update the DC OS sytem.
   Press "UPDATE"



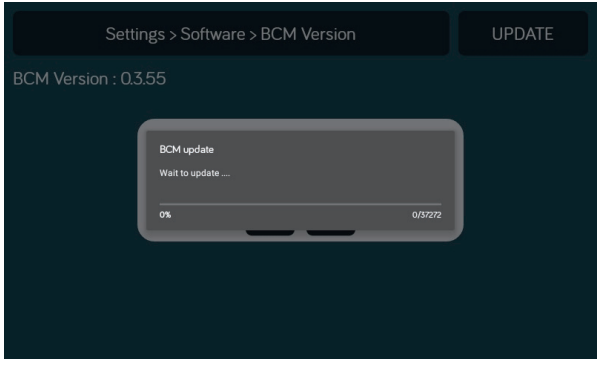
7. Framework Update, Press "Update"



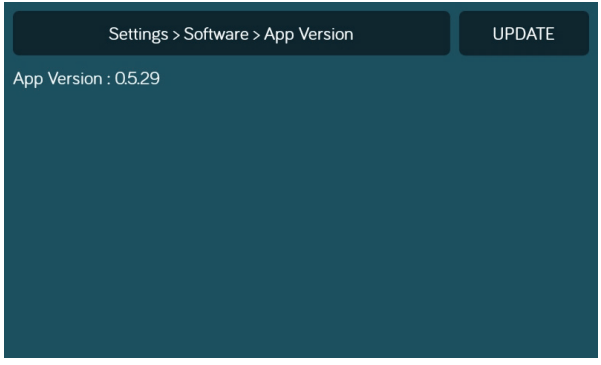
8. Press OK to continue.



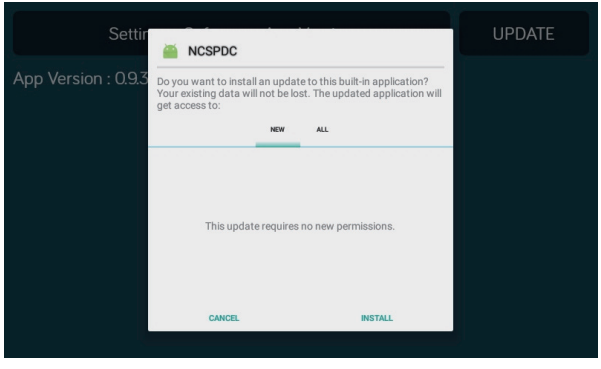
9. Press the BCM Version to update the BCM system.
   Press"Updae".



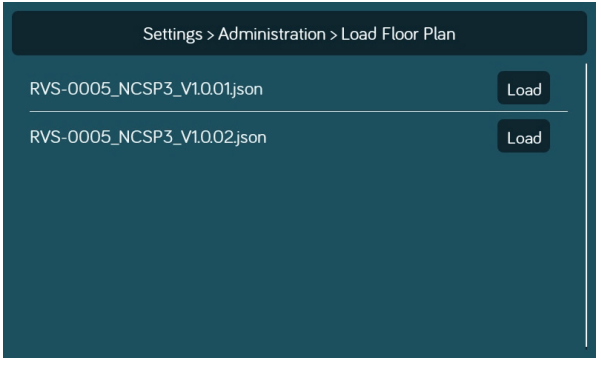
10. Press the App version to update the DC App.
    Press " Update".



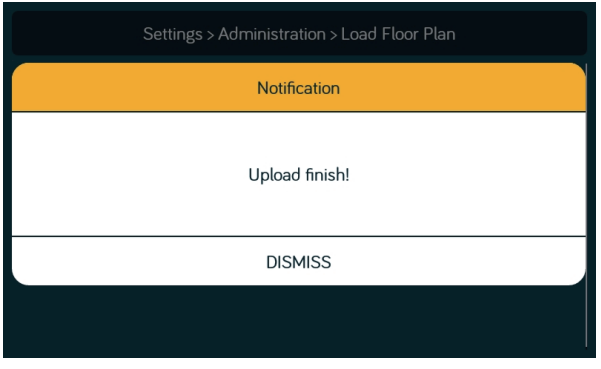
11. Press "Install".



12. Press the Floor Plan to select a floor plan.
    Press "Load" to select the floor plan.



13. Press " Dismiss" to confirem selection.



* **If a software update is needed, go to http://www.asaelectronics.com//in-command**

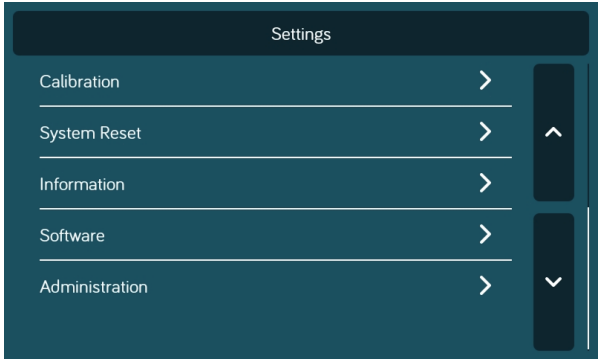
** **If there is a software issue, Call ASA Electronics Technical Support at 1-877-845-8750 or email them at info@asaelectronics.com.**

• RESET: FLOOR PLAN

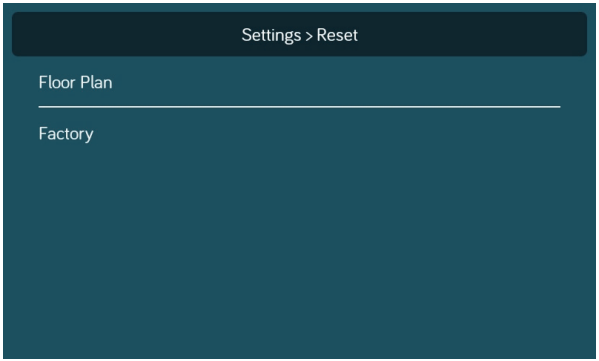
Rest to Floor Plan to remove customization, or reset to factory settings.

1. Select "Settings".

2. Select "System Reset" in the Settings page.



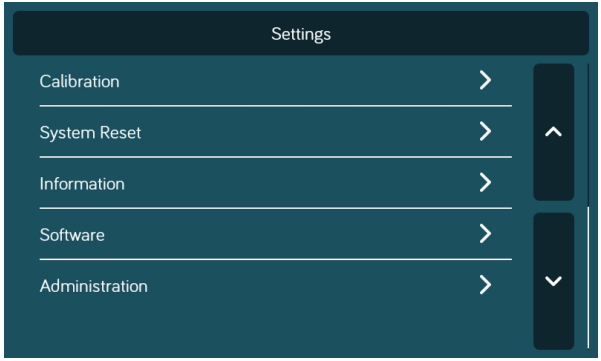
3. Select on of the two options.(Floor Plan of Factory) to restore to a previous state. Current settings will be lost.
   a. **Floor Plan:** restores to previous floor plan settings from RV manufacturer.
   b. **Factory:** restores to default settings from ASA electronics.



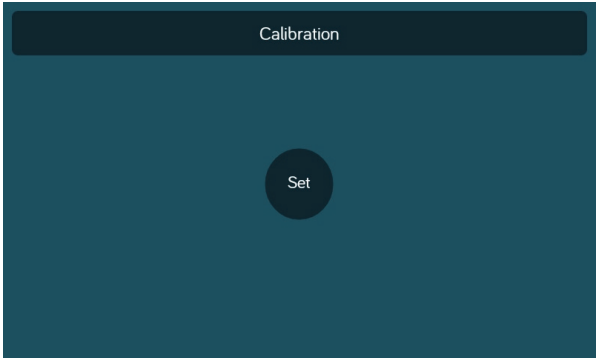
• TOUCH SCREEN CALIBRATION

1. Select “Settings”.

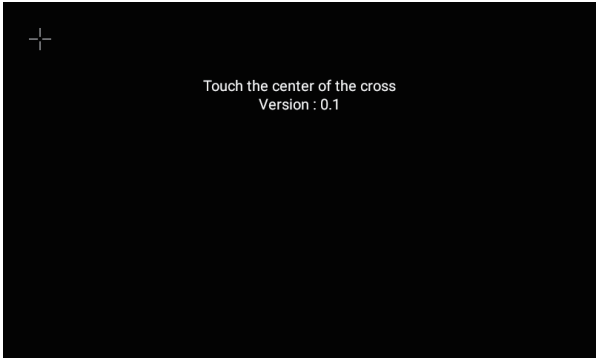
2. Select “Calibartion”.



3. To calibrate the Touch Screen, select "Set". Follow the instructions.The DC will restart after calibration.



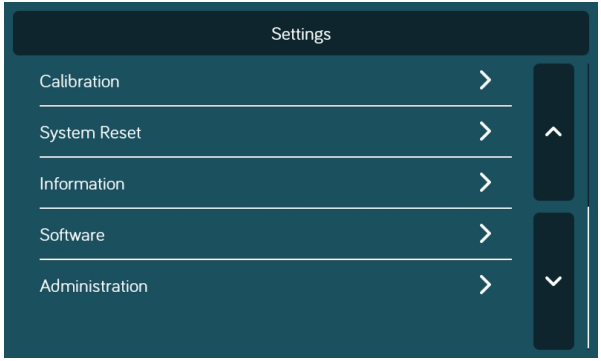
4. Touch the center of the cross.



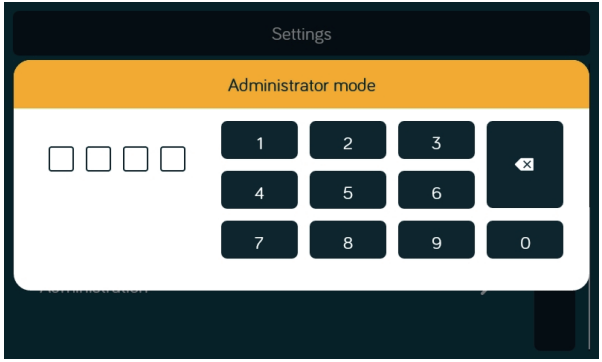
• SYSTEM CALIBRATION*

From the admin page, the App Date can be deleted, the Generator Hour Meter can be set, and the Water Tanks can be calibrated.

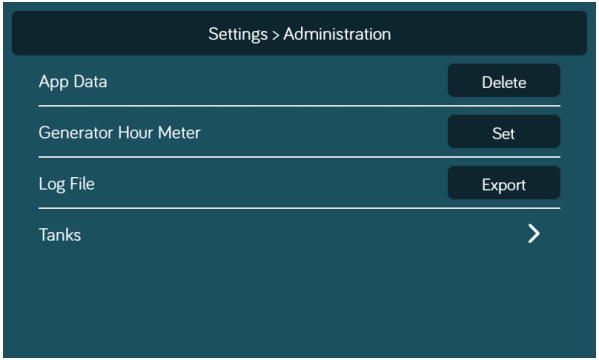
1. From the Settings page, press Administration.



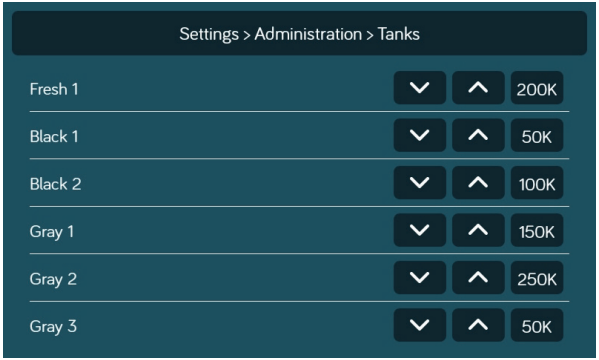
2. Enter admin passcode to proceed.**



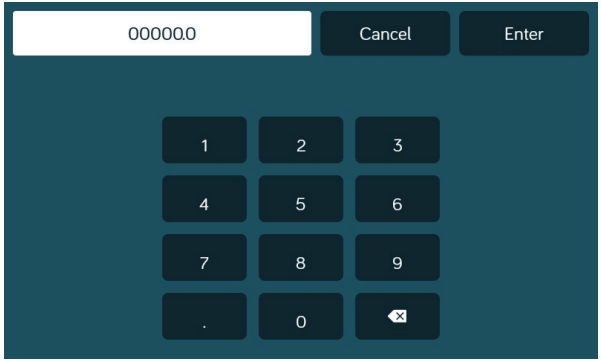
3. Make Selection.



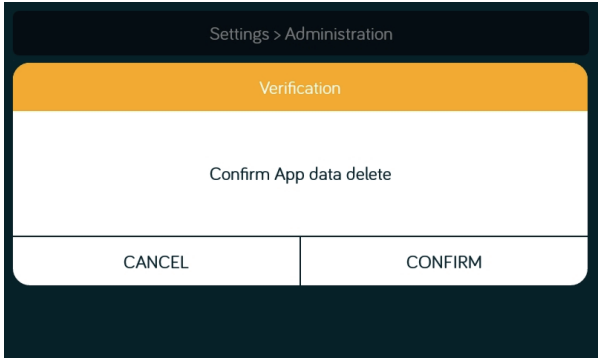
6. Select “Tanks” to set resistor reference value for every tank.



7. Press the Generator Hour Meter "Set" button to set the meter time.



8. Press the App Date "Delete" button to clear current App date.
Note: This will remove the floor plan settings from the RV Manufacturer.



* The system is calibrated by the manufacturer and should only be accessed for troubleshooting.

** The Admin Passcode is used by the manufacturer for programming and troubleshooting purposes. Should there be a calibration issue, call ASA Electronics Technical Support at 1-877-845-8750 or email them at info@asaelectronics.com.

• TROUBLE SHOOTING

Symptom	Solution
Display Commander (DC) will not turn ON or no front panel operation	Check for +12VDC on Positive (+) input on back of the DC.
	Check for Ground on Negative (-) input on back of the DC.
	Check fuse in Distribution Panel.
	Try cycling power with the power button.
No power to the Body Control Module (BCM)	Check for +12VDC on pin 90.
	Check for Ground on pin 86
	Check fuse in Distribution Panel.
DC screen flashing on and off after installation	Disconnect power wires from the back of the DC.
	Shut off all power to the DC and BCM.
	Reconnect power wires to the DC.
	Return power to the DC and BCM.
	Press Rest button on the BCM
Awnings do not move	Check for +12VDC on Pin 88. Ensure the relay activates.*
Slide Rooms do not move	Check for +12VDC on Pin 89. Ensure the relay activates.*
*Relay not activating	Replace the relay with one from an unused circuit. See label on BCM cover for relay identification.
DC shows 0V and no functions activate from DC	Check for shorts in RV-C cable and for loose pins in the connection.

For additional troubleshooting, call ASA Electronics Technical Support at 1-877-845-8750, email info@asaelectronics.com or visit our website http"//www.asaelectronics.com//in-command.

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