



## **GALaxy IV GALileo Ethernet Manual**

**DOC-0124PN**

**Version 1.7**

**2/10/2023**



**CAUTION**

*Elevator control products must be installed by elevator personnel who have been trained in the construction, maintenance, repair, inspection, and testing of elevator equipment. The elevator personnel must comply with all applicable safety codes and standards.*



**CAUTION**

*Every safety precaution, whether or not specifically stated in this document, must be implemented when installing, adjusting or servicing elevator equipment. All safety precautions must be followed to ensure the safety of elevator personnel and the general public.*

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## Section 1 – Installation

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In this section, we will go through all the materials needed to get the Galileo Elevator Monitoring System up and running through a wired ethernet connection. In addition, we will be providing details of each material and the most efficient procedure to install the Galileo Elevator Monitoring System via ethernet.

### 1.1 Material Information:

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#### Material List:

- Network Switch
- CAT 5e cables
- Ethernet Tester
- Ethernet Crimper
- “GALX-1120AN OR GALX-1157” Board “Raspberry Pi”
- GALX-1005AN “Ethernet Board”

#### 1.1.1 Network Switch

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The network switch will be mounted on the left panel of the elevator controller cabinet. The ports provided on the switch can be either a 5-ports, 8-ports or a combination of both depending on the number of cars in the group. If there are 4 cars or less, a 5-ports switch will be provided. If a job has 5 cars or more, an 8-ports switch will be provided. If there are multiple groups, each of the groups will have a network switch mounted on the left panel of the elevator controller.

(\*NOTE: 1 port is reserved for the “GALX-1120AN OR GALX-1157” “Raspberry Pi”. Another port will be reserve for external use such as lobby monitor or hooking up a router etc. The rest of the ports will be used for each of the cars in the group)



Figure 1.1: 5-port network switch



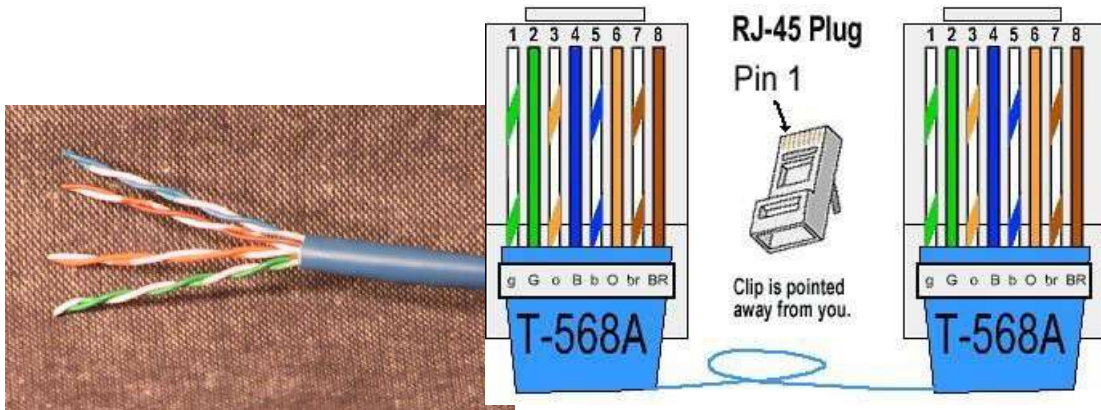
Figure 1.2: 8-port network switch

#### 1.1.2 CAT 5e cable

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A roll of CAT 5e cables will be provided. 100 feet for non-dispatch cars and 1000 feet for job with remote monitoring or multi-machine room. The cable will need to be wired from the car with the network switch (usually the first car setup or the dispatcher car) to each of the cars in the group. Always overestimate when cutting the wires. An extra foot or 2 will be needed in case there is an error in crimping

the wires. The CAT 5e cables will need to be made on site. A tester will be provided to make sure that the ethernet cable has been made correctly. When stripping CAT 5e cables, one will find 4 twisted pairs as shown in figure 1.3. Be sure to strip a good amount to give room to untwist and crimp. Be careful when stripping CAT 5e cables, it is possible from one of the wires to accidentally get cut. After untwisting the 4 twisted pairs, one will be left with 8 wires which will need to be ordered, pushed, and crimped to a RJ-45 as shown in figure 1.4.



**Figure 1.3: CAT 5e cable stripped**

**Figure 1.4: Color Code of Ethernet Cable**

### 1.1.3 Ethernet Tester

The ethernet tester will be used after each cable is made to make sure that the cable is good and ready to use. The ethernet tester will have 2 different devices. One device is referred as the master (the one with the on and off switch). The other device is referred as the remote. To use the tester, hook up both ends of the CAT 5e cable. One on the master the other on the remote device. Turn on the master device and then look at both LED lights on both devices and be sure the light up sequentially in the following pattern 1, 2, 3, 4, 5, 6, 7, and 8. If the LEDs light up sequentially then the cable is good. If not, cable is bad and would need to be re-crimped.

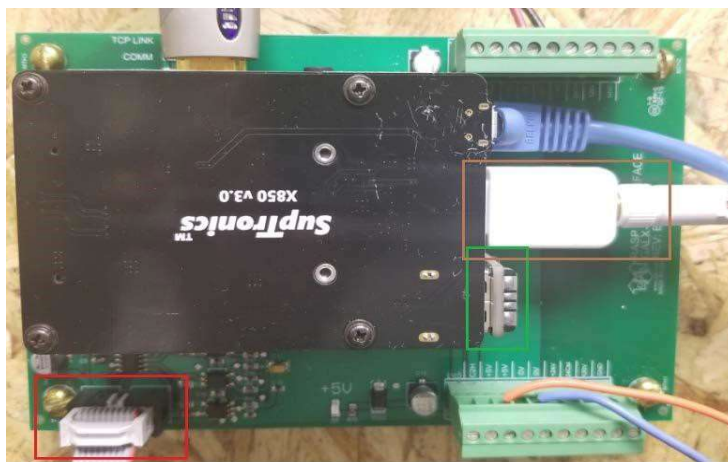


**Figure 1.5: Ethernet Cable Tester**

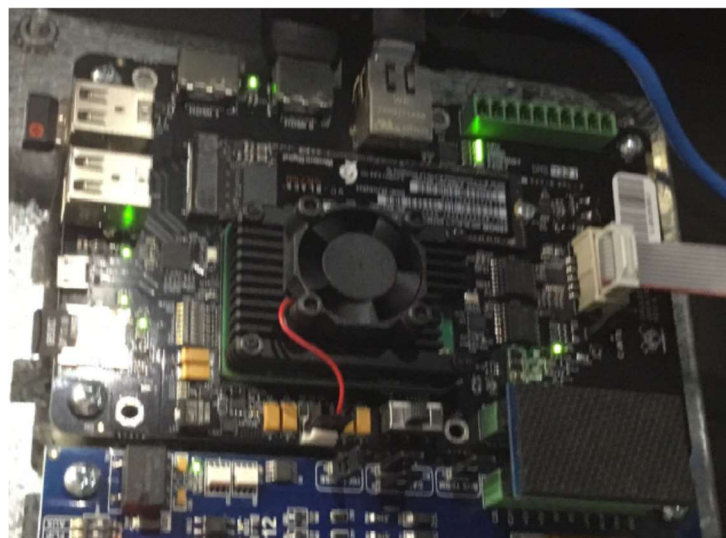
### 1.1.4 GALX-1120AN OR GALX-1157 AN board "Raspberry PI GALileo Driver"

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GALX-1120AN OR GALX-1157 consists of 3 components, the Raspberry Pi 3 or Pi 4, or Raspberry Pi Module & Solid-State drive, USB antenna, and the serial connector allowing a hard wire ribbon connection for the controller it is installed in. The raspberry Pi will consist of all the ports to connect the monitor, keyboard, solid state drive, keyboard, and network switch. The ethernet port will be connected to the network switch mounted on the cabinet. The Solid-State Drive, USB antenna, and keyboard USB dongle will be connected to the raspberry pi USB port. The Monitor will be connected to the Raspberry Pi 3 or GALX-1157 HDMI port or Raspberry Pi 4 Mini HDMI port. Once the pi is provided 5 volts of power the monitor will show the raspberry pi logo indicating that the Galileo is in the process of booting. Once it is fully bootup the home screen of the Galileo will be shown.



**Figure 1.6: GALX-1120AN "Raspberry PI GALileo Driver"**

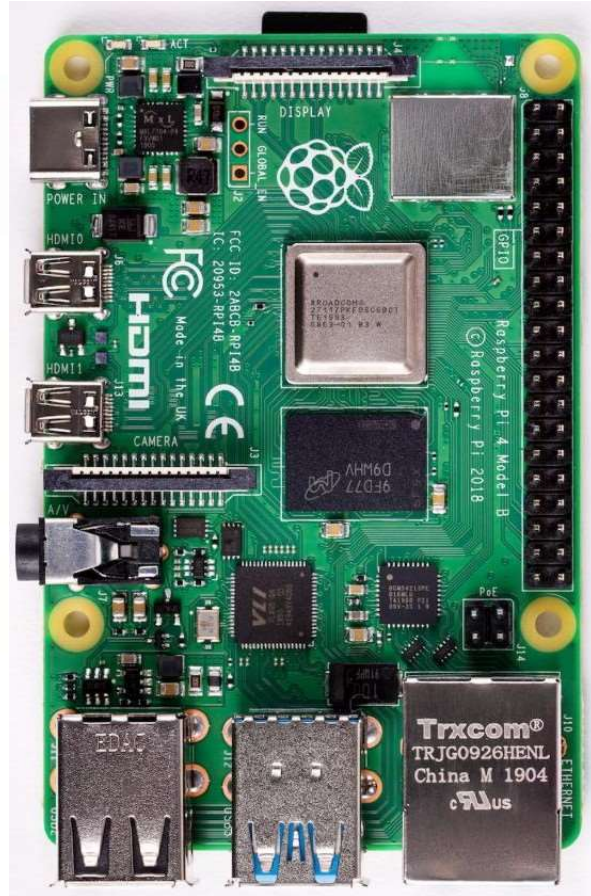


**Figure 1.6A: GALX-1157 "GALileo Driver"**



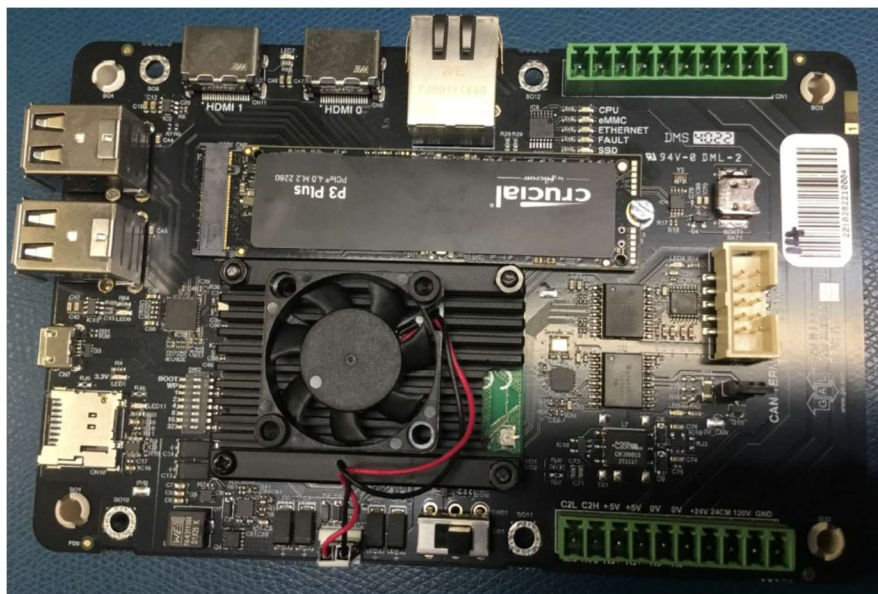


Raspberry Pi 3



Raspberry Pi 4

\* Note: The main difference of the Pi 3 and the Pi 4 is the HDMI port. The Pi 3 has a HDMI port and Pi 4 has a Mini HDMI port.



GALX-1157



### 1.1.5 GALX-1005AN “Ethernet Board”

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Every car that does not have the GALX-1120AN OR GALX-1157 board will have an ethernet board which will connect to one end of the ethernet cable. The other end of the ethernet cable will connect to the network switch mounted on the controller with the GALX-1120AN OR GALX-1157 board. Each ethernet board will be preconfigured with a unique IP address and the same subnet and gateway address.



**Figure 1.7: GALX-1005AN “Ethernet Board”**

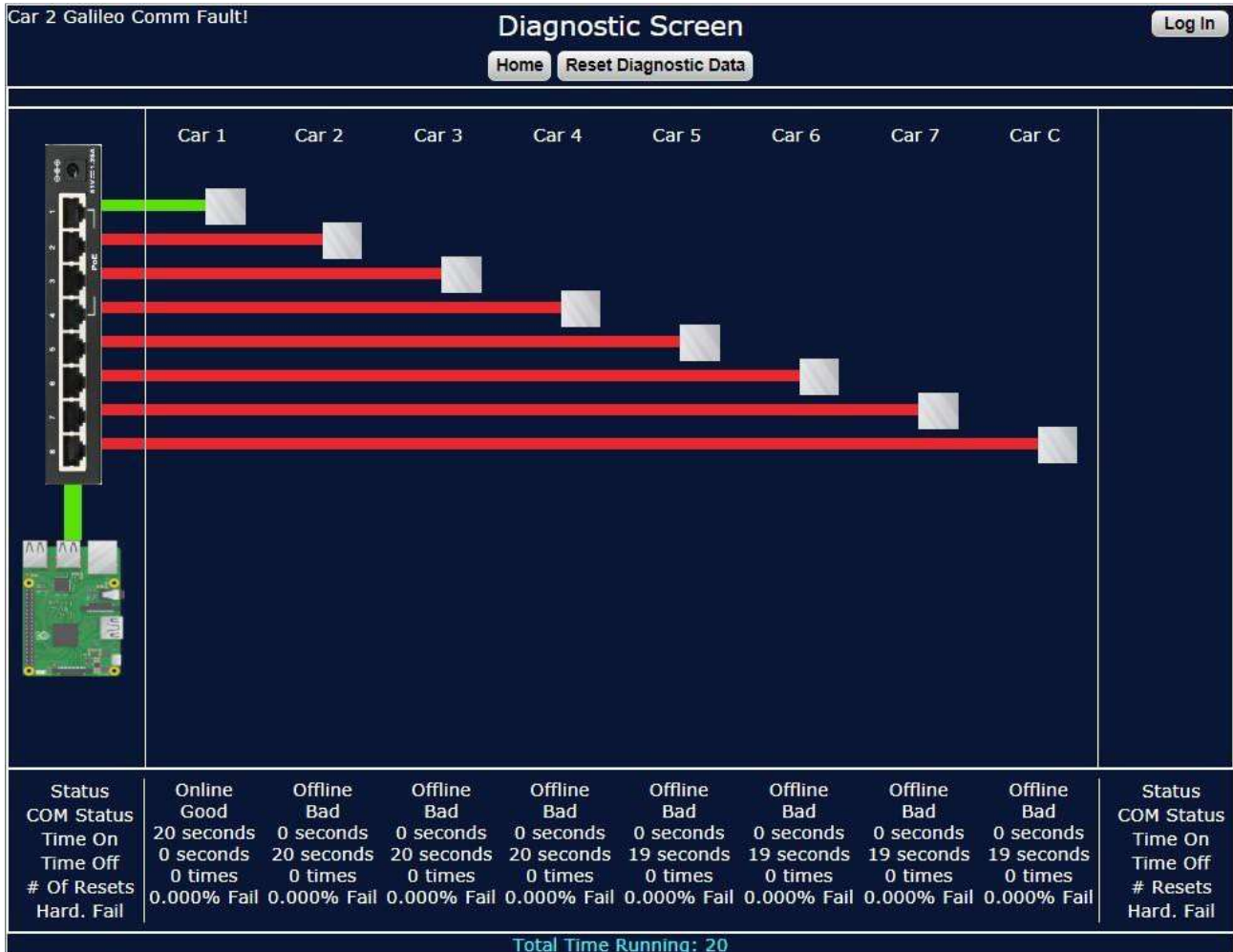
---

## 1.2 CAT 5e Wiring Guidelines and Instructions

- 1) Locate the controller cabinet that has the GALX-1120AN OR GALX-1157 and network switch mounted on the left panel.
- 2) Boot-up the raspberry pi and wait for the monitor to display the Galileo home page. Once home page is booted click on Galileo Diagnostic pages. This page will help give a visual representation of how the wiring should look and whether a car is online or offline.
- 3) Take the CAT 5e roll and begin measuring the distance between the controller cabinet with the network switch and one of the cars in the group. Be sure to make it longer than what is needed allowing some room for error. (In case the wire is stripped and crimped incorrectly)
- 4) After the measurements have been made, cut the cable. Label the cable on the side where the network switch is. This will help identify which cable is for which car because there will be multiple cables on that side.
- 5) Repeat step 3 and 4 for each of the cars in the group.
- 6) Afterwards, take one end of the cable for a certain car and strip about 2" using a stripper. Be extra careful not to cut any of the wire inside. If you did then recut and restripe the wire. (Which is why it's important to leave a lot of room for error)
- 7) Spread, untwist the pairs, and arrange the wire in the order of the desired cable end. Flatten the end between your thumb and fore finger.
- 8) Hold the RJ-45 plug with the clip facing down or away from you. Push the wires firmly into the plug. Inspect each wire is flat even at the front of the plug. Check the order of the wires. Double check again. Check that the jacket is fitted right against the stop of the plug. Push the wires down all the way through. Carefully hold the wire and firmly crimp the RJ45 with the crimper.
- 9) Cut the excess wires sticking out of the crimper with a small diagonal cutter.
- 10) Repeat step 6, 7, and 8 on the other side of the cable where the car is.
- 11) Once both ends of the cable are crimped and ready, take the tester and hook up one end of the tester to the master device and the other end to the remote device.
- 12) Turn the tester on and make sure the lights on both ends of the device turn on sequentially.
- 13) Once should see led 1, then 2, then 3, then 4, then 5, then 6, then 7, then 8 turn on in that sequence on both devices. If that is shown, the ethernet cable has been successfully made and it is now function and ready to connect.
- 14) Connect one end of the cable to the switch. Connect the other end of the cable to the car give it a couple of minutes to connect. On the Galileo Diagnostics screen, the car just connected should now show an online status.
- 15) Repeat steps 6, 7, 8, 9, 10, 11, 12, 13, and 14 for each of the cables that was ran to each of the cars in the group.

### 1.3 Galileo Diagnostics

The Galileo Diagnostics Screen can be found on the home page by clicking the “Galileo Diagnostics” button. This screen will give you a simplify representation of the wiring layout and the connection status of each car in the group. This tool is useful to use during the setup process, so that you are able to pinpoint which connection is giving you issues. If there are any issues, follow



the troubleshooting section sequentially to get a full breakdown of how the system works and where the problem may lie.

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## Section 2 – Troubleshooting

In this section, we will go through how to troubleshoot each component of the Galileo Elevator Monitoring System via ethernet. We will ask a series of question and have you verify each component, so that you will be able to narrow down the issue. Once the issues have been caught, a solution will be provided to diagnose any following problem.

### 2.1 GALX-1120AN OR GALX-1157 board “Raspberry Pi”

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The GALX-1120AN OR GALX-1157 board, which includes the raspberry pi mounted on top of it is the brains of the whole operation which is why we would want to check this system first making sure everything is working before moving on to the next system.

A fully functional GALX-1120AN OR GALX-1157 board “Raspberry Pi” will have a Monitor displaying the Galileo home page along with the Group ID displayed on the home monitor. In addition, one should be able to view and log on to the WIFI “Galweb”. The car that has the GALX-1120AN OR GALX-1157 mounted on the left side panel will have a hardwired ribbon cable connection. Thus, when you go to the Car IO screen for that specific car number is should display car data.

The GALX-1120AN OR GALX-1157 board “Raspberry Pi” consists of 3 components which is the raspberry pi & solid-state drive (where the pi’s software is kept), Antenna USB, and the serial port located on the GALX1120AN board.

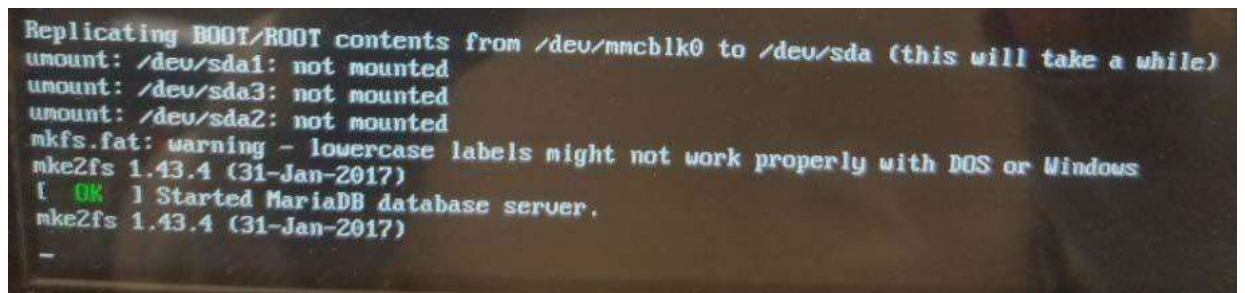
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### 2.1.1 Raspberry Pi & Solid-State drive

(\*IMPORTANT: Verify that the monitor has power and is turned on. Also verify that the HDMI cable or Mini HDMI cable is connected to the Raspberry pi 3 or 4 and the HDMI to DVI cable is connected to the monitor.)

Is MCU and COMM LEDs on and bright? Is the monitor displaying the Galileo after boot-up (give it a couple of minutes to boot-up)?

- a) Yes: Raspberry Pi and Solid-State Drive are good.
- b) If not, does the following below appear on the monitor?



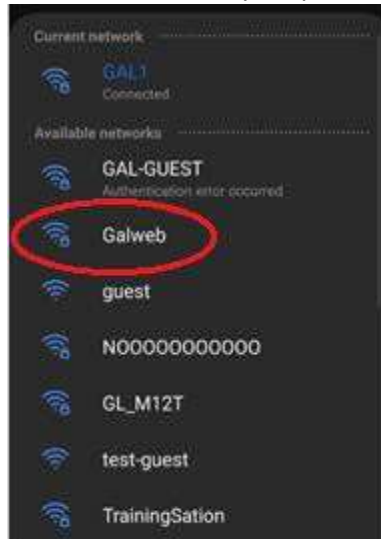
```
Replicating BOOT/ROOT contents from /dev/mmcblk0 to /dev/sda (this will take a while)
umount: /dev/sda1: not mounted
umount: /dev/sda3: not mounted
umount: /dev/sda2: not mounted
mkfs.fat: warning - lowercase labels might not work properly with DOS or Windows
mke2fs 1.43.4 (31-Jan-2017)
[ OK ] Started MariaDB database server.
mke2fs 1.43.4 (31-Jan-2017)
```

- a. Yes: Give it 5 – 7 minutes the Raspberry Pi is updating its software to the Solid-State Drive.
- b. If not and nothing appears in the monitor or Galileo home page never boots up, replace the GALX-1120AN OR GALX-1157 board.

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## 2.1.2 Antenna USB

Is Galweb, or Galweb1-5 visible on Available Networks on your phone?



- a) Yes: RPI and Antenna are good.
- b) If not, is the USB antenna connection plugged in correctly (it can be not plugged in all the way or plugged in backwards or antenna can be detached)?
  - a. Yes: Replace GALX-1120AN OR GALX-1157 Board.
  - b. If not, plug it in correctly reboot the GALX-1120AN OR GALX-1157 board and recheck to see if Galweb appears.

## 2.1.3 GALX-1120AN OR GALX-1157 board

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**(\*IMPORTANT: Verify that the grey ribbon cable is connected to the GALX-1120AN OR GALX-1157 AN OR GALX-1157 AN on one side and to the COM1 port of the GALX-1100AN CPU board.)**

Is the car where you the GALX-1120AN OR GALX-1157 board is mounted online? You can tell by looking at the Car IO screen and selecting that specific car number. The screen will display car data if it is online.



- a) Yes: The GALX-1120AN OR GALX-1157 board is good
- b) If not, is "System Options:"- "COM 1 BAUD RATE=6" 115200bps?
  - a. Yes: It is correct.
  - b. If not, set "System Options:"- "COM 1 BAUD RATE=6" 115200bps and check to see if "System Options:"- "COM 1 Port Sel=6" Galcom Wireless Flow Control?
    - i. Yes: It is correct.
    - ii. If not, set "System Options:"- "COM 1 Port Sel=6" Galcom Wireless Flow Control.



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If all steps have been completed and the car is still showing offline, one thing we can try before calling it quits and replacing the GALX-1120AN OR GALX-1157 board is moving the ribbon cable from COM1 to COM2 and setting up the following field variables like so:

- a) Set "System Options:" - "COM 2 BAUD RATE=6" 115200bps.
- b) Set "System Options:" - "COM 2 Port Sel=6" Galcom Wireless Flow Control.
  - a. If it is still not communicating, then replace the GALX-1120AN OR GALX-1157 AN board.

## 2.2 Network Hardware:

Now that we have verified that the GALX-1120AN OR GALX-1157 AN board "Raspberry Pi" is fully functional. We are able to access the Galileo home page and go to Galileo Diagnostics. This screen will tell us whether each of the cars are communicating to the Galileo or not. The Galileo Diagnostics screen will show a red line indicating the car is offline and green line indicating that the car is online.

The network hardware has 2 components which is the network switch, and the CAT 5e cables. In addition, another factor that comes into play is how your CAT 5e cables are connected and whether they are connected in the right spot according to the prints.

### 2.2.1 Network Switch

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Is the network switch powered on where you can see the power light led on?

- a) Yes: Network Switch is good
- b) If not, plug in and power on network switch

### 2.2.2 CAT 5e Cable

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Has each of the Ethernet Cables been tested using an ethernet tester?

- a) Yes: Ethernet cable is good.
- b) If not, use an Ethernet tester to test each end of the ethernet cable to verify that the RJ-45 has been crimped properly.
  - a. If ethernet cable is not working, remake a new ethernet cable testing the cable afterwards and making sure its functional.

### 2.2.3 Wiring Connections

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Are the cables connected properly according to the prints with the link led on both on the GALX-1005AN and the network switch?

- a) Yea: Connections are good.
- b) If not, rewire the ethernet cables so that the connections match the prints. (Note: One side of the ethernet cable will always connect to the network switch the other side of the ethernet cable will connect to either the GALX-1005AN or GALX-1120AN OR GALX-1157 AN.)

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## 2.3 Network Software:

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Even after all the network hardware is working properly, you may still have communication issues. If that is the case, you will need to look at the network software. The network software is the other part that is responsible for the communication between the car and the Galileo.

The network software consists of 2 components the Galileo Router setup, and the GALX1005AN “ethernet board” plugged in to each controller (except the controller that has the GALX1120AN OR GALX-1157 Board).

### 2.3.1 Galileo Router Setup

Are there Multiple GALaxy IV groups in the area?

Go to **Galileo Setup** Then Go to **Router Setup**

**Login**  
Username: admin  
Password: ●●●●●●  
**Log In** **Cancel**

**Router Setup**  
Wired (WAN)  
IP Address: 192 . 168 . 1 . 19  
Subnet Mask: 255 . 255 . 255 . 0  
Gateway: 192 . 168 . 1 . 1  
DNS Nameserver: 8 . 8 . 8 . 8

Login with

- If not, is “IP Address” set to “192.168.1.19”? And “Gateway Address” set to “192.168.1.1”? a. Yes: Galileo Setup is correct.
  - If not, set “IP Address” to “192.168.1.19”? And “Gateway Address” to “192.168.1.1” Then reboot GALX-1120AN OR GALX-1157 AN board.
- If yes, is “IP Address” set to “192.168.1.19”? And “Gateway Address” set to “192.168.1.1” on group 1?
  - Yes: Galileo Setup is correct on group 1.
  - If not, set “IP Address” to “192.168.1.19”? And “Gateway Address” to “192.168.1.1” on group 1. Then reboot GALX-1120AN OR GALX-1157 AN board.

- c) If yes, is "IP Address" set to "192.168.1.29"? And "Gateway Address" set to "192.168.1.1" on group 2?
  - e. Yes: Galileo Setup is correct on group 2.
  - f. If not, set "IP Address" to "192.168.1.29"? And "Gateway Address" to "192.168.1.1" on group 2. Then reboot GALX-1120AN OR GALX-1157 AN board.
- d) If yes, is "IP Address" set to "192.168.1.39"? And "Gateway Address" set to "192.168.1.1" on group 3?
  - g. Yes: Galileo Setup is correct on group 3.
  - h. If not, set "IP Address" to "192.168.1.39"? And "Gateway Address" to "192.168.1.1" on group 3. Then reboot GALX-1120AN OR GALX-1157 AN board.
- e) If yes, is "IP Address" set to "192.168.1.49"? And "Gateway Address" set to "192.168.1.1" on group 4?
  - i. Yes: Galileo Setup is correct on group 4.
  - j. If not, set "IP Address" to "192.168.1.49"? And "Gateway Address" to "192.168.1.1" on group 4. Then reboot GALX-1120AN OR GALX-1157 AN board.
- f) If yes, is "IP Address" set to "192.168.1.59"? And "Gateway Address" set to "192.168.1.1" on group 5?
  - k. Yes: Galileo Setup is correct on group 5. If not, set "IP Address" to "192.168.1.59"? And "Gateway Address" to "192.168.1.1" on group 5. Then reboot GALX-1120AN OR GALX-1157 AN board.
- g) If yes, is "IP Address" set to "192.168.1.69"? And "Gateway Address" set to "192.168.1.1" on group 6?
  - l. Yes: Galileo Setup is correct on group 6.
  - m. If not, set "IP Address" to "192.168.1.69"? And "Gateway Address" to "192.168.1.1" on group 6. Then reboot GALX-1120AN OR GALX-1157 AN board.
- h) If yes, is "IP Address" set to "192.168.1.79"? And "Gateway Address" set to "192.168.1.1" on group 7?
  - n. Yes: Galileo Setup is correct on group 7.
  - o. If not, set "IP Address" to "192.168.1.79"? And "Gateway Address" to "192.168.1.1" on group 7. Then reboot GALX-1120AN OR GALX-1157 AN board.
- i) If yes, is "IP Address" set to "192.168.1.89"? And "Gateway Address" set to "192.168.1.1" on group 8?
  - p. Yes: Galileo Setup is correct on group 8.
  - q. If not, set "IP Address" to "192.168.1.89"? And "Gateway Address" to "192.168.1.1" on group 8. Then reboot GALX-1120AN OR GALX-1157 AN board.

### 2.3.2 GALX-1005AN “Ethernet board”

**(NOTICE: When programming GALX-1005AN “ethernet board” be sure to remove the ethernet cable if there is any ethernet cable connected to the board. This way there is no other data being sent to the board while it is being setup.)**

**(\*IMPORTANT: The parameter that needs to be checked is under “Adjustable Variables” -> “System Options” -> “Galileo Group #= 1”. If there is only one group, the value should be set to 1. If there is multiple groups the value should be set to the group number it is. Then Set “System Options:”-“COM 1 BAUD RATE=6” 115200bps. Set “System Options:”-“COM 1 Port Sel=6” Galcom Wireless Flow Control. Make sure there is a ribbon cable connect from the COM1 of the GALX-1100AN board to the GALX1005AN board.)**

The ethernet board on the Galaxy controller is programmed on the LCD screen under “Software Utilities” and then “Network Card Setup”. Under the “Network Card Setup” there are options to “Auto Eth Setup” or “Manual Ethernet Setup”. To start “Auto Eth Setup” you hit enter two times and wait for the LCD to show “Auto Eth Setup Complete”. When the setup is completed give it a couple of minutes for the car to go online. If the car is still offline, lets looks at the following:

Is link LED “D1” on solid and does the data light occasionally blink?



- a) Yes: GALX-1005AN “ethernet board” is setup and working correctly.
- b) If not, is the GALX-1005AN “ethernet board” setup correctly?
  - a) On LCD screen go to “Software Utilities” hit enter
  - b) On LCD screen go to “Network Card Setup” hit enter.
  - c) On LCD screen go to “Manual Eth Card Setup” hit enter.
  - d) On LCD screen go to “Enter Eth Command Mode” hit enter.
    - i. If you can’t enter command mode and the ribbon cable is connected and field variables are set, you have a bad GALX-1005AN board.
  - e) On LCD screen go to “Read Vars from Eth Card” hit enter.
  - f) On LCD screen go to “Set/View Local Eth Vars” hit enter.
  - g) On LCD screen scroll through the Eth Vars and verify that:

i. On Car #2

1. Car IP Address = 192.168.1.12
2. Sub Net Mask = 255.255.255.0
3. Local Port = 5560
4. Gate Way = 192.168.1.1
5. Host IP Address = 192.168.1.19 (This IP address must match the IP address set on the Galileo under router setup)

ii. On Car #3

1. Car IP Address = 192.168.1.13
2. Sub Net Mask = 255.255.255.0
3. Local Port = 5560
4. Gate Way = 192.168.1.1
5. Host IP Address = 192.168.1.19 (This IP address must match the IP address set on the Galileo under router setup) iii.

On Car #4

1. Car IP Address = 192.168.1.14
2. Sub Net Mask = 255.255.255.0
3. Local Port = 5560
4. Gate Way = 192.168.1.1
5. Host IP Address = 192.168.1.19 (This IP address must match the IP address set on the Galileo under router setup) iv.

On Car #5

1. Car IP Address = 192.168.1.15
2. Sub Net Mask = 255.255.255.0
3. Local Port = 5560
4. Gate Way = 192.168.1.1
5. Host IP Address = 192.168.1.19 (This IP address must match the IP address set on the Galileo under router setup)

v. On Car #6

1. Car IP Address = 192.168.1.16
2. Sub Net Mask = 255.255.255.0
3. Local Port = 5560
4. Gate Way = 192.168.1.1
5. Host IP Address = 192.168.1.19 (This IP address must match the IP address set on the Galileo under router setup) vi.

On Car #7

1. Car IP Address = 192.168.1.17

2. Sub Net Mask = 255.255.255.0
3. Local Port = 5560
4. Gate Way = 192.168.1.1
5. Host IP Address = 192.168.1.19 (This IP address must match the IP address set on the Galileo under router setup) vii.

On Car #8

1. Car IP Address = 192.168.1.18
2. Sub Net Mask = 255.255.255.0
3. Local Port = 5560
4. Gate Way = 192.168.1.1
5. Host IP Address = 192.168.1.19 (This IP address must match the IP address set on the Galileo under router setup)

h) If the parameters were not setup correctly set them up correctly then:

i. On LCD screen go to "Send Local Eth Vars" hit enter. ii.

On LCD screen go to "Exit Command Mode" hit enter.

iii. Repeat the verification process if any of the parameters you set are not the numbers you have set and sent the "Ethernet Board" is bad and needs to be replaced. i) If they were setup correctly

i. Make sure the ribbon cable is plugged between "CN1" on the GALX-1005AN board and "COM1" on the GALX-1100AN with the red stripe on the right. ii. Is "System Options:"- "COM 1 BAUD RATE=6" 115200bps? 1. Yes: it is correct

2. NO: set "System Options:"- "COM 1 BAUD RATE=6" 115200bps.

iii. Is "System Options:"- "COM 1 Port Sel=6" Galcom Wireless Flow Control? 1.

Yes: it is correct

2. NO: set "System Options:"- "COM 1 Port Sel=6" Galcom Wireless Flow Control?



### Section 3 – Galileo Setup

In this section, we will go through the Galileo setup screen and all the initial setups that needs to be done when Galileo is first installed. In addition, we will go through the different setup options one has on the Galileo. The Galileo Setup menu includes the following shown on figure 3.2.



Figure 3.1: Galileo Home page



Figure 3.2: Galileo Setup page

### 3.1 Manage Users

In the Manage Users page, one can create users with different access levels, Delete Users, and change passwords. What each access level can view/do is shown below on figure 3.3. By default, a machine room Galileo will have an Adjuster access level and a Lobby monitor Galileo will have a monitoring access level. On initial boot-up, you will need to choose a person to have the role and access level of an admin. The Admin will be responsible for creating and managing user accounts/access levels. Once that person is chosen, the person will need to create a unique username and password that will need to be kept confidential.

Access Levels	Can Access/Change	Can View	Login Timeout
Admin	Manage Users	Everything	1 day
Adjuster	Adjust Variables, Router Setup, Email Setup, Upload Files, Multi Group Setup, Reset Galileo, Clear Faults, Record trace, Access Traffic Analysis, Lockout Calls, Modify Services Settings, Schedule Events, Change Time, Make Car calls	Everything	1 day
Mechanic	Clear Faults, Record trace, Access Traffic Analysis, Lockout Calls, Modify Services Settings, Schedule Events, Change Time, Make Car calls	Everything	1 day
Building	Access Traffic Analysis, Lockout Calls, Modify Services Settings, Schedule Events, Change Time, Make Car calls	Event Scheduling, Service Settings, Group screen, Call Lockouts, View Traffic Analysis, Group Screen, Lobby Monitor Screen, Multi Group	Never
Monitor	None	Group Screen, Lobby Monitor Screen, Multi Group	Never
No Account	None	None	-

**Figure 3.3: Galileo Setup page**



Figure 3.4A: Manage Users page without admin account

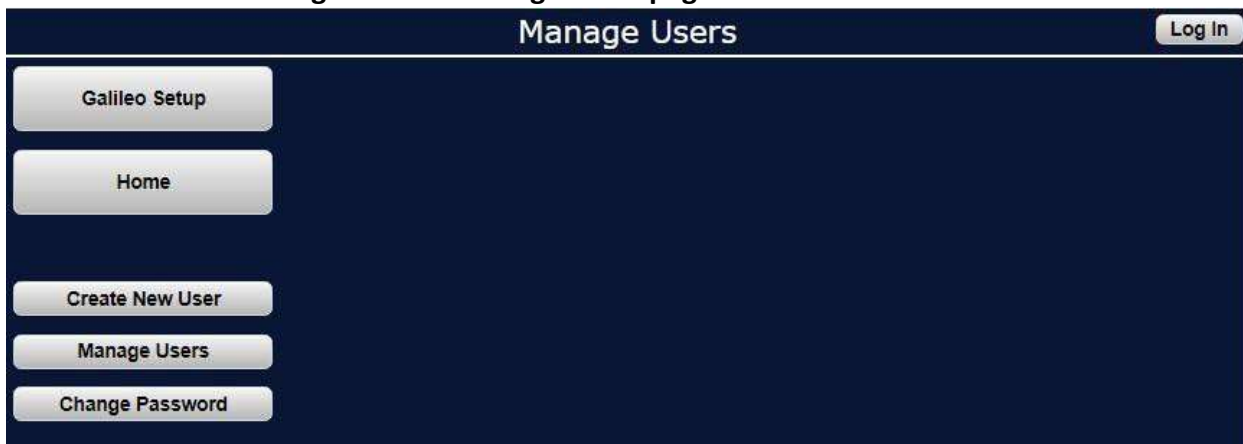


Figure 3.4B: Manage Users page with admin account

---

### 3.1.1 Change Passwords

If your password was ever discovered and you wanted to change the password of a current account, you would be able to do so. Click “Change Password” and type in the following Username and the Old Password. Then put in the new password and confirm the new password. Be sure to remember this password and keep it confidential.



The screenshot shows a web interface titled "Manage Users" with a "Log Out: admin" button in the top right. On the left is a navigation menu with buttons for "Galileo Setup", "Home", "Create New User", "Manage Users", and "Change Password". The main area displays a "Change Password" form with four input fields: "Username:", "Old Password:", "New Password:", and "Confirm New Password:". Below the fields are "Submit" and "Cancel" buttons.

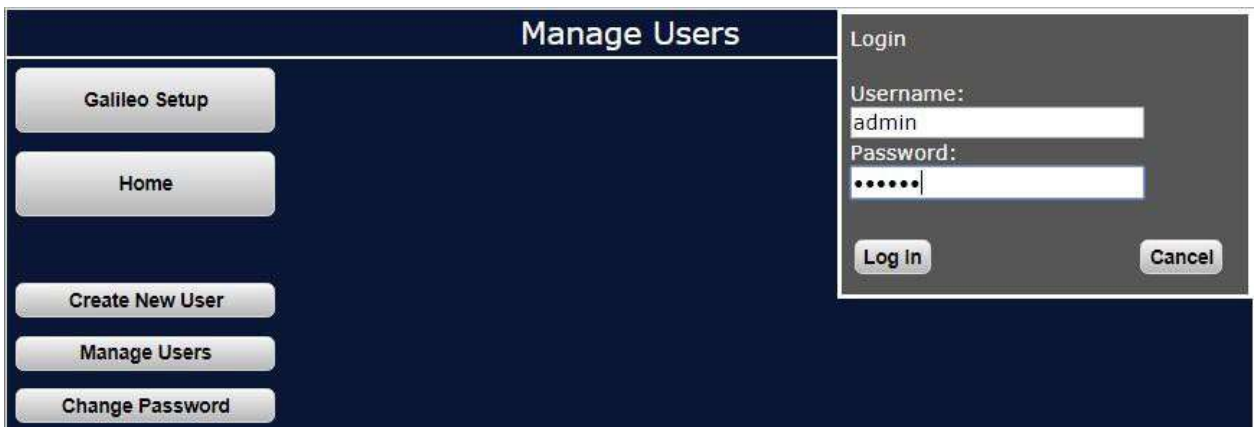
Figure 3.5: Changing the password

### 3.1.2 Create Users

---

**(Important: Without logging in as admin you will not be able to create users.)**

After changing the admin password, you would need to login to the new admin account to create new users. Click the “Log In” button on the top right-hand corner and type in your new admin user and password as shown in figure 3.6.



The screenshot shows the "Manage Users" interface with a "Login" form overlaid on the right side. The form has two input fields: "Username:" with the text "admin" entered, and "Password:" with masked characters "•••••". Below the fields are "Log In" and "Cancel" buttons. The navigation menu on the left is visible in the background.

Figure 3.6: Logging In

Once you log in as admin, click the “Create New User” button and create a user and password for each of the access levels shown in the chart 3.4. Keep track of all the passwords and users for each of the access level.



Figure 3.7: Create User

### 3.1.3 Delete Users

**(Important: Without logging in as admin you will not be able to delete users. The admin account can be deleted. If this is done, you will need to go to the Galileo Setup page. Then go back-to-back to Manage Users page and you will be prompted to create a new admin account. If you do delete the admin account, be sure to create another one right away.)**

Once all your users are created, if you ever need to delete a user the way to do that is clicking the “Manage Users” button shown in figure 3.8. Then you are able to hit the “Delete User” button to delete the user.



Figure 3.8: Delete User

---

### 3.2 Upload Files

In this menu user files can be uploaded. PDF files can be uploaded under document. MP4 video files can be added under video. Files can also be deleted. Once this is done, those files can be viewed on the home page under “Documents” or “Videos”.



Figure 3.9: Upload Files

### 3.3 Router Setup


---

As shown in figure 3.10, the router setup is separated in 2 sections. One section is the “Wired (WAN)”. This section represents the settings for the ethernet port that the raspberry pi has. The other section is the Wireless (LAN). This section represents the settings for the wireless USB antenna that is plugged on to the raspberry pi.



Log Out: admin

## Router Setup



<b>Wired (WAN)</b>	<b>Wireless (LAN)</b>
IP Address 192 . 168 . 1 . 19	IP Address 192 . 168 . 10 . 10
Subnet Mask 255 . 255 . 255 . 0	Wifi Network Name Galweb
Gateway 192 . 168 . 1 . 1	Wifi Network Password knockknock
DNS Nameserver 8 . 8 . 8 . 8	Wifi Network Channel 11 ▼
	<input type="button" value="Restore Wifi Defaults"/>
<input type="button" value="Cancel"/>	<input type="button" value="Save"/>
	<input type="button" value="WiFi Channel Scan"/>

Figure 3.10: Router Setup

---

### 3.3.1 Ethernet Setup

To adjust the ethernet settings, you will need to delete and change the numbers that are right under the Wire (WAN) title. After settings are adjusted, click on the save button to save the following settings. In order for the settings to take effect, one must reboot the GALX-1120AN OR GALX-1157 AN “Raspberry Pi” board. The following setting that can be adjust is the IP address, subnet mask, gateway, and DNS name server.

### 3.3.2 Wireless Setup

To adjust the wireless settings, you will need to delete and change the numbers and the names that are right under the Wireless (LAN) title. After settings are adjusted, click on the save button to save the following settings. For the settings to take into effect, wait 2 – 3 minutes. Reboot is not required. The following setting that can be adjust is the WIFI network name, WIFI network password, and wifi network channel. The WIFI channel scan button can be used to find the channel with the least amount of traffic. For Galileo with internet access, the recommended channels are 1, 6, and 11 any other channels can be used but are not recommended.

### 3.4 Multi Group Setup

If you have more than one GALX-1120AN OR GALX-1157 AN “Raspberry Pi”, multi group setup will need to be setup.

Click on the “Add Group” button shown on figure 3.11. Next, fill in the URL and group name. The URL will be the Wired (WAN) IP address of the Raspberry Pi shown under ‘Galileo setup’ -> “Router Setup”. After all the groups have been added, click the send to all button and the save locally button to save all the changes you made.

#	URL	Num Cars	Group Name
1	192.168.1.19	8	Group 1

**Figure 3.11: Multi Group Setup**

**Router Setup**

Wired (WAN)

IP Address  
192 . 168 . 1 . 19

Subnet Mask  
255 . 255 . 255 . 0

Gateway  
192 . 168 . 1 . 1

DNS Nameserver  
8 . 8 . 8 . 8

**Figure 3.12: IP address of Galileo**

### 3.5 Request Re-Init

If there are any changes made on the controller cons file, you can re-initialize the group by going to Galileo Setup and pressing the “Request Group Re-Init as shown in figure 3.13. This will retrieve whatever changes that was done on the controller and re-initialize the data on the Galileo. You will need to wait a minute before the re-initialization goes into effect.



**Figure 3.13: Request Group Re-Init**

### 3.6 Auto Email Setup

Galileo has a feature where an email can be sent automatically when the car is in a certain service, an input has turned high, or when the shutdown alarm occurs in a car. This feature will only work if Galileo has internet access and a valid email has been saved. In addition, the user will need to enable one of the following options shows on figure 3.14.

**Auto Email Setup**
Log Out: admin

Galileo Setup

Home

(Use , for multiple emails with no space for example:  
example1@email.com,example2@email.com,example3@email.com)

Email Sent to:  Save

Email when the following service is:	<input type="radio"/> Disable <input checked="" type="radio"/> Enable		Out of Service ▼
Email when the following input is high:	<input type="radio"/> Disable <input checked="" type="radio"/> Enable		MRTH(Temperature High Input) ▼
Email when shutdown alarm occurs in a car	<input type="radio"/> Disable <input checked="" type="radio"/> Enable		

**Figure 3.14: Auto Email Setup**

## Section 4 – Galileo Home

In this section, we will discuss all the monitoring features and tools the Galileo has. The Galileo provides a user-friendly advance display of our Galaxy controllers. This display includes manuals, training videos, Car Status screen, Group Status screen, Fault Log, Adjustable Variables, Hall IO screen, Trace screen, Traffic Analysis, Date and Time, Call Lockouts, Service Settings, Events Scheduling, and Multi Group.

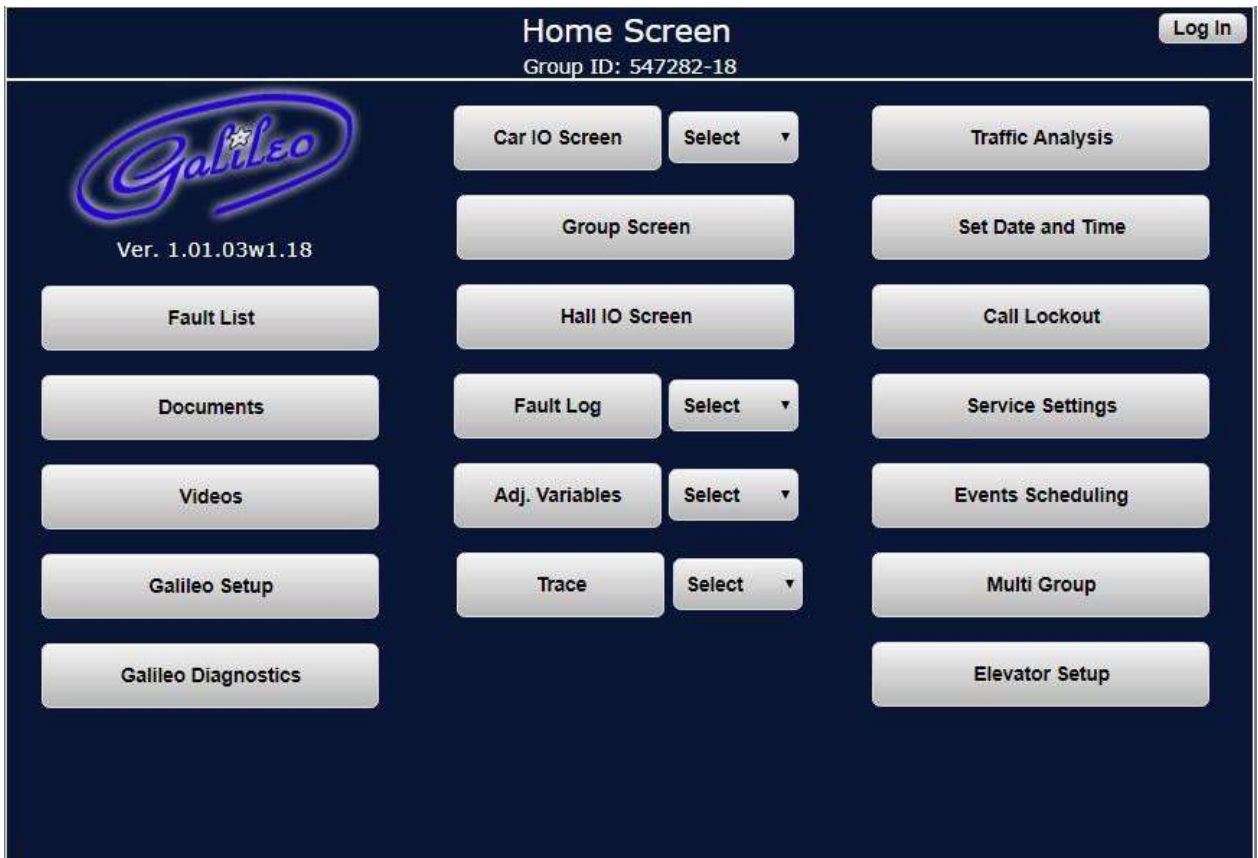


Figure 4.1: Galileo Home page

#### 4.1 Fault List

**(Note: These are not actual car faults.)**

The Fault List shows all the possible faults that can occur in our Galaxy Controllers. They are listed in alphabetical order and have a section for Device Faults and Controller Faults as shown in figure 4.2 and 4.3.

Fault List <span style="float: right;">Log In</span>			
<a href="#">Home</a> <a href="#">Car IO</a> <a href="#">Group</a> <a href="#">Hall IO</a> <a href="#">Fault Log</a> <a href="#">Adjustable Variables</a> <a href="#">Trace</a>			
<a href="#">Go To Device Faults</a>			
Controller Faults			
Code	Fault	Description	Possible Cause/Suggested Fix
552	APS P1 Camera CAN Fit	APS Selector Processor 1 on the APS Selector interface board is not communicating with the APS camera head on channel B.	*** Verify the RJ-45 connector from the selector camera to the selector interface board GALX-1133 is properly connected. *** Verify that both LED**s on the RJ-45 connector are blinking at 1 second intervals. *** Make sure the CAT-6 cable is not run in parallel with any high voltage wires. *** Replace the GALX-1133 board. *** Replace the camera head.
560	APS P1 DN Input Fault	APS Selector Processor 1 on the APS Selector interface board detected a Down Normal Limit input fault.	*** Processor 1 detected that the input for DN was off when the output was being turned on. *** Faulty input, replace the input device. *** Faulty output for DN. Replace the output device.

**Figure 4.2: Fault List – Controller Faults**

<a href="#">Go To Controller Faults</a>			
Device Faults			
Code	Fault	Description	Possible Cause/Suggested Fix
15	Address Error	Invalid Address for Device	Program Error
13	Comm Fault	Device not communicating to the main CPU.	*** Faulty Can communication wire connection. Verify proper twisted pair wires to the canh and canl terminals on the board. *** Noise on the Can bus. Verify that the shield wire is connected according to the job print.
9	DL/GS Fault	Door Lock/Gate Switch Fault	*** Car is moving outside the door zone with the door open. The car will immediately shut down.

**Figure 4.3: Fault List – Device Faults**

## 4.2 Documents

Documents can be viewed or downloaded (Force Download) from this screen. Documents can be uploaded from the Galileo Setup menu. The job schematics, GALaxy Controller Manual, Drive Manual and GALaxy Quick start can be accessed from here along with any other document you have uploaded.

Documents
Log In

Home

GALaxy 4 Quickstart - Complete Document v2.5 .pdf

Force Download

GALaxy IV Manual Combivert F5 (Version 1.5.7).pdf

Force Download

GALaxy IV Manual M1000 AC (Version 1.5.7).pdf

Force Download

GALaxy IV Manual Quattro DC (Version 1.5.7).pdf

Force Download

KEB F5 Elevator Drive LCDv3\_21 - Rev1D.pdf

Force Download

TSSA VVVF Submission Rev1.08j.pdf

Force Download

**Figure 4.4: Documents**

### 4.3 Videos


Galileo consists of training videos that can be view under the Videos Screen. By clicking on the link, you can view any of our training videos as shown at figure 4.5 and 4.6.



Figure 4.5: Videos



Videos Log In



## GALaxy Training Videos

### LCD User Guide

Home

All Videos

Follow all your company's safety procedures!!! It is your responsibility for your safety, the public's safety, and the safety of the equipment. It is your responsibility to capture the car according to your company's procedure. Make sure the cab is empty and secure. Make sure the hoist way is clear. This training video is for instructional purposes only.

▶ 0:06 / 10:31 🔊 🗄️ ⋮

Total of **14** videos available.

- [LCD User Guide](#)
- [Normal Brake Test](#)
- [Self APS Installation Guide](#)
- [Self APS Setup](#)
- [Spectral Lites Stunning Illumination](#)
- [TSSA Test 1 MC Contactor](#)
- [TSSA Test 2 Brake Contactors](#)
- [TSSA Test 3 Gripper Relays](#)
- [TSSA Test 4 EBrake](#)
- [TSSA Test 5 Shorted UP DNR 1](#)
- [TSSA Test 6 Inspection Inputs](#)
- [TSSA Test 7 Lock Inputs](#)
- [TSSA Test 8 FST Outputs](#)
- [TSSA Test 9 Com To Sp 1](#)

**Figure 4.6: Viewing Videos**

#### 4.4 Galileo Diagnostics

The Galileo Diagnostics Screen displays the communication between the cars in the group and the Galileo. This helps you with identifying which car is having communication and run diagnostics on the following car. See section 2 for running diagnostics on a car with communication issues.

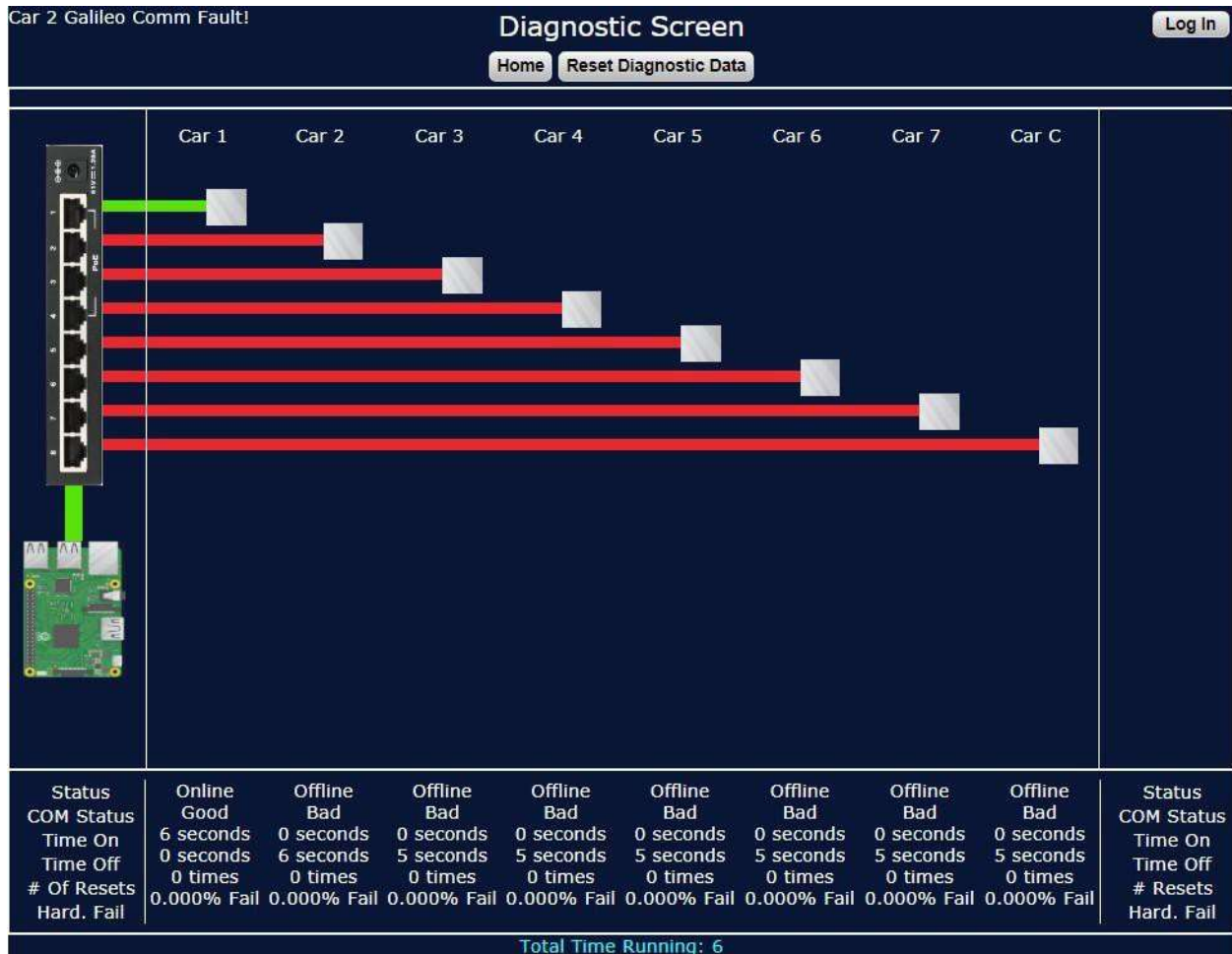


Figure 4.7: Galileo Diagnostics

## 4.5 Car IO Screen

The Car IO Screen consists of most of the Galaxy controllers' information's/statuses. On the top half of the page, all of the controllers IOs can be seen (except for Hall IO for the group that

The screenshot displays the 'Car 1 IO Screen' interface. At the top, there are navigation tabs: Home, Car IO (selected), Group, Hall IO, Fault Log, Adjustable Variables, and Trace. A 'Log In' button is in the top right corner. The main area is a grid of IO indicators, each with a label and a status icon (green circle for 'on', red circle for 'off'). The grid is organized into columns representing different IO groups. Below the grid, there are several status blocks: 'Automatic Service' (Status OK), 'Waiting Assignment' (No Current Fault, Normal Power, No Med Emergency, No Code Blue, No Seismic), 'Dmd Vel' (0 fpm), 'Pos' (1), 'PI' (D), 'Run Cmd' (Stop), 'Safety Processor' (Vel = 0 fpm, Cnt = 0, AUTO, OK), and 'NTS Processor' (Vel = 0 fpm, CMD = NO CMD, NO SVC, SEL ComF). At the bottom, there are control buttons for 'cmd', 'Terminal', 'CC Test', 'Speed', and 'Run To' (D), 'Run Up' (1), 'Run Down' (1). The software version is 7.4.61.

is shown under Hall IO screen). Inputs texts are in white and shows a green circle indicating that the input is on. Outputs texts are in blue and shows a red circle indicating that the output is on. The first 5 columns show the MAIN IOs. Then the selector limits are shown followed by the machine room can boards and last the car top can boards.

The left and right arrows on the keyboard can be used to scroll through all the IOs. The up and down arrows on the keyboard can be used to scroll through all the Cars in the group. The bottom half of the Car IO Screen consists of the car's statuses and flags. The first block on the left shows the car's service, and procedure. The 2<sup>nd</sup> block shows the cars velocity and door status. The next block shows the cars position/PI and flags. The 3<sup>rd</sup> block shows the drives status and velocity. The last block that is split into three shows our 3 other processors statuses (Safety Processor, NTS Processor, and PAL).

Figure 4.8: Car IO Screen

---

## 4.5.2 CC Test

**(Important: Without logging in as admin you will not be able to adjust ethernet settings.)**

Car Call Tests can be set up in this screen. When this test is run the car will stop at all designated, continuously until stopped. The Auto Door switch must be OFF. It would be useful to change the parameter Adjustable Variables->Car Timers->Non Interfer T, to something higher than 4 seconds so the car can pause between runs. A value of 60 would be good. This Car Call Test screen can also be accessed from the Car Trace Screen.

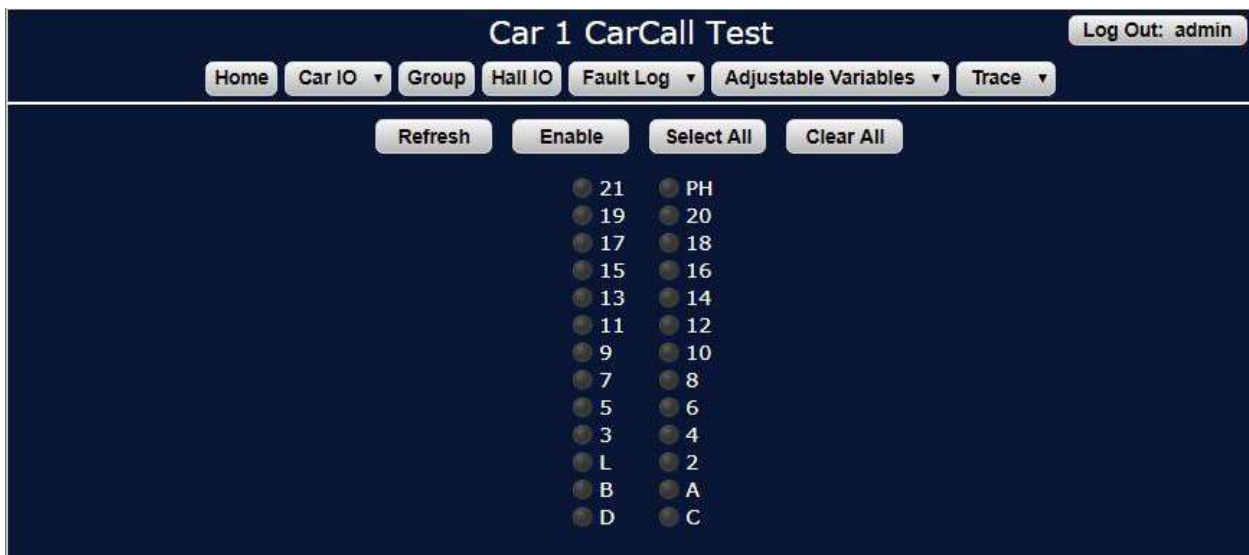
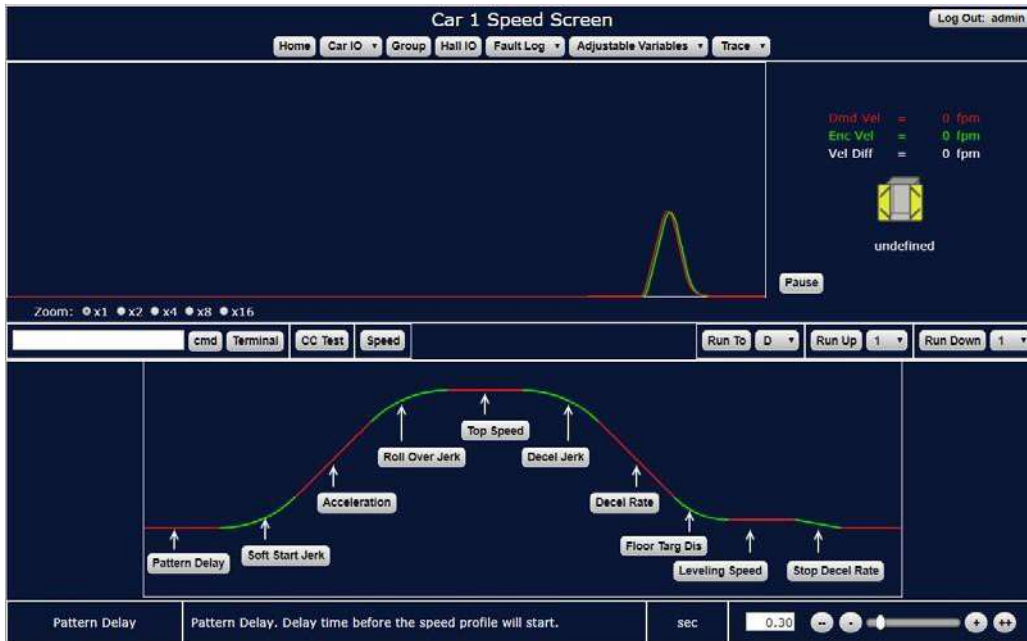


Figure 4.9: Car Call Test

## 4.5.3 Speed

---

This menu is useful for adjusting the car. Speed curve parameters can be changed directly from this screen (Pattern Delay adjustment is displayed when “Pattern Delay” button is clicked – see red arrow).



**Figure 4.10: Speed**

#### 4.6 Group Screen

In this screen, the hoistway position of all the cars can be seen. Car Calls, and Hall calls can also be registered here.



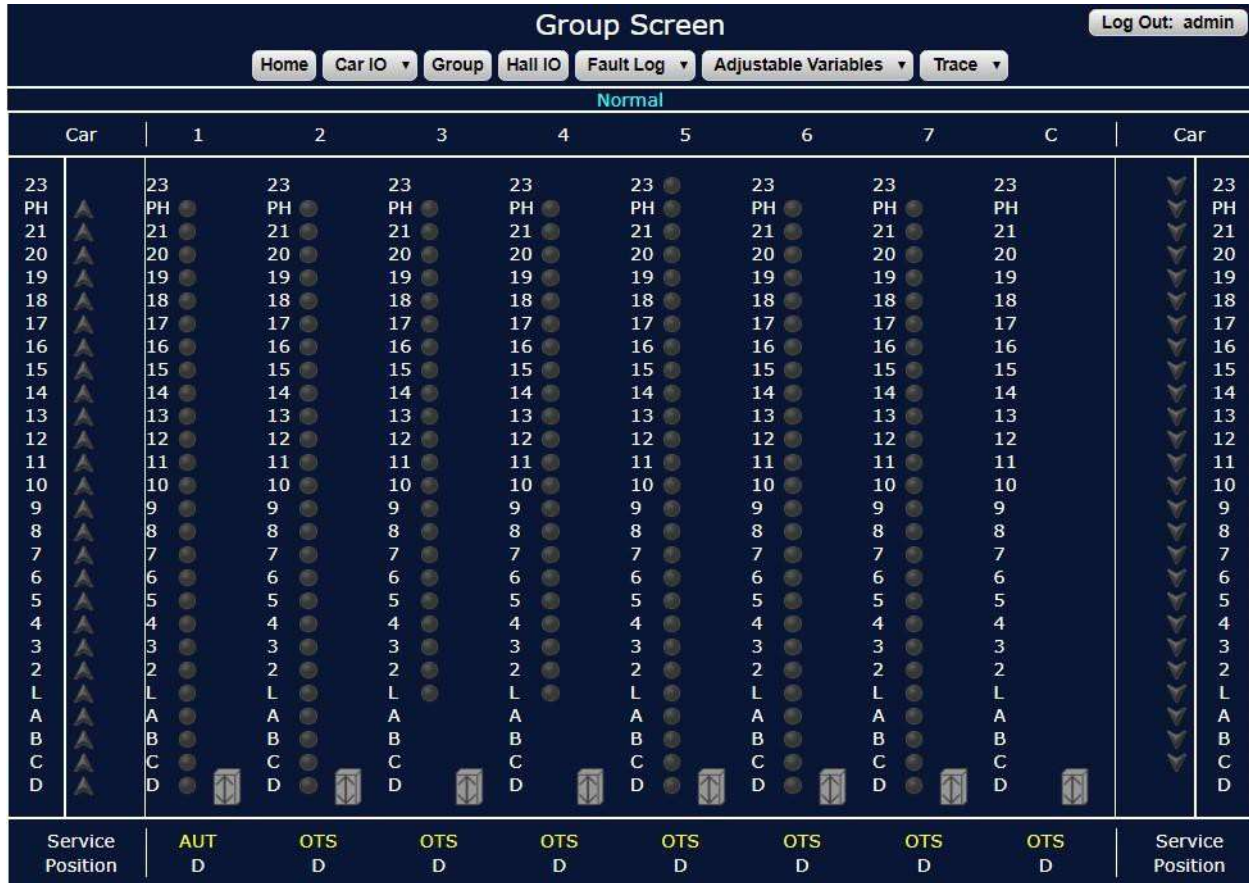
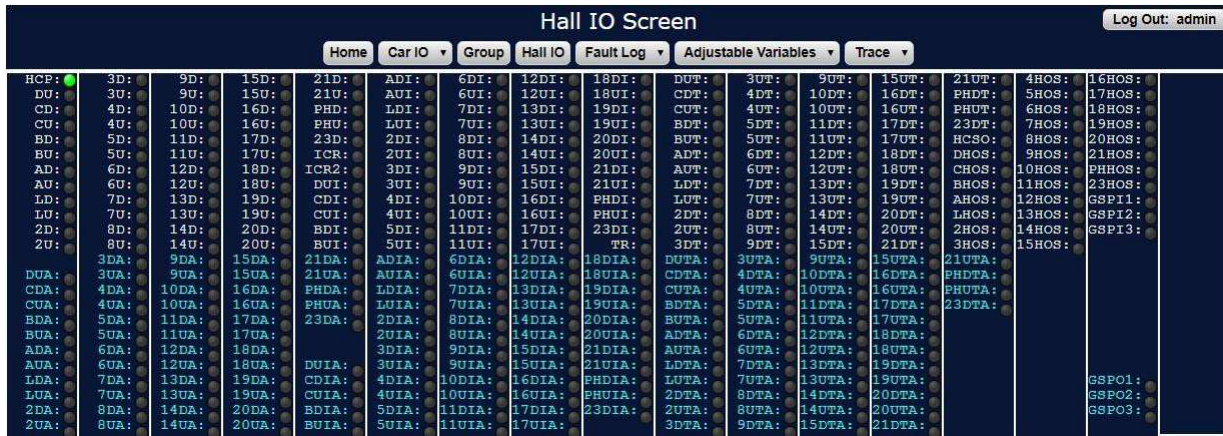


Figure 4.11: Group Screen

#### 4.7 Hall IO Screen

This screen shows the state of all the hall input and outputs. All text in white are the inputs and all text in blue are the outputs. The green circle indicates that the input is on. The red circle indicates that the output is on



**Figure 4.12: Hall IO Screen**

4.8 Fault Log

These are the 50 Faults that get logged and overwritten. Clicking on ‘Description’ will bring up the Fault Description, Possible Cause/Suggested Fix as it appears in the GAL Manual. Clicking on ‘Details’ will bring up the Detailed Fault screen.

You get this screen by clicking on “Description” in the Fault Log. There is a button to exit this screen and take you back to the Fault Log.

This is the detailed fault view of the fault that you get when you click on “Details” in the Fault Log. This screen is essentially the same as the Car trace screen, plus it shows detailed status bits on the right side of the screen. You can scroll backwards and forwards through the faults and through the status bits.

#	Fault	Time & Date	Pos	# Occ	Go To
1	LW Load Table Fault	13:14:13 04/23/2019	1	1	Details Description
2	Power Up Reset	13:14:14 04/23/2019	1	1	Details Description
3	Car 2 Comm Loss	13:14:19 04/23/2019	1	1	Details Description
4	Car 3 Comm Loss	13:14:19 04/23/2019	1	1	Details Description
5	Car 4 Comm Loss	13:14:19 04/23/2019	1	1	Details Description
6	Car 5 Comm Loss	13:14:19 04/23/2019	1	1	Details Description
7	Car 6 Comm Loss	13:14:19 04/23/2019	1	1	Details Description
8	Car 7 Comm Loss	13:14:19 04/23/2019	1	1	Details Description
9	Car 8 Comm Loss	13:14:19 04/23/2019	1	1	Details Description
10	Reset Fault	13:14:23 04/23/2019	1	1	Details Description

**Figure 4.13: Fault Log**

33	Car 2 Comm Loss	<a href="#">Back To Fault Log</a>	The group car is not communicating with Car 2.	*** Faulty wiring from R/T+ and R/T- from car to car. *** Faulty U6 driver chip on 1100 board. *** Noise on shield wire. Connect shield only on one end. *** Noise on the communication wires. Run wires in separate conduit.
----	-----------------	-----------------------------------	------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

**Figure 4.14: Fault Log - Description**

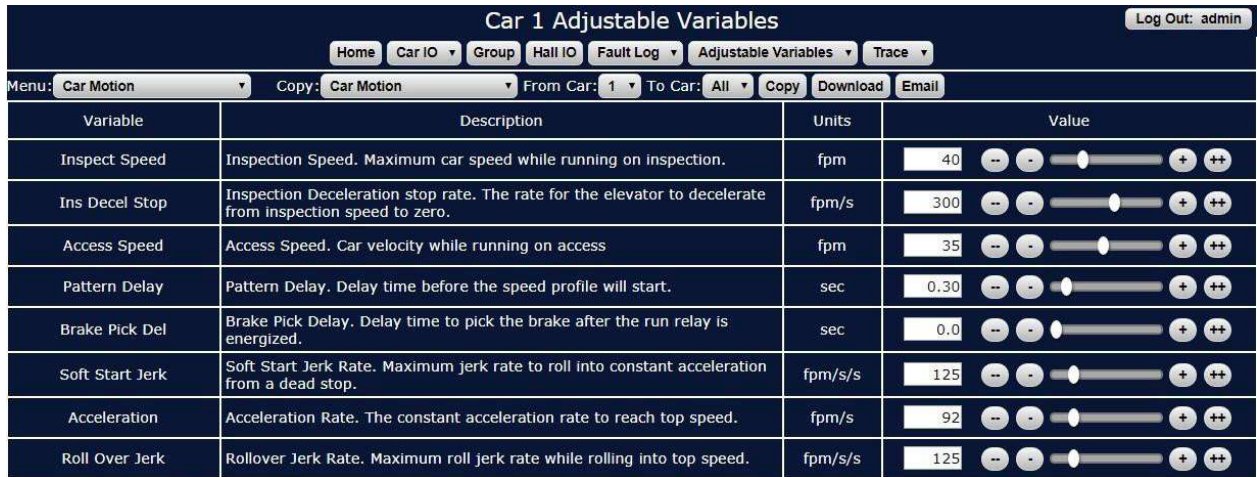




Figure 4.15: Fault Log - Detail

#### 4.9 Adjustable Variables

All controller field adjustable variables can be accessed here. The field variables can also be copied to another car in the group or to all cars in the group. The software requires that the



Auto Door switch be turned off if making changes - this is to ensure that whoever is making the changes be physically at the controller.

Figure 4.16: Adjustable Variables





DLM:	SFCO:	UN:	unF:	sfS10:	sfBKS:	sfHWI:	sfECT:	ssGOV:	ssFFS:	doRQ:	psHC:
DL:	PICEN:	UT:	utF:	sfHC:	sfFOC:	sfFDC:	sfIOT:	ssTF:	ssCST:	dbRQ:	psHCL:
AUTO:	LSCS:	UT1:	utsF:	sfSS:	sfDRV:	sfRDC:	sfGRT:	ssBF:	ssMRS:	cdRQ:	psCC:
GBP:	comF:	UT2:	ut1F:	sfRDY:	sfSPB:	sfLVE:	sfDVP:	ssP8:	ssGTS:	doEN:	psCCL:
LBP:	velF:	UT3:	ut2F:	sfGRP:	sfDBR:	sfDVF:	sfNIT:	ssHSS:	ssB12:	rdoRQ:	psLHC:
MRI:	posIN:	UT4:	ut3F:	sfIO:	sfSHD:	sfBKR:	sfDRQ:	ssCTS:	ssB13:	rdbRQ:	psFEP:
UL:	actF:	UT5:	ut4F:	sfINS:	sfAST:	sfDMO:	sfDPM:	ssCSS:	ssB14:	rcdRQ:	psB06:
INS:	posUP:	UT6:	ut5F:	sfBPI:	sfSAF:	sfHWL:	sfRPM:	ssRLS:	ssB15:	rdoEN:	psB07:
ICI:	ntsTV:	DN:	ut6F:	sfPOS:	sfTLM:	sfPWL:	sfVSC:	fhWLN:	fdVOF:	prDO:	psB08:
ACC:	etsTV:	DT:	dnF:	sfAD:	sfGTS:	sfEBK:	sfLVR:	fhWI:	fdBRT:	dsUP:	psB09:
UTS:	rUMOT:	DT1:	dtF:	sfSTP:	sfDZF:	sfKEB:	sfB26:	flIMD:	fMTOL:	dsDP:	psB10:
DTS:	sUMOT:	DT2:	dt5F:	sfDZ:	sfBKC:	sfAFS:	sfB27:	fSPBD:	FB3B3:	dsNP:	psB11:
RGS:	gr1T:	dt3:	dt1F:	sfGDL:	sfFST:	s1036:	sfB28:	fVELD:	FB3B4:	rdsUP:	psB12:
RLM:	sfcT:	DT4:	dt2F:	sfP:	sfSEL:	sfRSR:	sfB29:	fSPVD:	FB3B5:	rdsDP:	psB13:
DLB:	gr1PK:	DT5:	dt3F:	sfDCL:	sfUDL:	sfSCT:	sfB30:	fUDLD:	FB3B6:	rdsNP:	psB14:
DZ:	sMENU:	DT6:	dt4F:	sfDCC:	sfLEV:	sfCOP:	sfB31:	fLEV:	FB3B7:		psB15:
GR1:	brkTG:	UPI:	dt5F:	rsRUN:	rsDLB:	rsEE:	rsDO:	fcOPC:	fGRIP:	ngUP:	dcAB:
ETS:	ebkTG:	DNRI:	dt6F:	rsDNR:	rsGS:	rsSE:	rsDC:	fSPBC:	fENCD:	ngDP:	dcBL:
UP:	rcAN2:	NTSD1:		rsUP:	rsRLM:	rsEER:	rsDOR:	FB2B2:	FB4B2:	ngNP:	owcAB:
DNR:	ntsT:			rsDL:	rsRGS:	rsSER:	rsDCR:	FB2B3:	FB4B3:		owcBL:
GS:	etsT:	isLBP:	isMRI:	rsUL:	rsDOL:	rsHSF:	rsB28:	fSLCT:	FB4B4:	rngUP:	occAB:
DLT:	addIS:	isGBP:	isACC:	rsDLT:	rsDOLR:	rsLSTF:	rsB29:	fSELCL:	FB4B5:	rngDP:	occBL:
	sUMTV:	isAOF:	isICI:	rsDLM:	rsDCLR:	rsDZA:	rsB30:	fENCC:	FB4B6:	rngNP:	ohcAB:
							rsB31:	fENCI:	FB4B7:		ohcBL:

**Figure 4.18: Status Bits**

This is the “Status Bits” section of the Car Trace screen. Please note that this section is scrollable through Left/Right arrows directly above this section since only seven columns display at a time.

Please note that there are twelve columns in total.

These “Status Bits” are detailed in the GAL manual, “Section 6 – Main CPU Faults & Detailed Faults”.

The specific section where the bits can be decoded is as follows, starting with column 1 on the left, from the top down:

**Column 1:**

SPB ios1: (S1) Safety Processor I/O Byte 1 SPB ios2: (S2) Safety Processor I/O Byte 2 SPB ios5: (S5) Safety Processor I/O Byte 5 SPB ios3: (S3) Safety Processor I/O Byte 3

**Column 2:**

SPB ios4: (S4) Safety Processor I/O Byte 4  
 SPB Cmd: Safety Processor Command. (Controller command to safety processor)

**Column 3:**

NTSIO1: NTS Processor I/O Byte 1 NTSIO1: NTS Processor I/O Byte 2 NTSIO1: NTS Processor I/O Byte 3

**Column 4:**

LimFlt0: Limit Fault Byte 0 LimFlt1: Limit Fault Byte 1 LimFlt2: Limit Fault Byte 2

**Column 5:**

STATUSF: Control Status Flag (Status bit set to “1” when status active)

Run Status: Control Run Status Flag (Status bit set to “1” when status active)

**Column 6:**

STATUSF: Control Status Flag (Status bit set to “1” when status active)

Run Status: Control Run Status Flag (Status bit set to “1” when status active)

**Column 7:**

STATUSF2: Control Status Flag (Status bit set to “1” when status active)

Run Status: Control Run Status Flag (Status bit set to “1” when status active)

**Column 8:**

STATUSF2: Control Status Flag (Status bit set to “1” when status active)

Run Status: Control Run Status Flag (Status bit set to “1” when status active)

**Column 9:**

SS Status: Safety String Status

Flt Bits 1 (FltB1): Faults Bits 1 (Byte 0)

Flt Bits 2 (FltB2): Fault Bits 2 (Byte 1)

**Column 10:**

SS Status: Safety String Status

Flt Bits 3 (FltB3): Fault Bits 3 (Byte 2)

Flt Bits 4 (FltB4): Fault Bits 4 (Byte 3)

**Column 11:**

Door Req (DRq): Door Request Flags DSF (dsf): Door Status Flags

Nudg Flags (Nud): Door Nudging Flags

**Column 12:**

PWR Status: Power Status

Call Flags (CFg): Onward Call Flags

### 4.10.1 Trace Setup

In this screen, the conditions for a capture are set. It is beyond the scope of this document, at this time, to exhaustively detail all that can be done here but usually it will suffice to set the 'Fault Change', 'Service Change' and/or 'Process Change' to capture a specific situation.

Car 1 Trace Setup Log Out: admin

Home
Car IO ▾
Group
Hall IO
Fault Log ▾
Adjustable Variables ▾
Trace ▾

---

Refresh
Time Interval
Trigger Arm
Trigger Window
Back

Clear
10msec (5sec Total) ▾
Always Armed ▾
0 ▾
Save

Fault Change	<input type="radio"/> Off <input type="radio"/> OR <input type="radio"/> AND	Fault Match	<input type="radio"/> Off <input type="radio"/> OR <input type="radio"/> AND	No Faults ▾
Service Change	<input type="radio"/> Off <input type="radio"/> OR <input type="radio"/> AND	Service Match	<input type="radio"/> Off <input type="radio"/> OR <input type="radio"/> AND	Out of Service ▾
Process Change	<input type="radio"/> Off <input type="radio"/> OR <input type="radio"/> AND	Process Match	<input type="radio"/> Off <input type="radio"/> OR <input type="radio"/> AND	No Procedure Flag ▾
Run Status Change	<input type="radio"/> Off <input type="radio"/> OR <input type="radio"/> AND	Run Status Match	<input type="radio"/> Off <input type="radio"/> OR <input type="radio"/> AND	0x00000000 <span style="font-size: small;">[grid]</span>
Slowdown Change	<input type="radio"/> Off <input type="radio"/> OR <input type="radio"/> AND	Slowdown Match	<input type="radio"/> Off <input type="radio"/> OR <input type="radio"/> AND	0x0000 <span style="font-size: small;">[grid]</span>
Rear Slowdown Change	<input type="radio"/> Off <input type="radio"/> OR <input type="radio"/> AND	Rear Slowdown Match	<input type="radio"/> Off <input type="radio"/> OR <input type="radio"/> AND	0x0000 <span style="font-size: small;">[grid]</span>
Status Change	<input type="radio"/> Off <input type="radio"/> OR <input type="radio"/> AND	Status Match	<input type="radio"/> Off <input type="radio"/> OR <input type="radio"/> AND	0x00000000 <span style="font-size: small;">[grid]</span>
Status 2 Change	<input type="radio"/> Off <input type="radio"/> OR <input type="radio"/> AND	Status 2 Match	<input type="radio"/> Off <input type="radio"/> OR <input type="radio"/> AND	0x00000000 <span style="font-size: small;">[grid]</span>
Fault Bits 0 Change	<input type="radio"/> Off <input type="radio"/> OR <input type="radio"/> AND	Fault Bits 0 Match	<input type="radio"/> Off <input type="radio"/> OR <input type="radio"/> AND	0x00 <span style="font-size: small;">[grid]</span>
Fault Bits 1 Change	<input type="radio"/> Off <input type="radio"/> OR <input type="radio"/> AND	Fault Bits 1 Match	<input type="radio"/> Off <input type="radio"/> OR <input type="radio"/> AND	0x00 <span style="font-size: small;">[grid]</span>
Fault Bits 2 Change	<input type="radio"/> Off <input type="radio"/> OR <input type="radio"/> AND	Fault Bits 2 Match	<input type="radio"/> Off <input type="radio"/> OR <input type="radio"/> AND	0x00 <span style="font-size: small;">[grid]</span>
Fault Bits 3 Change	<input type="radio"/> Off <input type="radio"/> OR <input type="radio"/> AND	Fault Bits 3 Match	<input type="radio"/> Off <input type="radio"/> OR <input type="radio"/> AND	0x00 <span style="font-size: small;">[grid]</span>
SPB Service Change	<input type="radio"/> Off <input type="radio"/> OR <input type="radio"/> AND	SPB Status Change	<input type="radio"/> Off <input type="radio"/> OR <input type="radio"/> AND	SPB Command Change <input type="radio"/> Off <input type="radio"/> OR <input type="radio"/> AND
NTS Service Change	<input type="radio"/> Off <input type="radio"/> OR <input type="radio"/> AND	NTS Status Change	<input type="radio"/> Off <input type="radio"/> OR <input type="radio"/> AND	NTS Command Change <input type="radio"/> Off <input type="radio"/> OR <input type="radio"/> AND

Figure 4.19: Trace Setup

## 4.11 Traffic Analysis

This screen displays Traffic Analysis.



Figure 4.20: Traffic Analysis

---

#### 4.12 Set Date and Time

The controller date and time can be set in the following screen. If the Galileo has internet access, you can enable auto time update where the Galileo will update the controller date and time based on the internet clock. This will update the controller date and time when there is a daylight savings, and the time goes one hour back or forward.

**Set Date and Time** Log Out: admin

Home Car IO Group Hall IO Fault Log Adjustable Variables Trace

Current	New
4/23/2019	MM / DD / YYYY
15:07:36	HH : MM

Save

Enable auto time update from the internet (Must have internet access, and must be logged in as admin)





**Figure 4.23: Call Lockout**

#### 4.14 Service Settings

All service flags can be set in this screen. The service can apply to the group, Next Car Up, Alt. Parking etc. or can apply to an individual car, Independent, Elevator Off, etc.



**Figure 4.24: Service Screen**

#### 4.15 Events Scheduling

Galileo remote monitoring system comes with built in event scheduling system that allow you to automate elevator services and call lockouts to turn on and off at a pre-defined time. The event scheduler includes a very user-friendly calendar-based user interface.

---

## Features

1. Add, delete, and modify events.
2. Event types:
  - a. Car – Schedule car specific events such as Return to Lobby, Elevator Off etc.
  - b. Group – Schedule group-based events such as Up Peak, Down Peak, Alt Parking etc.
  - c. Call Lockouts – Schedule profile-based Hall Call and Car Call lockouts.
3. Calendar based user interface, easily navigate from month to month.
4. Events can be configured to run forever or specified range of dates.
5. Events can be configured to run all day or specified amount time of time.
6. Events can be configured to run certain days of the week or daily or a specified day of the month.
7. Event status is available on the calendar view where you can view currently on events.
8. Keeps history of the past scheduled timers.
9. New events can be created as long as memory is available on the system.
10. Fully password protected.
11. Events can be configured to be displayed as your desired color.

### Usage examples

1. Create an event that puts Car 2 on Return to Lobby daily from 10/02/2017 to 10/10/2017.
2. Create an event that puts the group on Next Car Up from 7AM to 10AM every weekday forever.
3. Create an event that locks out all up-hall calls, all day every weekend forever.

**Example # 1** - Create an event that puts Car 2 on Return to Lobby daily from 10/02/2017 to 10/10/2017 from 7AM – 12AM.

1. Go to Galileo home page.




2. Click on "Events Scheduling," it will take you to "Calendar View" screen by default:



3. Next, click on "Add New Event" item on the left sidebar to create a new event and fill in the form to put Car 2 on Return to Lobby daily from 10/02/2017 to 10/10/2017 from 7AM to 12 AM.



Event Scheduling Log Out: galileo



### Add a new event

Home

Calendar View

Add New Event

Set Date and Time

Title :

Type :  Car  Group  Call Lockouts

Car # :

Service :

Date :  to   Forever

Repeats :


Time :  :  to  :   All Day

Color :

Status :  Enable  Disable

4. Click "Submit" to create this new event.

Event Scheduling Log Out: galileo



### October 2017

today < >

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2 <span style="background-color: green; color: white;">7a Return to Lobby</span>	3	4	5	6	7
8	9	10	11	12	13	14
	<span style="background-color: green; color: white;">Return to Lobby</span>					
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	1	2	3	4
5	6	7	8	9	10	11

System Time : 11:06:59 Date : 10/02/2017

Event Title	Type	Repeats	Status	Start Date	End Date	Start Time	End Time	On/Off
Return to Lobby	Car	Daily	Enabled	2017-10-02	2017-10-10	07:00:00	12:00:00	●

If successfully event was successfully entered, you will see it on the calendar, and in the below table you see the status being ON/OFF.

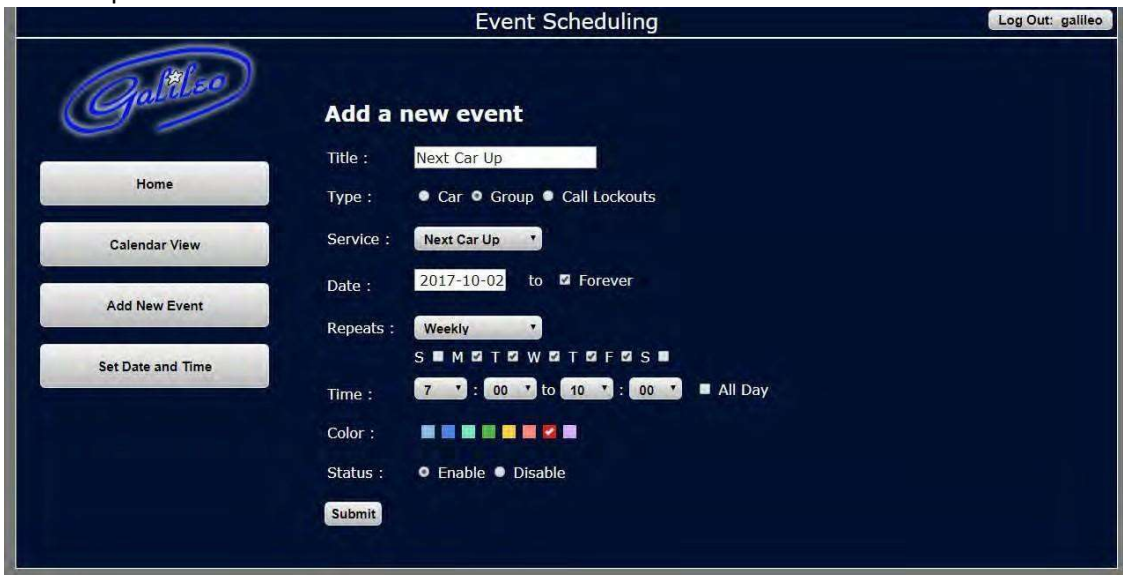
- To check if the Elevator controller received the RTL command we can go to Home -> Service Settings:



As you can see Car # 2 is ON for Return to Lobby because of our automated event.

**Example # 2** - Create an event that puts the group on Next Car Up from 7AM to 10AM every weekday forever.

- Go to Home -> "Event Scheduling" -> "Add New Event" and fill in the desired start and end date and time parameters.



- Click "Submit" button to this new event.



- If the event was successfully added, you will see it on the “Calendar View.”

The screenshot shows the Galileo Event Scheduling interface. At the top, it says "Event Scheduling" and "Log Out: galileo". The main area is a calendar for "October 2017" with days of the week (Sun to Sat) and dates (1 to 31). On the left, there are buttons for "Home", "Calendar View", "Add New Event", and "Set Date and Time". The calendar shows two event types: "Return to Lobby" (green bars) and "Next Car Up" (red bars). The "Return to Lobby" event is scheduled for Monday, October 2nd, and Monday, October 9th. The "Next Car Up" event is scheduled for Monday, October 2nd, and repeats weekly through the end of the month. At the bottom, there is a table of events and the system time.

Event Title	Type	Repeats	Status	Start Date	End Date	Start Time	End Time	On/Off
Return to Lobby	Car	Daily	Enabled	2017-10-02	2017-10-10	07:00:00	12:00:00	●
Next Car Up	Group	Weekly	Enabled	2017-10-02	Forever	07:00:00	10:00:00	●

System Time : 11:18:58 Date : 10/02/2017

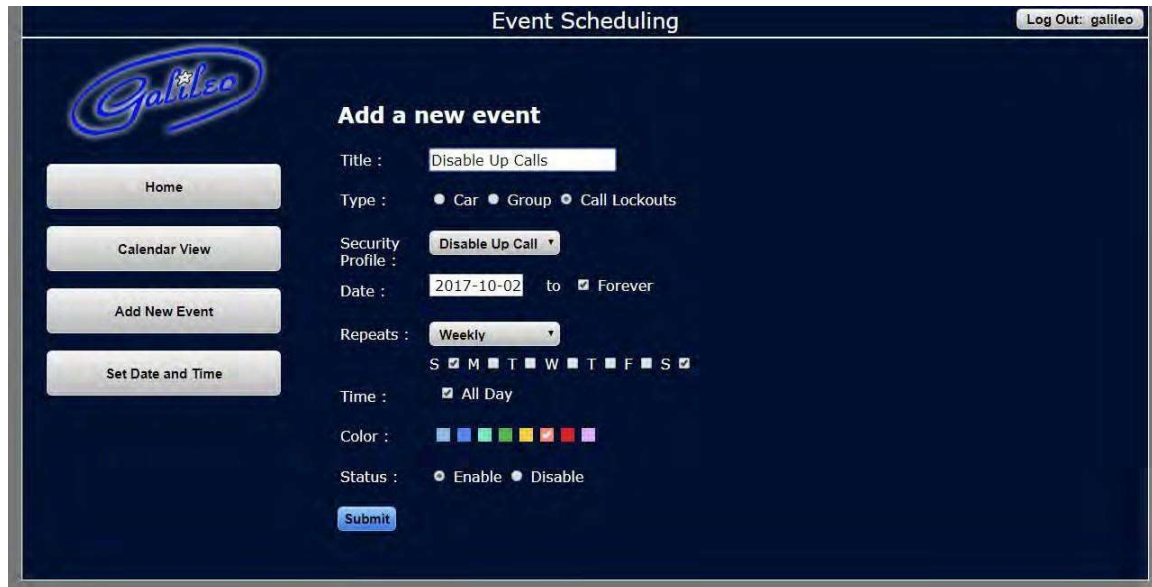
As you can see the “Next Car Up” event shows up on the list of events and it is in the OFF state due to the current time being above specified time which is 11:18 AM.

**Example # 3** - Create an event that locks out all up-hall calls, all day, every weekend forever.

- In order to create a lockout event first, you will need to create and save a lockout profile.
- To create new calls lockout profile, go to Home -> “Call Lockout.”
- Check off the desired floors you like to lock out from, in our case we want to disable all up calls.



- Next you go to Home -> "Event Scheduling" -> "Add New Event" and fill in the start and end date and time.



From the Security profiles, you will have to select the profile that you would like to choose to apply for the duration of this event.

5. The event will start showing in your list of events:

Event Scheduling

Log Out: galileo

October 2017

today < >

Home

Calendar View

Add New Event

Set Date and Time

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
	7a Return to Lobby					
	7a Next Car Up					8a Disable Up C
8	9	10	11	12	13	14
	Return to Lobby					8a Disable Up C
	Disable Up Calls	7a Next Car Up				
15	16	17	18	19	20	21
	Disable Up Calls	7a Next Car Up				8a Disable Up C
22	23	24	25	26	27	28
	Disable Up Calls	7a Next Car Up				8a Disable Up C
29	30	31				
	Disable Up Calls	7a Next Car Up				8a Disable Up C
5	6	7	8	9	10	11
	Disable Up Calls	7a Next Car Up				8a Disable Up C

System Time : 11:36:57 Date : 10/02/2017

Event Title	Type	Repeats	Status	Start Date	End Date	Start Time	End Time	On/Off
Return to Lobby	Car	Daily	Enabled	2017-10-02	2017-10-10	07:00:00	12:00:00	●
Next Car Up	Group	Weekly	Enabled	2017-10-02	Forever	07:00:00	10:00:00	●
Disable Up Calls	Lockouts	Weekly	Enabled	2017-10-02	Forever		All day	●



6. When the current time is Weekend, the timer will turn ON as shown below.

The screenshot shows the 'Event Scheduling' interface for October 2017. The calendar displays three event types: 'Return to Lobby' (green bars), 'Next Car Up' (red bars), and 'Disable Up Calls' (orange bars). The 'Next Car Up' events are shown as repeating weekly. A table at the bottom provides details for these events.

Event Title	Type	Repeats	Status	Start Date	End Date	Start Time	End Time	On/Off
Return to Lobby	Car	Daily	Enabled	2017-10-02	2017-10-10	07:00:00	12:00:00	●
Next Car Up	Group	Weekly	Enabled	2017-10-02	Forever	07:00:00	10:00:00	●
Disable Up Calls	Lockouts	Weekly	Enabled	2017-10-02	Forever	All day		●

7. And you can view the current applied profile on the Call Lockouts page.

The screenshot shows the 'Call Lockout Screen' with a grid of call lockout status for six cars (Car 1 to Car 6). The grid displays call types (CO, HC) and their status (All, X, Y). The 'Current' profile is selected, and the 'Activate' button is visible. The grid shows that all call types are currently set to 'All' for all cars.

## 4.16 Multi Group

If a job has more than one GALX-1120AN OR GALX-1157 “Raspberry Pi”, then multi group would need to be setup. After the setup is done, this screen is used to view the general statuses of each of the group. To view a car in detail of another group, the car can be clicked, and it will bring you to the Car IO Screen of that car. To view the group in detail, click on the group button of the group you want to view.



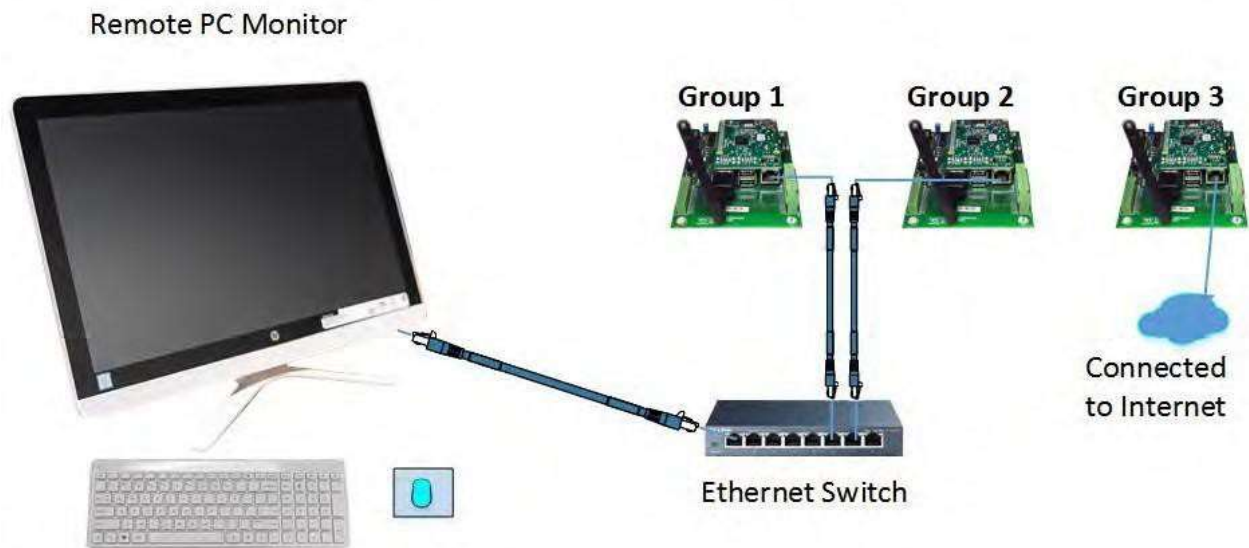
## Section 5 – PC Monitoring

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In this section, we will go through all the different PC monitoring that can be done with the Galileo and how to set it up. The 2 types of PC monitoring we offer with Galileo is Lobby monitor and Remote Access via internet. Lobby monitoring is where we run an ethernet cable from the machine rooms switch to the PC located in the lobby. Remote Access via internet is when you hook up the Galileo to the building's internet. A public IP address will need to be provided by the building ISP provider that public IP address will be used to access the Galileo via the internet. By typing in the public IP address on to a web browser, you will be able to access the Galileo for that job. Remote access can also be done through an internal network.

### 5.1 Lobby Monitor

---



**Figure 5.1: Lobby Monitor with Multi Group**

The Galileo Lobby Monitor only displays data – the monitor is not a touch screen. This is usually used to monitor the status of a group. The figure 5.2 below shows what is displayed on the Lobby Monitor.

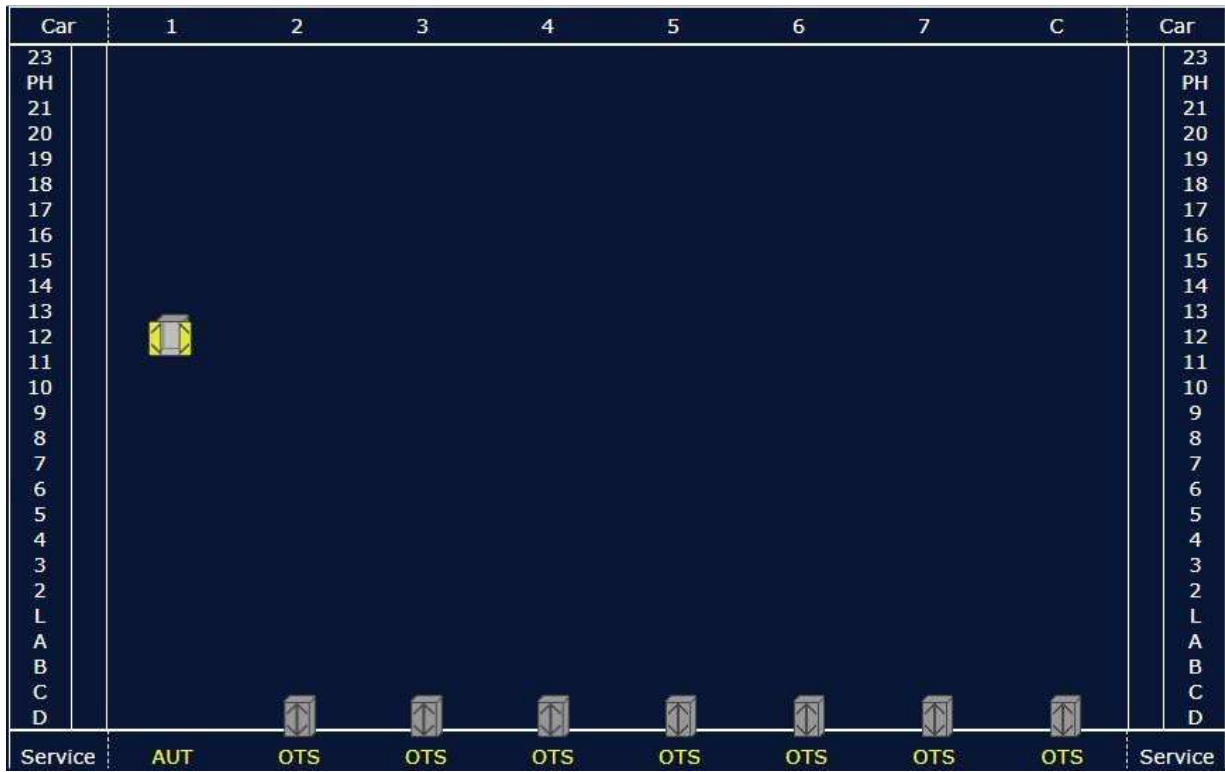
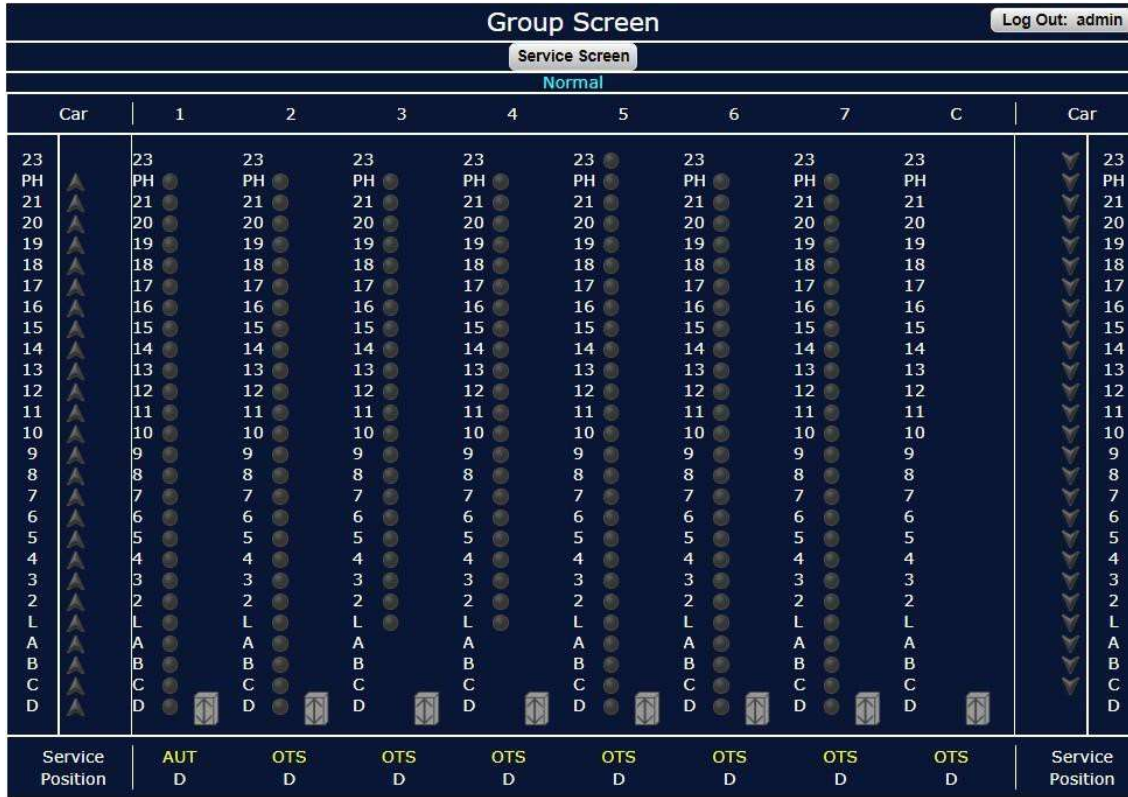


Figure 5.2: Lobby Monitor Screen



## 5.2 Lobby Panel

The Lobby Panel is intended for control purposes such as placing cars on in different modes, such



as independent service, and to monitor car & group status. This Lobby Panel PC can be located anywhere, a manager's office, the lobby of a building, etc.



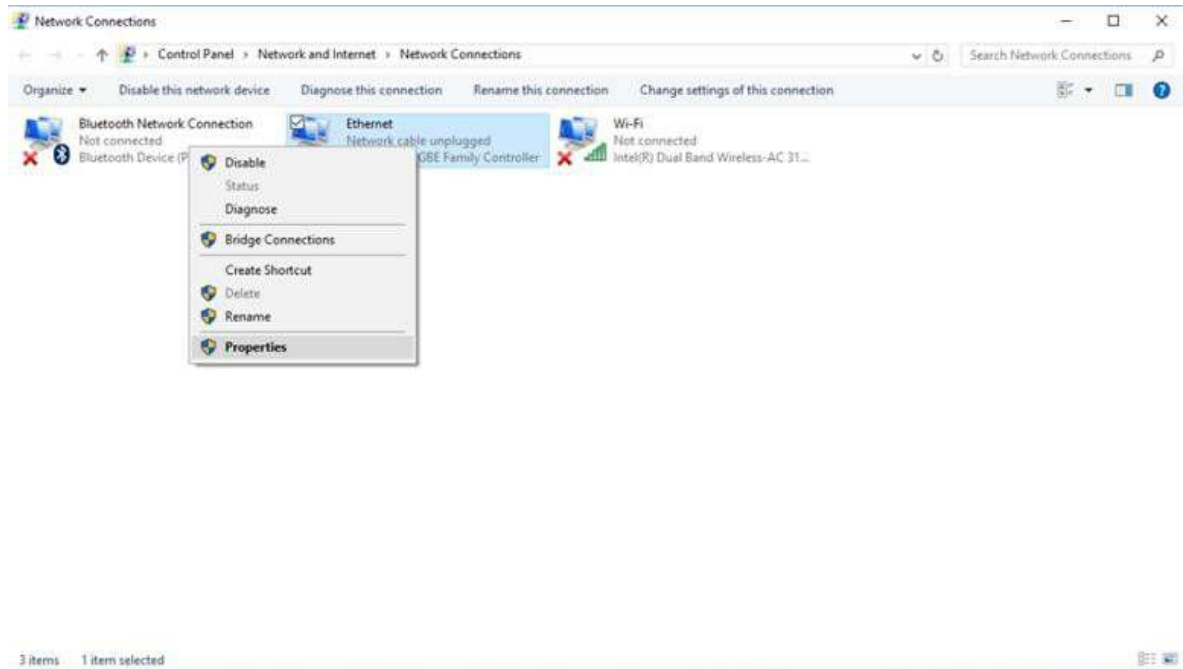
Figure 5.3: Lobby Panel Screen

## Section 6 – Setting Up Lobby PC

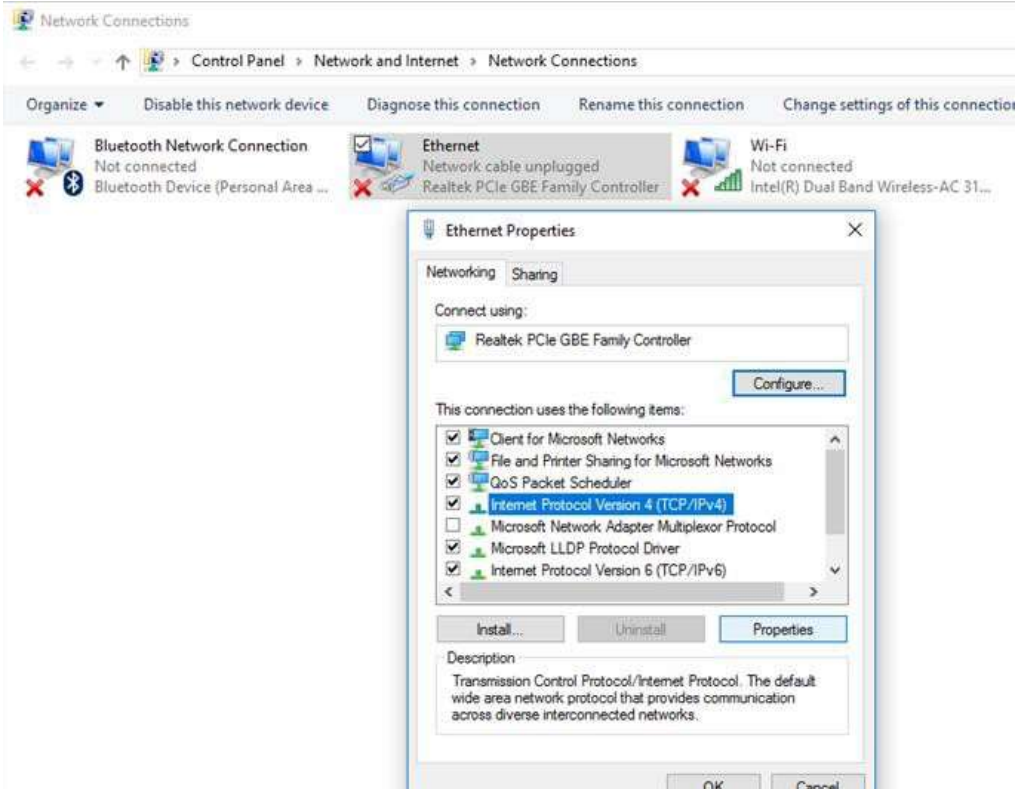
### Ethernet Adapter Static IP Setup

1. Go to Control Panel -> Network and Internet -> Network and Sharing Center -> Change adapter settings.

Right click on the Ethernet Adapter and Properties.



## 2. On Ethernet Properties: Select Internet Protocol Version 4 (TCP/IPv4) and Click Properties

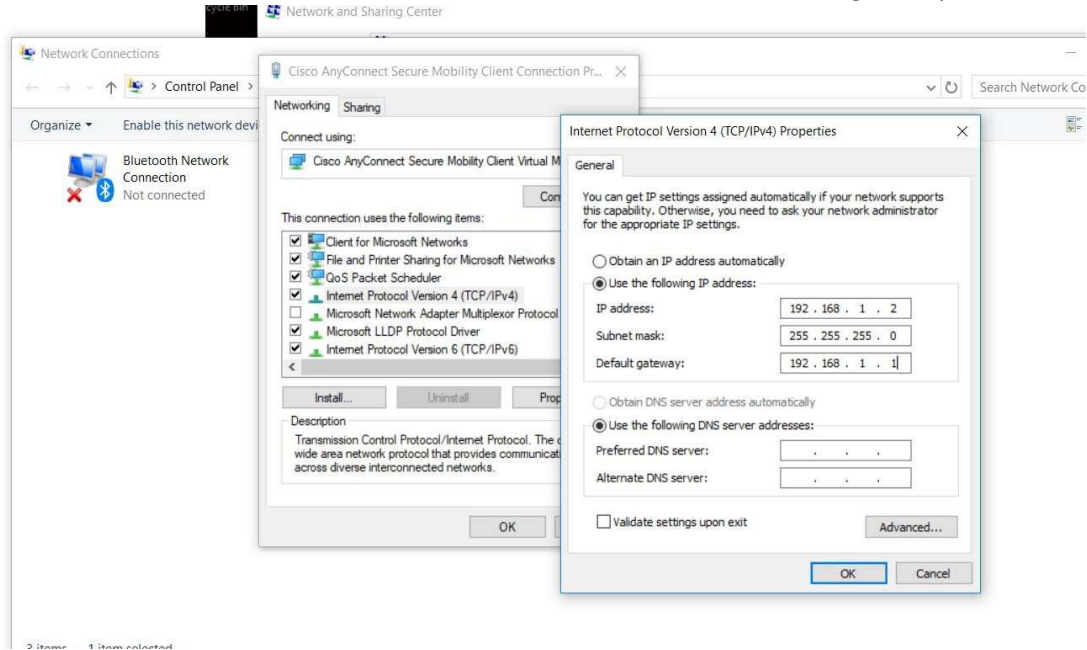


3. Select “Use the following IP address” and enter the following info:

IP: 192.168.1.2

Subnet mask: 255.255.255.0

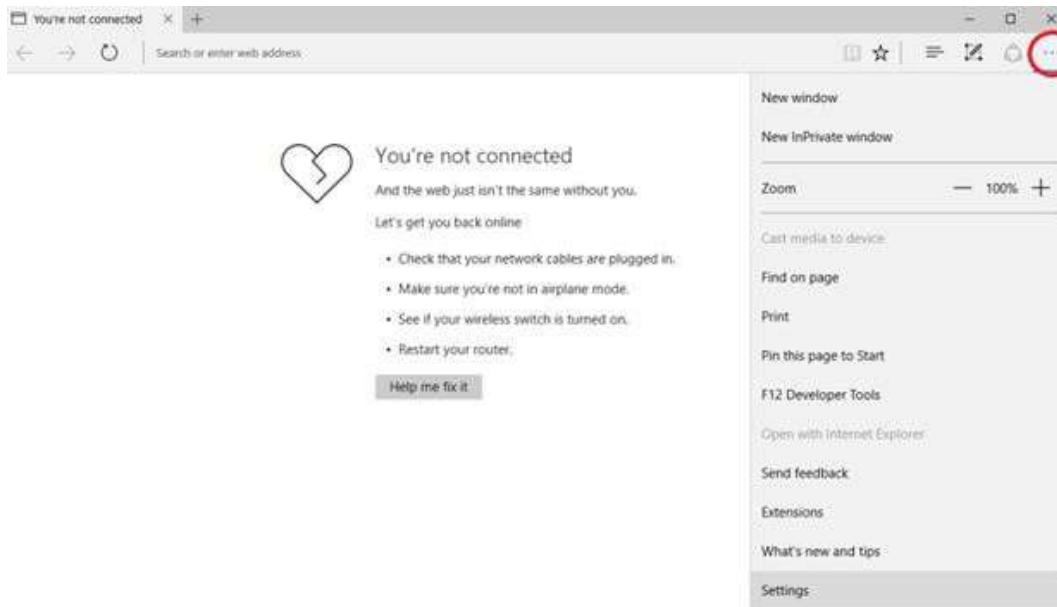
Default gateway: 192.168.1.1



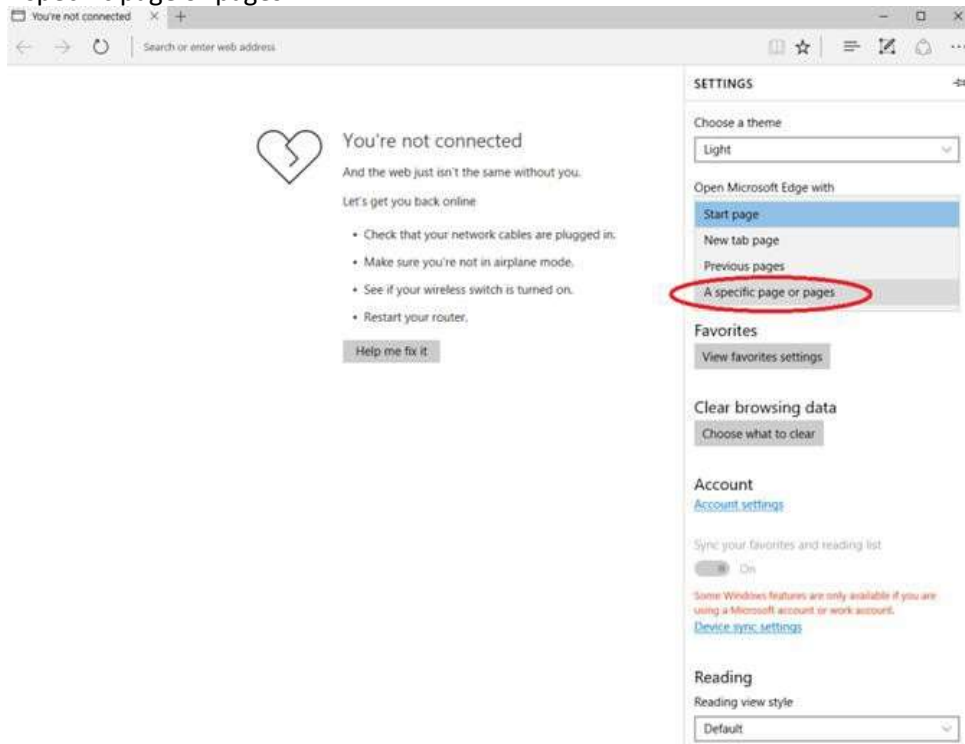
4. Click “OK” to save IP info and exit out to Desktop.

#### C. Setup IE Homepage

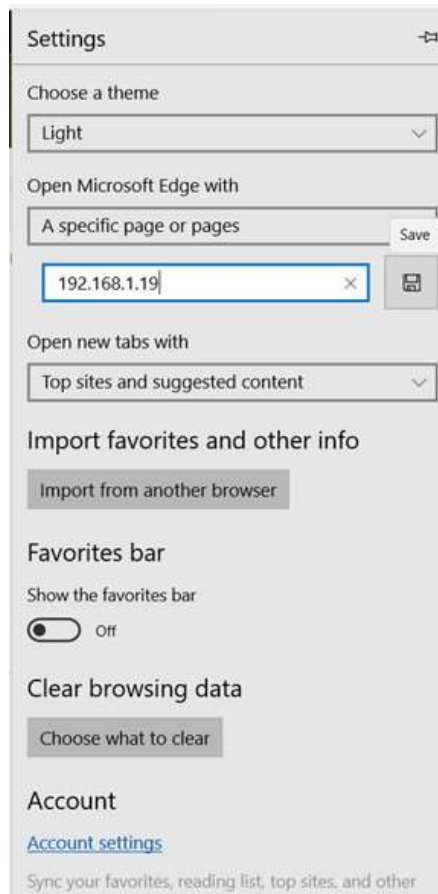
5. Now open Internet Explorer and go to settings.



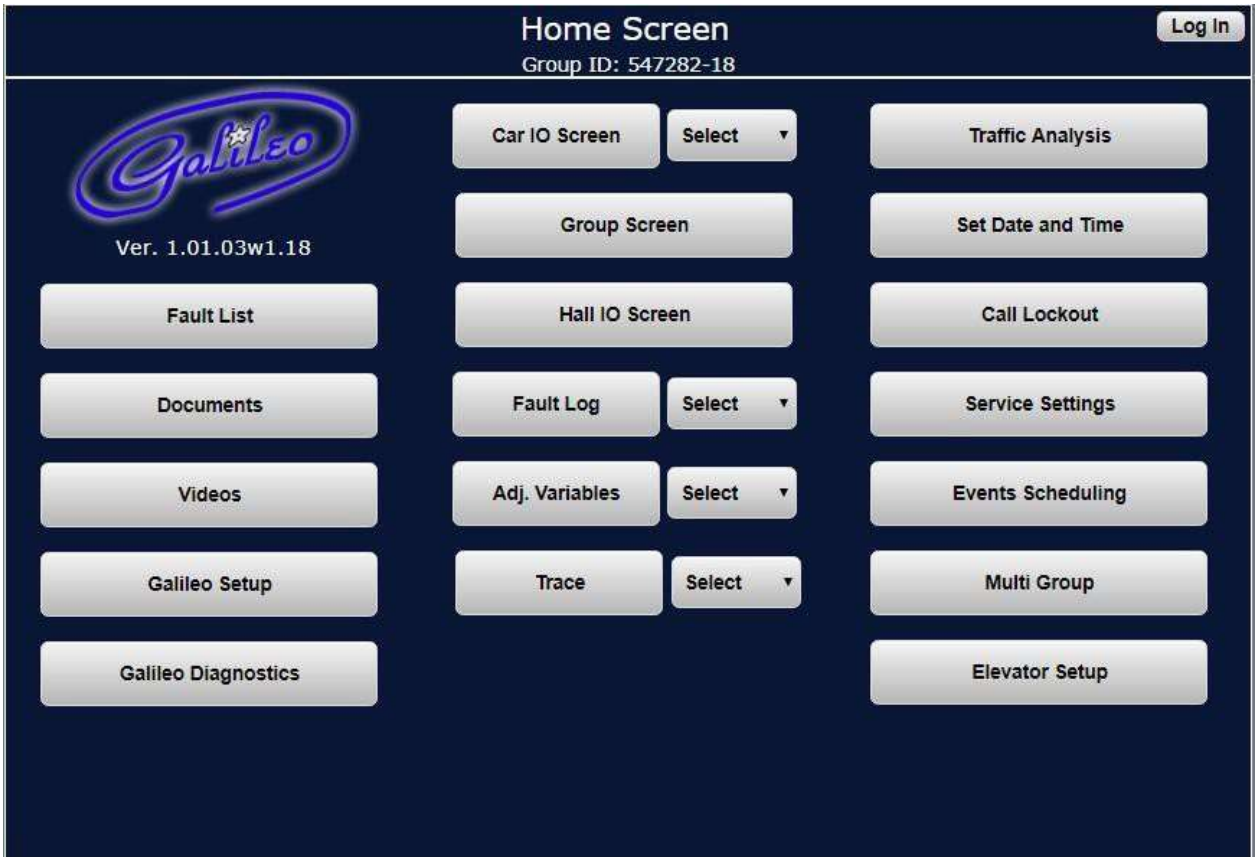
6. Click "A specific page or pages."



7. Set Homepage URL to be <http://192.168.1.19/> and click save



8. Lastly verify by opening Internet Explorer.



And you are all done.