



GALaxy IV GALileo WIFI to Ethernet Replacement Guide

4/27/2020

DOC-0124RN

Version 1.4



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.

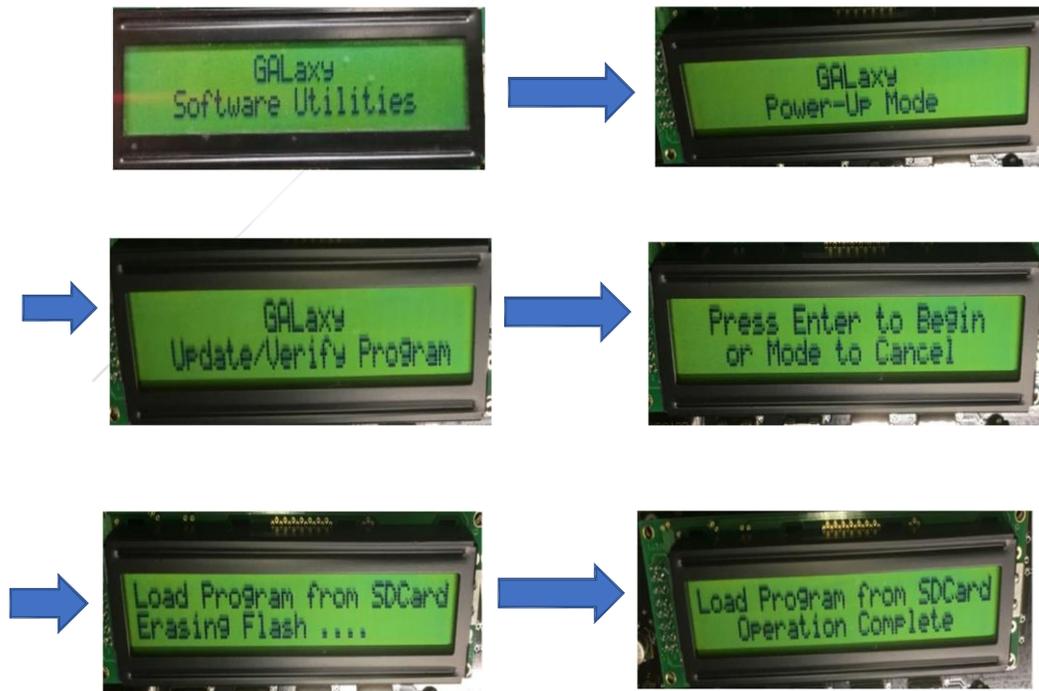
Installation Procedure

- 1) Identify the elevator that has the hall call boards mounted in its controller. This car will be designated as the dispatch car. Verify that no one is in the elevator. While following all proper safety procedures, capture and secure the elevator. Remove the elevator from service, ensure that no one is in the elevator car, close the elevator doors, and prevent the elevator doors from operating. Once the elevator has been captured and removed from service, place the elevator on machine room inspection operation with the doors closed.
- 2) Install the new Software, provided with the upgrade kit, on the secure digital card.
 - a. Remove the original secured digital card.
 - b. Insert the new secure digital card provided with the upgrade kit.



← Secure digital card

- c. Navigate to Update/Verify Program and press enter.



- d. After the load program is complete, replace the secure digital card with the original secure digital card. Press the mode key and navigate to the “Run Controller Program” and press enter. This will restart the elevator with the new program.



- e. Set “COM1 Baud Rate” equal to 6.



- f. Set “Com 1 Port Sel” equal to 6.



- g. Set “Galileo Group#” equal to the group number.



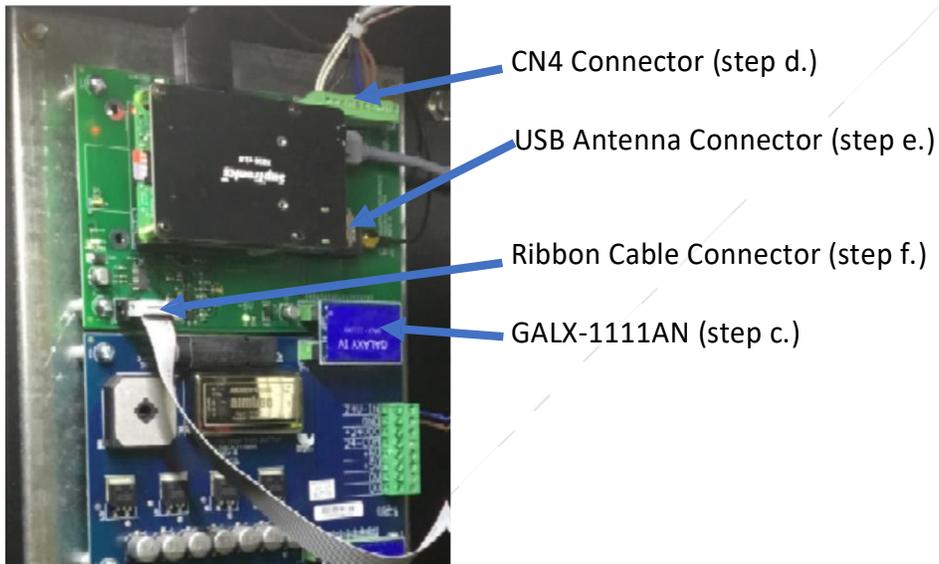
- 3) Remove the GALX-1120AN rev A as shown in the picture below.



- CN4 Connector (step a.)
- USB Antenna Connector (step b.)
- Ribbon Cable Connector (step c.)
- GALX-1111AN (step d.)

- a. Remove the connector plugged into CN4 connector. This will temporarily remove power from the hall calls.
- b. Unplug the USB antenna connector from the USB port.
- c. Unplug the ribbon cable.
- d. Unplug the GALX-1111AN board plugged into the GALX-1120AN board.
- e. Remove the original GALX-1120AN by unscrewing the four mounting bolts.

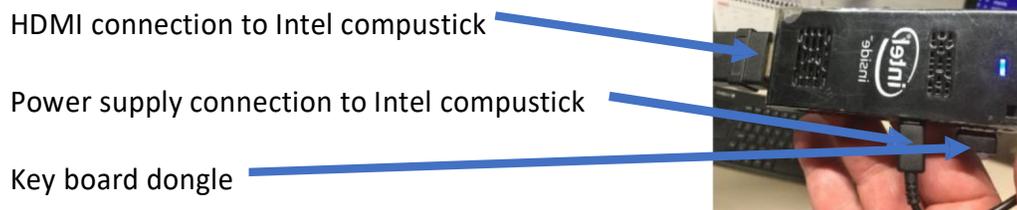
4) Install the new GALX-1120AN Rev C as shown in the picture below.



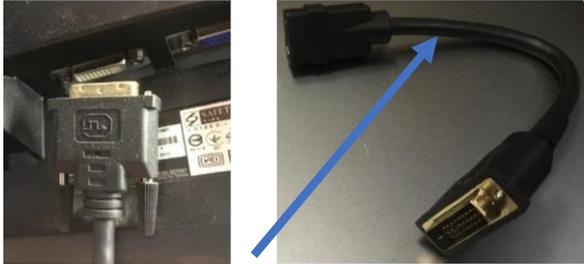
- a. Turn off the “ON / Off” switch on the new GALX-1120AN Rev C board.
- b. Install the new GALX-1120AN rev C board by screwing in the four mounting bolts. Don’t tighten the bolts until the GALX-1111AN board is plugged in.
- c. Plug in the GALX-1111AN board into the GALX-1120AN board. Tighten the 4 mounting bolts on the GALX-1120AN rev C board.
- d. Plug in the connector to the CN4 connector.
- e. Plug in the USB antenna connector to a USB port on the GALX-1120AN Rev C board.
- f. Plug in the ribbon cable

5) Directly connect the machine room monitor to the GALX-1120AN Rev C board

- a. Remove the Intel compustick, its power supply and key board dongle.



- b. Leave the HDMI to DVI cable connected to the machine room monitor, or install a HDMI to DVI cable to the machine room monitor.

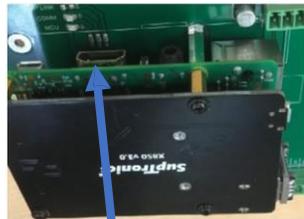


HDMI to DVI Cable

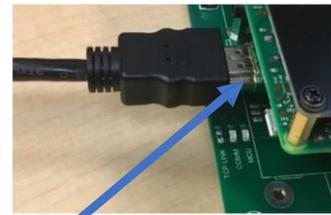
- c. Connect the HDMI cable to the DVI cable and the HDMI cable to the GALX-1120AN Rev C HDMI port.



HDMI to DVI Connection



HDMI port GALX-1120AN



HDMI to GALX-1120AN Rev C

- d. Insert the keyboard dongle into a USB port on the GALX-1120AN Rev C board.



USB port on GALX-1120AN Rev C



Key board dongle in USB Port

- e. If the existing keyboard is a wired keyboard, a PS2 to USB adaptor is supplied in the kit. Connect the keyboard to the USB adaptor and plug the USB adaptor into a USB port on the GALX-1120 Rev C. This option will require a USB mouse to be installed. We have also supplied a wireless keyboard with a track pad.



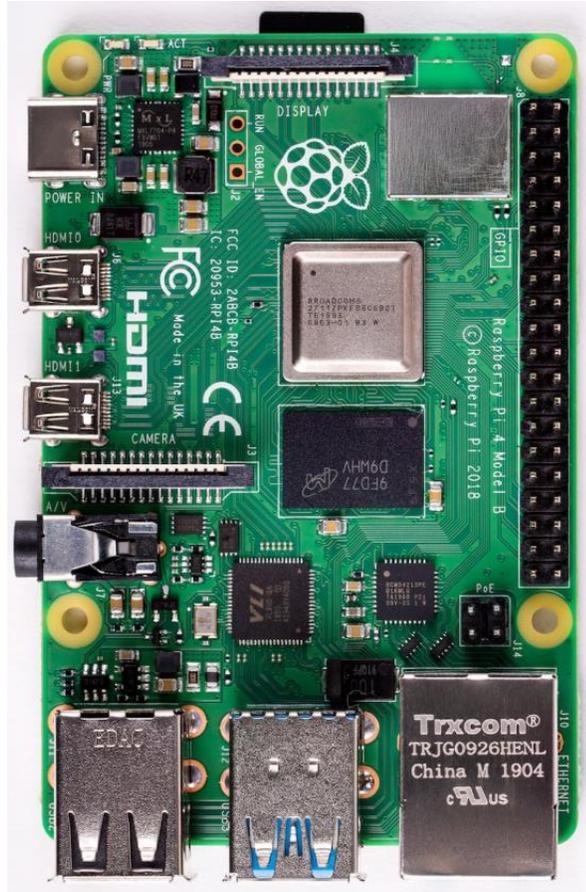
Keyboard to GALX-1120 Rev C



PS2 to USB adaptor



Raspberry Pi 3

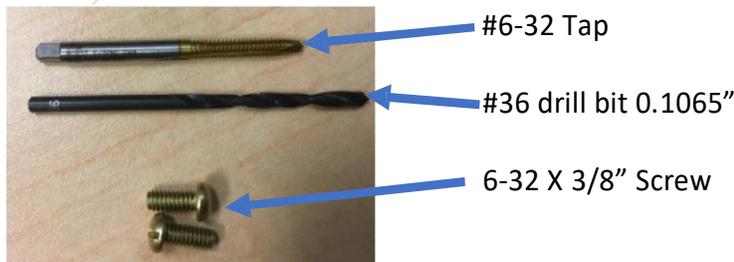


Raspberry Pi 4

* Note: The retrofit kit will come with either the Raspberry Pi 3 or the Raspberry Pi 4. The Raspberry Pi 4 will come with a mini HDMI cable and the Raspberry Pi 3 will come with a HDMI cable.

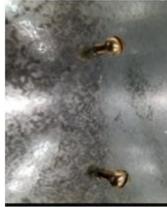


- 6) Mount the ethernet switch, on the left side panel, in the same controller cabinet that the GALX-1120AN Rev C is in, as shown in the pictures below. If there is no room on the left side panel, choose an alternate mounting location in the controller cabinet that provides the proper clearance from other devices in the controller cabinet.
 - a. Drill and tap 2 holes, using a #36 drill bit .1065", for a #6-32 X 3/8" screw, on the left side panel. If the number of cars is 4 or less, drill the holes 1 13/16" apart. If the number of cars is greater than 4 drill the holes 3 1/8" apart.

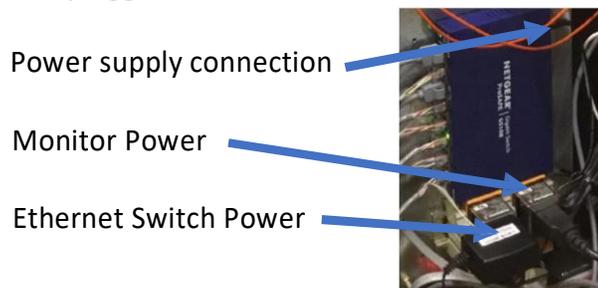


The drill and tap could be replaced by a combo tap and drill bit in future kits

- b. Screw the 6-32 X 3/8 screw into the tapped holes. Screw them down until the head is .2" above the left side panel as shown in the picture below.



- c. Mount the ethernet switch on the screws by lining up the switch, pushing in on the switch, and sliding the switch until the screws are against the side of the slot.
- d. Plug in the ethernet switch's power supply into the outlet that the Intel compustick was plugged into.



- e. If there is only one monitor outlet, mount the new outlet, that was supplied with the kit, to the din rail. Wire the L & N terminals on the existing monitor outlet to the L & N terminals on the new outlet that was just mounted.
- f. Connect port #1 of the ethernet switch to the ethernet port on the GALX-1120AN Rev C with the supplied blue 5-foot CAT6 patch cable as shown in the picture below. If the switch is mounted more than 5 feet from the GALX-1120AN board, make up a patch cable, that is the proper length, using the CAT5 cable supplied with the kit.

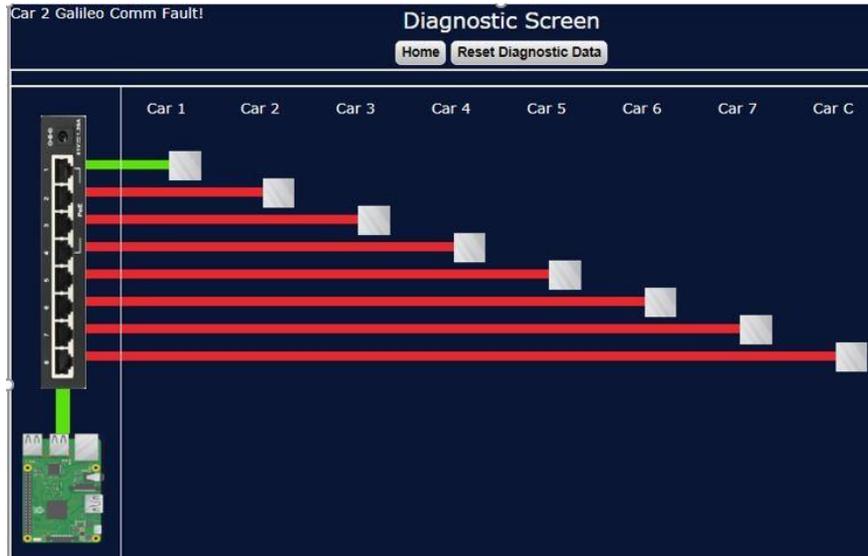


- g. Turn on the ethernet switch.



On off switch on the back of the ethernet switch.

- 7) Move the ON / OFF switch on the GALX-1120AN to the ON position. Make sure the monitor and keyboard are turned on. The Galileo home page will appear on the screen. Once the home page is booted, click on Galileo Diagnostic. This page displays a screen indicating the communication status of each car as shown in the picture below. If the car's line to the ethernet switch is green, the car is communicating. If the car's line to the ethernet switch is red the car is not communicating.



Galileo Diagnostic Screen



CAUTION

- 8) Verify the proper operation of all safety functions, hoistway door interlocks, hoistway door mechanical locks and electric contacts, car door or gate electric contacts, car door interlocks, and stop switches before placing the elevator back into service. Perform all code and company required tests before placing car back into service. Verify that the elevator functions properly in all modes of operation before placing the elevator back into service.
- 9) If there is a remote GALileo, or lobby monitor, remove the micro-SD card, in the remote device, and replace it with the new one supplied.

Repeat the steps 10 through 23 below for all non-dispatch cars.

10) Identify an elevator that **does not have** the hall call boards mounted in its controller. This car will be designated as a non-dispatch car. Verify that no one is in the elevator. While following all proper safety procedures, capture and secure the elevator. Remove the elevator from service, ensure that no one is in the elevator car, close the elevator doors, and prevent the elevator doors from operating. Once the elevator has been captured and removed from service, place the elevator on machine room inspection operation with the doors closed.

11) Install the new Software, provided with the upgrade kit, on the secure digital card.

h. Remove the original secured digital card.

i. Insert the new secure digital card provided with the upgrade kit.



Secure digital card

j. Navigate to Update/Verify Program and press enter as shown in the pictures below.



- k. After the load program is complete, replace the secure digital card with the original secure digital card. Press the mode key and navigate to the “Run Controller Program” and press enter. This will restart the elevator with the new program.
- l. Set “Galileo Group#” equal to the group number as shown in the picture below.



- 12) Turn off the power to the controller.
- 13) Remove the WIFI antenna.
- 14) Replace the old 1005BN board that has the red WIFI board with the new 1005CN Rev G board that has the ethernet port.
- 15) After the new 1005CN Rev G board has been installed, turn on the power to the controller.



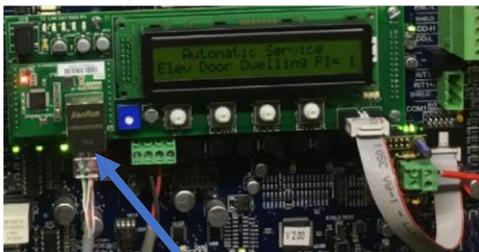
New GALX-1005CN Rev G “Ethernet Board”

- 16) Go to “Software Utilities” on the LCD Screen then go to “Network Card Setup” and go to “Auto Ethernet Setup” and press enter. Make sure that ethernet cable is **NOT** connected to the ethernet port during the “Auto Ethernet Setup” process. See the pictures on the following page.



17) When the “Auto Ethernet Setup” displays complete, the ethernet card is setup.

18) Run the CAT 5e cable from the controller **without** the hall call boards, to the controller with the ethernet switch. Be sure to make the cable long enough to connect one end of the CAT 5e cable to the ethernet port on the new GALX-1005CN board and to connect the other end of the CAT 5e cable to the ethernet switch.

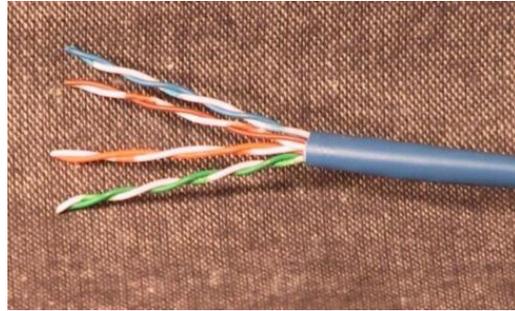


Cat 5e cable plugged into GALX-1005CN

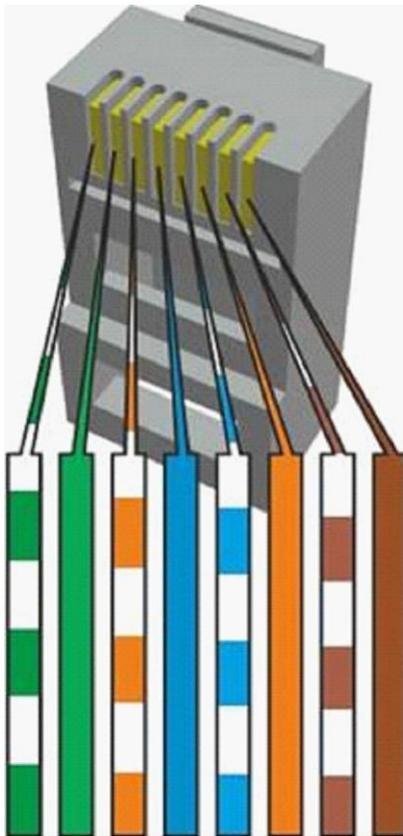


Cat 5e cable plugged into ethernet switch

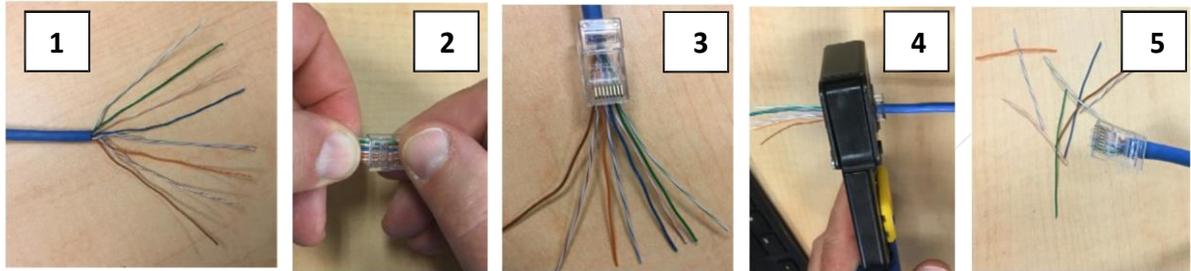
19) Strip approximately 2" off, of the Cat 5e cable using the tool supplied. Put the wire through the crimping tool, with 2" sticking through. Squeeze the crimping tool and rotate the tool around the wire as shown in the picture below.



20) Untwist the pairs, straighten the wires, and arrange the wire as shown in the picture below.



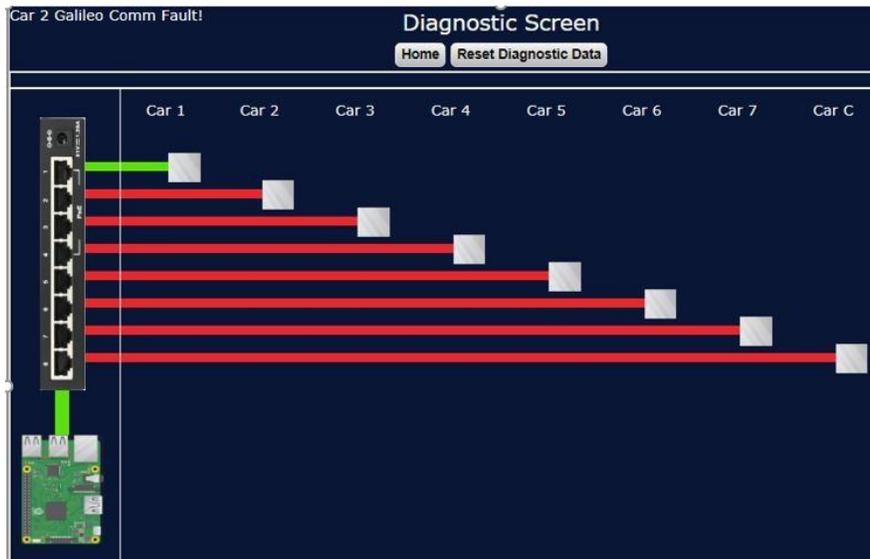
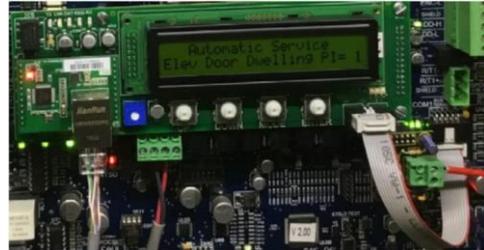
21) Install the RJ-45 plugs as shown in the picture below. Hold the RJ-45 plug with the clip facing down or away from you. Push the wires firmly through the plug. Inspect the wires and verify they are in the right position. Check the order of the wires. If the wires are not in the right order pull them out of the connector and re-insert them in the correct order. Double check again. Check that the jacket is fitted correctly against the stop of the plug. Carefully put the wires and connector into the crimper and firmly crimp the RJ-45 connector. The crimper will cut off the excess wires. Pull on the end to ensure the connector is crimped correctly.



22) Once both ends of the cable are crimped, use the supplied tester to test the CAT 5e cable as shown in the picture below. Connect one end of the cable to the master device and the other end to the remote device. Turn the tester on and make sure the lights on both ends of the device turn on sequentially. LED 1, then 2, then 3, then 4, then 5, then 6, then 7, then 8 should turn on in that sequence on both devices. If the LED's turn on in that sequence, the ethernet cable has been successfully made and tested and is ready to connect.



23) Connect one end of the cable to the ethernet switch. Plug the cable into the same port number as the car number. Connect the other end of the cable to the ethernet port on the new GALX-1005CN. Allow approximately two minutes for communication to be established. The Galileo Diagnostics screen should indicate that communication has been established for the car that has been connected. See the pictures below.

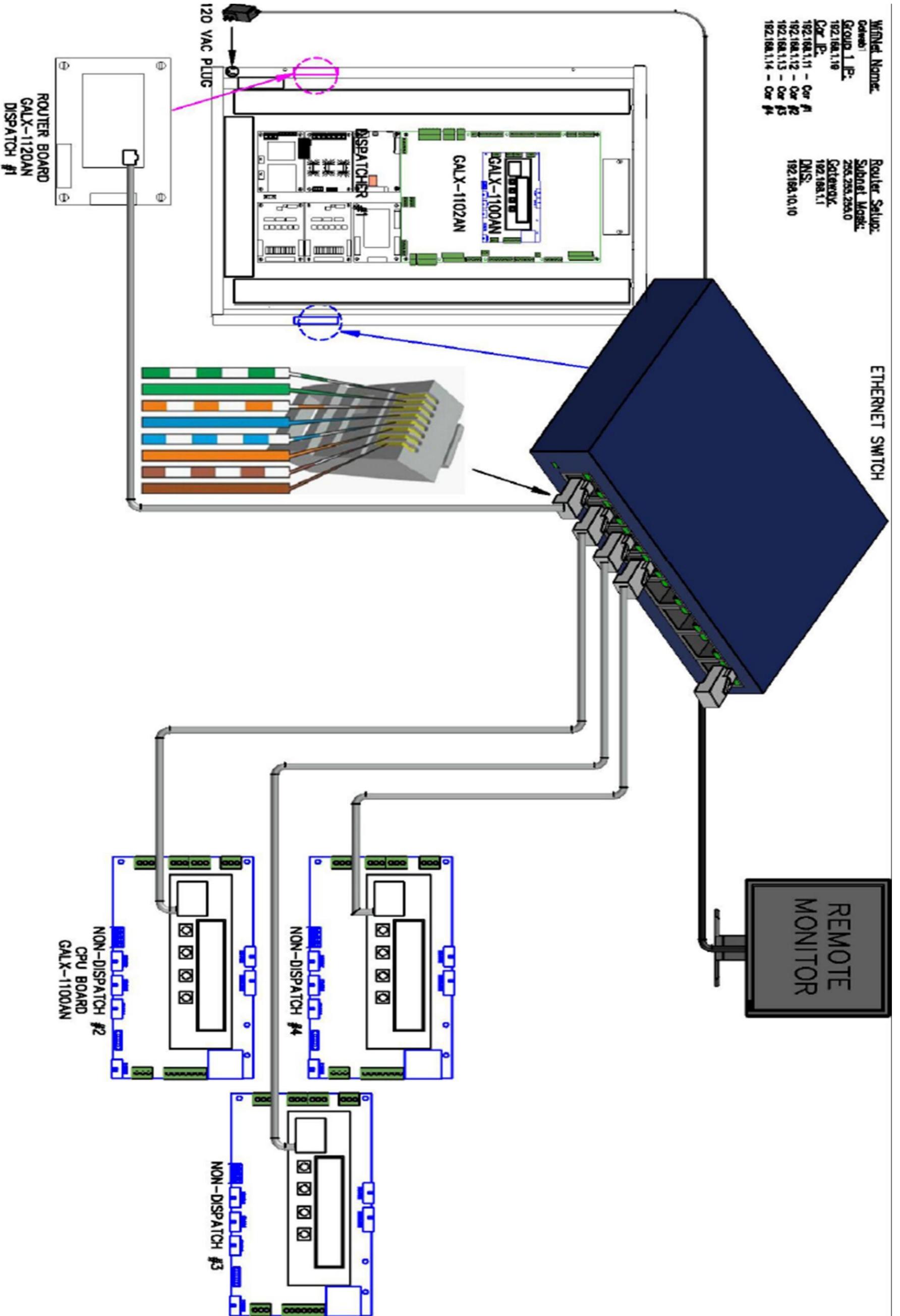


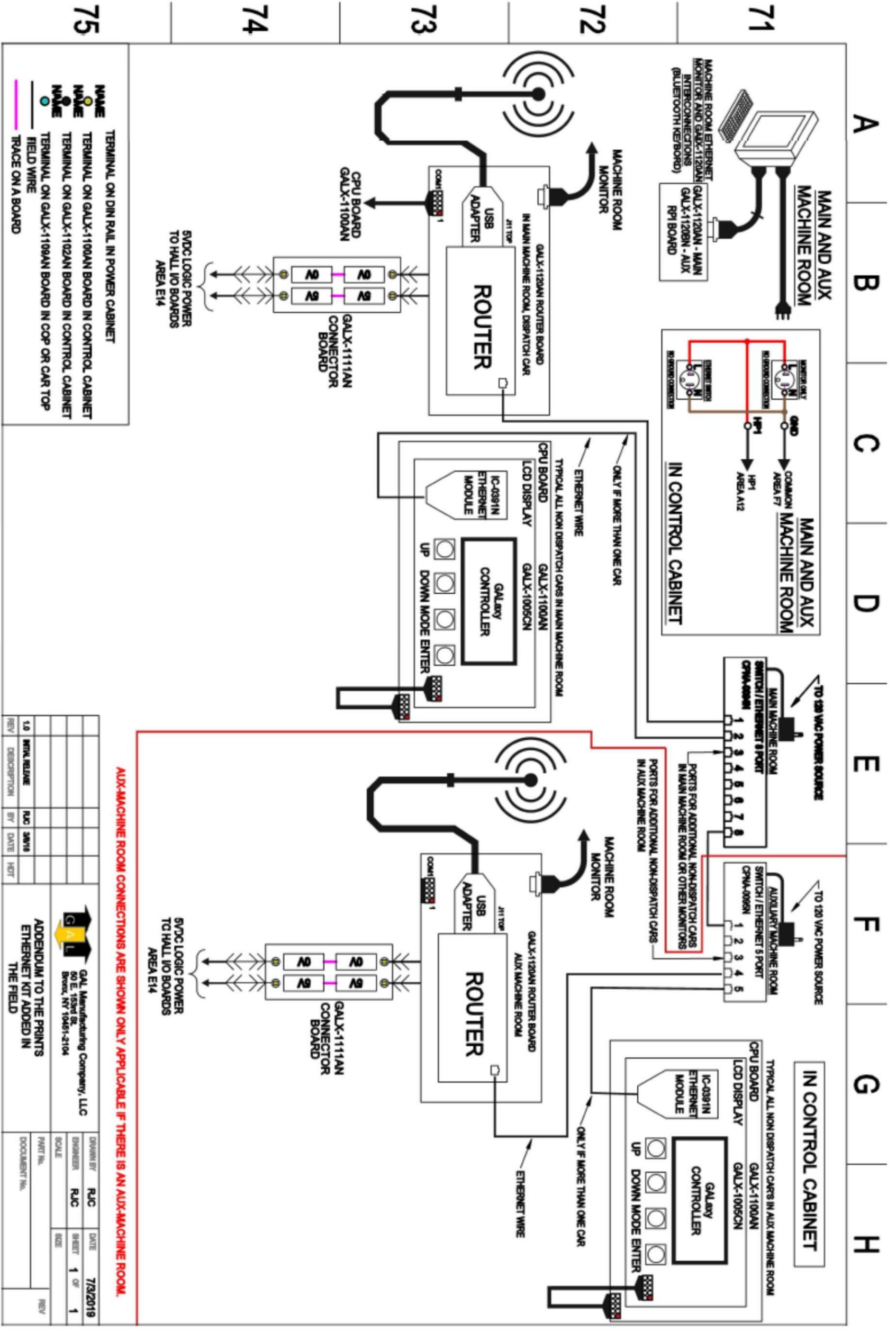
CAUTION

24) Verify the proper operation of all safety functions, hoistway door interlocks, hoistway door mechanical locks and electric contacts, car door or gate electric contacts, car door interlocks, and stop switches before placing the elevator back into service. Perform all code and company required tests before placing car back into service. Verify that the elevator functions properly in all modes of operation before placing the elevator back into service.

25) Attach the last two pages to the job prints.

GALaxy IV GALileo Ethernet Connection Diagram





- NAME TERMINAL ON DIN RAIL IN POWER CABINET
- NAME TERMINAL ON GALX-1100AN BOARD IN CONTROL CABINET
- NAME TERMINAL ON GALX-1102AN BOARD IN CONTROL CABINET
- NAME TERMINAL ON GALX-1109AN BOARD IN COP OR CAR TOP
- FIELD WIRE
- TRACE ON A BOARD

REV	DESCRIPTION	BY	DATE	HOT	DRAWN BY	RJC	DATE	7/3/2019
1.0	INITIAL RELEASE	RJC	5/19/19			RJC		

GAL Manufacturing Company, LLC
 50 E. 153rd St.
 Bronx, NY 10461-2104

APPENDUM TO THE PRINTS
ETHERNET KIT ADDED IN THE FIELD

PART NO.	REV

AUX-MACHINE ROOM CONNECTIONS ARE SHOWN ONLY APPLICABLE IF THERE IS AN AUX-MACHINE ROOM.