Radford.

Sesame2 Upgrade Plan

Flashing store tracker to Sesame2 + Safety radar installation + remote monitoring cable installation

Last updated: 2024-08-14

Version	Date	Comments	Issued by
1.0	2024-04-25	First version	Ilona Mykhaliuk
2.0	2024-05-07	Adjustment for Coles migration process	Jonathan Gunnarsson
2.1	2024-05-08	Added How to enter network details in store tracker	Jonathan Gunnarsson
2.2	2024-05-13	Adjusted flashing the store tracker chapter	Jonathan Gunnarsson
2.3	2024-05-28	Added troubleshooting chapter	Jonathan Gunnarsson
3.0	2024-06-24	Merged flashing to sesame2 + safety radar installation + remote monitoring installation guides	Jonathan Gunnarsson
3.1	2024-06-24	Fixed squares in remote monitoring cable section	Jonathan Gunnarsson
4.0	2024-07-01	Added more instructions to safety radar installation and a troubleshooting section.	Jonathan Gunnarsson
4.1	2024-08-07	Added instructions on how to connect a spare store tracker 3.4	Jonathan Gunnarsson
4.2	2024-08-14	Added instructions in troubleshooting section 3.3 “Run a restart of the services on the store tracker”	Jonathan Gunnarsson

Table of Contents

1. How to flash a Sesame 1 store tracker to Sesame 2

1.1 Overview of store tracker

Sesame 2 uses a different operating system called PhyOS compared to Sesame 1. Follow the steps below to update the operating system of the Giada computer (store tracker) to PhyOS.

1.2 List of what to bring for the flashing

Below is what's needed to be able to perform the flashing the store tracker into sesame1

- Screen with HDMI support
- HDMI cable
- USB with loaded OS (Delivered by Coles)
- USB keyboard

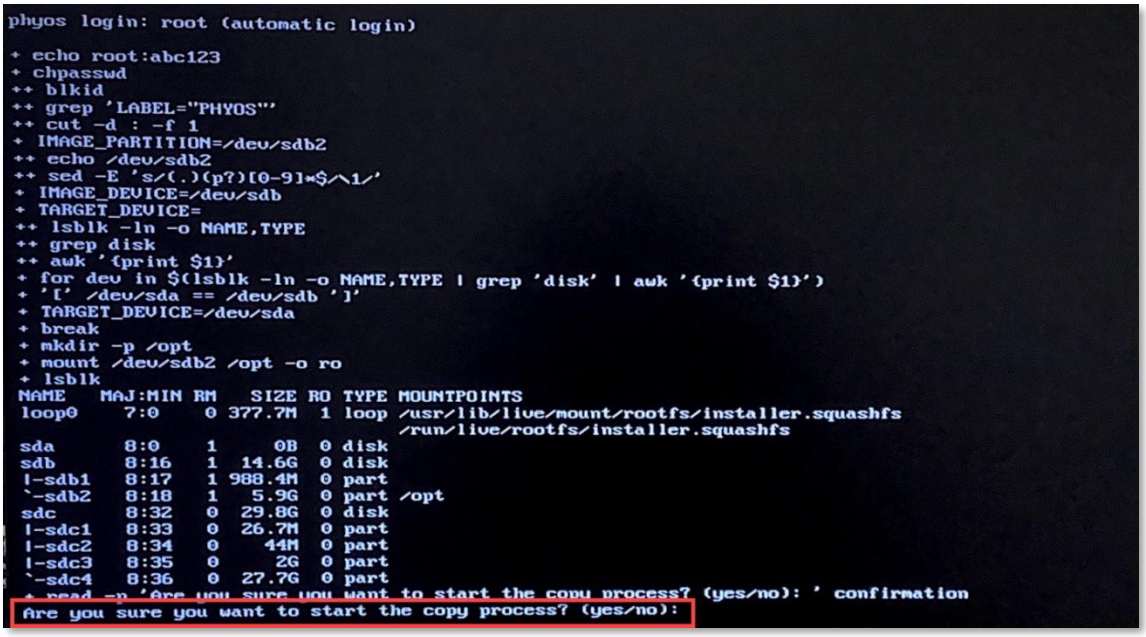
1.3 Flashing the store tracker

1. Locate the store tracker of the zone you are going to migrate.
2. Insert the USB keyboard into any available USB port on the store tracker.
3. Insert the USB stick into any available USB port on the store tracker.
4. Insert the HDMI cable in the store tracker and into the screen.
5. Disconnect the power supply of the store tracker, wait 10 seconds then connect the power supply to the store tracker again and the store tracker will start up automatically.
6. Press on the F12 key on your keyboard plugged into the store tracker during start up multiple times until you see a blue popup field with the text “Please select boot device”.
7. Using the arrows on the keyboard, select UEFI <name of your USB> from the menu.

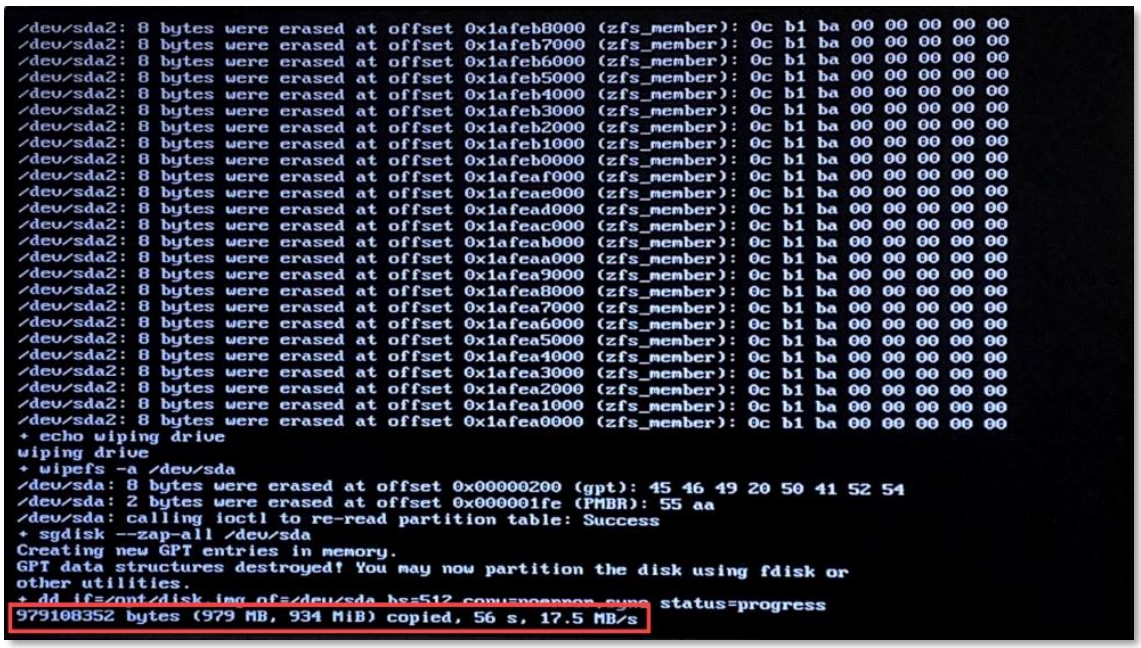
   (in the image the USB name is “VendorC ProductCode 2.00”, your USB will have another name)

8. You will be prompted to confirm if you want to start the copy (installation) process.

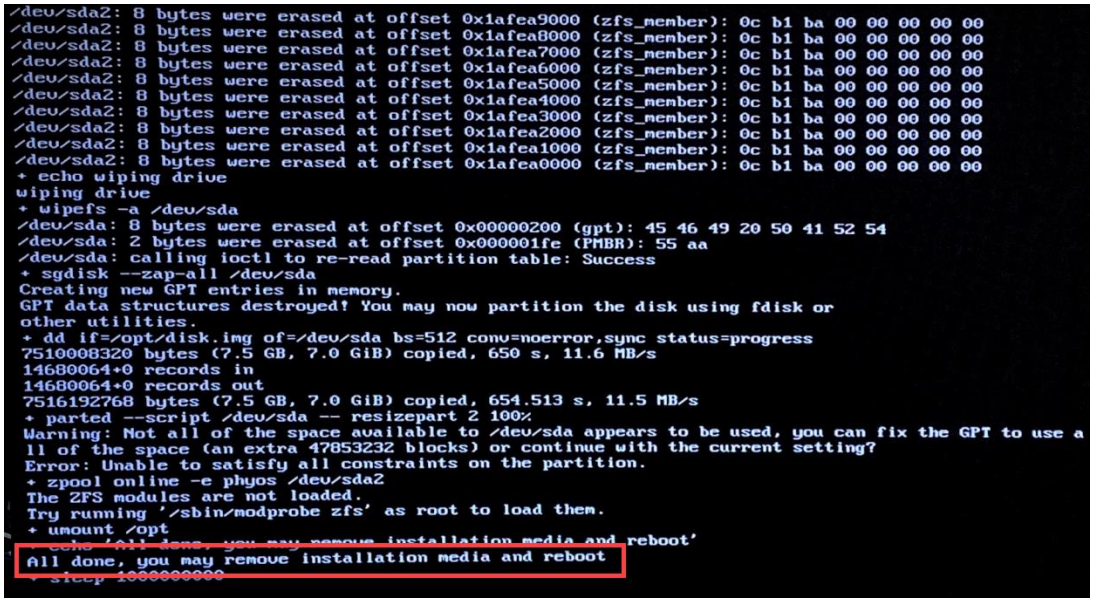
   Type "Yes" and press Enter on the keyboard.



9. The copy process will initiate, displaying its progress and speed as it proceeds.



10. Once the process is finished, a confirmation message will appear.



You have now completed the installation of sesame 2 on the store tracker.

11. Eject the USB stick from the store tracker.
12. Remove the power cable from the store tracker, wait for 10 seconds and connect it again.

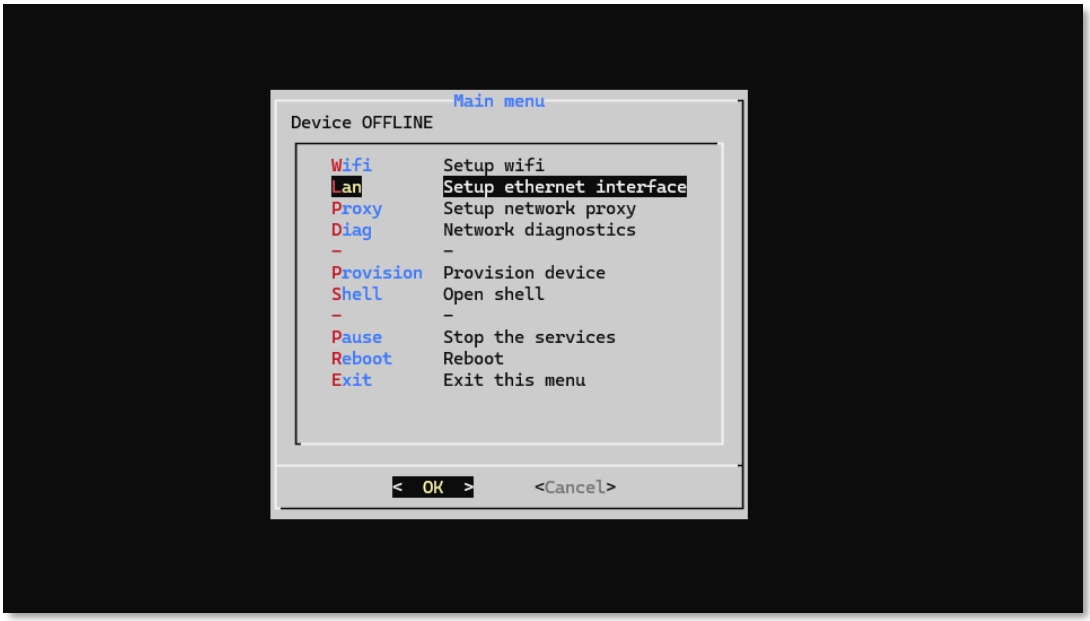
    The store tracker will start up by itself.

13. Leave the store tracker to start up for 5 minutes.
14. After 5 minutes you should see a black screen with a QR code. Then you know the store tracker is fully up and running.

2. Enter network details in store tracker

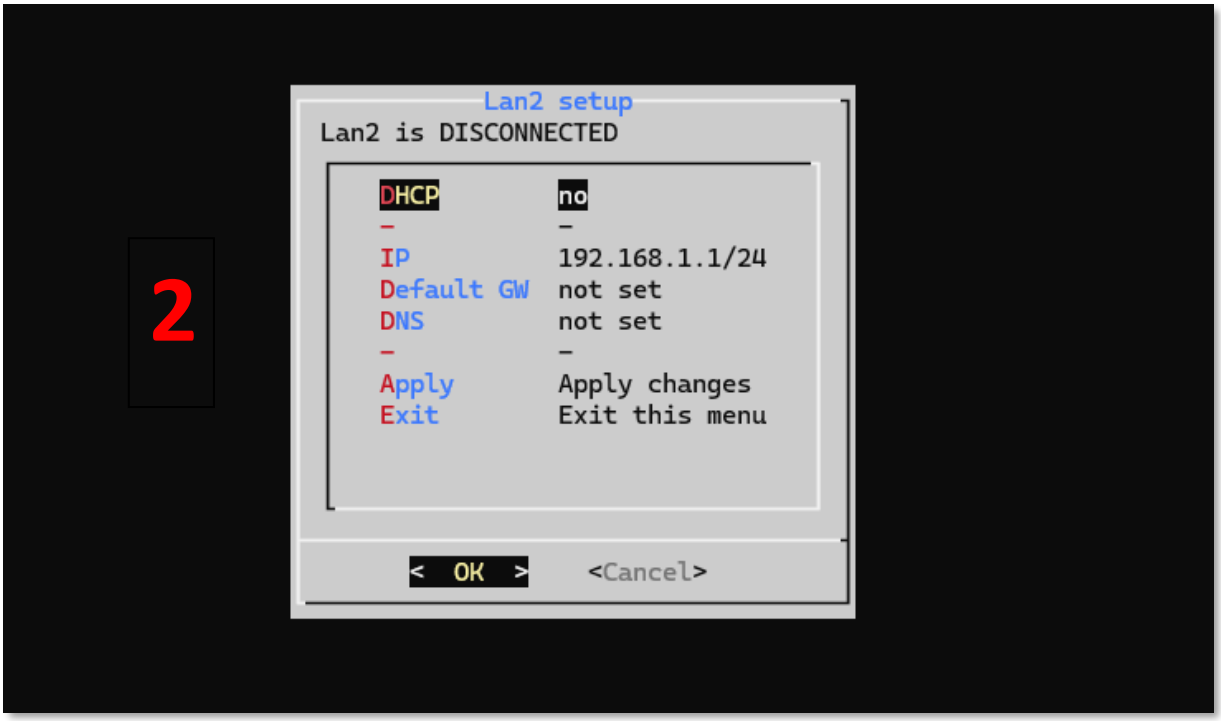
After flashing you will have to enter the network details into the flashed store tracker to connect it to Coles network. The following steps will show how it's done. Coles will provide the network details.

1. Press the F2 button on the USB keyboard plugged into the store tracker.
2. You will now be in the configuration menu of the store tracker.
3. Navigate to "Setup ethernet interface".



4. Navigate using the arrow on the USB keyboard to **Lan2** and press enter.

NOTE! Coles will always use **Lan2** for the network configuration. Make sure you select that interface when entering the network details.

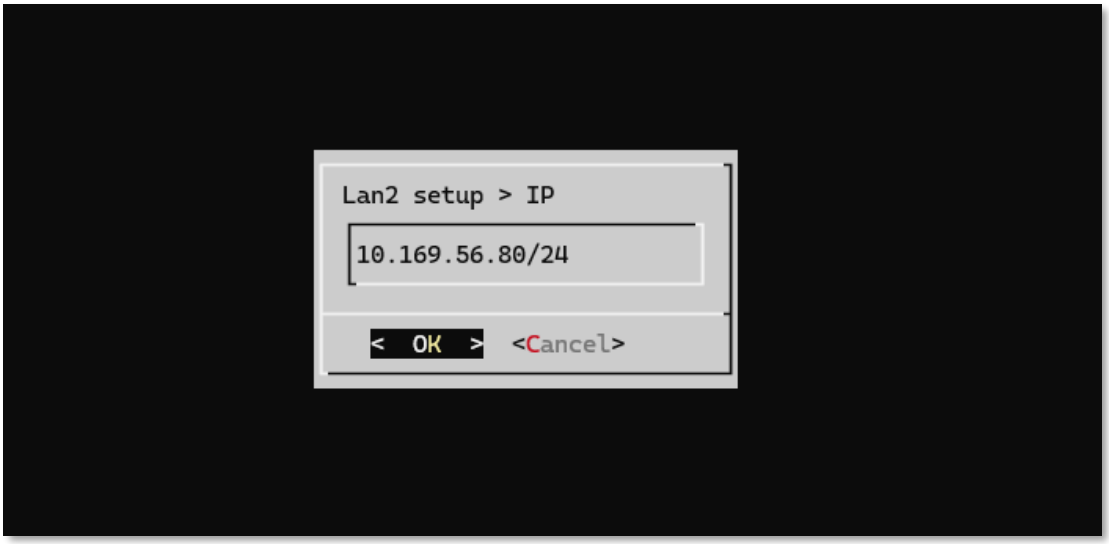


5. Press enter on your keyboard to change Lan2 from DHCP yes into DHCP no.

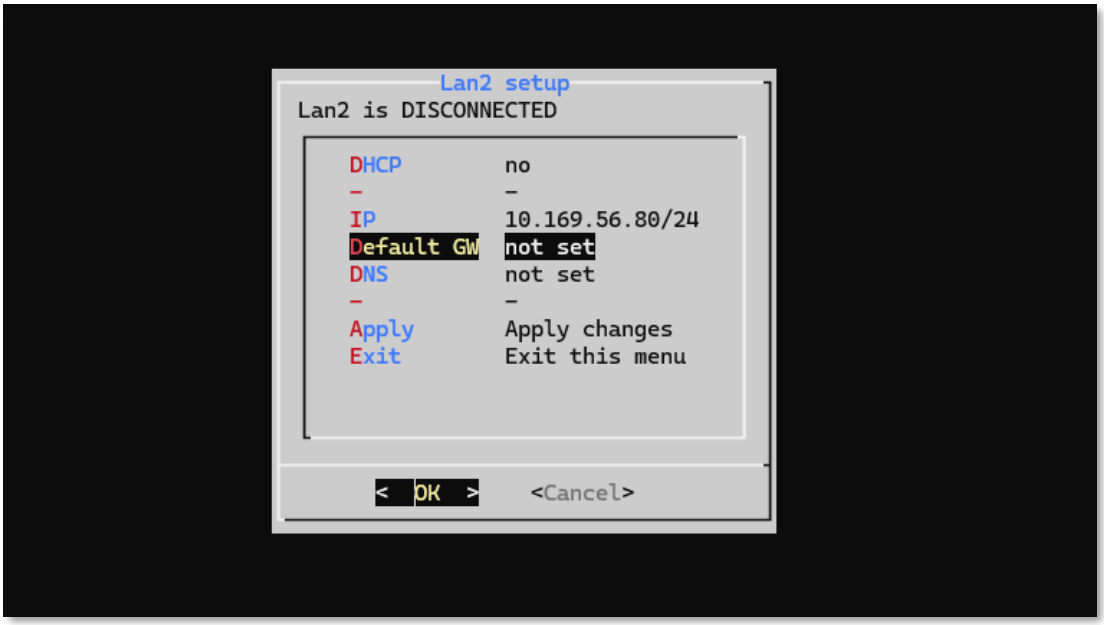
6. Navigate down to the IP field and enter the IP address given by Coles followed by /24.
   Press on enter on your keyboard to edit the field.
   Here is an example of how to edit the IP field.

When in the edit mode, type the IP address from Coles followed by /24.
Press Enter on the keyboard to exit the edit mode.

See example below:



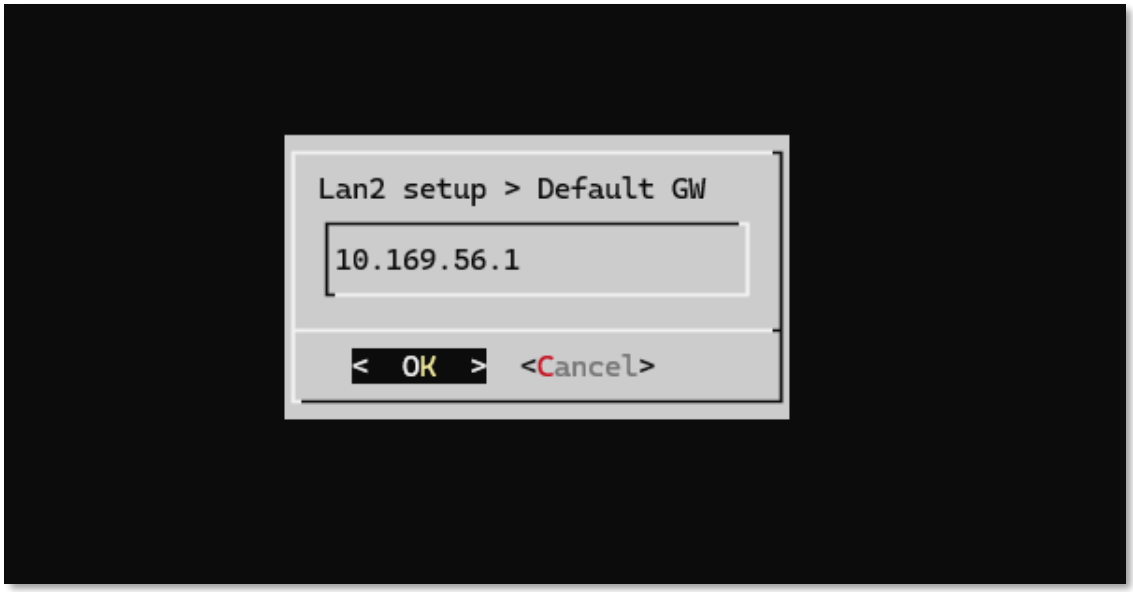
7. Now, navigate down to the Default GW field and press enter to edit it.



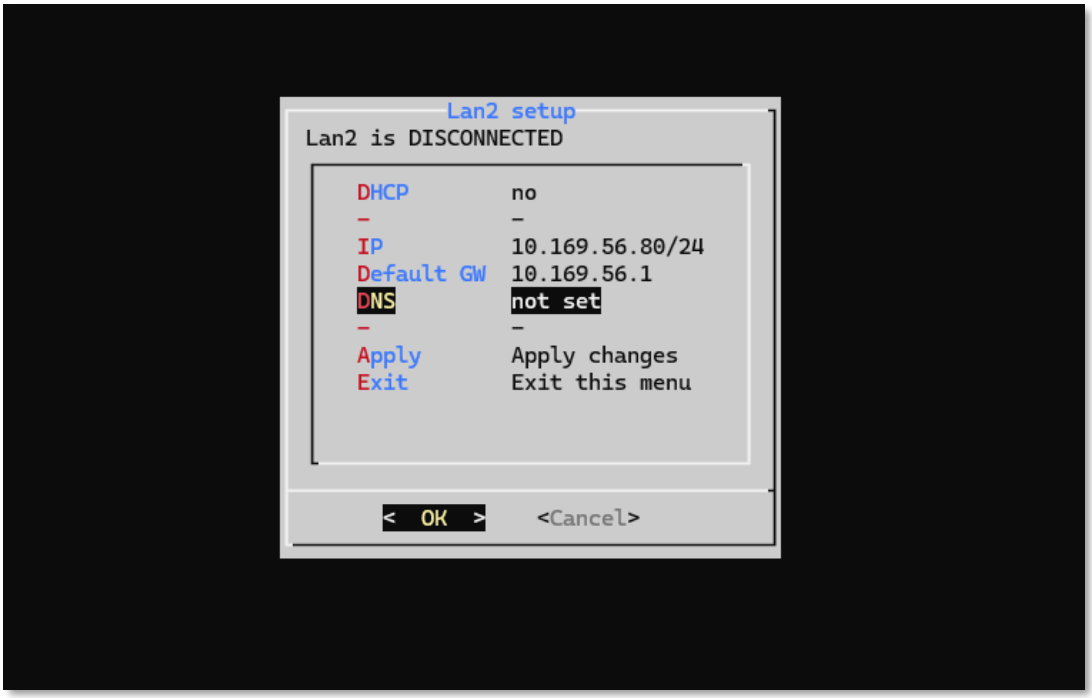
Enter the gateway given by Coles.

Press Enter on the keyboard to exit the edit mode.

See example below:



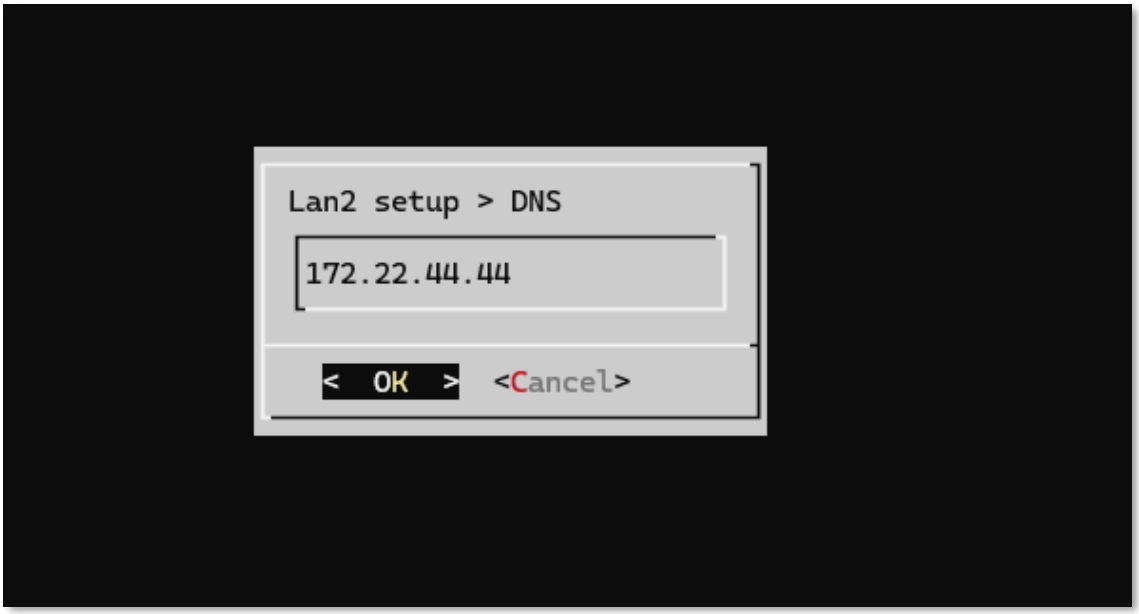
8. Now to the last one. Navigate down to the DNS field and press on enter to edit the field.



The DNS will always be 172.22.44.44 unless Coles have given any other information.

Press Enter on the keyboard to exit the edit mode.

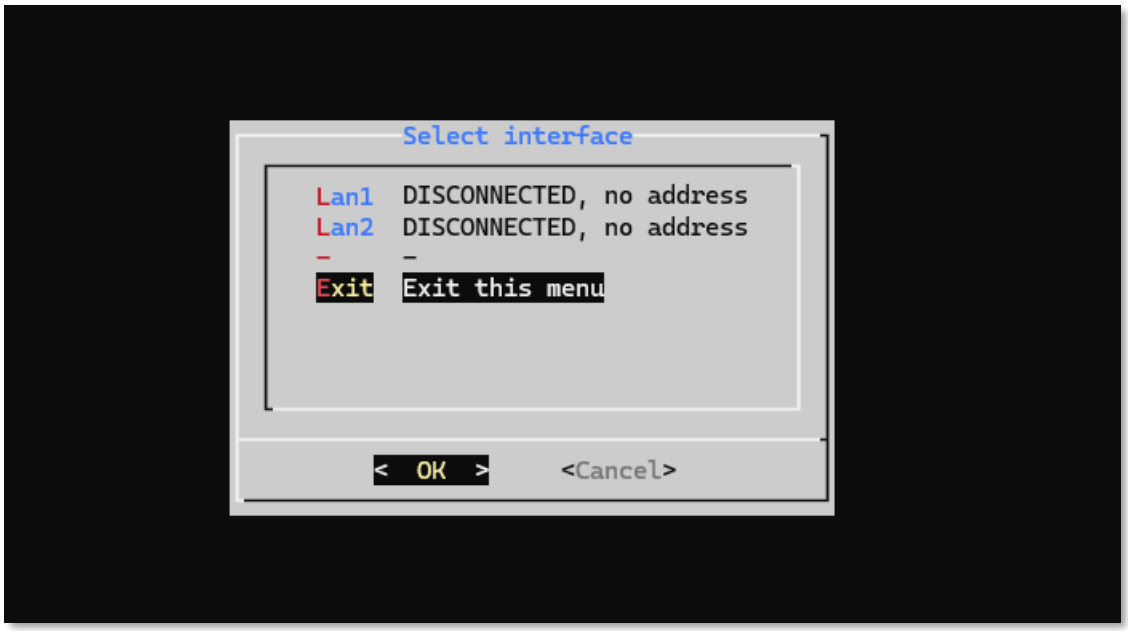
See example below:



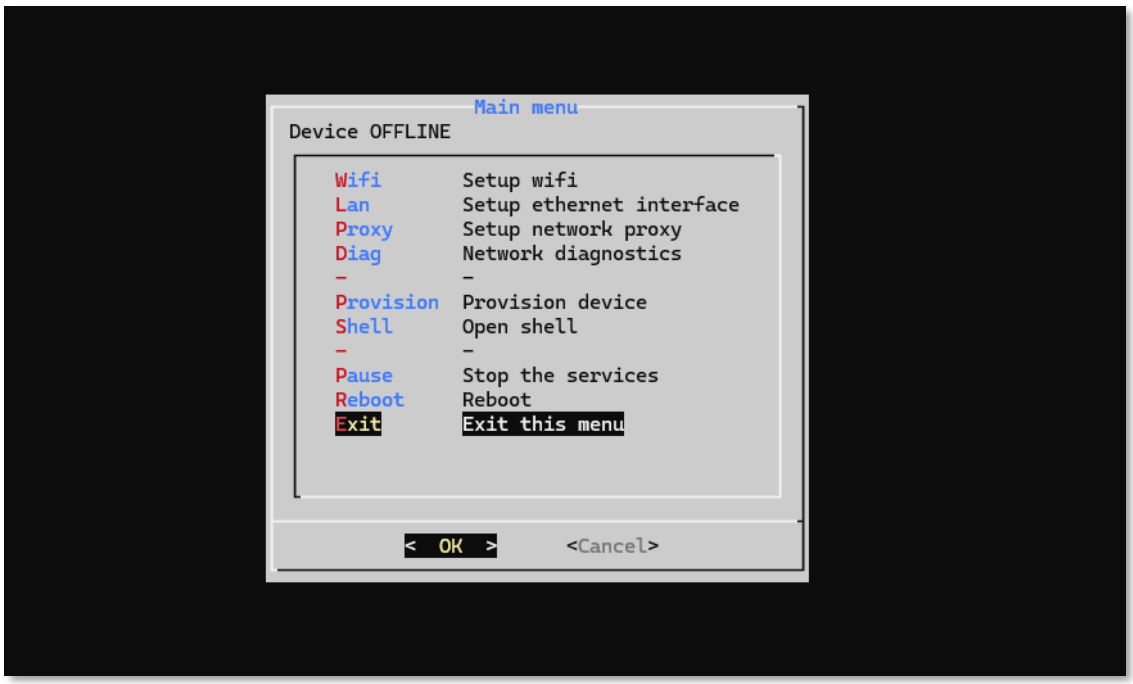
9. Go through the enter network details and if everything is right navigate down to Apply changes and press enter on your keyboard to save the configuration.

It will take a few seconds to save, and some console messages will pop up during the saving process. Once the menu is back again, navigate down to Exit this menu and press enter on your keyboard to get back to the overview of the network interfaces.

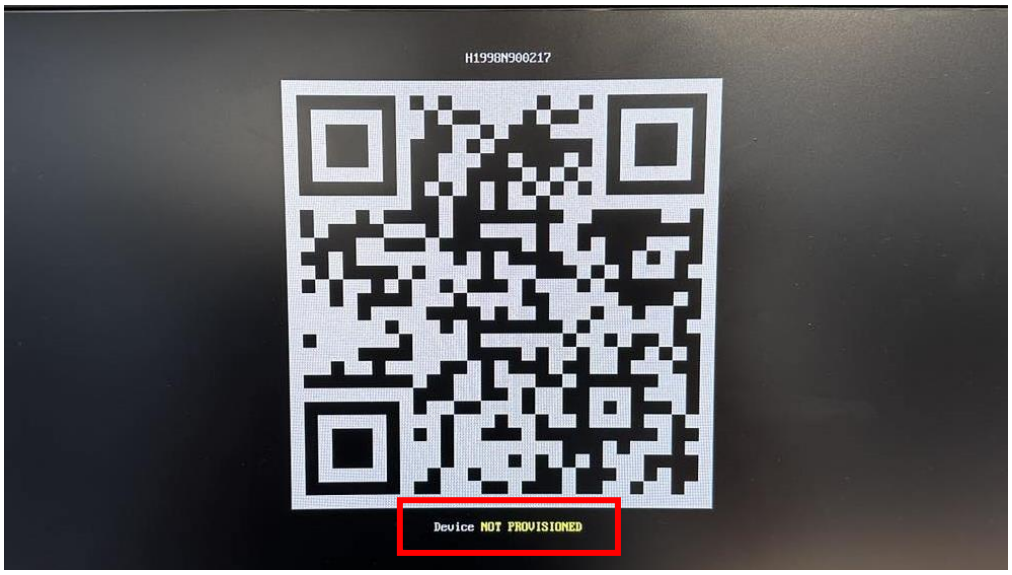
10. Navigate and select Exit this menu again to get out to the main menu.



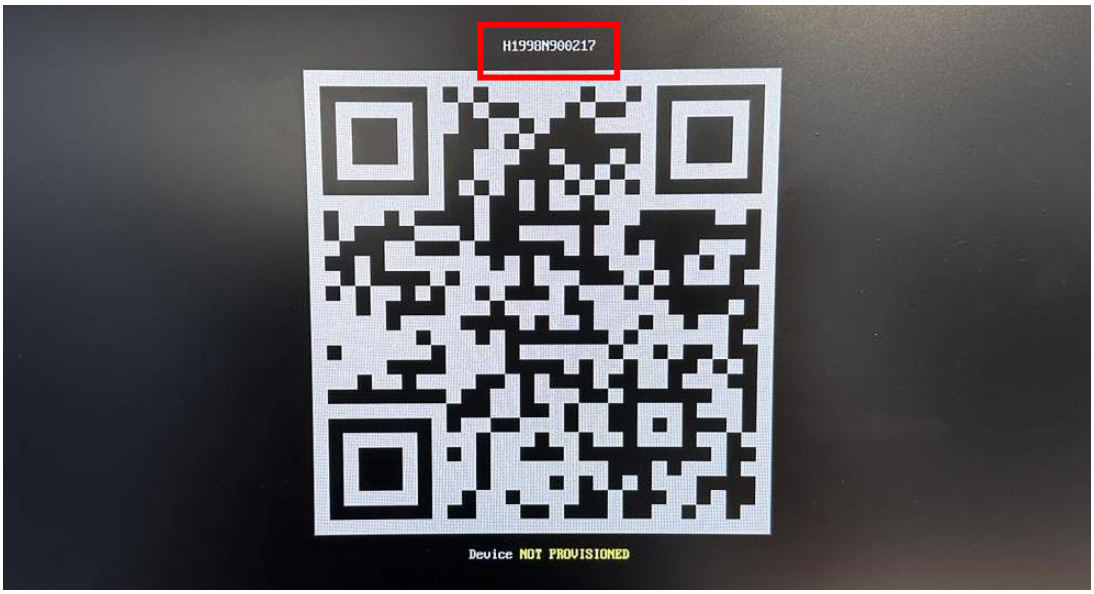
11. When back to the main menu, navigate down to Exit this menu again to exit the configuration mode.



12. Now when you see the black screen with the QR code again, the “but Offline” message before “Device Not provisioned” should have disappeared if the store tracker can successfully reach the cloud platform. This could potentially take up to a couple of minutes.



13. When the “and offline” message have disappeared, send the serial number that’s above the QR code to the Coles team. Its needed to continue the process.



14. The flashed store tracker should now be connected to Coles network and after the serial number is added to the cloud platform by Coles, the store tracker will automatically download the additional software and configuration from the cloud platform.
Wait for Coles to confirm store tracker is online in the cloud platform before doing anything else. This might take 5-10 minutes.

15. When the store tracker is added to the cloud platform and approximately 10 minutes or less have passed, the message underneath the QR code will change to “All OK” if the device is successfully connected to the cloud platform and provisioned.

16. You can remove the screen and the USB keyboard since the store tracker running Sesame2 is fully connected and running.

17. If the “All OK” message doesn’t appear, please proceed to the troubleshooting chapter.

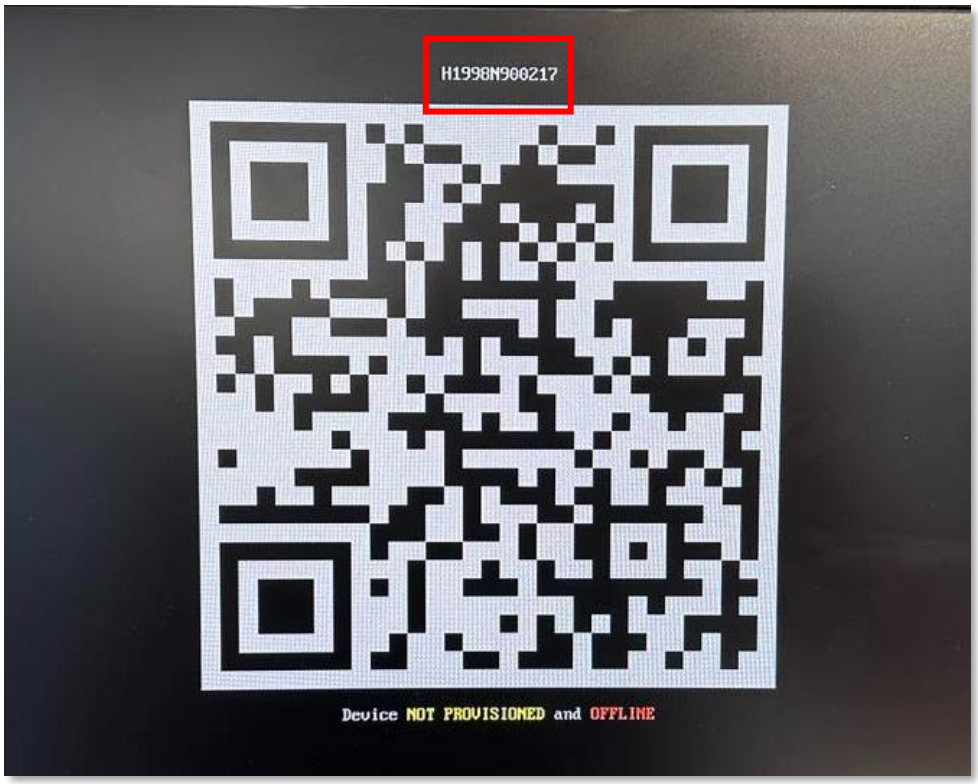
NOTE! After flashing the first store tracker, make sure you repeat the same steps (p2 to p14) for the other store trackers if multiple zones with sesame in a store.
(Each zone got a store tracker and a store can have up to 3 zones with sesame)

3. Troubleshoot flashing to Sesame2

In case the flashed Sesame 2 store tracker isn't coming online after performing the steps of the previous chapters there are some things you can try to check to make sure everything is right on the device.

3.1 Check if the provided serial number is correct

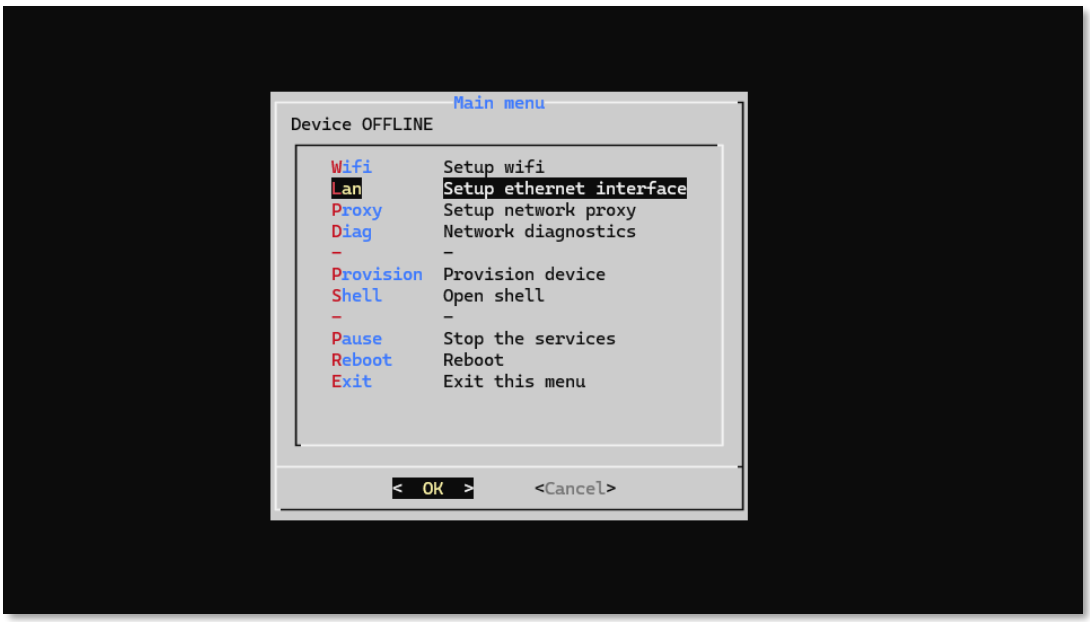
Sometimes it is easy to get the unique serial number wrong and if the wrong serial number is entered in the cloud platform by Coles the store tracker will not connect properly. Make sure that you have sent the correct serial number to Coles.



3.2 Check if you entered the right network details

If the message “and offline” never disappears after configuring the network details and applied them it might be something configured wrong in the network details.

1. To check the network details again, press F2 on your keyboard to access the configuration menu again and navigate to the “Setup ethernet interface” and press enter on your keyboard.



2. Navigate to LAN2 and press enter to check the network configuration configured for the Lan2 interface.

3. Double-check all network details entered to make sure there is nothing wrong. If you find a mistake, correct it by editing the lines that needs to be changed and apply the settings again.

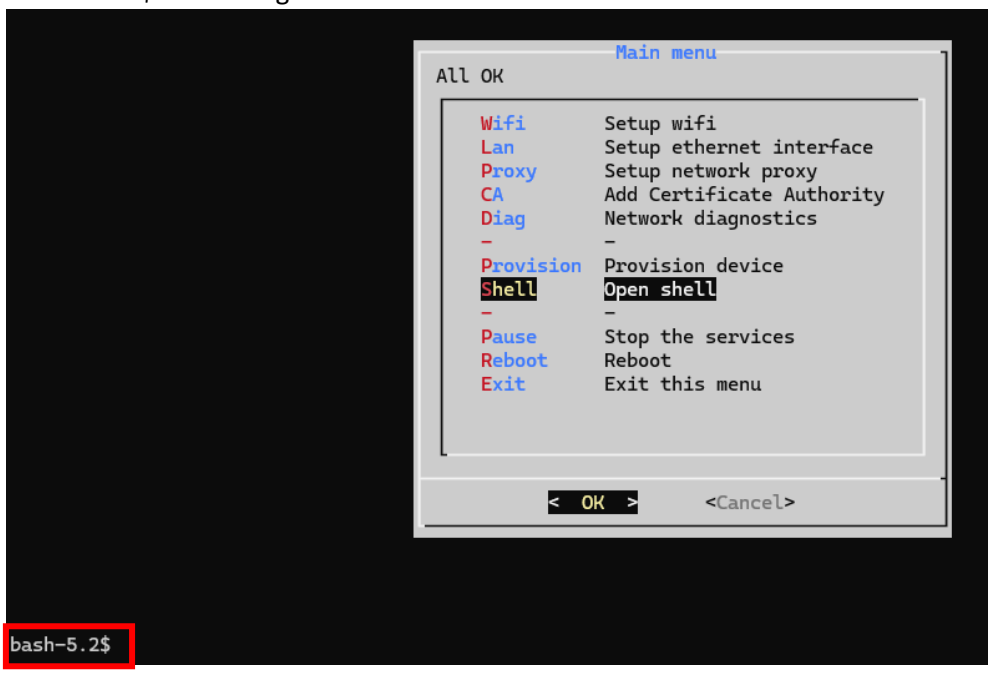
4. When that's done you can navigate down to "Exit this menu" again and do that 3 times until you get back to the QR code again.

3.3 Run a restart of the services on the store tracker

1. If the serial number and the network details were correct and the store tracker is still not showing as online on the console there is one last step to try before moving on to swapping out the store tracker with a new one.

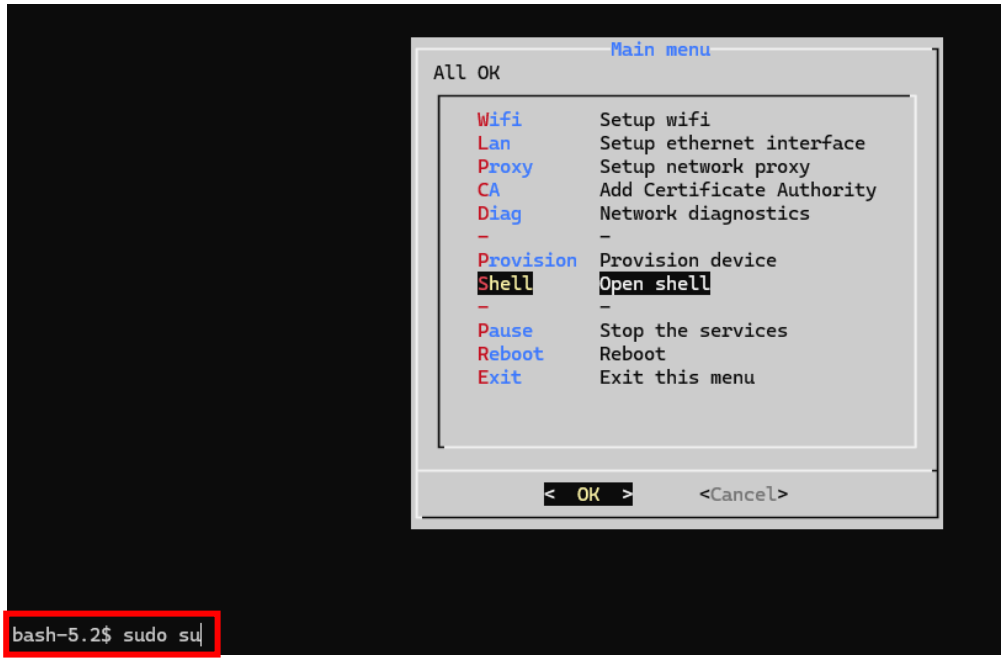
2. Press F2 on your keyboard to access the configuration menu again and navigate to the “Open shell” section and press enter on your keyboard.

3. After pressing Open shell you will see a pop up text in the lower left corner saying something like “bash-5.2$”. See image below:

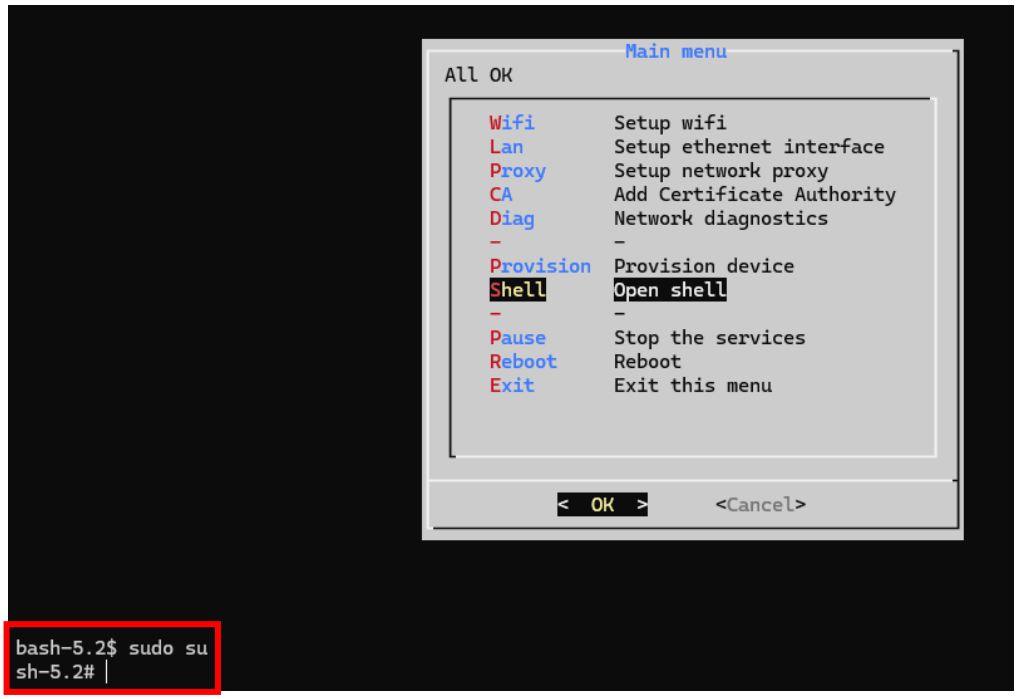


4. Type the following on the keyboard:

   sudo su

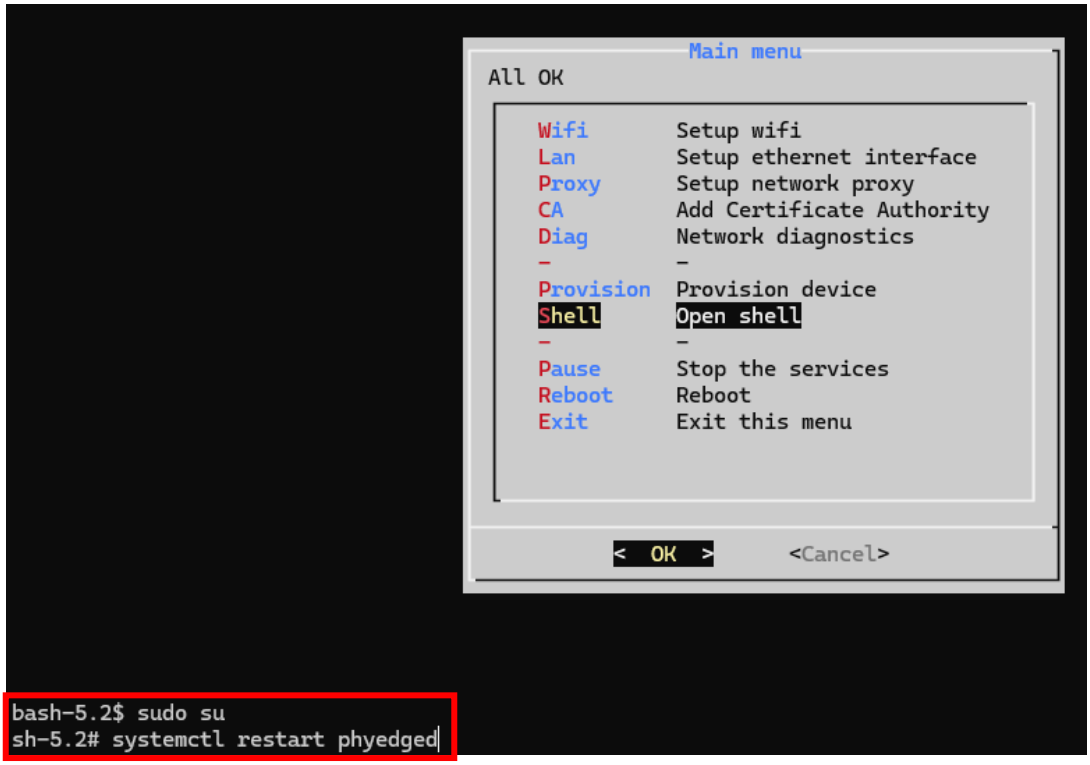


5. Press enter on your keyboard to run the command.
   A new line that says “sh-5.2#” should pop up.



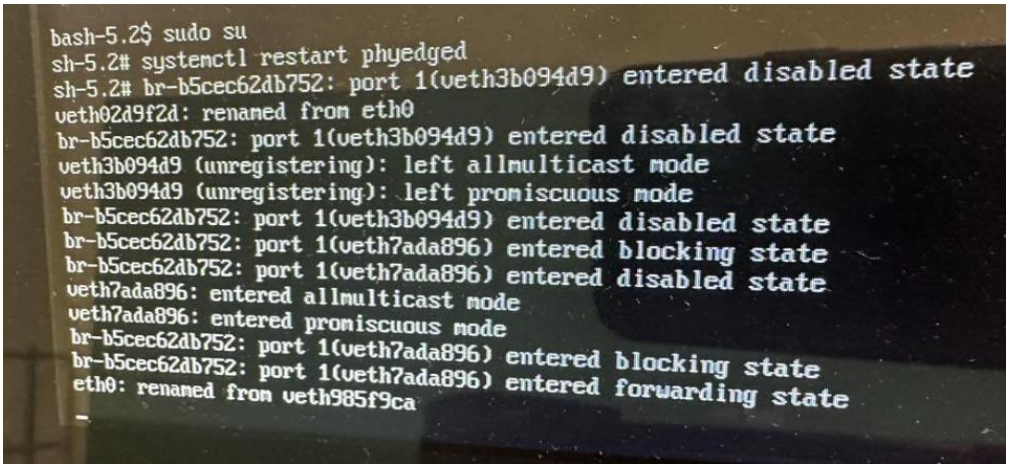
6. Now, type the following on your keyboard:

   systemctl restart phyedged



7. Press enter on your keyboard to run the command.

8. You will see multiple lines popping up telling you there is processes running in the background.



9. When seeing this, wait for up to 5 minutes and check with the command centre if the device is showing as online on OnRed. If not, move on to next troubleshooting chapter.

3.4 Replace current store tracker with a spare store tracker

1. After checking the previous things including checking serial and network details and the mesage underneath the QR code changed to “All OK” it means everything is all-right.

2. If the message underneath the QR code stays on “Device NOT PROVISIONED and OFFLINE” and you sent the right serial number together with configuring the network details it might be something else on the network blocking the communication and needs to be troubleshooted by Coles IT.

3. As an alternative it is also possible to swap out the current store tracker you just flashed with a spare store tracker already running Sesame2.

4. Before disconnecting anything from the store tracker you just flashed, please make sure you remember in what network port the network cable from the store switch was connected to the store tracker.

5. When you know that, disconnect the power cable and the network cable from the current store tracker.

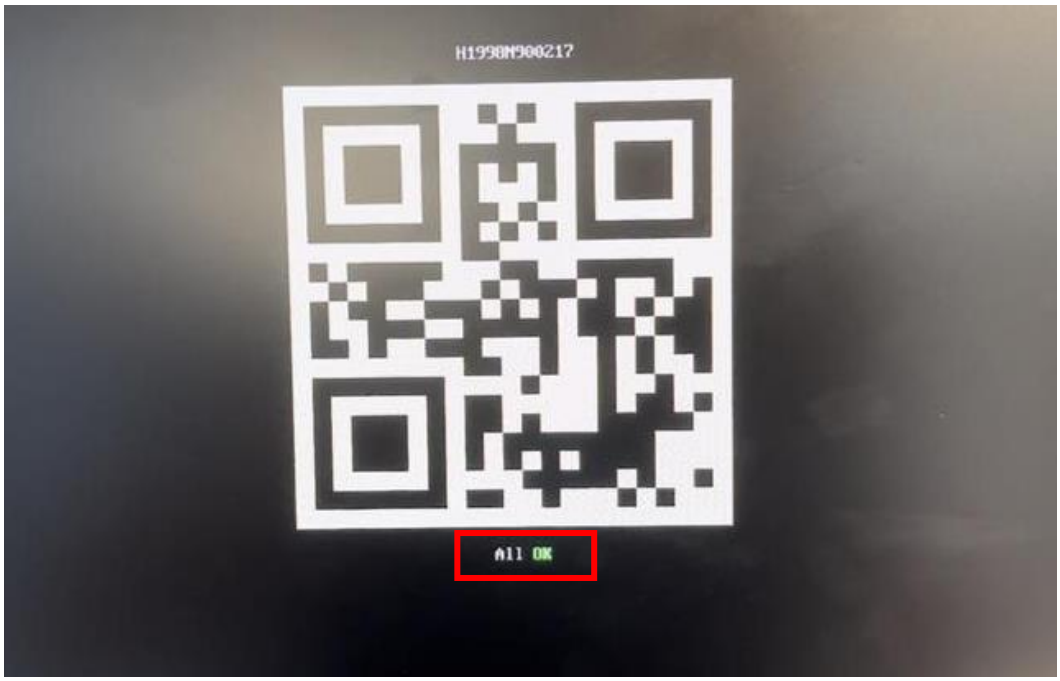
6. Replace the store tracker with the spare store tracker you got with you.

7. Connect the screen and the USB keyboard to the store tracker again.

8. Wait for the QR code to show on the screen. When the QR code is showing, you know the spare store tracker started up properly.

9. To configure the network details to the new store tracker, follow all steps from the chapter **"4. Enter network details in store tracker"** starting on p.5 then come back to this point.

10. After following the steps to configure the network details, the message underneath the QR code should be saying "All OK".



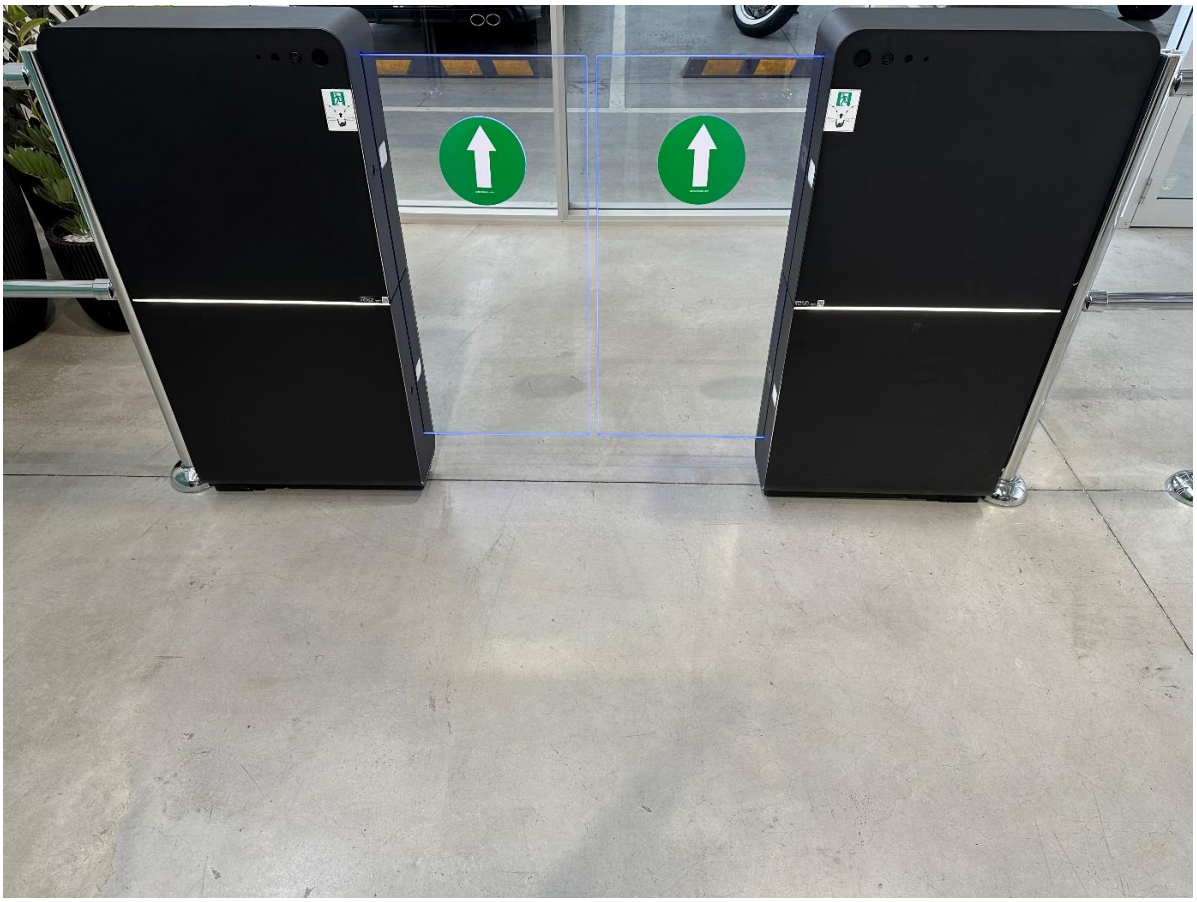
NOTE! Since this is a new store tracker, the command centre needs to add the new store tracker to the OnRed platform as a new device. They should also remove the old one since it's not required anymore.

11. If the message underneath the QR code still says *Device not provisioned and offline* or *Device not provisioned* after replacing the store tracker please check the network details and provided serial number. If nothing wrong can be found, it is most likely something with the network or network hardware.

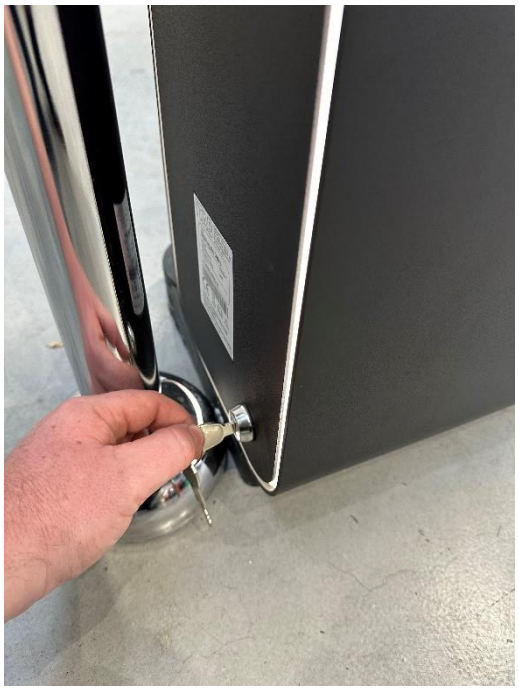
4. Customer facing safety radar installation

Needed for installation:

- Variety of screw drivers will be required for installation and configuring the safety radars.
- Cable ties
- Nipper



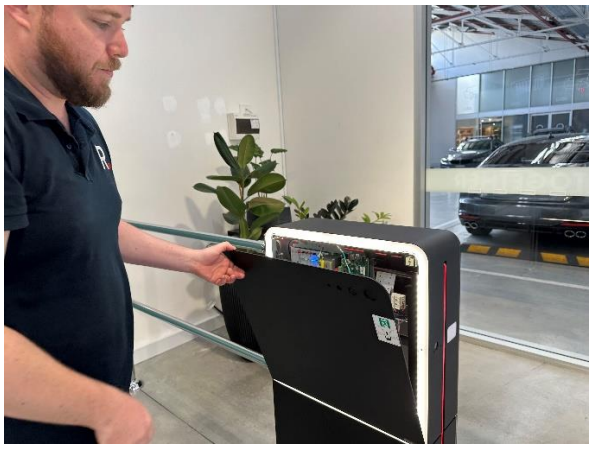
1. Find SigmaGates and make sure you are installing the radars facing the customers as they are about to walk through the gates.



2. Open SigmaGates using the remote and the turn gate off by turning the key to the vertical position or cut the power to the gate.

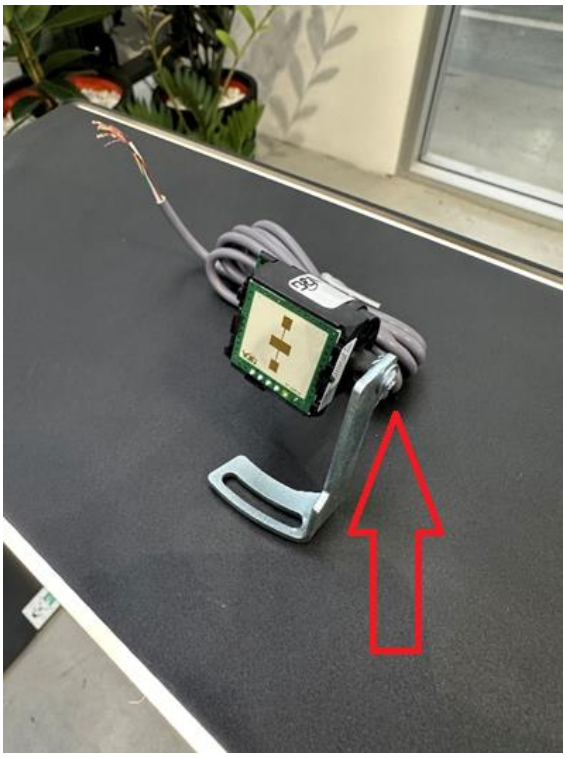
3. Unlock Service hatch by using a flat head screw driver to turn the lock into the vertical position.

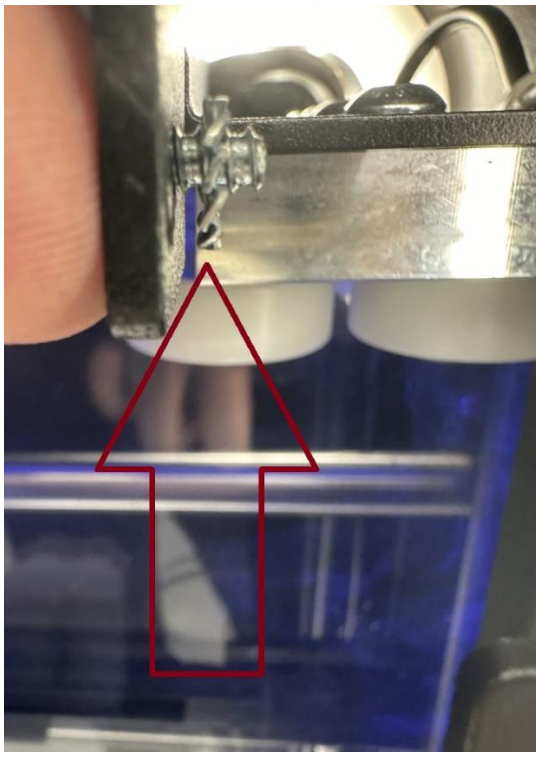
4. Lift service hatch up and away from the SigmaGate



5. Disconnect the earth cable from service hatch

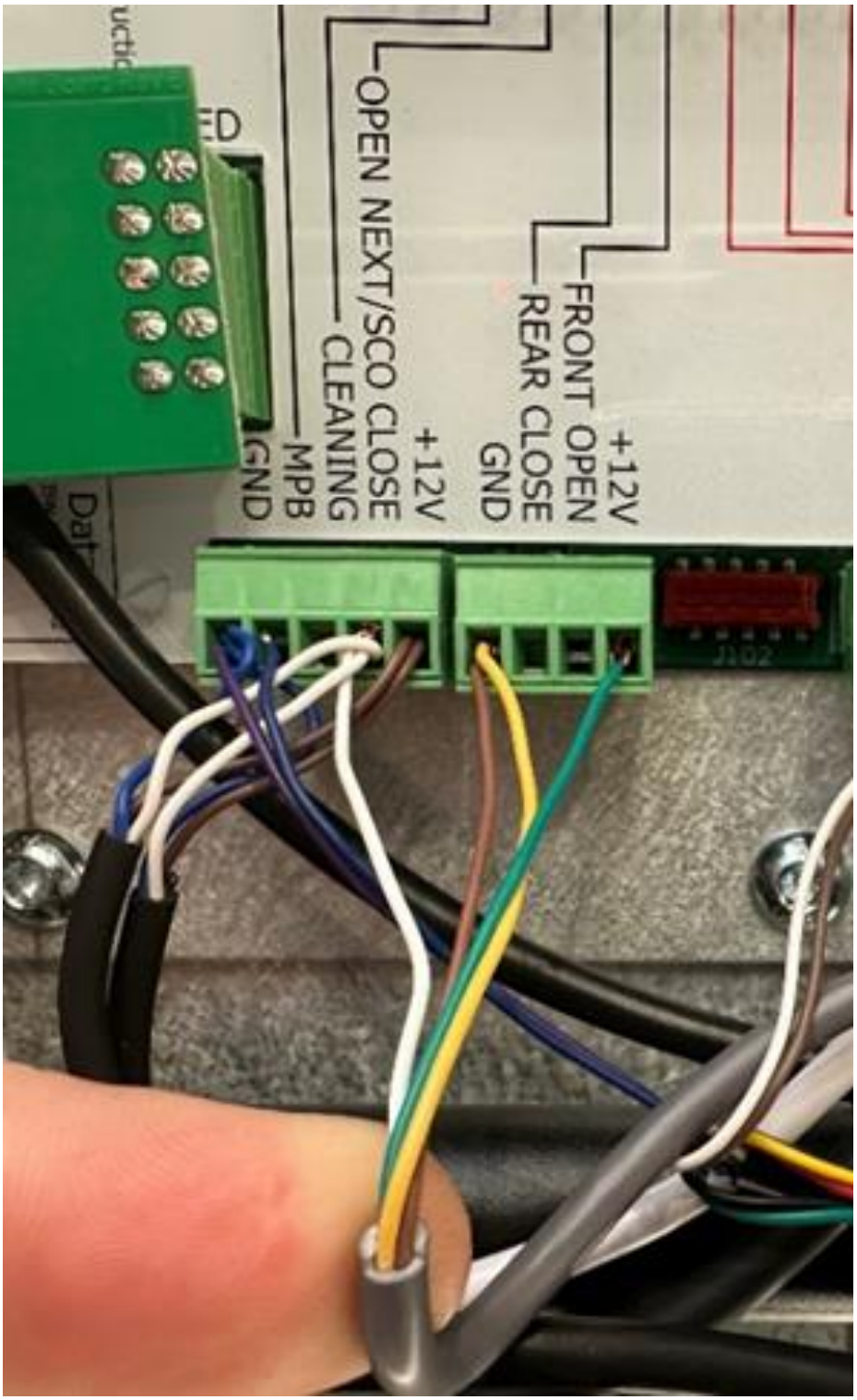
6. Disconnect the power to the gate sides.
   NOTE! Make sure you do not restart the scanmaster or powering off and on the gate to often since this can damage the SD-card. Recommendation is to power off gates, leave them like that and power on again once installation is done and avoid restarting the scanmster using the button on the PCB.





7. Remove the screw from the bracket and discard the bracket if supplied. Use the bracket screw and washer to mount the customer facing radar to in the corner of the SigmaGate with the washer between the mounting plate and radar THIS IS IMPORTANT! so that the radar doesn't slip after install.

8. It is also very important when tightening the screw that the radar is lilting downwards. This is to make sure that the radar picks up all customers.



+12v = Green wire

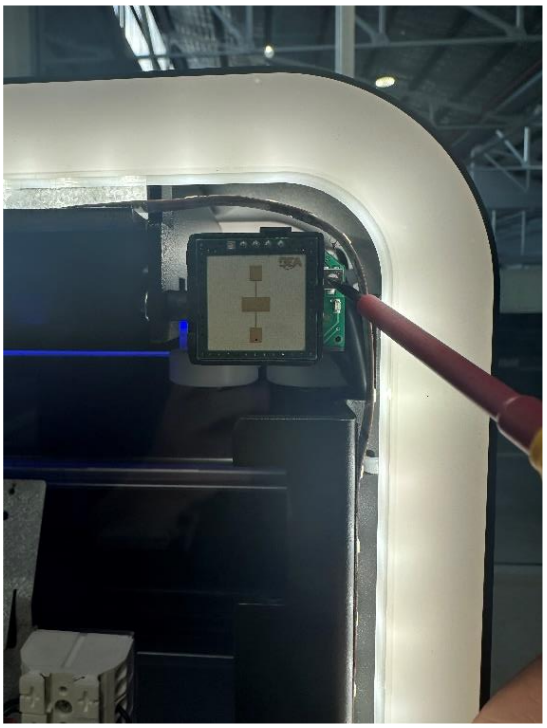
GND = Brown and Yellow wires

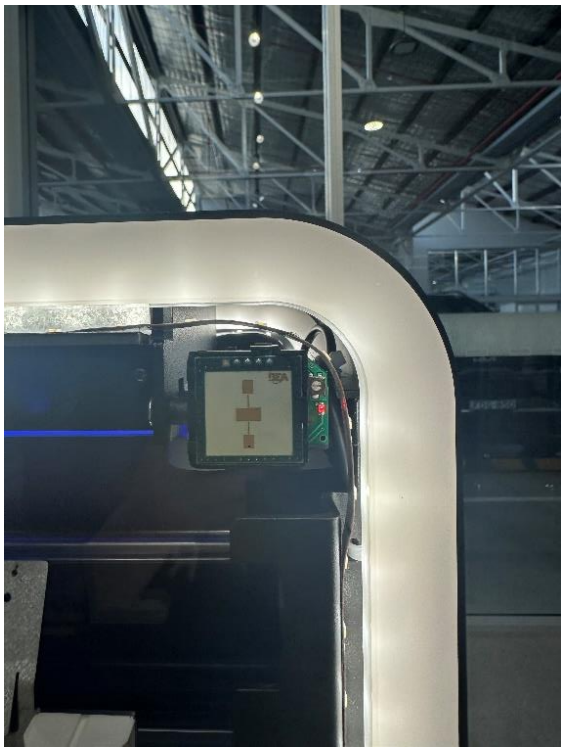
OPEN NEXT/ SCO CLOSE = White wire

9. Adjust the potentiometer on the side of the radar as shown in the image below left to set the detection range. The radars red LED will illuminate when a customer is detected as shown in the image below right.

   Maximum sensitivity: Potentiometer turned all the way clockwise.
   Minimum sensitivity: Potentiometer turned all way anti-clockwise.

NOTE! The tuning of the radar will be the same no matter if it got the dial on the right or left side of the radar.





10. Set radar distance to 1M using a measuring tape and the red LED indicator light to show that it is detecting customers.

    NOTE! When testing the distance with the cover on the trigger distance will slightly decrease. Also make sure there is no checkouts opposite to the gate that might trigger the safety radars to trigger while closing.

11. Close up the SigmaGate by doing the inverse of the opening procedure.

    -Place service hatch on gate

    -Connect earth cable

    -Close service hatch

    -Close lock by using a flat head screwdriver turning it into the horizontal position

    -Power up the gate again.

    -Return gate functionality by using the remote.

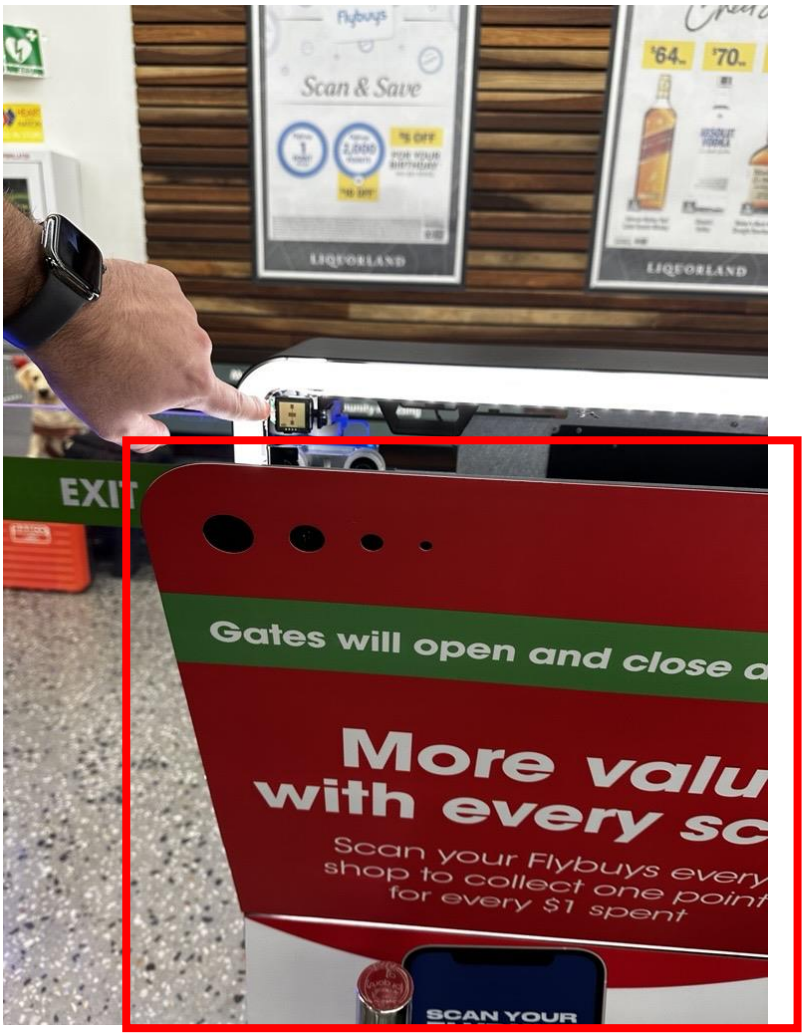
4.1 Checks to do after safety radar installation

After you are done installing the safety radars on both sides of the gate there are a few things you have to verify before declaring the installation as fully functional

4.1.1 Adjust magnetic sticker on gate hatches

After you have installed the safety radar and handled the gate hatches of the gate there is a chance that the magnetic sticker on the gate hatches has moved.

Example of red magnetic sticker on hatch:



After you put back the hatch on to the gate you must make sure the magnetic sticker isn't blocking any of the out cut on the hatch.

NOTE! If the out cut is slightly blocked by the magnetic sticker, it will limit the coverage of the safety radar trigger zone.

4.1.1 Be aware of other high movement activity areas close to the gate

In some stores there is TACO zones, conventional checkouts or other areas where people will move around frequently close to the gates. If any of the gates are near an area with high moving activity it is required to look around for any possible scenario when someone outside the assigned area for the gate with the safety radars can trigger the gate at the same time its closing.

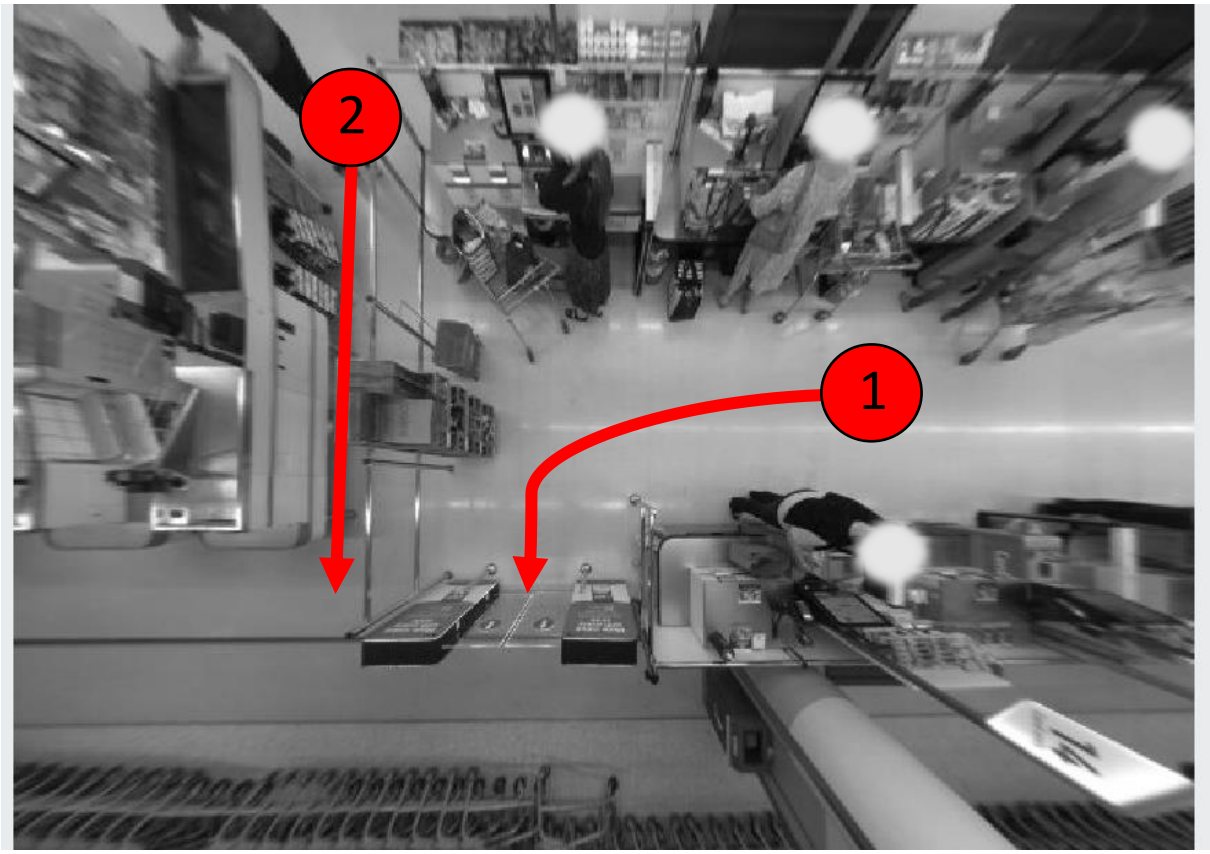
Example:

In a store where there is a gate in the corner of the zone. There is chrome rails installed 90 degrees next to the gate to divide the area for sesame from another area with conventional checkouts.

When customers are shopping in both areas there might be some scenarios when someone from the sesame area exits through the gate and when the gate is about to close, someone move towards the gate but outside of the area next to the chrome rails.

This will be captured by the gate if the radar on that side is turned up to be too sensitive.

See figure of 2 paths of customers that can trigger the safety radar when closing:



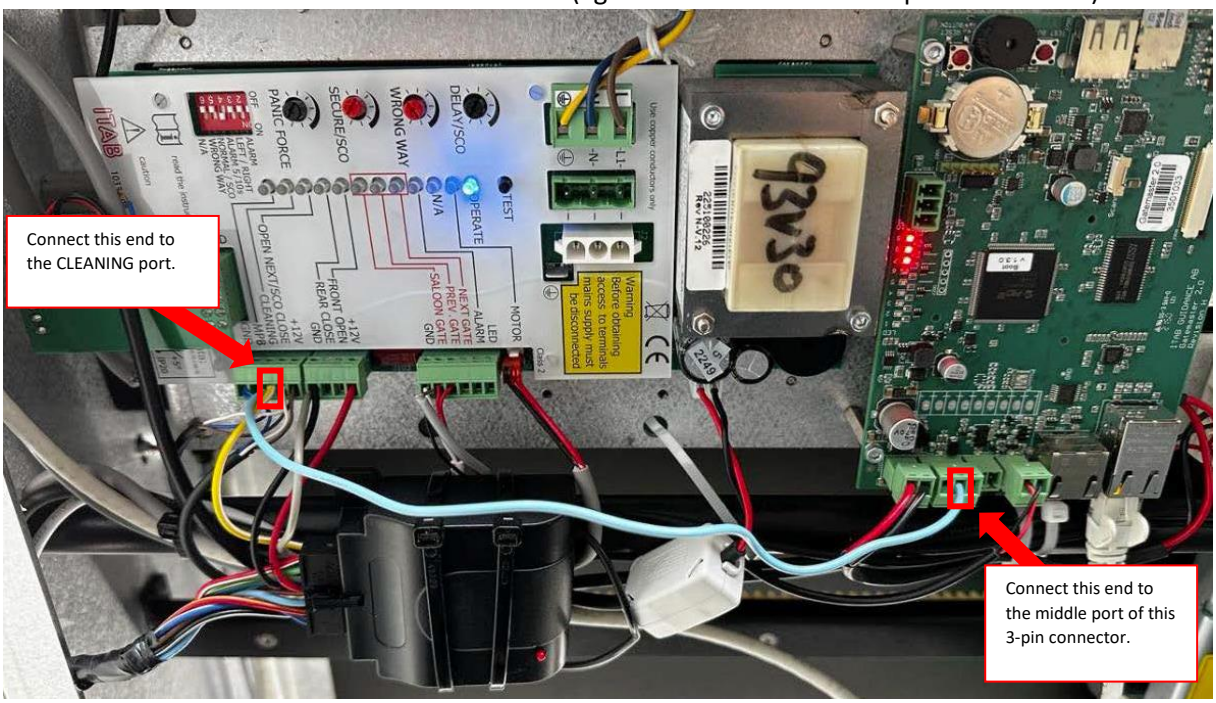
Solution:

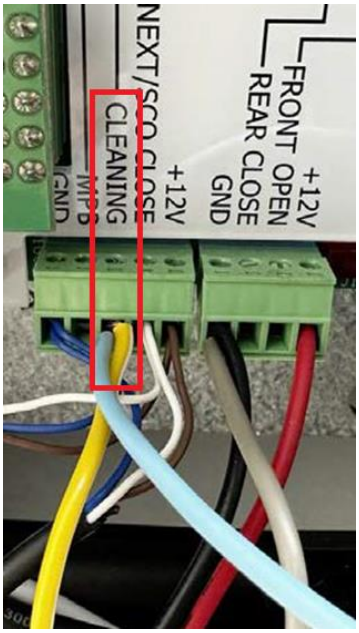
In these scenarios you will most likely have to tune down the sensitivity of the radar to less than 1m if there is a risk of people outside the zone triggering it. Adjust radar sensitivity down to a point where it's not picking up someone moving outside of the area or in any other high movement area near the gate separate from the checkout zone its operating in.

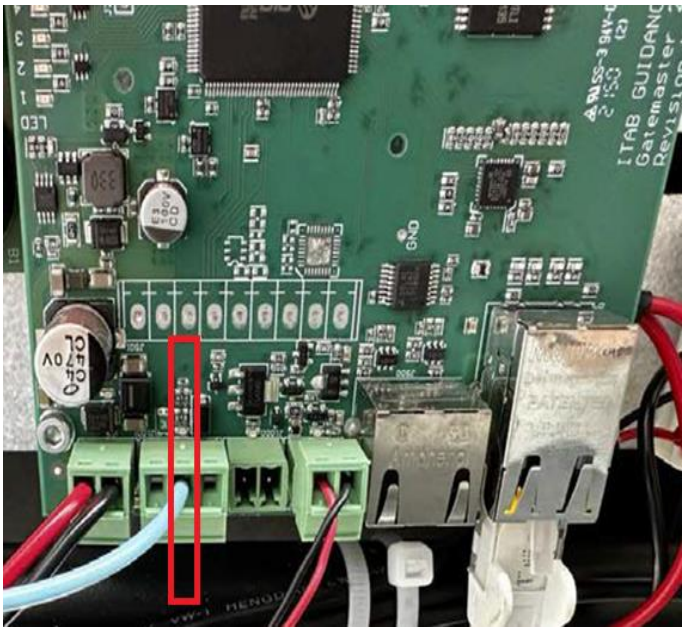
5. Remote monitoring cable

The purpose for the remote monitoring cable is to help the Sesame software to monitor when a gate of a sesame zone has been put into cleaning mode (permanent open) by the remote control for statistical purposes.

Please link a signal cable between cleaning and the middle terminal of the 3-pin connector on the GateMaster 2.0 control board as shown below. (light blue cable is the example cable below)







NOTE! After connecting the cable, send a photo in the teams chat called “Sesame2 pilot hardware installation” where it’s clearly visible where the cable has been connected and what zone and store it is installed in.

6. Troubleshooting after HW installation

This part will cover some troubleshooting steps to take if you can see unexplained behaviour of the gate after the safety radar and remote-control monitoring cable has been installed.

6.1 SD card corrupt after gate startup

Behaviour:

Software configuration and hardware configuration is correct, but the gate never opens for anyone after turning the gate on again after the additional hardware installation. If the SD cars id corrupt on a secondary gate, the primary gate may open for customers but not the secondary. If the SD card is corrupt on the primary gate, primary gate and all secondary gates will not open for customers.

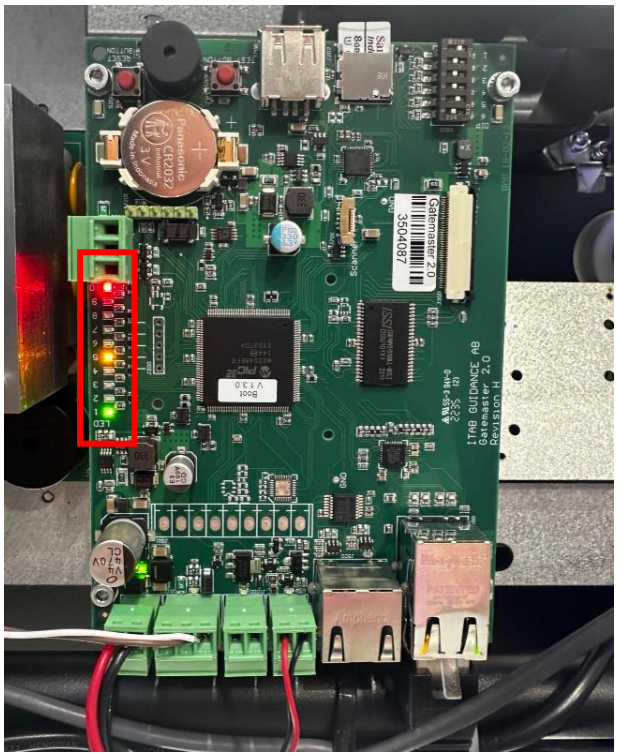
When the gate is powering up the scanmaster will alarm for a few seconds if it cannot detect an SD card.

Potential root causes:

- After powering off the gate and powering on again the SD card with the gate software and configuration could get corrupted.
- Pressing the remote button on the scan master to frequently could also lead to SD card getting corrupt.

Troubleshooting:

- First, ask Coles command center to check remotely if they can see the SD card logs on that gate to know if its operational.
- You can also check if you can see the following 3 led lights on the scanmaster board inside the gate:



You should see 3 led lights on the scanmaster when it have started up properly.

- LED 10 red light: This means scanner error, since there is no scanner connected this led is expected to light red constantly.
- LED 5 yellow: This means the scanmaster is communicating with the store tracker. This is expected to light yellow constantly.
- LED 1 green: This is an alive indication of the software. When the software is booted and works on the SD card, this LED is expected to flash green constantly.

If any of the LED lights mentioned above isn't lit or if any other lights are lit there might be issues with the SD card.

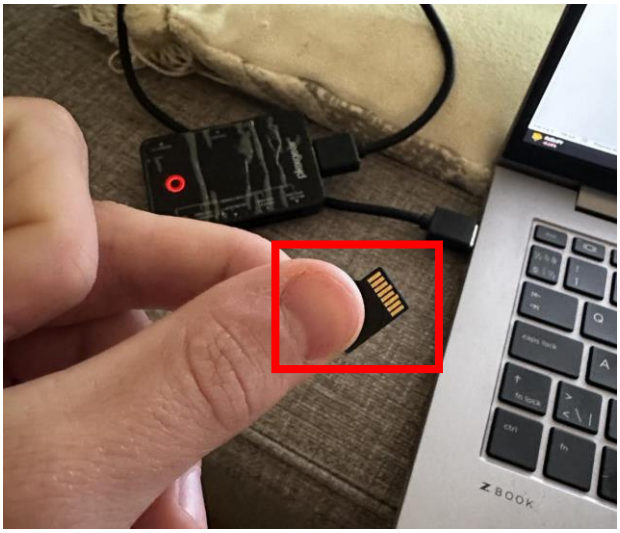
If the command centre says they cannot see logs on the SD card or if you spot any other LEDs lit on the scanmaster you most likely have to program a new SD-card. See how to program a new SD card in next chapter.

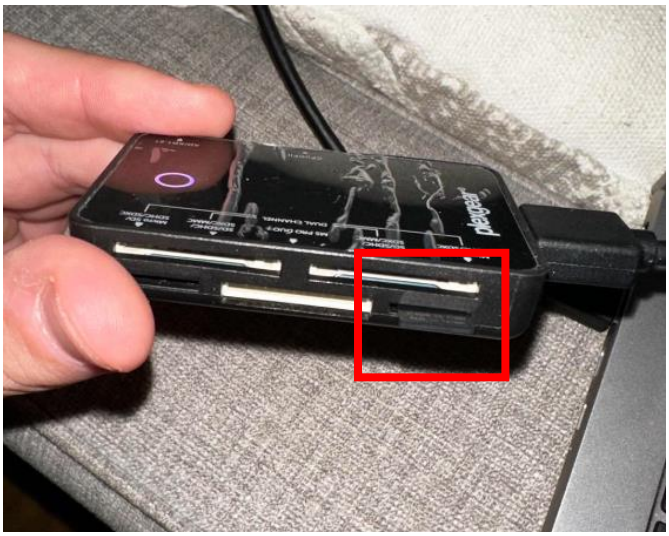
6.1.1 Program new SD card

This chapter will guide you how to program a new SD card for the gate.

1. To be able to program a new SD card your computer needs an SD card slot, or you need an external SD card reader to access it.

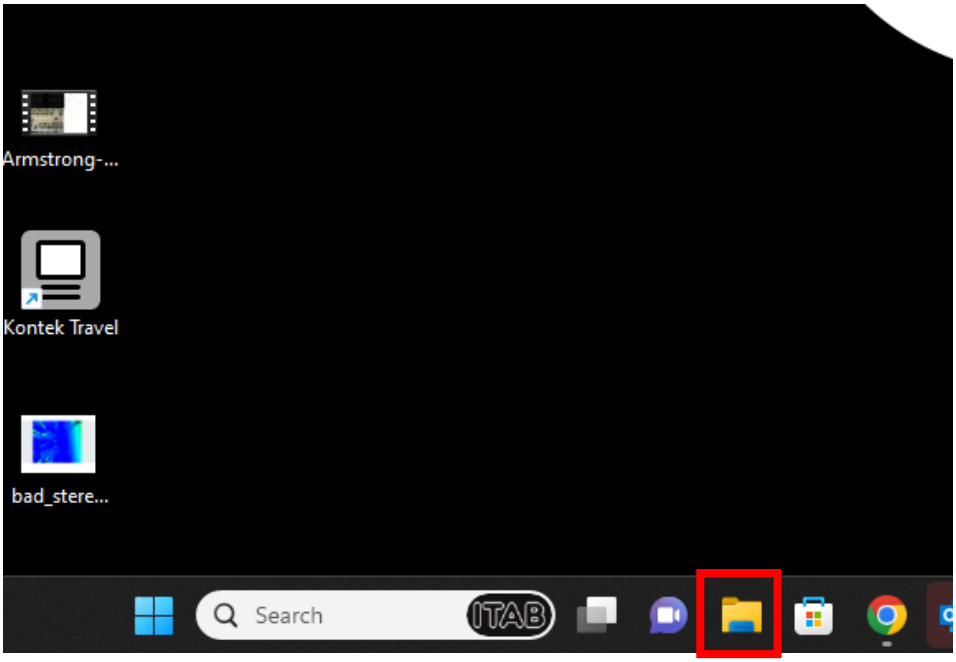
2. Insert the SD card into the SD card reader or computer SD card slot.





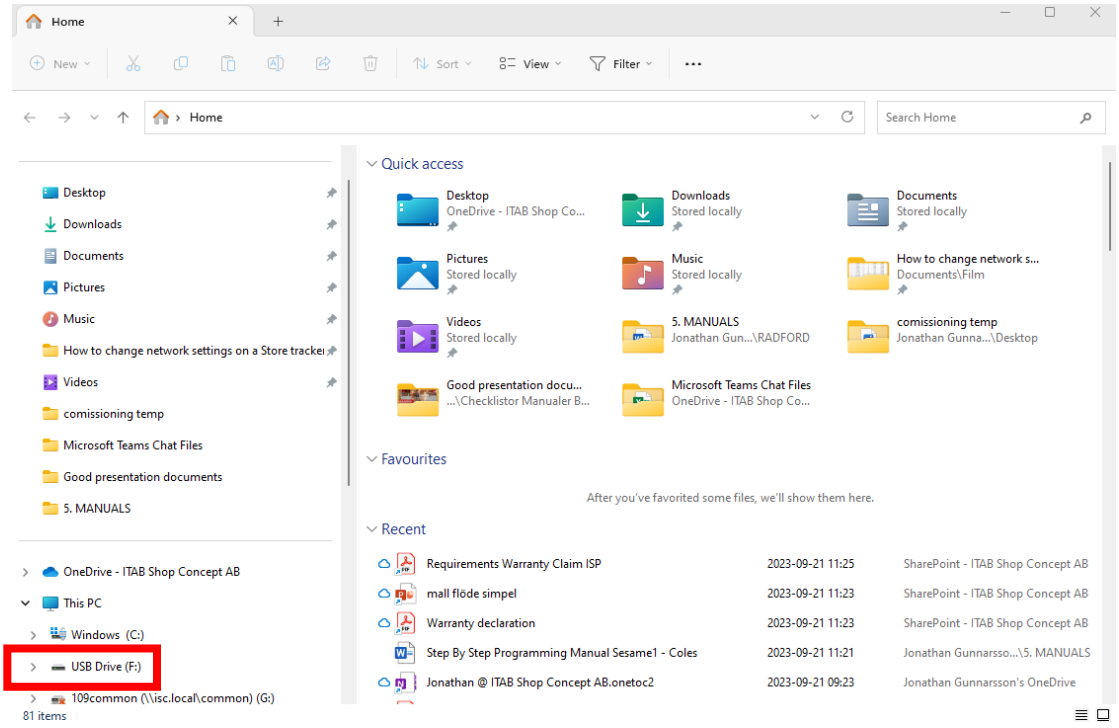
3. Return to your computers file explorer.

   Click on this icon in the navigation bar.

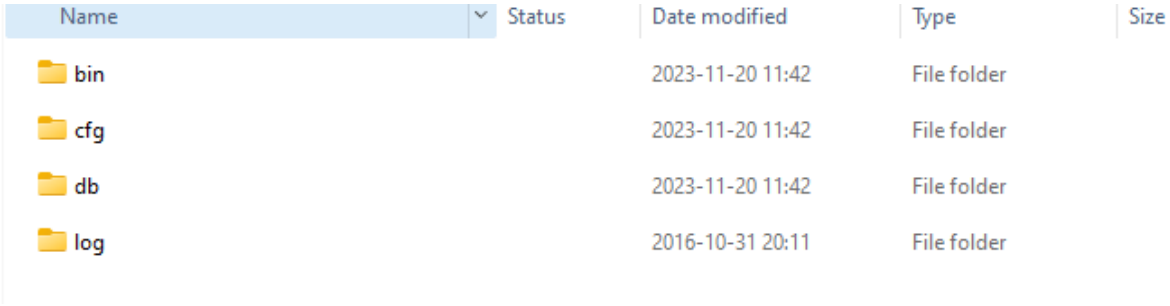


4. You are now in your computers file explorer. Look for a new storage device in the list. If you used an SD card reader, it will be labelled as "USB Drive." If you plugged the SD card directly into the computer, it will be labelled as "SD card".

5. Click on the new SD card or USB drive icon in the list of your file explorer.

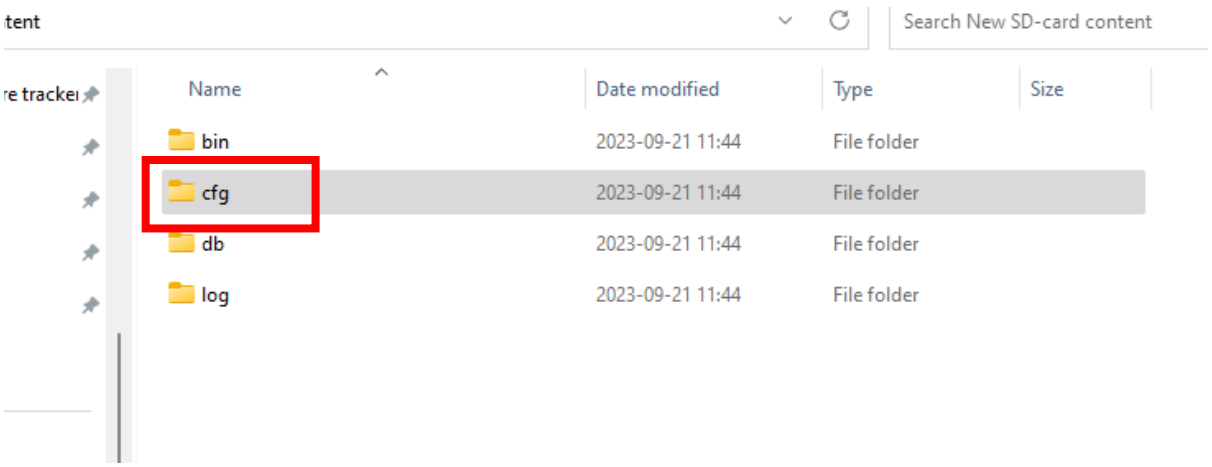


6. The content of the SD card should contain these 4 folders as standard:



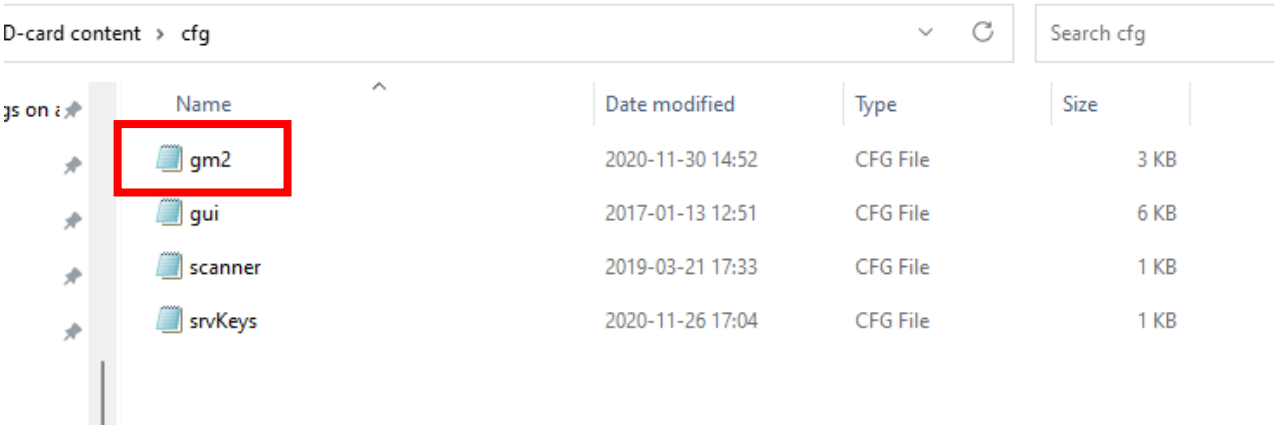
7. To now program the SD card with the given network details you will have to go into cfg folder.

   Double-click on the cfg folder



8. Then go into the gm2 config file where the network details are located:

   Double-click on the gm2 file to open it



9. The file will look like this and the marked section on the image is the network details section.

10. Update the network details in the "gm2" file to match the information given to you by Coles.

    The following network details is the same in all Coles stores:

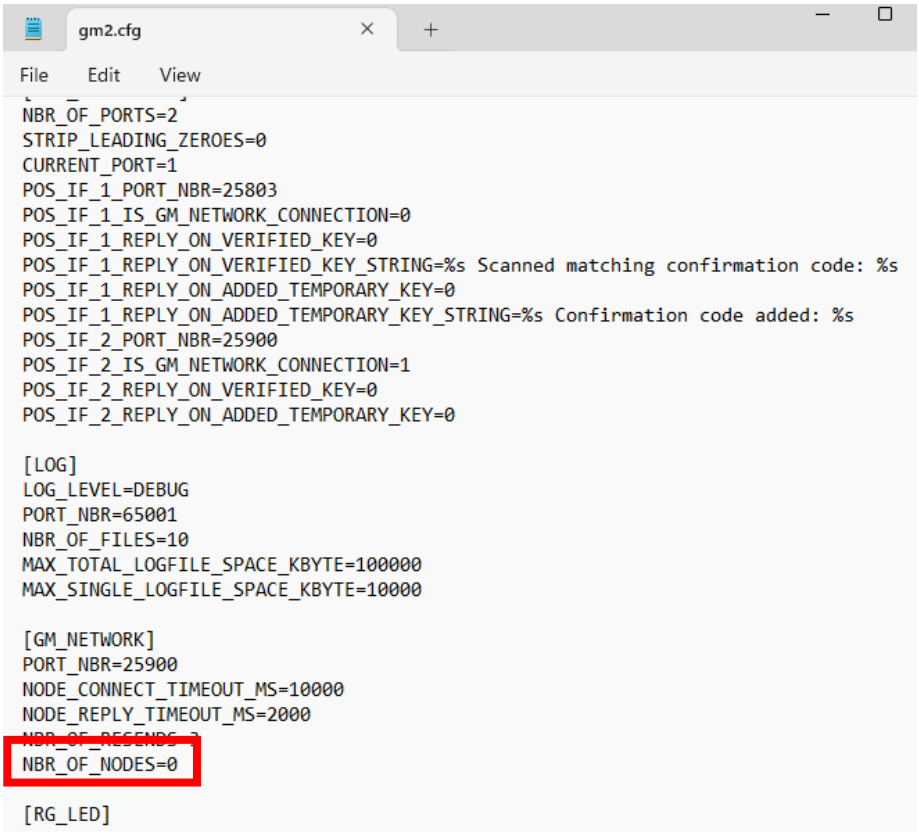
    - **Netmask (NET_MASK):** 255.255.255.0
    - **Primary DNS (PRIMARY_DNS):** 172.22.44.44
    - **Secondary DNS (SECONDARY_DNS):** 172.25.44.44

    You only need to get IP_ADRESS and GATEWAY from Coles.

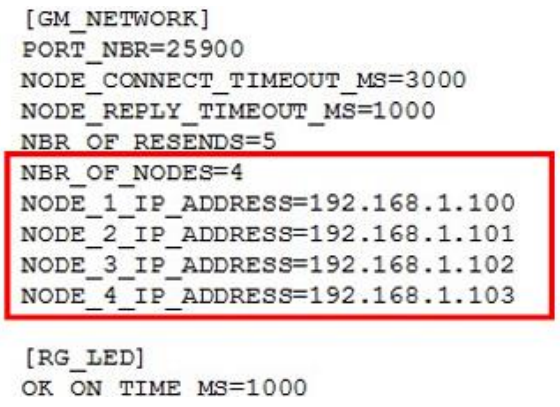
11. After the network details are correct, check if the GATE_ID id correct. Change is requested by Coles.

12. Last thing to check is if there is multiple gates in this zone. If it is, you will have to add node details in this configuration as well.

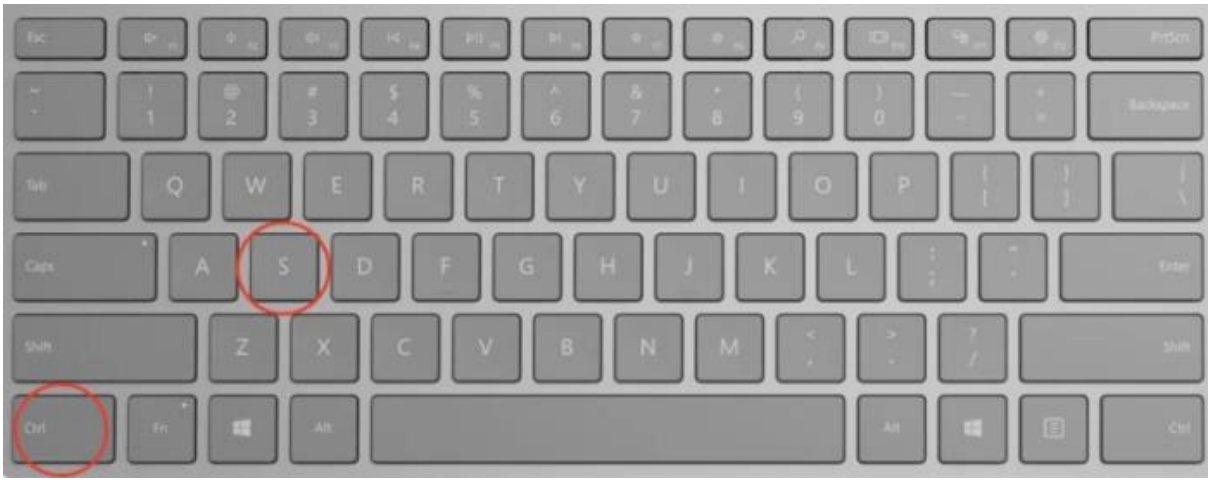
    All node configuration needs to be in the configuration of all gates working in the same zone. If you got 4 gates in the zone, change NBR_OF_NODS=4 for example.
    The image shows where to change this number:



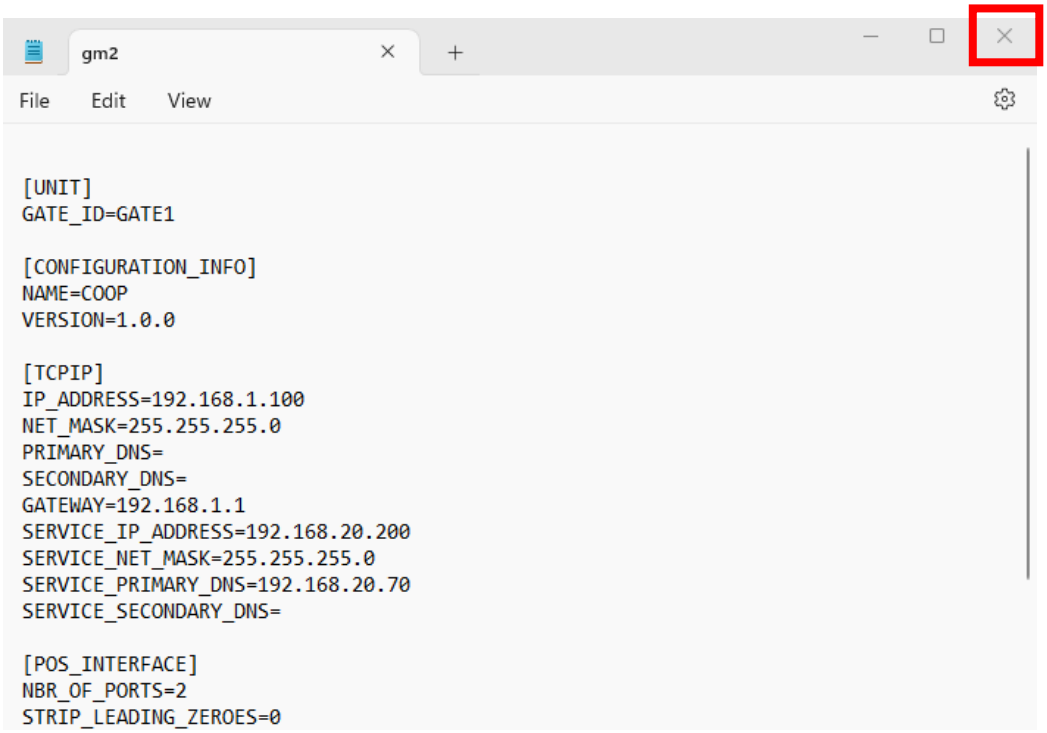
13. When this has been done, you will have to add the IP address of the primary gate as first node and IP of the secondary as second node etc.
    Here is an example of 4 gates working in a node network.
    NOTE! All IP addresses to all gates in the same zone needs to be included. If you got 2 gates, reduce NBR_OF_NODES=2 and keep NODE_1_IP_ADDRESS= and NODE_2_IP_ADDRESS=.



14. Carefully review all the IP details, Gate id and node configuration and ensure they match the information given by Coles. If everything is correct, press "Ctrl + S" on your keyboard to save the changes you made to the file.

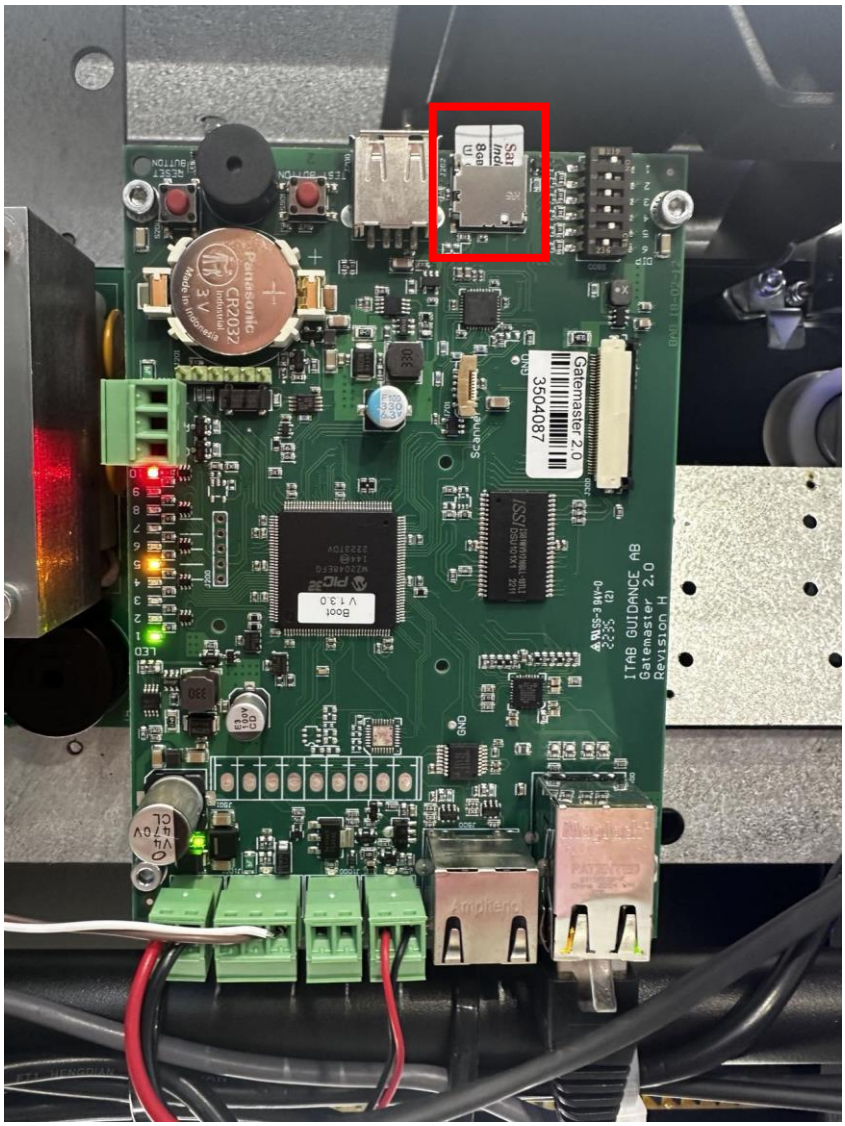


15. Exit the gm2 file by closing the window.



16. Eject the SD card from your computer and put it back in the scanmaster board.
    Make sure the scanmaster has no power before removing the old one and put the new SD-card in. After that you can power up the gate again.

    See where SD card is located on the scanmaster:



17. Do the same check by checking LED after starting up the scanmaster with the new SD card and ask Coles to check if the logs looks ok remotely.

6.2 Gate arms closing intermittently

Behaviour:

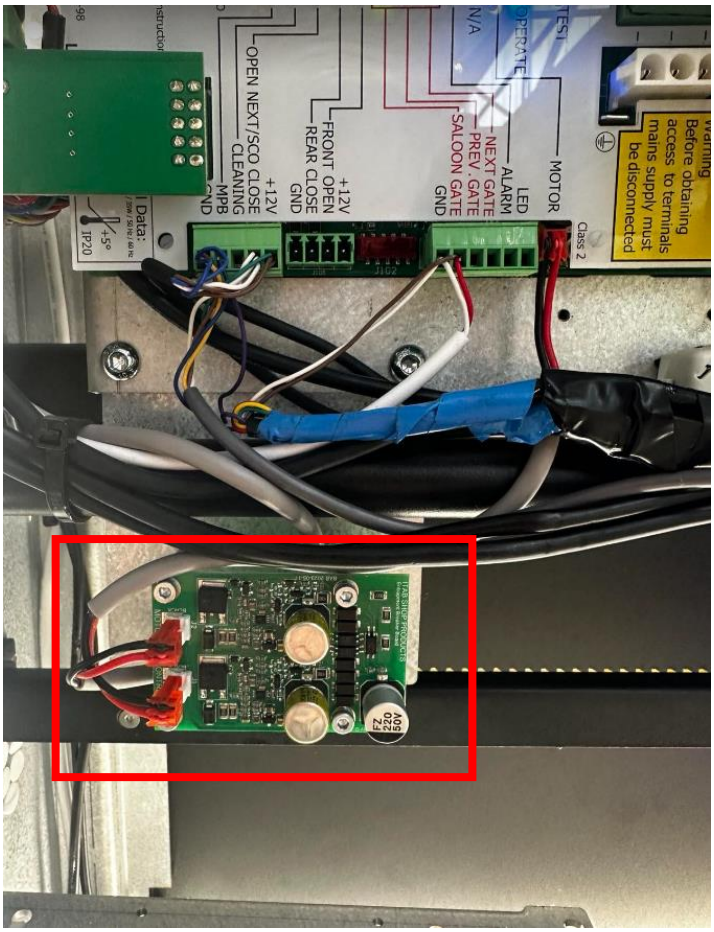
- The gates close intermittently staying open for different periods after someone exited through it.
- The gates are trying to close but is only closing halfway to then open and alarm.
- It looks like the gates are having trouble to open like it is something pushing them back.

Potential root causes:

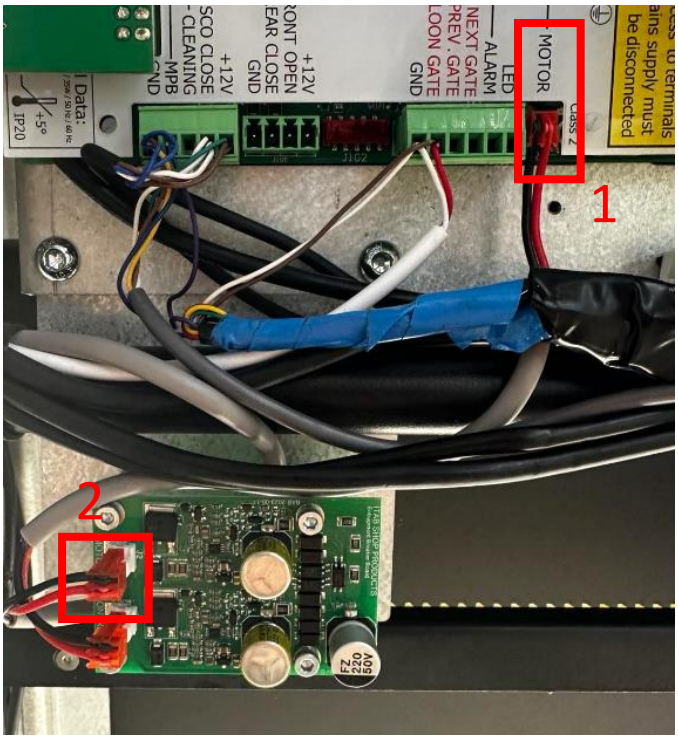
- When seeing the above behaviour, the entrapment on one gate side or both gate side might be damaged.

Troubleshooting:

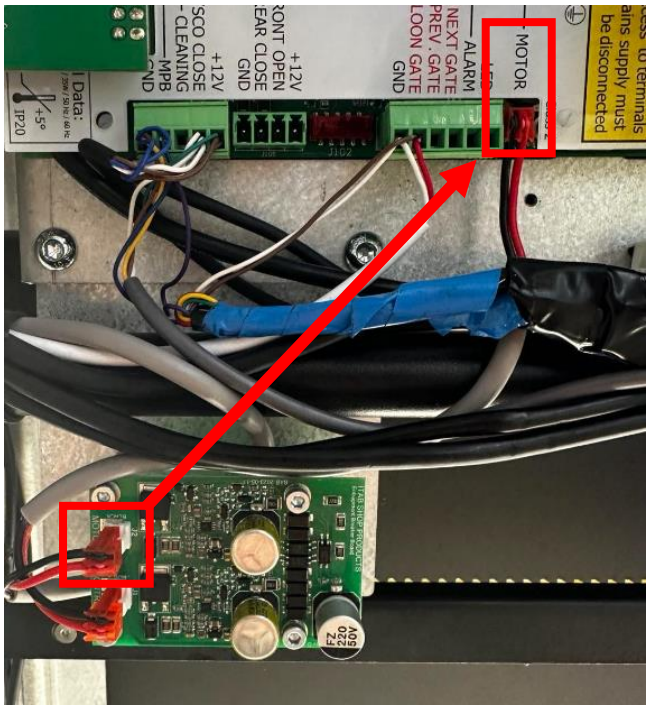
1. To check if the entrapment board is faulty you need to open up the gate to find the entrapment board.
2. The entrapment board looks like this:



3. To bypass the entrapment board, disconnect the cable coming from the entrapment board going to the gate PCB (connection 1) and the cable coming from the motor (connection 2).



4. No put the cable coming from the motor where the cable from the entrapment board to the gate PCB was connected before.



5. Try the function after and see if the issue remains. If the issue gets resolved, please reach out to Coles to arrange replacement.
   NOTE! Please remember to put the cables as they were before after testing.

7. Store manager declaration

This page must be signed by the store and sent to Radford Retail Solutions. Thank you.

I confirm I have reviewed the operation of all equipment, and it is working correctly.

NAME:

POSITION AT COLES:

SIGNATURE:

STORE STAMP: