DAKOS General Troubleshooting

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TABLE OF CONTENTS

This guide is to help you find the cause of the most common things we see with our OS. These failures apply to any devices using the DAKOS, including DIY, all DAKboard Shop items, and our Reseller devices that use our. It will also supply you with basic troubleshooting and how to correct the issues when they happen.

DAKOS Setup:

When first setting up a DAK OS device, some issues may occur. Below is a list of the most common ones and how to resolve them.

DAKboard Loops Back to Welcome Page:

If one of three things happens, your DAKboard OS device will fail to advance to the registration page and loop back to the welcome page. The first is that it cannot connect to your Home Network with the supplied credentials. The second is that the WiFi signal is too weak where you have set up the Display. The final reason is that it cannot confirm a connection to the internet. Let's start with the first issue.

You should still be able to connect to the DAKboard Hotspot using the QR codes on your Display or by logging into the network **DAKboard** (or **DAKboard-<Display Serial Number>** for versions older than 3.0) from a WiFi-enabled device (like a Smartphone, Tablet, or Laptop) using the password **dakb5142**. Once you connect to this network, open a browser on that same device and type **http://10.0.0.5** (the address of the internal Settings page on your Display). From here, make sure that your Home Network's SSID/Name is selected and the Password to your Home Network is entered correctly. **NOTE:** If you entered either of these items using Copy & Paste or Autofill, additional spaces may have been added to the SSID or password. Make sure to remove them as they will invalidate the credentials. Once you are sure you have the correct network selected and the password is good, click the Save Changes button at the bottom of the page and see if the DAKboard advances to the Registration page.

If not, try moving your DAKboard closer to your router and rebooting it to see if it can make the connection. Though other devices in your home may not have issues connecting with your network, the DAKboard may. This is because the mini-computers used can often be drowned out by other devices on your Home Network. You can overcome this with Mesh Networks, Range Extenders, or even by connecting your DAKboard directly to your network using an Ethernet connection.

If you are still failing to advance to the registration Screen, this may be because the DAKboard cannot confirm an internet connection. With DAKboard OS version 4.01 and above, we check with several methods. As long as you have internet access, this should connect without issue. For versions 3.54 and below, we confirm the connection by sending a ping to 8.8.8.8 (Google's DNS server). If you have ping disabled in your Home Network, then the DAKboard will fail to connect. If you manage your network, make sure that ping is enabled in your Router or on your Network Firewall. If your ISP manages your network, reach out to them and have them enable it for you.

You can also try upgrading to the latest release of the OS, as version 4.11 and above have had some vast improvements to how we connect to a WiFi network. These changes have proven to work better in weaker WiFi signals and in some networks that have other connection issues.

DAKboard Goes to a Blank Screen:

This will happen if the Chromium browser is delayed in starting post-connection to your home network. It will most often occur with the smaller CPUs, like the CPU Mini or the Raspberry Pi 3B or 3A. CPUs with less than 1GB of RAM can delay or fail to start the browser after the initial connection to your network. Rebooting these CPUs will restart the browser service and allow it to load. If you continue to get a blank screen, you can either try a Factory Reset of your device using the steps in our article **Reset your Device to Factory Settings** (https://dakboard.freshdesk.com/en/support/solutions/articles/35000143215) or you can reset your OS completely by upgrading it using the steps in our article **Upgrading your DAKOS Device** (https://dakboard.freshdesk.com/en/support/solutions/articles/35000257798).

DAKboard Fails to Register With Link Code:

If you receive an error saying your Display was unable to link, the link code appears to not be working when you enter it into your display, or it fails to link with no error message, this may be a sign of a weak WiFi signal to your display or a delay in processing on the smaller CPUs. Try moving the CPU closer to your Router or Access point, or move your Mesh node or WiFi Extender closer to the DAKboard to improve this while completing your initial linking.

On Smaller CPUs, like the Mini, the Raspberry Pi 3B, or 3A, you may need to reboot the CPU and get a fresh link code. This is because the CPU received the link code but did not have the memory to store it. In these rare cases, the Link code will show that it was accepted, but the communication of this information from our services to your CPU was lost. Rebooting the CPU will free up enough memory to allow the new link code to be stored.

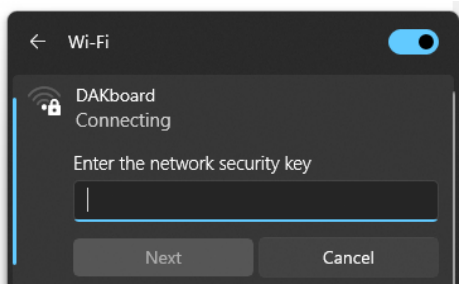
DAKboard Hotspot Fails to Start or Connect:

This can happen when there is a lot of WiFi traffic in your home or a device in your house is using the same WiFi band we use to launch the Hotspot. This will sometimes cause the Hotspot to fail to load. In these cases, you can use the Manual steps to access your Settings page and set up your device instead. We have listed them below for you in order:

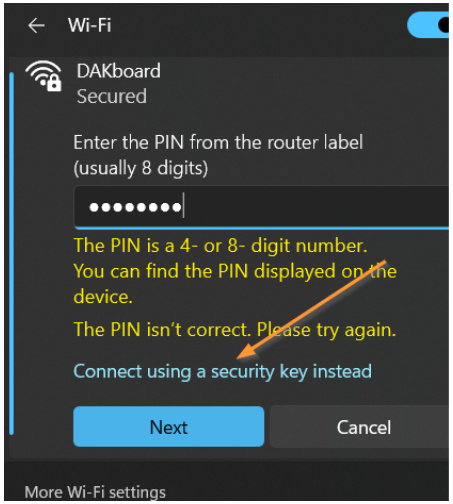
- Connect the USB mouse/keyboard to your CPU using one of its USB A ports (If you have a Mini, you will need a Micro male to USB A female adapter)
- Reboot the CPU by unplugging the power cable
- Once fully booted up, if you have the latest OS, you can use the Touchscreen/ On-Device Setup button at the bottom of the page to open the Settings page. Skip to step 6 if this is the case. Otherwise, press ALT+F4 on your keyboard and continue at step 4.
- Click on the Raspberry icon in the top left of the screen
- Select Help, then click on Device Configuration
- Update/verify the network credentials
- Click Save at the bottom of the page
- Once the settings are saved, reboot by unplugging the power cable

DAKboard Hotspot says the Password is Incorrect:

This is not coming from the Hotspot; it is coming from the device you are trying to connect to the Hotspot. What is happening is your computer is trying to connect to the DAKboard Hotspot using a PIN and WPS protocols, and not a Password with WPA2 protocols. This will not work as the DAKboard Hotspot requires a Password. Your WiFi login should look something like this:



When it fails to use the password, it should look like the image below. If you click where it says **Connect Using Security Key Instead**, you can use a Password instead of a PIN. See below:



DAKboard Shows a Loading Screen:

Depending on which model of DAKboard you have and which version of the OS you are on, this can present itself in several ways. We will cover the variations and how to correct the Display.

DAKboard Reboots After Reaching Loading or Rainbow Screen:

If your DAKOS device is only going to the DAKboard loading page or a rainbow-colored screen and reboots repeatedly, this means that your DAKboard is not getting a response from your Monitor/TV via the HDMI. This can be a sign that either your HDMI connection from the CPU to the Monitor/TV is loose or your HDMI cable is bad.

If the connection is loose, you can correct this by simply unplugging the power to your DAKboard CPU, unplugging both the HDMI connection on the CPU and the Monitor/TV, then plugging the HDMI cable back in, making sure the connection is sound on both ends. If you have a CPU v4, we recommend using the Primary output, the output closest to the power supply, for best results. Then simply plug the power back in, and your device will start up.

If this does not work, try connecting your CPU to a different Monitor/TV. If it continues to reboot on the new device, then your cable may be bad and will need to be replaced.

DAKboard Hangs on the Orange Pi Logo:

This will only happen when using a DAKboard built on an Orange Pi 3LTS. When this happens, it means that the OS has failed to load entirely. This could happen if your SD card is not fully seated, if the OS has become corrupted, or if the SD card has been damaged and needs to be replaced.

If the SD card is not fully seated, try removing it and reseating it in the Micro SD card slot. With the Orange Pi 3LTS, you will know the SD card is seated fully when you hear a click, and it does not pop back out. Reboot the CPU, and it should load.

If, after reseating the SD card, it continues to fail, try upgrading the OS to the latest release. You can remove your SD card, connect it to a Laptop or PC using a Micro SD card reader, and then follow the steps in our article **Orange Pi - Download and Install DAKOS** (https://dakboard.freshdesk.com/en/support/solutions/articles/35000210494) to upgrade your SD card. Reinstall the SD card and reboot your CPU, then follow the onscreen instructions or use our article **Setup - DAKboard CPU/Micro SD Card** (https://dakboard.freshdesk.com/en/support/solutions/articles/35000205418) to reconnect your Display to your account.

If the SD card fails to install the OS or the Etcher program says it cannot write to the SD card, this means the card itself is damaged and needs replacing. We recommend replacing the SD card with a 16 GB micro SD card. Once you have the new card, follow the same steps above to install the OS.

DAKboard Hangs on the DAKboard Loading Page:

If you make it to the loading page and it does not boot loop or advance, this means that the Browser we use to show your Screen has failed to load. The only fix for this is to upgrade your DAKOS device. For the CPU v3 on the Orange Pi 3LTS, use the article we supplied above to complete this upgrade. For all other DAKOS devices, you can use the article **Raspberry Pi - Download and Install the DAKOS** (https://dakboard.freshdesk.com/en/support/solutions/articles/35000125880). If you are not sure how to access your SD cards, check out our article **Upgrading your DAKOS Device** (https://dakboard.freshdesk.com/en/support/solutions/articles/35000257798), as this contains details and links to articles to show you how to replace them.

DAKboard is Showing Code or Error Messages:

Sometimes, the DAKOS will become corrupted. This can happen for several reasons, and it is very hard to predict or determine the cause of the failure; however, the solution is always the same. Upgrading the OS to the latest version to get it back up and running. See our article **Upgrading your DAKOS Device** (https://dakboard.freshdesk.com/en/support/solutions/articles/35000257798) to see how to do this. These corruptions can show themselves in various ways. Here are the most common ones:

Kernel Panic or loading, please wait….starting version 247.3-7+deb11u1:

When the DAKboard loads a stream of code that ends with the message **Kernel Panic** or loading, please wait….starting version 247.3-7+deb11u1, this means that the base OS we used to build our OS upon has become corrupted. This usually happens if you try to update the base Kernel or if there was a sudden interruption of power to the CPU while it was writing to the SD card containing the OS. You will need to reinstall the OS to correct this.

busybox v1.35:

If the DAKboard only loads to a line that states busybox v1.35, this is similar to a Kernel Panic. A BusyBox error on a Raspberry Pi indicates that the system failed to mount the root filesystem during startup and has dropped into an (initramfs) recovery shell. The most likely scenario with DAKOS would be an interruption of the writing sequence to the SD card, like a power outage or manual reboot. You will need to reinstall the OS to correct this.

Loads to a Raspberry Pi Command Prompt or the Command Line Interface (CLI):

This will happen when the base Kernel loads, but it was unable to access the loading scripts from the DAKboard User. This can happen if you make edits to the code, if the browser fails to start, or if the DAKboard User is deleted. You will need to reinstall the OS to correct this.

Error Message: Can't Open Display:

This will happen when the base Kernel loads, but it was unable to access the loading scripts from the DAKboard User. This can happen if you make edits to the code, if the browser fails to start, or if the DAKboard User is deleted. The only way to correct this is to reinstall the OS.

Free up space to continue / Some features on chrome-extension://:

If you receive a pop-up message like this, it refers to an older extension that was preloaded by Chromium. We have since removed this extension, as it is no longer needed or supported. We recommend upgrading your Display to the latest version so you will no longer receive this message. See our article, **Upgrading your DAKOS Device (https://dakboard.freshdesk.com/en/support/solutions/articles/35000257798)**.

Panic not syncing: VFS unable to mount root FS on unknown-block:

This error indicates a critical system failure where the operating system kernel is unable to access the root filesystem during boot, usually because it cannot identify the correct disk partition to mount as the primary system partition, leading to a system crash or **kernel panic**. You may get this error if you are using a USB card reader to connect your SD card to your CPU. Make sure you are using the Micro SD card slot available on all Pi Computers we support, as this is the only way to get our OS to work. If you are using the Micro SD card reader, the OS may be corrupted, or the SD card may have gone bad. Try upgrading your OS by following the steps in the article **Upgrading your DAKOS Device (https://dakboard.freshdesk.com/en/support/solutions/articles/35000257798)**, or replace your SD card, and then upgrade the CPU.

Low Voltage Warning:

Older versions of our OS could present Low Voltage Warnings. This was caused by how the OS read the amount of voltage being supplied. This was primarily a visual error, but in later versions of the OS, we were able to prevent this with updated code. Try upgrading your OS by following the steps in the article **Upgrading your DAKOS Device** (https://dakboard.freshdesk.com/en/support/solutions/articles/35000257798), or replace your SD card, and then upgrade the CPU.

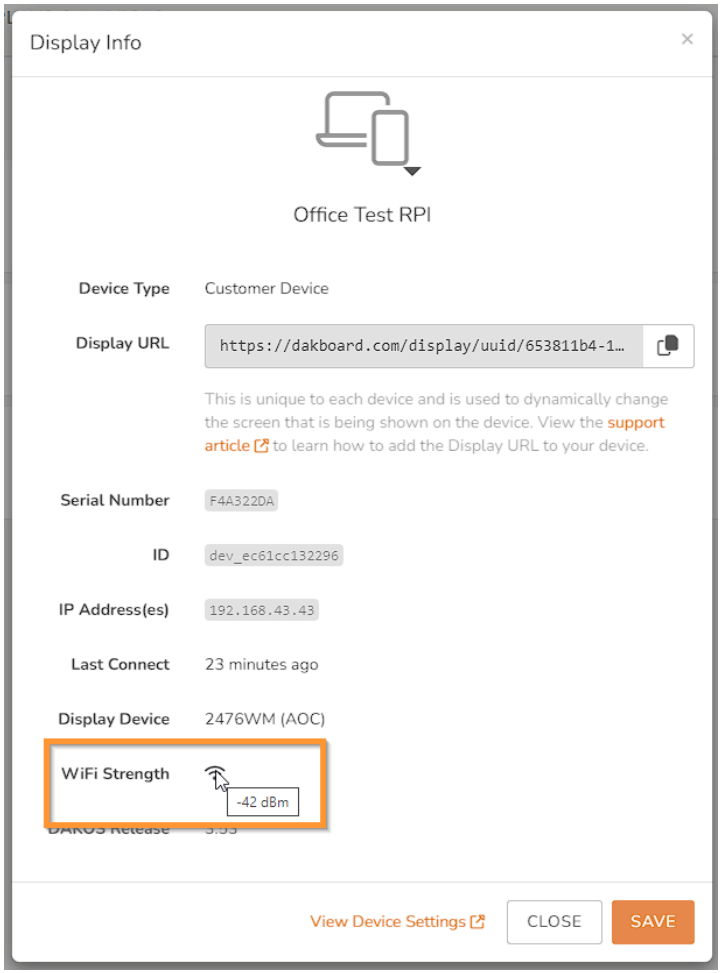
DAKboard Network Connection Issues:

Once you have your DAKOS device connected to your account, you may have issues where your DAKboard goes offline, freezes, partially loads, loads to a blank screen, flickers, or fails to update. Below are the most common causes for these issues.

Weak WiFi Signal Strength:

The cause for most of the issues will be a weak WiFi signal strength. A good signal strength is between 0 and -67 dBm, with values closer to 0 being better. If your signal strength is -50 dBm or higher, you will experience loading and network connection issues. If it is greater than -67 dBm, these issues will become more frequent or permanent until the strength can be improved. Be aware that other devices may have a strong signal strength when standing next to your Display, but that does not mean the DAKboard can use that signal strength. The only way to judge how good the signal strength is for the DAKOS device is by seeing what the DAKboard is reporting about itself.

With OS version 3.0 and above, you can see what your DAKboard last reported as a WiFi signal strength by going to Displays & Devices, clicking the three dots to the right of the DAKOS device, clicking on Settings, and then mousing over the WiFi symbol to see the signal strength. The DAKOS device reports this message to your account on bootup and successful connection to your account, and each time your Display is refreshed by our automation or when you manually refresh it. See the example below:



Using this knowledge will help you in the placement of your DAKOS device in your home or the placement of your Mesh Nodes or WiFi Extenders.

NOTE: DAKOS devices version 3.50 and above support Mesh Nodes, Access Points, and WiFi Extenders. If you are running a version older than this on your Display, we strongly recommend upgrading it to improve your network connections. Use our article **Upgrading your DAKOS Device** (https://dakboard.freshdesk.com/en/support/solutions/articles/35000257798) to see how to complete these upgrades.

No Internet Message After Reboot:

If you reboot your DAKOS device and receive a **No Internet** message, this does not necessarily mean that your internet is down; instead, it may mean that your DAKboard cannot reach the internet through your network. This could indicate that there is an issue with your WiFi signal strength, preventing the DAKboard from connecting to your router, or there may be an issue with the DAKboard communicating with the router.

For example, if your router and DAKboard just reset together due to a power outage or if you physically reset these devices, the DAKboard may have come back up before the router completed its connection to the internet. In this case, make sure your router is online and connected to the internet, then try rebooting your DAKOS device by unplugging it and plugging it back in. If you still get the **No Internet** message, check your last reported WiFi signal as described above. If your signal strength is less than you expected, try rebooting your router, Mesh Nodes, Access Points, or WiFi Extenders, as they may also be having issues connecting. Once they are back online, reboot the DAKboard again. If the issue persists, try moving your DAKboard closer to the router or moving your Mesh Node, Access Point, or WiFi extender closer to it.

Alternatively, you can connect your DAKboard via Ethernet to bypass the need for WiFi altogether. If you don't want to run a long wire to your router, check and see if your Mesh Nodes or WiFi Extenders have an Ethernet port you can connect to instead. You can also use Ethernet Over Power (EOP) devices, as they use your home's electrical circuitry to make an artificial Ethernet connection to your Display.

DAKboard Device is Offline Message:

If your DAKOS device is displaying the message **DAKboard Device is Offline - Please check network connectivity!** This means that your display has been offline for more than 6 hours. DAKboard sends an automatic refresh and connection check to your device once every 6 hours; if your DAKboard has failed to connect to our service during this entire time, the OS will add this message to your Screen to inform you that the display has been offline for more than 6 hours. For devices running an OS older than version 3.50, you will need to unplug the power to the DAKOS device and plug it back in to try and connect to your account. When it powers back on, if you get the message **No Internet**, this would indicate an issue with your WiFi signal strength as described above.

OS version 3.50 and up will attempt to reconnect to your network once every 30 minutes. If it fails to connect, it will launch the Hotspot called **DAKboard** to allow you the means to access the settings page. If you see this network up on a WiFi-enabled device, you can connect to it using the password **dakb5142,** then navigate to the settings page by opening a browser and typing in **http://10.0.0.5**. From here, you can check or update your WiFi credentials.

Opening a Bug:

We're currently utilizing GitHub to track and prioritize all bugs and issues on DAKboard. Any bugs that occur on the DAKboard can be posted here. For changes to the Operating System designed for Raspberry Pi devices supported by DAKboard, use the link below:

(https://github.com/dakboard/Hardware-OS/issues/new?assignees=&labels=bug&template=bug_report.md&title=) (https://github.com/dakboard/Hardware-OS/issues/new?assignees=&labels=bug&template=bug_report.md&title=)**For DAKOS Bugs** (https://github.com/dakboard/Hardware-OS/issues/new?assignees=&labels=bug&template=bug_report.md&title=)

Feature Requests:

We're currently utilizing GitHub to track and prioritize all enhancements and feature requests. Feel free to browse the list of open discussions and create new ideas for us to discuss! Here is where you can learn about our Operating System designed for Raspberry Pi and Orange Pi devices supported by DAKboard. Here, you can learn about the upcoming OSs and even request enhancements.

(https://github.com/dakboard/Hardware-OS/issues) (https://github.com/dakboard/Hardware-OS/discussions) (https://github.com/dakboard/Hardware-OS/discussions)**DAKOS Discussions** (https://github.com/dakboard/Hardware-OS/discussions)

Release Management:

Below are the links to our Release notes for the Operating Systems.

(https://github.com/dakboard/Cloud-Platform/issues?q=is%3Aissue+is%3Aclosed+sort%3Aupdated-desc+-label%3Awontfix+) (https://github.com/dakboard/Hardware-OS/issues?q=is%3Aissue+is%3Aclosed+sort%3Aupdated-desc+-label%3Awontfix+) (https://github.com/dakboard/Cloud-Platform/releases/) (https://github.com/dakboard/Hardware-OS/releases) (https://github.com/dakboard/Hardware-OS/releases)**DAKOS Release Notes** (https://github.com/dakboard/Hardware-OS/releases)

(https://github.com/dakboard/Hardware-OS/issues?q=is%3Aissue+is%3Aclosed+sort%3Aupdated-desc+-label%3Awontfix+) (https://github.com/dakboard/Cloud-Platform/releases/) (https://github.com/dakboard/Hardware-OS/releases)**DAKboard OPI Legacy OS Release Notes** (https://github.com/dakboard/Hardware-OPI-OS/releases)

Frequently Asked Questions:

Below are the most Frequently Asked Questions about the **DAKOS**.

Will upgrading my OS help?

Yes. Keeping your DAKOS upgraded will help with network stability, improve performance, and allow you to take advantage of updates we make to our Services. This is especially helpful if you have an older model or a second-hand DAKboard display that is still registered to an old account or cannot connect to our services due to security updates, as it will remove the old serial number and allow you to set the display up as a new device. See our article **Upgrading your DAKOS Device** (https://dakboard.freshdesk.com/en/support/solutions/articles/35000257798) for details on how to do this.

If my OS keeps getting corrupted, does this mean my CPU is bad?

Not necessarily. The CPU itself cannot damage the OS. Only reading from or writing to the OS can trigger a corruption. This will only happen if the read or write session is interrupted, most commonly by power interruptions. This being said, low power due to failing power supplies, bad data coming back from the HDMI connection, input from externally connected devices, or even interruptions while loading a screen can also trigger a read/write error. The only part of the CPU that could fail and cause corruption directly is the SD card itself. If you are continuously having these failures, try replacing the SD card.

How often should I upgrade my OS?

DAKboard has a weekly cadence to patch bugs and release updates for our Service; however, OS upgrades can take a lot longer to happen. We only rush upgrades on the OS when we discover a bug or if we need to add improvements to the existing system. The changes being made to our Services may cause items to fail on older OS. If something is not functioning properly or seems to have changed how it functions on your Display, consider upgrading the OS, as this will most likely solve the issue for you.

Can the DAKOS be installed on any PC?

No. The DAKOS only works with a select few Raspberry Pi microcomputers or the Orange Pi 3 LTS. Though it is Linux-based, it is built on versions of Linux that only run on these devices. See our articles **Raspberry Pi - Download and Install the DAKOS** (https://dakboard.freshdesk.com/en/support/solutions/articles/35000125880) and **Orange Pi - Download and Install DAKOS** (https://dakboard.freshdesk.com/en/support/solutions/articles/35000210494) to see the full list of supported CPUs.

How do I get my Videos to play sound?

First, make sure that your Monitor has speakers, or you can attach speakers to it or your DAKboard CPU. DAKboard Wall Displays will have speakers built in. Next, make sure your Video has an audio track. If you are using YouTube, check your block to see if the volume is set (see our article **How to Add a Video Block to your DAKboard Screen** (https://dakboard.freshdesk.com/en/support/solutions/articles/35000245225) for details). Finally, double-check that your volume is set on your OS settings page (see our article **DAKOS Display Settings** (https://dakboard.freshdesk.com/en/support/solutions/articles/35000276209) for details).

Can the SD card fail and prevent the OS from working?

Though rare, it is possible that a physical failure of the SD card can cause the OS to stop working. In these cases, you will need to replace your SD card before you install your OS. We recommend using an 8 or 16 GB SD card as they have proven to be the most reliable with our OSs. You can also purchase a replacement SD card with the latest DAKOS install on it from our **Shop** (https://shop.dakboard.com).

Helpful Articles:

Having trouble? See if these articles help.

Reset your Device to Factory Settings (https://dakboard.freshdesk.com/en/support/solutions/articles/35000143215)
Trouble Connecting To A WiFi Network (https://dakboard.freshdesk.com/en/support/solutions/articles/35000029539)
Set Display Resolution (https://dakboard.freshdesk.com/en/support/solutions/articles/35000029596)
Updating Your WiFi Credentials on Your DAKOS Device (https://dakboard.freshdesk.com/en/support/solutions/articles/35000041010)
Move a Display or CPU to a New DAKboard Account (https://dakboard.freshdesk.com/en/support/solutions/articles/35000107114)
How to Access Your DAKOS Settings Page (https://dakboard.freshdesk.com/en/support/solutions/articles/35000245535)
Upgrading your DAKOS Device (https://dakboard.freshdesk.com/en/support/solutions/articles/35000257798)
Raspberry Pi - Download and Install the DAKOS (https://dakboard.freshdesk.com/en/support/solutions/articles/35000125880)
Orange Pi - Download and Install DAKOS (https://dakboard.freshdesk.com/en/support/solutions/articles/35000210494)