



Service Bulletin

Document Number: **SB 2020/01**

Date Issued: 7 February 2020

Topic: Firmware version 1.0.12 released
Applies To: Falcon 360 Tracking System
Serial Numbers: 00100 and above
Release Status: Required for continued Warranty conditions of Falcon systems

Overview: An anomaly has been discovered which can affect some satellite modems in the Falcon 360 systems, and manifests when the aircraft is in flight and switching between multiple spot beams of the Inmarsat satellite global coverage. Falcon firmware version 1.0.12 has been released which ensures that this anomaly is addressed.

Actions:

1. Follow the steps for upgrading the Falcon firmware shown in Appendix A of this document.

For any further information, or to get assistance with this process, contact our technical support team at support@apexflightops.com.

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Appendix A – Firmware 1.0.12 Upgrade Process

IMPORTANT NOTE:

Throughout the upgrade process it is very important not to remove the USB when the unit has power on, or to remove power from the unit during the upgrade process – interruptions to the firmware upgrade process can have significant detrimental effect on the ability of the Falcon device to perform.

Prepare a suitable USB Flash Drive with the firmware – for more information regarding preparing the USB drive, please consult the following information sources:

- For **Air Operations Management** users - see [Upgrading the Falcon Firmware](#)
- For **IndigoTrack** users - see [Upgrading the Falcon Firmware](#)

We recommend you familiarise yourself with the information below before running the upgrade, so you are prepared to check the indications as they are shown in realtime.



Please refer to the above button layout - once powered on, look for the following phases of operation:

1. Upgrade Process

- a) Insert the prepared USB flash drive into the unpowered Falcon
- b) Power on the Falcon system and ensure that it will remain adequately powered for at least 6 minutes.
- c) About 14s after power on, all front lights will briefly flash **WHITE**, and then the Power light will flash **WHITE**.
- d) After approximately 20s the Satellite light should start flashing **YELLOW** – this indicates that the Falcon has identified the USB drive and will start executing the instructions encoded on it.
- e) This process finishes after about 30 seconds since power up, and the Falcon will switch all front lights to **GREEN** to indicate completion.
- f) The Falcon will then reboot to start using the new Falcon firmware.

2. Satellite Modem Firmware Upgrade

Note that this step may be skipped if the modem firmware was upgraded previously to 14.006

- a) When the Falcon has restarted, you will see the same indications; all front lights will briefly flash **WHITE** after 14s, and then the Power light will continue to flash **WHITE**.
- b) When the Falcon identifies the Modem Firmware on the USB, all lights will be set to continuous **YELLOW** indications – approximately 60s after initial power on.

- c) The modem files will then be upgraded one by one. During the upgrade, the corresponding light will start flashing **YELLOW**. Once the file is complete, the light will turn solid **GREEN**.
- d) The timing you can expect to observe during this process is as follows:

| <i>Light</i> | <i>Start Time*</i> | <i>Duration</i> | <i>End Time*</i> |
|--------------|--------------------|-----------------|------------------|
| ALERT | 1m00s | 35s | 1m35s |
| SATELLITE | 1m35s | 45s | 2m20s |
| WIFI | 2m20s | 25s | 2m45s |
| BLUETOOTH | 2m45s | 70s | 3m55s |
| POWER | 3m55s | 25s | 4m20s |

** since first power on*

- e) After the modem firmware has been upgraded, the lights will be switched off, and the Power light will flash **WHITE**, the Satellite light will start flashing **YELLOW** – the Falcon will complete the firmware upgrade tasks.
- f) This process finishes after about 4m30s since power up, and the Falcon will switch all front lights to **GREEN** to indicate completion.
- g) The normal diagnostic startup process will then start.

3. Post Upgrade

Once the diagnostics has completed and the Falcon has started to search for satellite service, you should power down the unit. Once the Falcon is completely powered off (you can confirm by checking that the small green LED at the back of the unit is off), you should remove the USB Flash drive and replace the rubber dust cap in the USB port.

The modem will now send a SERVICE ACQUIRED message at the start of each power cycle – included in the diagnostics and startup information transmitted with this message is the Firmware version – confirm that this is now 1.0.12.

If the SERVICE ACQUIRED message is not received, or the Firmware version is not 1.0.12, or the upgrade process did not complete successfully as per the steps above, please contact our support team at support@apexflightops.com for assistance.

Additional Upgrades

The USB drive can be used to upgrade additional Falcon devices by repeating the steps 1-3 above.

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