

**Release Note
9555 Firmware
Version HT09007**



Iridium Satellite Product Firmware Release Note

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Iridium Subscriber Equipment Firmware Engineering

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1 Release description and purpose

This note covers the 9555 Firmware Release HT09007, upgrade from HT08008 or HT09002.

This HT09007 fixes defects noted below in Changes chapter 5.

2 Version Information

The release version information is as follows:

9555 Firmware	HT09007, built: February 18 2009 6:15 (GMT)
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3 Upgrade Tool

This section explains how to upgrade an Iridium 9555 handset to HT09007 from HT08008 or HT09002. For updated information regarding upgrade from other pre-production 9555 firmware releases in use by beta test, please contact your Iridium Service Provider.

A full upgrade is expected to take around 15 minutes. During each of the upgrade steps, the upgrade application will show you progress and the display on the 9555 handset will vary, for example showing an upgrading message or blank during the other portions of the upgrade or showing the start up animation as the handset is rebooted.

As the upgrade proceeds you may see “Inconsistent firmware. Please run upgrade tool” displayed on the Iridium 9555 handset screen. Please ignore this message while the upgrade is still in progress.

3.1 Requirements

Before you start, ensure you have the following:

- Iridium 9555 Handset, currently running HT08008 or HT09002 firmware. This may be verified by selecting Menu, Setup, Phone Information on the Iridium 9555 Handset. The firmware version is displayed and should say HT08008 or HT09002.
- PC running Microsoft Windows XP SP2, Microsoft Windows XP SP3 or Microsoft Windows Vista SP1. *Since Microsoft Windows XP SP3 was not supported in HT08008, a special upgrade procedure is described in section describing upgrade from HT08008, below. Once upgraded, and for HT09002, Microsoft Windows XP SP3 is fully supported.* For updated information regarding upgrade tool compatibility with Windows XP SP3 and other Windows® operating systems, please contact your Iridium Service Provider.
- USB cable
- Charger
- Firmware upgrade archive unpacked to a local disk folder on your PC

The upgrade tool needs to be able to write to the folder it is being run from, **do not** run it from a shared network drive or CD; copy the firmware upgrade package to a local folder on the PC being used for the upgrade, eg C:\Iridium.

Warning: If you have a Bluetooth device enabled on your PC, you will need to disable it while you do the upgrade. For example if you have a Bluetooth dongle please unplug it, if you have built-in Bluetooth please turn it off. For example on an IBM Thinkpad, the Fn plus F5 keys bring up a screen that lets you turn the Bluetooth on or off.

3.2 Performing the upgrade from HT09002

1. Power the Iridium 9555 handset on.
2. Connect the Iridium 9555 handset to the charger.
3. Connect the USB cable between the PC and the Iridium 9555 handset.
4. If you have not used the PC for data connections using the Iridium 9555 handset before, Windows will pop up the “Found New Hardware” wizard to guide you through installing the drivers. Otherwise, proceed to step 5.
 - On some PCs the wizard will ask “Can Windows connect to Windows Update to search for software?” select “No, not this time.” then press the Next button.
 - The wizard will say that it will help you install software for the Iridium 9555 Handset USB serial port, and ask you what you want to do; select “Install from a list or specific location” and press the Next button.
 - “Search for the best drivers in these locations” will appear, uncheck the “Search removable media” option and check the “Include this location in the search” option.
 - Use the browse button to select the VCOMPORT directory within the release folder where you unpacked the archive onto your PC (eg C:\Iridium\HT09007\tools\windows_usb\VCOMPORT). Press Next. The wizard will search for the driver.
 - The wizard will show you a “Hardware Installation” window warning you that “The software you are installing for this hardware: Iridium 9555 Handset USB Serial Port has not passed Windows Logo testing”, select the Continue Anyway button.
 - The wizard will automatically find and install the driver for the Iridium 9555 handset and show “Completing the Found New Hardware Wizard”, “The wizard has finished installing the software for: Iridium 9555 Handset USB Serial Port”. press the Finish button.
5. Run the upgrade tool application from within the release folder on the PC (eg C:\Iridium\HT09007\upgrade_tool\H2Upgrade_HT09007.exe), by double clicking on it:

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H2Upgrade_HT09007.exe

6. The upgrade tool application will automatically search for devices connected to the PC. If more than one handset is found, the upgrade tool application will prompt you to disconnect other devices and re-start the tool to re-scan for devices.
7. Once the Iridium 9555 handset is located, select it and press the Start button; select the “Yes” button when you see the “Are you sure” message.
8. The upgrade application will automatically detect which firmware components need upgrading on your Iridium 9555 Handset and will run through each of the required upgrades in turn, rebooting the handset automatically between each one.
9. At the start of the application processor upgrade (the first stage of the upgrade process) the “Found New Hardware Wizard” will popup again to prompt you to install the DFU driver required for upgrading the application processor.
 - On some PCs the wizard will ask “Can Windows connect to Windows Update to search for software?” select “No, not this time.” then press the Next button.
 - The wizard will say that it will help you install software for the Iridium 9555 Handset in DFU Mode, and ask you what you want to do, select “Install from a list or specific location” and press the Next button.
 - “Search for the best drivers in these locations” will appear, uncheck the “Search removable media” option and check the “Include this location in the search” option. Use the browse button to select the DFU directory within the release folder where you unpacked the archive onto your PC (eg C:\Iridium\HT09007\tools\windows_usb\DFU). Press Next. The wizard will search for the driver.
 - The wizard will show you a “Hardware Installation” window warning you that “The software you are installing for this hardware: Iridium 9555 Handset in DFU Mode has not passed Windows Logo testing”, select the Continue Anyway button.
 - The wizard will automatically find and install the driver and show “Completing the Found New Hardware Wizard”, “The wizard has finished installing the software for: Iridium 9555 in DFU Mode” press the Finish button.
 - As soon as the driver is installed the upgrade application will continue the upgrade process. If the driver installation takes too long, the tool might time out and exit, reporting “Could not locate handset”; if this happens, simply wait until the driver installation has completed then re-run the upgrade application tool from Step 5 above. Step 9 will then not be required.
10. At the end of a successful upgrade the upgrade tool application will pop up a window saying “All upgrades complete”, click on the OK button. To check that you have the correct firmware release on the Iridium 9555 Handset view the Phone Information Menu (Menu -> Setup -> Phone Information), this will show the new release (F/w:HT09007).

11. You can now disconnect the handset from the USB and the charger.

3.3 Performing the upgrade from HT08008

A method to allow 9555 upgrade from HT08008 to HT09007 using a PC running supported operating systems *and* Windows XP/SP3 is as follows.

1. Plug charger into handset. Do not have USB connected.
2. At the idle screen, dial *#888# <green key>
3. The phone will reboot into "DFU mode" and display "Upgrade in progress"
4. Connect the USB cable, if prompted to install drivers install the DFU drivers found here:
C:\Iridium\HT09007\tools\windows_usb\DFU.
5. Run the upgrade tool: C:\Iridium\HT09007\upgrade_tool\H2Upgrade_HT09007.exe
6. The handset will be detected in DFU mode. Select it and press Start.
7. The application processor upgrade will run, once the handset reboots after this you may be prompted to install drivers again, at this point install the following driver:
C:\Iridium\HT09007\tools\windows_usb\VCOMPORT.
8. Continue the upgrade process as normal (if the tool timed out at the end of step 7 while the drivers were being installed just re-run the tool).

3.4 Troubleshooting

3.4.1 No Handsets in the Handsets List

- Try removing the SIM from the handset.
- Try hard power-cycling the handset (disconnect from USB and charger, power down handset, remove battery, count to 15, replace battery, power handset on again, replace USB connection.
- Try rebooting your PC (especially if you have previously had an upgrade that failed). This ensures that the COM ports have not been left in an inoperable condition.

3.4.2 Upgrade tool fails

- Ensure the upgrade application is closed.
- Disconnect the USB cable from handset.
- Reboot the PC.
- Disconnect the charger from the handset.
- Remove the battery from the handset, count to 15, replace the battery.
- Reconnect the USB cable between the handset and PC.
- Reconnect the charger to the handset.

- Switch on the handset.
- Re-run the upgrade tool.

4 Test Summary

Automated regression testing was performed to verify functional features.

Data performance testing was performed manually.

Voice performance testing was performed for short, medium and long duration calls voice calls, MOS audio analysis, setup success rates, and drop rates.

4.1 Known Issues

This section describes issues identified during testing. Iridium R&D Engineering is engaged in continuing diagnosis and development of corrective measures to be included in future releases.

2524 - Handset sometimes resets after high numbers of RUDICS FTP put transfers

2525 - SBD maximum message size is 1021 Bytes

4.1.1 Performance

Performance test results were seen as compliant with product requirements. However, as system performance undergoes continual monitoring and refinement, future 9555 firmware releases may contain further performance improvements.

4.1.2 Functional

Functional test results are seen as compliant with product requirements.

5 Changes

5.1 Revision History

5.1.1 HT08008 (Product Launch)

5.1.2 HT09007

5.1.2.1 Enhancements

2428 – Windows XP Service Pack 3 support

5.1.2.2 Bugs fixed

1456 - Additional AT commands now handled:

- AT+CMUT, Mute Control
- AT+CLVL, Loudspeaker Volume Level Control
- AT+CAR (except AT+CAR=0), Audio Output Control on 9522A (“Daytona”)

1739 - If "Loudspeaker" pressed during call set-up, softkey labelling once connected now correct

2160 - Fixed “AT-MSVLS=1” DTMF AT command to mute while in a call

2321 - Draft SMSes longer than 480 characters no longer truncated

2383 - SMS send to email - help text made to match actual functionality

2385 - Long SMS from another 9555 no longer causes handset to reset

2387 - SMS sent/failed messages no longer jump you out of current activity (back to idle screen)

2391 - SIM Phonebook – now can Call or SMS or both without returning to idle screen

2411 - Changes made to achieve improvements in MOS audio quality score

2468 - DPL Peripheral detection limit to one device corrected, will now poll for multiple devices

2498 - Volume keys on side of handset now alter PCM audio level, previously did not

2505 - Satellite communications process changed to reduce numbers of call fades

2534 - 9555 problem sometimes showing yesterday's date fixed to always show correct date

2528 - Corrected problem preventing "New Voicemail" from appearing

2606 - Improved Japanese menu translations