

Sailmail access via Iridium

In addition to Iridium's "Direct Internet Service" and "Dialup" connections, they also offer a "PPP Data Service". This is a direct-to-internet connection through the Iridium internet gateway. The advantages are simplicity (no fancy compression or proxy-servers), no other internet service-provider required, and fast setup- typically 8 seconds to make a connection (your mileage may vary but still quicker than the alternatives). This service is perfect for quick mail checks with Sailmail's direct internet access (aka "telnet"). This document describes how to set up an Iridium PPP connection.

Prior to using your Iridium phone for a PPP internet connection for the first time, you need to set up a "Standard 19200 bps" modem driver on your computer, and then set up a dial-up networking connection for the Iridium-PPP service. These steps are both described in detail below for Windows-7 (with notes for XP in parenthesis):

First step: Install a Modem-Driver:

1. Close all applications (at least any that use internet).
2. Open Windows Control Panel (Start-button, Control-Panel or Start-button, Settings, Control-Panel for XP).
3. For Win-7 set "View by" to large or small icons, then double-click on "Phone and Modem Options".
4. Select the "Modems" tab and click "Add"...
5. Check "Don't detect my modem; I will select it from a list" and then click "Next".
6. Select "Standard Modem Types", then "Standard 19200 bps Modem" and then click "Next".
7. Click the "Selected ports" button and highlight the COM Port that you will use with the Iridium phone (e.g., COM1). Click Next, then Finish.
8. Now select the "Standard 19200 bps Modem" that you just created, and click "Properties", and select the "Advanced" tab.
9. In the "Extra initialization commands" box, enter: AT+CBST=71,0,1
10. Double-check that, then click OK, then OK again to close.

(Note: For Win-7 it may be necessary to turn UAC off in order to enter the "Extra initialization commands": From Windows Control Panel select "User Accounts", click on "Change User Account Control Settings", and set the slider to "Never Notify". UAC can be re-enabled after the modem is set up, if desired).

Second step: Configure a Dial-Up Networking connection

For Windows-7 (Vista is similar):

1. Open the "Network and Sharing Center" window (Start-button, Control Panel, Network and Sharing).
2. Click "Set up a new connection or network" and then click Next.
3. Select "Connect to the Internet" and click Next.
4. If you see "You are already connected to the internet", click on "Set up a new connection anyway".
5. Then select "No, Create a new connection" (unless you are checking settings of an existing connection).
6. Click on "Dial-up", and (if prompted) select "Standard 19200 bps Modem".
7. In the "Dial-up phone number" box enter 008816000025 (see "troubleshooting" below)
For User name and Password enter "none" (type that in, without the quotes),
Check the "remember password" box.
For "Connection Name" enter "IridiumPPP"
8. Then click "Connect", Windows will try to connect-- click "Skip" to continue.
9. Click Close and return to Network Center.

10. Click "Change Adaptor Settings" on the left, find "IridiumPPP" and right-click and select "Properties". (Or, open the connection and then click the "Properties" button).
11. On the first tab make sure "Use dialing rules" is not checked, and click "Configure"
12. Then click "Configure", and check all three hardware features, then click OK.
13. On the "Networking" tab, un-check all items except "Internet Protocol Version 4 (TCP/IPv4)". (If any items won't un-check, that is OK). Click OK to close.

To connect manually, click on the Networks icon in the system-tray (lower-right corner of the screen), select "IridiumPPP" and select "Connect". Repeat to disconnect. You can also get to the connections properties from this window.

For Windows-XP:

1. Open "Network Connections" window (Start-button, Settings, Network Connections).
2. Click "Create a new connection", click Next.
3. Select "Connect to the Internet" and click Next.
4. Select "Set up my connection manually" and click Next.
5. Select "Connect using a dial-up modem" and click Next.
6. If a "Select a Device" window appears, check the box next to "Standard 19200 bps modem", and uncheck all other devices. Click Next.
7. Enter a connection name (e.g., "Iridium PPP") and click Next.
8. In the Phone Number box, enter 008816000025 and click Next. (see "troubleshooting" below)
9. Enter "none" (without quotes) for both username and password. (These are not used but this will keep Windows from asking each time you dial).
10. Click Next, then Finish.
11. Click Properties for the new dialup connection, make sure "use dialing rules" is NOT checked.
12. Then click "Configure", and check all three hardware features, then click OK.
13. On the "Networking" tab, make sure "Internet Protocol (TCP/IP)" is checked. Uncheck all other components (if they won't un-check, that is OK). Click OK and close the connection box.

The following details are important:

Don't forget the "Extra initialization string" in the first step, this is critical.

Under Network Connections (second step), only "TCP/IP" should be checked.

You must have an available serial COM-port on your computer.

You must be logged into Windows with Administrator privileges.

Once all that is done, open Airmail's "telnet" window (click the "Internet" button on the toolbar or open the Modules menu then Telnet-client). Check the "dial first" box in the Telnet window, and select the "Iridium PPP" connection, and make sure that the "hang up" box is also checked. In recent versions of Airmail the telnet-window is already set up, just select station WRD719 and then connect.

To check mail, click Airmail's "Internet" button (or go to Modules menu, Telnet-client), make sure WRD719 is selected in the callsign box and click the green "connect" button. Airmail will dial the phone, contact the server, and exchange mail. Watch the connection and make sure it disconnects when finished. There's a good chance it will all get done in one 20-second billing interval.

Troubleshooting:

Remember that the Iridium antenna must be outdoors, with a clear view of the sky. The best antenna is a proper fixed-mount Iridium marine antenna, not cheap but strongly recommended if you are serious about it working reliably. The next-best is the small "hockey-puck" car-style antenna, IF it is stuck to a piece of metal (e.g. a car, or a metal pie-tin 8"/20cm or larger). It is meant to work on a car roof, and needs the metal ground-plane. The phone's antenna also works (as a third choice), IF it is above-decks with a clear view and oriented vertically.

Also remember that Iridium connections (voice or data) are relayed from satellite-to-satellite to reach an earth station. Your phone shows the signal strength to the first satellite only. If the next satellite is too far, or congested, then the connection will stall or be dropped. Unlike radio, this uncertainty is unpredictable and can be frustrating.

If the phone doesn't connect at all, check the signal and then check the modem and connection settings above.

Also try the alternate phone numbers 008816000023 and 008816000024. In our most-recent testing, 0023 and 0025 worked but with different success at different times, and 0024 did not connect. Your mileage will vary.

If the phone connects but you cannot connect to Sailmail then check the telnet settings below. You must be using port-50.

If you do not have an internet/telnet window at all then go to Airmail's Tools menu, Options window, Modules tab, and check the box to the left of "Telnet Client". Click OK.

To check your telnet settings first open the Telnet window (click the "Internet" button or go to Airmail's Modules menu and select Internet or Telnet Client). Make sure "Sailmail" is selected if you have also configured Airmail for ham use. Select "WRD719" and click "Settings", or if not found then click "New".

Check the following settings:

remote callsign: WRD719

remote host: 72.3.227.249 (see ** note)

Port: 50

Timeout: (blank)

Local callsign: (your Sailmail/marine callsign)

Password: (your Sailmail internet password, Case-Sensitive!).

Click OK to save settings.

**** Note:** For quickest access via Iridium, use WRD719, make sure the port is "50", and enter the numeric IP-address "72.3.227.249" instead of "pop3.sailmail.com"-- this saves a few seconds. But remember that this address may change if we need to shift servers-- so if you cannot connect then enter the "pop3.sailmail.com" and note the address which is shown when you connect. (Don't include the quotes shown here). The backup server is WHV382, remote-host: r7fh.no-ip.com and port: 50.

Also note that as of June 1 2005 Iridium has blocked most internet ports, as a result Sailmail is currently supporting port 50 on both servers. Port 50001 will work via wired/wireless internet, but not via Iridium.

If you want to initiate a PPP Data call manually, open the Dial-Up Networking window and open the "Iridium PPP" dial-up connection and click "dial". And don't forget to disconnect when you are finished!

Cheers, Jim

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