

Satellite Communications

Jeff Thomassen
Chief Technical Officer
OCENS



© Copyright OCENS www.ocens.com

Iridium Phones



9505/9505a

9555

9575



© Copyright OCENS www.ocens.com

9555 / 9575 connect via USB directly

9505/a Data Adapter



Antenna Adapter

Data Adapter

USB / Serial Adapter



© Copyright OCENS www.ocens.com

antenna adapter for external antenna connection, proprietary data adapter for phone and USB-Serial adapter. 9500/9505/9505a

Globalstar Phones



GSP1600

GSP1700

SPOT Phone



© Copyright OCENS www.ocens.com

GPS-1700 and Spot phone are the same – and have direct USB data connections (special USB cable required)

GSP 1600 Data Adapter



GSP1600

Data Adapter

USB-Serial Adapter



© Copyright OCENS www.ocens.com

GSP-1600 requires proprietary data cable and USB-serial adapter

Inmarsat Phones



© Copyright OCENS www.ocens.com

Inmarsat phones – Isat is USB but not recommended for data. Fleet is a Ethernet connection like home or network connections

Docking Stations



© Copyright OCENS www.ocens.com

Docking stations are available for all portable phones and have various capabilities

External Antenna Options



For Cars
Not great for boats



© Copyright OCENS www.ocens.com

Car antenna vs. maritime/fixed antenna

Data

- Connecting to computer via USB

- (What is required)
 - Driver installation
 - Modem setup
 - Com ports
 - Lack of firewall

- Connecting via Optimizer



Includes all drivers and firewall
Wi-Fi connection to computer

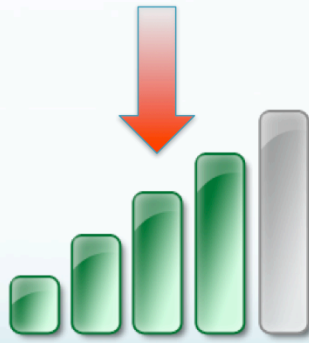


© Copyright OCENS www.ocens.com

Data

Requires GOOD signal strength –more than voice*.

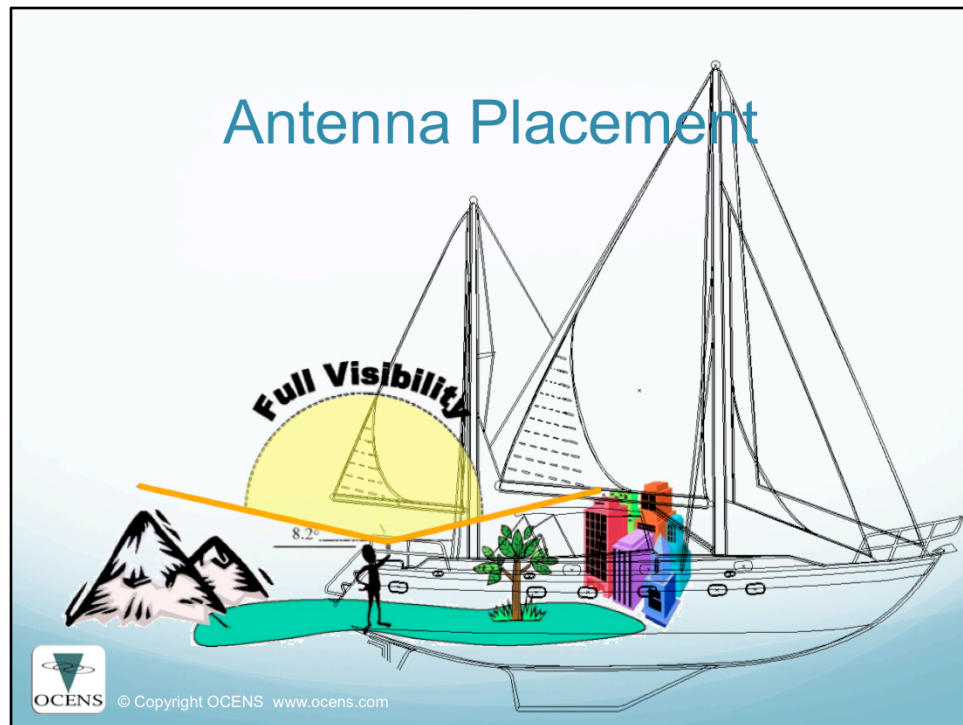
Data calls must have 3 bars or better.



*Voice will work as low as 1 bar.



© Copyright OCENS www.ocens.com



Clear view of sky. Can see through sails (except carbon fiber)

Where not to place antenna



© Copyright OCENS www.ocens.com

Do not place under solar panels or other solid objects. Needs clear view of sky.

Voice Calling - Globalstar

- US to Globalstar : **1**[area code][phone number]
- Globalstar to US : **1.206.878.8270**
- Globalstar to Bermuda : **1.441.XXX.XXXX**
- From Globalstar (international) :
 - **011** [country code][area code][phone number]
- Globalstar to Iridium : **011.8816.XXXX.XXXX**
- Globalstar to Inmarsat : **011.**



© Copyright OCENS www.ocens.com

Voice Calling - Iridium

- US to Iridium : 011.8816.XXXX.XXXX
- US to Iridium Via Two-Stage Calling: 1.480.768.2500
 - At the voice prompt enter the Iridium number you are trying to reach, e.g.: 8816.XXXX.XXXX
- From Iridium : 00 [country code][area code][phone number]
 - Iridium to US : 00.1.480.752.5105
 - Iridium to Bermuda : 00.1.441.XXX.XXXX
 - Iridium to Iridium : 00.8816.XXXX.XXXX
 - Iridium to Inmarsat : 00.870.XXXX.XXXX
- Test Call Number from Iridium Phone: 00.1.480.752.5105



© Copyright OCENS www.ocens.com

Voice Calling 911 with Iridium

- Any Iridium subscriber using Iridium voice service **WITHIN** the 50 United States, District of Columbia, Puerto Rico and the U.S. Virgin Islands will have access to the emergency 9-1-1 call system.
- **Outside the United States** and its territories, a 9-1-1 call **will NOT transfer to the emergency call center**. Your call will terminate to a switch message instructing you to hang-up and dial the emergency provider or your service provider directly.



OCENS

© Copyright OCENS www.ocens.com

Voice Calling - Inmarsat

- US to Inmarsat : 011.870.XXXX.XXXX
- From Inmarsat : 00 [country code][area code][phone number]
 - Inmarsat to US : 00.1.206.878.8270
 - Inmarsat to Bermuda : 00.1.441.000.0000
 - Inmarsat to Inmarsat : 00.870.776 999 999
 - Inmarsat to Iridium : 00.8816 XXXX.XXXX
- Test Call Number from Inmarsat Phone: 00.870 776 999 999



© Copyright OCENS www.ocens.com

Storing phone #'s 9555/9575

- Starting from the Main Screen:
 - Press the **left soft key**, labeled **Menu**.
 - The **Main Menu** is now displayed, with **My Phonebook** highlighted press the **left soft key**, labeled **Select** to enter the **Phonebook** menu.
 - **To add information to the Phonebook**, use the **New** option. Start at the **Main Menu**, with **My Phonebook** highlighted:
 - Press the **left soft key**, labeled **Select**.
 - The **Phonebook** is displayed.
 - Press the **left soft key**, labeled **Options**.
 - Use the **2-way Navi-key** until the **New** option is highlighted.
 - Press the **left soft key**, labeled **Select** to proceed.
 - The **New Entry** screen is displayed with a list of icons that represent:
 - Name, Home phone, Work phone, 1st cell phone, 2nd cell phone, email address
 - Use the **2-way Navi-key** to scroll to each field and the keypad to enter information into the fields.
 - Press the **left soft key**, labeled **Save**.
 - A message briefly appears to indicate the contact was entered successfully. The screen reverts to the main **Phonebook** menu.



OCENS

© Copyright OCENS www.ocens.com

Setting up Voicemail - Iridium

- STEP 1: Check if the Voicemail service number is correctly set up.
 - For 9505A Phones:
 - Press the Envelope key, 'Call Voicemail, select?' will appear.
 - Scroll with arrow keys until 'Message settings, view options?' appears.
 - Press [OK], 'Voicemail number, select?' will appear.
 - Press [OK], enter the Iridium general voicemail number, +881662990000.
 - Press [OK]. Hold on to the [C] key to return to the main screen.
 - For 9555 Phones:
 - In 'Menu' select 'Voicemail' - 'Voicemail Settings' - 'Number'.
 - Enter +881662990000 and press 'Save'
- STEP 2: Set up call forwarding to Voicemail. Make sure the phone is turned ON, is registered in the Iridium network and has good signal strength.
 - For 9555 & Extreme Phones:
 - In 'Menu' scroll down to and select 'Setup'.
 - Select 'Call Options' - 'Call Forwarding', wait until the list of options appears.
 - Select the desired option: 'All Calls', 'If Busy', 'If No Answer' or 'If Unavailable'.
 - Select 'Voicemail' from the list, wait until confirmed.
 - For 9505A Phones:
 - Press the 'Menu' key, scroll with the left/right arrow keys until 'Call Related Features' appears.
 - Press 'OK', scroll down until 'Call Forwarding' appears.
 - Press 'OK', scroll down until 'Forward When Unavailable' appears.
 - Press 'OK', 'Please Wait' will appear, wait for a while until 'On' appears.
 - Press 'OK', scroll down until 'Voicemail' appears.
 - Press 'OK', 'Please Wait' will appear, wait until 'Call Forward On' appears.
 - 'Forward When Unavailable' then appears, hold on to the 'C' button to return to the main screen.



OCENS

© Copyright OCENS www.ocens.com

Retrieving your Voicemail - Iridium

- Call Iridium voicemail number +881662990000:
- For 9555 phones: Select 'Menu' - 'Voicemail' - 'Call Voicemail' (this will automatically call the Iridium voicemail number, +881662990000).
- For 9505A phones: Press the Envelope key, 'Call Voicemail, select' will appear. Press OK to call the Iridium voicemail number, +881662990000.
- Wait for the voice prompt asking you to "re-enter the Iridium phone number you are trying reach". Enter your Iridium phone number (8816XXXXXXX); you will then be forwarded to your personal voicemail greeting.
- Press the '*' key to interrupt the greeting, and enter your password (last 7 digits of your Iridium number, see below) to access your personal mailbox.
- Follow the voice prompts for menu options.
- Note: By default, your voicemail password is the last 7 digits of your Iridium phone number. For security reasons, please change it using menu options.



© Copyright OCENS www.ocens.com

Using Voicemail (IsatPhone)

- You will be able to receive voicemail messages if your service provider has enabled voicemail. Your phone automatically checks for voicemails shortly after it has been switched on and connected to the network. It will also send you voicemails that arrive while you are connected to the network.
- If you have a new voicemail, the voicemail icon will appear in the status bar at the top of the main screen and in **Info**. To listen to the message, hold down the key on the keypad for a few seconds and your phone will automatically connect you to your Inmarsat voicemail. Alternatively, you can dial the short code **570** followed by the green key or the full international number **00 870 772 001 899** or **+ 870 772 001 899** and the green key . Follow the spoken instructions.



© Copyright OCENS www.ocens.com

Voice mail on Globalstar

- Voice mail service can easily be added to your existing Globalstar service. You can check your messages from your Globalstar phone at standard airtime rates. There is no fee from Globalstar to receive a message or check your messages from a landline.
- To set up or access your Globalstar Voicemail:
- Dial *89 (send) while in satellite mode, Press "5" when you hear the greeting.
- **OR**
- Call your Globalstar number from any touchtone phone or from your satellite phone.
- Press "5" when you hear the greeting.
- Enter personal password (temporary password is 12345).



© Copyright OCENS www.ocens.com

How to send a FREE text message to an Iridium phone?

- Via the Web:
 - One can send a FREE text message to an Iridium phone by visiting the Iridium Send SMS page.
- Via email:
 - Create a new email message addressed to 8816XXXXXXXX@msg.iridium.com, enter your message in the body of the email and send your email. Any text placed within the subject line will not transmit.



© Copyright OCENS www.ocens.com

How to setup the Iridium SMS Service Center Number?

- The SMS service center number must be set up prior to sending the first SMS message.
- For 9555 & Extreme Phones:
 - In 'Menu' select 'Messages' - 'Settings' - 'Service Center'.
 - Enter 00881662900005 or +881662900005
 - Press OK.
- For 9505A Phones:
 - Press the 'Envelope' key.
 - Scroll to 'Message Settings'. Press OK.
 - Scroll to 'Service Center'. Press OK.
 - Enter 00881662900005 or +881662900005. Press OK.



© Copyright OCENS www.ocens.com

SMS to your Satellite Phone

<http://messaging.iridium.com>

<http://isatphonelive.com>

Iridium Messaging

[Messaging](#) [MDA](#) [FAQ](#) [Iridium.com](#)

8816...

Reply Email

Message

160 characters remaining

[Send Message](#)

Send a message to IsatPhone[®]

All fields required

To:

Your email / mobile number:

Message:

Latin Characters (160 max) Non Latin Characters (134 max): 0

☐ I agree to be included in updates and information about Inmarsat products and services.

[Send](#)

* The email/phone contact counts as part of the 160 characters allowance

[Privacy policy](#) | [Terms & conditions](#) | [Acceptable use](#)



© Copyright OCENS www.ocens.com

SMS to Globalstar

www.globalstar.com -> Products & Services -> Short Messaging Service

Short Message (SMS)

The SMS service is a great way to send a quick communication to a Globalstar customer.

Key Benefits

- Allows customers to receive 35-character Text Messages on GSP-1600 and GSP-1700 handsets, the GSP-1620 Satellite Data Modem, or the GSP-1720 Satellite Data Voice Modem
- The phone automatically stores up to 91 35-character messages (if messages are less than 35 characters, the total message capacity may increase.
- Message Waiting Indicator on the GSP-1700 and GSP-1600 handsets informs you when you have a message.
- You can send a message from anywhere in the world to a Globalstar GSP-1600 & GSP-1700 Phone by filling in the fields below.

To send a short message (no more than 35 characters including spaces):

1. Enter the intended recipient's 10-digit Globalstar Satellite phone number.
2. Enter your message in the corresponding message field below.

After entering the information, click Send Message. The message will be sent to the Globalstar number provided.

Satellite Phone Number:

Your Message:

[Send Message](#)



© Copyright OCENS www.ocens.com

OCENS Services

- **OCENS Mail** (www.ocens.com/mail)
 - Satellite phone email service
 - Available for PC/Mac iOS/Android
- **WeatherNet** a(www.ocens.com/weather)
 - Weather and ocean data service
 - High Resolution Gulf Stream Data / weather charts / text / buoy
 - Race notifications from FCO
 - Free for race –www.ocens.com/nb
- Software manages the calls
- Automatic compression and call optimization



© Copyright OCENS www.ocens.com

OCENS Mail and WeatherNet are designed to work efficiently via satellite phones – giving the user much more reliable access to data as well as reducing airtime requirements

Tracking Solutions

- Via SPOT / SPOT Trace
 - Purchase Device and service \$149 / \$99.95yr
- Via inReach
 - \$299 / min \$10 per month plus per message fees
- Via Iridium 9575
 - Can be activated with rental
 - Can be sent as SMS Messages (single positions)
- Via OCENS Mail / Attached GPS



© Copyright OCENS www.ocens.com

Tracking Via Iridium 9575

- Via Iridium 9575
 - Manual
 - What setup is required
 - Have contacts programed into phone
 - Clear view of the sky / good signal and GPS fix
 - Send position to contact email
 - Link with single position on map
 - Fee = SMS Rate (about 1/2min) per report
 - SBD
 - What setup is required
 - OTrak website: <http://www.otrak.net>
 - Phone setup
 - Fee = \$25 Activation, \$29.95 per month (single user)



© Copyright OCENS www.ocens.com

Tracking Via OCENS Mail

- Via OCENS Mail



- Manual / with outgoing emails vs. automated

- What setup is required

- GPS Setup
 - Enabling Tracking and Scheduling

- Fee = \$25 activation, \$9.99 per mo.

A screenshot of the OCENS Mail configuration window. The left sidebar shows a menu with options: Gateway, Connection, E-Mail Settings, Miscellaneous, GPS, Tracking (selected), Mail Filtering, Social Media, XWeb, Iridium AccessPoint WiFi, and Optimizer by RedPort. The main panel is titled 'Mail Stamps' and contains the following settings:

- ☒ Include GPS position in outgoing mail headers
- Email based software Tracking**
- ☒ Enable automatic tracking via Email
 - Fleet Name: jeff
 - Fleet Password:
- Automatic Position Reporting**
- ☒ Enable automatic position reporting
 - Reporting Interval(min): 60

Below these settings, it says 'RedPort Tracking powered by GSaTrack' and includes a note: 'Note: Requires either an Optimizer or webXaccelerator router. Please visit: www.RedPortGlobal.com/gsatrack for registration information'. At the bottom, there are three checkboxes:

- ☐ Enable a connected FleetBroadband
- ☐ Enable a connected Iridium OpenPort
- ☐ Enable a connected IsatPhone



© Copyright OCENS www.ocens.com

Typical Rental Package

From OCENS



Iridium 9555
AC Charger

Optional Accessories

DC Charger
Antenna Adapter
Marine Antenna
Antenna Cable
USB Data Cable

*Optimizer rentals available



© Copyright OCENS www.ocens.com