

Communications

Communications Equipment

If deploying to a field camp from a vessel, pick up communication equipment from the Peninsula field supervisor or the electronics technician. At Palmer station, the communications technician issues equipment.

- Test the gear by calling the vessel or station to make sure the VHF radios and Iridium phones are working correctly.
- Make sure there are spare charged batteries for each device

VHF Radios

VHF radio is the primary form of wireless communication at Palmer Station and on the vessels. This is a shared resource monitored by multiple users. Proper radio etiquette should be maintained when transmitting on this or any radio network. Always refer to frequencies by the channel name and not the channel number. Radio communications should be brief and on-topic.

Palmer Station deploys three different VHF systems:

- 1) Simplex.** In this system, each unit communicates directly with other units. All units use the same frequency to transmit and receive, so communications are one-way and one-at-a-time.
- 2) Simplex with Base Station.** Where buildings and hills block radio signals, a base station is used. An antenna is placed at the highest point, such as a hill, a tall building, or a radio tower. The radio at the tower, called a “base station,” is connected to a remote dispatcher’s console. All units, including the base station, transmit and receive on the same frequency. If two units can’t communicate directly, the dispatcher relays messages.
- 3) Semi-Duplex.** For areas farther from Palmer Station, semi-duplex repeaters are used. A repeater is a receiver/transmitter combination. The repeater is installed on a hill, a tall building, or a radio tower, and it automatically retransmits the signal it receives on one frequency on another frequency. The control point at the dispatcher’s desk transmits and receives just like a mobile radio.

VHF Radio Operations

- Listen before transmitting (to ensure the channel is not in use).
- Hail vessel or Palmer Station and wait for reply before giving check-in information.

- Pause for a moment after pressing to transmit to ensure entire transmission gets through.
- Keep batteries warm (and always carry a spare).
- Do not over-use repeaters (power conservation).

Frequency Assignments: LMG and NBP

Channel	Frequency (MHz) (Transmit/Receive)	Name/Description
5A	156.250	LMG main channel for communications; bridge monitors constantly
06	156.300	NBP main channel for communications; bridge monitors constantly
08	156.400	Alternate channel for frequent communications that would disrupt channels 5A or 06
10	156.500	Helicopter communications channel
13	156.650	Inter-ship navigation safety channel (bridge to bridge); ships >20m length maintain listening watch on this channel in U.S. waters; usually monitored by bridge but turned down in Punta Arenas because of fishing boat chatter
16	156.800	International distress and safety channel; all ships required to carry a radio, the USCG, and most coast stations maintain a listening watch on this channel; the vessel bridge monitors it constantly, and it is often used for initial ship-to-ship contact in Antarctica

Frequency Assignments: Palmer Station

Channel	Transmit (MHz)	Receive (MHz)	Use
25	156.250	161.850	Field activities; reaches glacier repeater
27	157.350	161.950	Palmer Station

Note: Palmer Station has two repeaters, which are linked. Anyone using either channel is heard on both.

Phonetic Alphabet

Whenever isolated letters or groups of letters have to be pronounced separately, e.g. to identify unusual words, call-signs, or in conditions of difficult communication, the following phonetic alphabet should be used:

A Alpha	H Hotel	O Oscar	V Victor
B Bravo	I India	P Papa	W Whiskey
C Charlie	J Juliet	Q Quebec	X X-Ray
D Delta	K Kilo	R Romeo	Y Yankee
E Echo	L Lima	S Sierra	Z Zulu
F Foxtrot	M Mike	T Tango	
G Golf	N November	U Uniform	

Iridium Satellite Phones

Field parties working away from Palmer Station or a vessel are also issued Iridium satellite phones.

Note: The Iridium phones issued by the USAP are administered by the Department of Defense (DoD). Dialing sequences to and from other commercial Iridium phones may vary.

Note: If a field party has multiple units, the Iridium with the lowest phone number is designated as the Alpha (primary) line. The next ones are Bravo, Charlie, Delta, and so on.

Iridium Dialing

From Iridium to Iridium:

1. Power up the Iridium phone.
2. Wait for the telephone to register with the network and show a signal level in display.
3. Dial 00 to access the satellite network.
4. Dial 8, the country code for Iridium phones.
5. Dial the area code and eight-digit Iridium number.

Example: 00 8 (816) 763-15071 for Palmer Station

To a commercial (non-USAP) Iridium phone: Dial 00 698 (8816 or 8817) XXX-XXXXX.

From Iridium to a regular phone (whether in the U.S. or McMurdo via Denver):

1. Power up the Iridium phone.

2. Wait for the telephone to register and display a signal level.
3. Dial 00 for an international call.
4. Dial 697 to connect to FTS (Federal Telephone System).
5. Dial area code (DO NOT dial "1" before dialing the area code).
6. Dial seven-digit telephone number.

Example: 00 697 (720) 568-2775 for Palmer Station

From Iridium to a U.S. toll free number:

Dial 00 699 1 (800/888/877) XXX-XXXX.

From Iridium to an international number:

Dial 00 698 + country code + city code + local number.

To a USAP Iridium from any phone:

Any USAP Iridium phone may be dialed via a U.S. domestic phone by using a Hawaii area code. Replace the Xs below with the last four digits of the Iridium number.

If SIM card's last five digits start with a 1: Dial 808-659-XXXX

If SIM card's last five digits start with a 2: Dial 808-434-XXXX

If SIM card's last five digits start with a 3: Dial 808-684-XXXX

If SIM card's last five digits start with a 4: Dial 808-851-XXXX

If SIM card's last five digits start with a 5: Dial 808-852-XXXX

For example, if the Iridium number is 8816 763 2XXXX, dial 808-434-XXXX.

Iridium Text Messages

Friends and family can send short text messages to an Iridium phone. However, unless there is an email data kit installed, an Iridium phone cannot send outgoing texts. People sending a text message should enter the initials of the intended recipient at the start of the message and their own initials at the end. Otherwise, the camp members won't know to whom to pass the message.

Note: Generally, friends and family should only be provided the secondary Iridium number (Bravo phone), keeping the primary Iridium (Alpha phone) for business purposes, and they should be informed that the Iridium phones are a shared resource.

Receiving Text Messages:

Power up the phone, place a call to begin text message download, and call the station or vessel to confirm that the message was received.

Sending Text Messages:

Text messages can be sent from computer to Iridium but cannot be sent directly from an Iridium handset.

Option 1: Send the message via the Iridium website <http://inah.pac.disa.mil/sms.shtml>. Fill out the form on the home page by entering the Iridium phone number (example: 8816763XXXXX) and composing a message that is no more than 120 characters.

Option 2: Send the message via email, using the format 8816763XXXXX@inah.pac.disa.mil, where the last five digits of the Iridium phone are inserted for the X's.

- Select the Plain Text option (it is easy to do this in Outlook, in the "format" tab).
- Leave the subject line blank.
- Type in the body of the email. There is a 120-character limit.
- Abbreviate where possible.
- The message should start with the recipient's initials, so camp personnel know to whom to pass the message.
- Do not include a signature line or any other extras.

To check for messages in the field, power up the Iridium and place a call. This begins the message download. The Alpha line may be used.

Iridium Troubleshooting

Disconnect and reconnect all accessories (battery, antenna, adapters, etc.) to ensure there are solid contacts. If possible, move to an area clear of obstructions.

Frequently Used Iridium Numbers

LAURENCE M. GOULD	NUMBER
Marine Project Coordinator Iridium (from field Iridium) (rings through to bridge if not picked up in MPC office)	00 8816 763 15074
Marine Project Coordinator (U.S. number)	1 808 659 5074
Electronics Technician Iridium	00 8816 763 15073
Bridge Iridium (see Marine Project Coordinator, above)	
Electronics Lab Inmarsat (from field Iridium*) Emergency Only; not monitored 24/7 *If dialing Inmarsat from the U.S., substitute 011 for 00698	00 698 870 773 155 323
NATHANIEL B. PALMER	
Marine Project Coordinator Iridium	00 8816 763 15076
NBP Bridge Iridium	00 8816 763 15077
Information Technician Iridium	00 8816 763 29769
Inmarsat (from field Iridium*) Emergency Only; not monitored 24/7 *If dialing Inmarsat from the U.S., substitute 011 for 00698	00 698 870 773 910 022
PALMER STATION	
Station Iridium	00 8816 763 15071
Station Manager	00 697 720 568 2776
Communications Technician	00 697 720 568 2779
After hours calls	00 697 720 568 2775
DENVER OFFICE	
Denver ASC main line (from Iridium) If calling after hours, leave message	00 697 303 790 8606
FOR MEDICAL EMERGENCIES	
Palmer Station Medical	00 697 720 568 2778
ASC Medical Director (Dr. McKeith) cell	00 697 707 974 9969
UTMB Medical	00 697 855 300 9704

Communication Requirements for Day Trips

Before departing the vessel or station:

- Check out by VHF radio to ensure it's working
- Also check out by Iridium phone (if issued one). Make sure there are spare charged batteries for each radio, and frequently used numbers are programmed into the phone.

Check-out procedure:

- **Use the VHF radio**
- Use this format (assuming the supporting vessel is the LMG): "LMG Bridge, LMG Bridge. This is the sea-ice field party."
- Provide the following information when prompted:
 - Party name
 - Destination
 - Number of people
 - Estimated time of return (ETR) to vessel (or station), or estimated time of arrival (ETA) at destination

*Call to extend
return time!
There is NO grace
period!*

Check-in procedure:

- **Use the VHF radio**
- Notify the vessel bridge or MPC, or the Palmer Station communications technician, when the field part has arrived at the destination and/or returned to the vessel or station

If the check-in time is missed:

- After twenty minutes, the vessel bridge notifies the MPC. The Captain and MPC initiate an action plan to reach the field party.

Communication Requirements for Overnight or Multi-Day Camping Trips

Field Camp Daily Check-In

Field camp personnel must check in twice daily with the supporting vessel or Palmer Station. One call should be made by 0800 and the other at 2000, local time. If the field team is unable to reach the ship or station by VHF, the team will call the main phone line using Iridium. If the team is unable to reach someone at the designated time, team members will call hourly, at the top of each hour, until contact is made. If the field team is supported by a vessel but is unable to contact the vessel, team members should try to contact Palmer Station, another vessel, or ASC Denver.

If no contact is made within six hours of a designated check-in time, Denver headquarters will be notified by the monitoring station or supporting vessel that the field party has missed its check-in.

Status Conditions to be Relayed During Check-in

In the event the Iridium or HF communication signal is weak, a color code system (green, yellow, red) should be used to convey information. Initial contact should include the current camp status.

- Green:** All's well. No further contact required until next scheduled time.
- Yellow:** There is an issue that requires further consultation. Any and all pertinent information regarding the situation should be at hand during this initial contact. Additional contact times and methods should be established.
- Red:** EMERGENCY!!! Vessel and/or outside assistance required immediately.
If the camp is supported out of Palmer Station, station personnel notify the NSF immediately and request that the nearest vessel proceed to the camp.

Vessel personnel will initiate a request for additional SAR assistance, as required.

Small Boat Missions from a Vessel

Small-boat based field teams must make contact with ship's communication command via VHF or Iridium every 30 minutes while underway. If they are 30 minutes late, a second boat will be prepared for an emergency response or SAR, while the captain and MPC assess the situation and make a plan.