

# COMMUNICATIONS



If deploying to a field camp from a USAP support vessel, pick up communication equipment from the Peninsula field supervisor in Punta Arenas. At Palmer Station, the communications technician issues equipment. All field camps must have at least two official forms of long-range communication that do not depend only on satellite: a high frequency (HF) radio and at least two Iridium phones. Field camps are also issued very high frequency (VHF) radios for local communication.

As a field camp manager, field coordinator or field team lead, it is your job to familiarize yourself with the components, setup and use of all communications devices. Field parties may opt to bring their own InReach satellite communication devices for personal use. Include all their device or part numbers and their contact information in the field plan. Note that InReach devices are handy but not considered an official source of communications within USAP.

Do the following when checking out equipment:

- Test the HF radio, Iridium phones and VHF radios by calling the USAP support vessel or station to ensure they work correctly.
- Ensure there are spare batteries for each device and that the batteries hold a charge.
- Communication devices should have a list of frequently used numbers. If you do not have one, ask for a list.
- Save frequently used numbers in the Iridium phones.
- Tune VHF radios to the correct channels.
- Charge all batteries, including spares.

## Radio and Phone Best Practices

If a shore party cannot check in with the support vessel or reach a boat driver, messages may be relayed via a third party. Otherwise, radio the Bridge of the USAP support vessel or the Palmer Station communications technician when the field party has arrived at the destination and/or returned to the vessel or station. If 20 minutes have passed since check-in

time, Palmer Station will mobilize the ocean search and rescue (OSAR) team.

Use the following phonetic alphabet when letters or groups of letters must be pronounced separately (e.g., unusual words, call signs, during noisy conditions).

**Phonetic Alphabet for Radio**

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

Best practices for radio or phone calls are as follows:

1. Listen before transmitting to ensure the channel is not in use.
2. Hail the vessel or Palmer Station (e.g., “Palmer Station, Palmer Station. This is shore party.”).
3. Pause for a moment after pressing to transmit, to ensure the entire transmission gets through.
4. Wait for acknowledgment.

5. Transmit the following information:
  - A. Party name
  - B. Destination
  - C. Number of people
  - D. Estimated time of return to station or USAP support vessel, or estimated time of arrival at the destination
6. Keep the batteries warm, and always carry a spare battery or spare radio.

## VHF Radios

VHF radio is the primary form of wireless communication at and around Palmer Station and on the USAP support vessel. The radio is a shared resource monitored by multiple users. VHF radios require a line of site around the Palmer Station boating area. There are repeaters around station to extend the VHF range (see the next table).

**VHF Frequency Assignments for Palmer Station**

Channel	Frequency (megahertz [MHz])		Description
	Transmit	Receive	
25	156.250	161.850	Channel 27 Relay (use when not in line of sight of Palmer Station)
27	157.350	161.950	Palmer Station Radio Watch

If you are not within line of sight or repeater coverage, you may not reach your audience. In this case, move to higher ground to acquire line of sight, or have a third party relay messages for you. If you are still unable to make contact, use the Iridium phone or HF radio. Use the best practices described above during radio communications, which should be brief and on topic.

## Iridium Satellite Phones

Field parties working away from the USAP support vessel or Palmer Station may also be issued Iridium satellite phones. These are administered by the U.S. Department of Defense. Dialing sequences to and from other commercial Iridium phones may vary. If a field party has multiple Iridium phones, the one with the lowest phone number is designated as the “Alpha” (i.e., primary) line. The next ones are “Bravo,” “Charlie” and so on.

### Frequently Used Numbers

Contact	Type	Number
<b>McMurdo Station</b>		
Central Comms	Iridium	00-8816-763-12464
McMurdo Medical	Iridium	00-8816-763-15142
	Non-iridium	00-697-720-568-1048
<b>Palmer Station</b>		
Station	Iridium	00-8816-763-15071
Station Manager	Non-iridium	00-697-720-568-2776
Communications Technician	Non-iridium	00-697-720-568-2795
After Hours	Non-iridium	00-697-720-568-2775
<b>Denver Office</b>		
ASC Main Line (leave message if after hours)	Landline	00-697-303-790-8606
<b>Medical Emergencies</b>		
Palmer Station Medical	Non-iridium	00-697-720-568-2778
ASC Medical Director (Dr. Jim McKeith)	Mobile	00-697-707-974-9969
UTMB Medical	Landline	00-697-855-300-9704

## Dialing Calls

### Iridium to Iridium

1. Power up the Iridium phone.
2. Wait for the telephone to register with the network and display a signal level.
3. Dial 00 to access the satellite network.
4. Dial the 12-digit numeral subscriber number (i.e., MSISDN).
5. Press the green button to initiate the call.

**Example:** 00 8816-763-15071 for Palmer Station

### Iridium to Commercial (Non-USAP) Iridium

Dial 00 698, then the 12-digit subscriber number.

**Example:** 00 698 (8816 or 8817) XXX-XXXXX.

### Iridium to Standard U.S. Phone

1. Power up the Iridium phone.
2. Wait for the telephone to register with the network and display a signal level.
3. Dial 00 for an international call.
4. Dial 697 to connect to the Federal Telephone System.
5. Dial the area code. Do not dial "1" before dialing the area code.
6. Dial the seven-digit telephone number.

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

### Iridium to U.S. Toll-free Number

Dial 00 699 1 (800 or 888 or 877) XXX-XXXX. The Xs refer to the phone number you would like to dial.

## Iridium to International Phone

All calls originate from Hawaii, so “international” is relative to the U.S.

1. Power up the Iridium phone.
2. Wait for the telephone to register with the network and display a signal level.
3. Dial 00 698 to access the satellite network.
4. Dial the international number as “Country Code” “City Code” “Destination Number”
5. Press the green button to initiate the call.

**Example:** 00 698 64 3 358 8139 for USAP Clothing Distribution Center in Christchurch, New Zealand

## Iridium to International Number

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

## Any Phone to USAP Iridium

Any USAP Iridium phone may be dialed from a U.S. phone by using a Hawaii area code. Replace the following Xs with the last four digits of the Iridium number. If the SIM card’s last five digits start with a

- 1, then dial 808-659-XXXX;
- 2, then dial 808-434-XXXX;
- 3, then dial 808-684-XXXX;
- 4, then dial 808-851-XXXX; or
- 5, then dial 808-852-XXXX.

**Example:** If the Iridium number is 8816 763 2XXXX, then dial 808-434-XXXX.

## Getting Text Messages

Friends and family can send short text messages to an Iridium phone. However, unless there is an email data kit installed, the Iridium phone cannot send outgoing text messages.

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, camp members will not know the intended recipient of the message.

Generally, friends and family should have only the Bravo (i.e., secondary) Iridium number so the Alpha line is used for work purposes only. They should be informed that the Iridium phones are a shared resource. As a team, you can determine which phone can be used for texts.

Text messages can be sent from a computer to Iridium phone as follows:

**Option 1:** The message can be sent via <https://messaging.iridium.com>. The sender fills out the form on the webpage by entering the Iridium phone number (e.g., 8816763XXXXX) and composing a message that is no more than 160 characters.

**Option 2:** The message can be sent via email, using the 8816763XXXXX@inah.pac.disa.mil format, where the last five digits of the Iridium phone are inserted at the Xs. Your message will be sent in plain-text format (not rich text or HTML). Leave the subject line blank, type 160 characters maximum in the body of the email, starting with the recipient's initials and abbreviating when possible. Exclude hyperlinks, signatures, photos, documents and other attachments.

Persons in the field can check for Iridium text messages as follows:

1. Power up the phone and place a call. This places the Iridium in the satellite constellation and begins the download of messages.



2. If there is no need to talk to anyone, call 00-697-720-568-2211.
3. Once the device connects you, end the call.
4. The satellites should forward any queued messages.

## Troubleshooting the Phone

If the Iridium phone is malfunctioning, first disconnect and reconnect all accessories (e.g., battery, antenna, adapters) to ensure there are solid contacts. If possible, move to an area clear of obstructions. Then try operating the phone again.

Also protect the antenna, as plastic will become brittle and crack in cold environments. Be gentle when swapping out Iridium components. Most of the adapters are made of thin plastic, especially the 9575s. Work from sheltered environments when possible, and do not force any connections. Replacement phones are limited.

## HF Radio

All deep field camps are issued an HF radio as they are beyond the range of VHF. HF can provide long-distance communication via groundwave or skywave, surpassing VHF's line-of-sight limitations.

HF radio can be adjusted to change how the signal is controlled. However, users should follow the standard setup instructions for the Barrett 2090 HF transceiver and verify that radio settings are correct before making adjustments.

The handset and whip antenna must be attached to the radio before operation. Select channel/frequency using the up/down arrows for Palmer Station individual frequency.

Alternately, a long-line dipole antenna may be used in place of the whip antenna. The long-line dipole must be elevated at least four feet off the ground. Ensure all shorting bars are connected, except for the desired frequency. **Remember when plugged into the radio, the long line is an active wire and electrical shock can occur.**

**PRO TIPS**

- Speak loudly into the microphone, and follow the radio best practices described above.
- The loss of saved frequency programming in the nine available channels indicates an internal battery failure and does not render the radio inoperable. Manually tune the radio to the desired frequency, and operate using radio best practices.
- Charge the battery (alternating current [AC] or direct current [DC] power) by setting up and attaching supplied solar panel.

## Check-ins for Overnight or Multiday Camping

Field camp personnel must check in once per day with the USAP support vessel or Palmer Station by calling the Palmer Station manager or POC. Some camps may request a secondary daily check-in for weather reports or updates. Call times are established in the field planning phase and agreed upon by the station manager or POC. Check-in times are in local time and account for set mealtimes.

If the field team is unable to reach their check-in at the designated time, the field team will call hourly, at the top of each hour, until contact is made. If the field team is supported by a USAP support vessel but is unable to contact the vessel, field team members should also try to contact Palmer Station, Central Comms, or a direct manager at ASC's office in Denver, in that order. If no contact is made within six hours of a designated check-in time, the POC or Palmer Station manager will notify the ASC office in Denver that the field party has missed its check-in.

### Communicating Over Poor Signals

If the Iridium phone or HF communication signal is weak, use a green-yellow-red system to convey camp status information during initial contact:

**“Green”:** This means all is well and no further contact is required until the next scheduled time.

**“Yellow”:** This indicates an issue requires further consult. Have all pertinent information about the situation at hand during this initial contact. Establish additional contact times and methods.

**“Red”:** This means emergency and immediate vessel or outside assistance is needed. If the camp is supported out of Palmer Station, station personnel should immediately notify NSF to determine whether OSAR will respond or to ask the nearest vessel to proceed to the camp. For a vessel-supported camp, the Palmer Station manager, vessel captain and NSF initiate a request for additional SAR assistance as required.

