iridium RapidSAT 9555 Installation & User Manual



Suitable for the
Iridium 9555 Portable Satellite Telephone

Beam Communications Pty Ltd

iridium RapidSAT 9555

Installation and User Manual

Version 1.0

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Package Contents

Check that your RapidSAT 9555 package contains:

- ☐ 1 x Bag Case - RapidSAT 9555
- ☐ 1 x Compact Magnetic Mount Antenna (5m cable)
- ☐ 1 x Auto Accessory Power Input Cable
- ☐ User Manual
- ☐ Quick Start Guide

Optional Accessories

9555RSU UPS Pack version

The following optional accessories are available for your RapidSAT 9555.

- RST055 UPS Battery Pack
- UPS Battery Pack Power Output Cable (length: 150mm)
- RST750 AC/12VDC Adaptor

Other

- USB mini-B to USB-A data cable

See your Service Provider for pricing and availability of these quality BEAM accessories.

User Information



Please record your serial number here for future reference:

Model: **RapidSAT 9555**

Serial no.: ☐☐☐☐☐☐☐☐

This number can be copied from the white label on the RapidSAT 9555

Eg. SK500001

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Safety Information

IMPORTANT!

Please read the following information carefully before installing and using the Beam RapidSAT 9555. Failing to follow instructions may compromise the safety of the product and may result in personal injury and/or equipment damage. Please consult The supplier if you have any further questions.

The RapidSAT 9555 is a low power docking station for the Iridium 9555 handset. When ON, it will charge the 9555 handset whilst docked in the RapidSAT 9555.

Refer to the appropriate section of this RapidSAT 9555 User Manual for additional safety information.

- Store the system in a cool and dry area.
- Do not submerge the system in water.
- Do not place foreign metal objects or debris in the system. If debris fall into the system, please return to factory for service.

WARNING:

DO NOT open equipment. There are no user-serviceable parts inside.

If a DC power supply is to be used, its output must comply with the Safety Extra Low Voltage (SELV) requirements of IEC60950.

All connectors except the Line and Accessory sockets must only be connected to equipment ports which comply with the Safety Extra Low Voltage (SELV) requirements of IEC60950.

DO NOT throw the bag into fire or burn when the optional UPS Battery Pack is installed. The UPS Battery Pack MUST BE recycled or disposed properly.

WARNING: POTENTIALLY EXPLOSIVE ATMOSPHERES

1. *Turn The phone OFF and DO NOT remove The battery or remove the 9555 handset from the cradle when you are in any area with a potentially explosive atmosphere.*
2. *Obey all signs and instructions.*
3. *Sparks from The battery in such areas could cause an explosion or fire resulting in bodily injury or even death.*
4. *Sparks from plugging in the UPS Battery Pack cables could cause an explosion or fire resulting in bodily injury or even death.*
5. *Areas with a potentially explosive atmosphere are often but not always clearly marked. They include, but are not limited to:*
   - *fuelling areas such as gasoline stations*
   - *below deck on boats;*
   - *fuel or chemical transfer or storage facilities;*
   - *areas where fuel odours are present (for example, if a gas/ propane leak occurs in a car or home);*
   - *areas where the air contains chemicals or particles, such as grain, dust, or metal powders;*
   - *any other area where you normally would be advised to turn off The vehicle engine.*

Safety – Iridium Transceiver 9555

- The 9555 handset is a low power radio transmitter and receiver. When it is ON, it receives and also sends out radio frequency (RF) signals.
- The Iridium 9555 handset has an in-built Iridium transceiver which is designed to be used with an external antenna. This antenna transmits RF energy. The Iridium antenna (fitted via an extension coaxial cable) must be located more than > 0.3 meters (1 foot) from human body (person) when in operation.
- International agencies have set standards and recommendations for the protection of public exposure to RF electromagnetic energy.
    - » International Commission on Non-Ionizing Radiation Protection (ICNIRP) 1996
    - » Verband Deutscher Elektrotechniker (VDE) DIN-0848
    - » United States Federal Commission, Radio Frequency Exposure Guidelines (1996)
    - » National Radiological Protection Board of the United Kingdom, GS 11, 1988
    - » American National Standards Institute (ANSI) IEEE. C95. 1-1992

These standards are based on extensive scientific review. For example, over 120 scientists, engineers, and physicians from universities, government health agencies, and industry reviewed the available body of research to develop the updated ANSI standard.

- Do not operate The satellite telephone when a person is within 1 foot (30 centimeters) of the antenna. A person or object within 1 foot (30 centimeters) of the antenna could impair call quality and may cause the phone to operate at a higher power level than necessary and expose that person to RF energy in excess of that established by the FCC RF Exposure Guidelines.
- As a precaution, please maintain maximum body distance as possible from the antenna during call transmission.



WARNING: ROAD SAFETY COMES FIRST!

Do not use a hand-held cellular terminal or mobile when driving a vehicle, unless it is securely mounted in a holder for speakerphone operation. Before making a call with a hand-held terminal or mobile, park the vehicle stationary. Please obey local road laws for handsfree speakerphone operation. Speakerphones (handsfree) must be installed by qualified personnel. Faulty installation or operation can constitute a safety hazard.

IMPORTANT:

Cellular & Satellite terminals or mobiles operate using radio signals and communication networks. Because of this, connection cannot be guaranteed at all times under all conditions. Therefore, you should never rely solely upon any wireless device for essential communications, for example emergency calls.

Antenna Care

Use only the supplied or an approved replacement antenna. Unauthorized antennas, modifications, or attachments could damage the phone and may violate local agency regulations. Please refer to The Service Provider for further information.

Electronic Devices

Most modern electronic equipment is shielded from RF signals. However, certain equipment may not be shielded against the RF signals from The wireless phone.

Pacemakers

The Health Industry Manufacturers Association recommends that a minimum separation of six inches (6”) be maintained between a wireless phone’s antenna and a pacemaker to avoid potential interference with the pacemaker. These recommendations are consistent with the independent research by and recommendations of Wireless Technology Research.

Persons with pacemakers:

- Should ALWAYS keep the phone more than six inches from their pacemaker when phone is turned ON
- Should turn the phone OFF immediately if you have any reason to suspect interference is taking place

Other Medical Devices

If you use any other personal medical device, consult the manufacturer of The device to determine if it is adequately shielded from external RF energy. The physician may be able to assist you in obtaining this information.

Turn The phone OFF in health care facilities when any regulations posted in these areas instruct you to do so. Hospitals or health care facilities may be using equipment that could be sensitive to external RF energy.

Vehicles

RF signals may affect improperly installed or inadequately shielded electronic systems in motor vehicles. Check with the manufacturer or its representative regarding The vehicle. You should also consult the manufacturer of any equipment that has been added to The vehicle.

Performance of electronically controlled brake and/or guidance systems can, under certain unique conditions, be subject to interference by mobile radio operation. Although the transceiver exceeds all requirements regarding radio frequency emissions, you should mount the transceiver as far as possible from the guidance system and/or braking modulator box (usually located in the trunk) to minimize any interference.

Posted Facilities

Turn The phone OFF in any facility where posted notices require such as hospitals and onboard aircraft.

Aircraft

Airline regulations prohibit using The phone while in the air. Consult the local Aviation Authority for guidelines on use of the equipment on board an aircraft.

For Vehicles Equipped with an Air Bag

An air bag inflates with great force.

Do NOT place objects, including both installed and portable wireless equipment, in the area over the air bag or in the air bag deployment area.

If in-vehicle wireless equipment is improperly installed and the air bag inflates, serious injury could result.

Conventions in this Manual

Warnings, cautions and notes appear throughout this manual and are represented by following conventions.



WARNING / CAUTION:

This symbol and associated text indicate a warning note providing information to prevent damage to equipment or personal injury.



NOTE / IMPORTANT / TIP:

This symbol and associated text indicate a note providing general operating information.



INTERFERENCE:

All wireless phones may get interference, which could affect performance.



RECORD:

Write details of The unit for easy reference when required. Ideal when troubleshooting.

About Beam Communications

Beam Communications, a wholly owned subsidiary of World Reach Limited (WRR), listed on the Australian Stock Exchange, is a world leader in design, manufacture and distribution of specialized communications equipment for the Iridium Satellite Network.

Beam's commitment to be at the forefront has continued to increase its share of the global satellite communications market. Its premium distribution network spans the world.

Recognized as a leading provider of satellite communication solutions, **Beam** specializes in Voice, Data, Tracking and customized solutions. Beam develops innovative products and services to meet market demands and niche applications.

Beam's leading edge products are deployed in a wide range of vertical markets including Maritime, Transport, Government, Defense, Mining, Construction, Forestry, Emergency Services, Relief Aid, Telemetry and Rural Telephony.

Supported by a dedicated team of professionals, **Beam** has developed solid relationships with its peers and network of distributors worldwide.

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About this Equipment

This guide outlines the details for installing and operating the Beam RapidSAT 9555 in conjunction with an Iridium 9555 Portable Handset.

This kit must not be used with any other device other than the Iridium 9555 Handset.



RapidSAT 9555 FEATURES

• Small, tough and lightweight carry bag with handle and detachable shoulder strap
• Easy to use
• Integrated antenna and power connection
• Full duplex voice
• Fully certified including RoHS
• In-built SatDOCK 9555 cradle with privacy handset
• In-built handsfree operation with echo cancellation and noise reduction
• 9555 handset charging when docked
• USB data port interface
• Loud ring indication
• Optional UPS battery pack

Suitable for Vehicle Use

The RapidSAT 9555 has the handsfree function integrated in its bag and can be used in a vehicle without installation.

Suitable for Outdoor Use

With the optional RST055 UPS battery pack, the RapidSAT can be used in any dry outdoor environment.

Handset Charging

When the 9555 is seated in the cradle of the RapidSAT bag, the 9555 battery is charged whilst the power is connected and the power switch is turned on. The 9555 also will be charging if the RapidSAT is powered from the Beam UPS Battery Pack (optional) and the power switch is turned on.

9555 Functionality

The major advantage of the RapidSAT is the handsfree use, combined with a portable bag. The 9555 handset will support all the standard functionality whilst being used with the RapidSAT, plus a single-touch mute function accessible from the front of the built-in cradle.

Privacy Handset

The RapidSAT has an integrated privacy handset supporting voices calls. The handset enables a private conversation when handsfree operation is not desired.

USB Data Port

A USB data port is provided on the base of the cradle. This USB port when used with the Iridium 9555 handset allows data calls, via a PC connection. Refer to the AT commands guide on the Beam website www.beamcommunications.com/support for Iridium AT modem commands.

RST055 UPS Battery Pack (Optional)

The RapidSAT 9555 can be powered directly with the Beam RST055 UPS battery pack which is an optional accessory. There is a reserved compartment in the bag for the battery pack to be securely seated.

EQUIPMENT OVERVIEW

RapidSAT 9555 Set Up

TOP

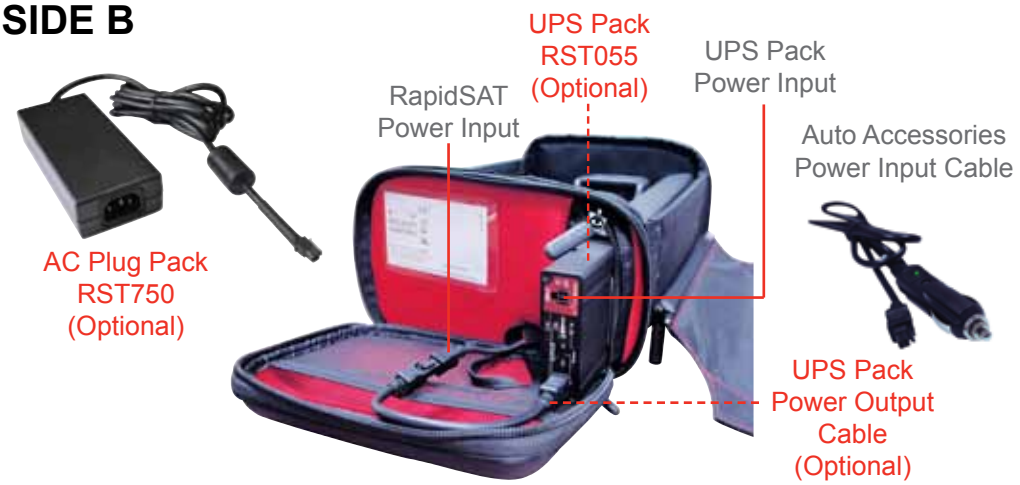


SIDE A



Antenna Note: The antenna should always be installed with clear line of site to the sky. Please refer to the Antenna Installation Guide on Beam's website.

SIDE B



Power Connection Note:

1) Without UPS Pack
   - Connect power directly to the RapidSAT power input
2) With UPS Pack
   - Connect power to the UPS Pack power input
   - Then connect UPS Pack power output to the RapidSAT power input via the optional cable

RapidSAT Set Up

CONNECTING POWER SUPPLY

The RapidSAT 9555 can be powered in one of five ways:

1. Connected directly to the Auto Accessories (cigarette lighter) cable, with no UPS Pack installed. This is also the lightest configuration.

   OR

2. Connected directly to an optional RST750 AC/DC adaptor. This requires the AC/DC adaptor to be plugged into AC mains 110-240VAC supply.

   OR

3. Connected directly to the optional UPS Pack (installed in battery compartment). This provides portability without direct connection to DC or mains grid power.

   OR

4. Connected directly to the optional UPS Pack (installed in battery compartment) – AND the UPS Pack is connected to the Auto Accessories (cigarette lighter) cable. This allows charging of the UPS Pack, whilst the system is in use.

   Functionality is maintained (remaining on battery mode) when loss of DC power occurs.

   OR

5. Connected directly to the optional UPS Pack (installed in Battery compartment) – AND the UPS Pack is connected to an optional RST750 AC/DC adaptor. This also provides charging of the UPS Pack, whilst the system is in use.

   Functionality is maintained (remaining on battery mode) when loss of AC power occurs.

ANTENNA INSTALLATION

The included magnetic-mount patch antenna is stored in one of the end compartments. This can be conveniently connected to the TNC connector from the cradle - ready for fast deployment.

To prepare for registration, unwind the antenna cable, and place the patch antenna in maximum view of sky (eg. vehicle roof top). The cable provides up to 6 metre (18 foot) distance from RapidSAT.

UPS BATTERY PACK INSTALLATION (RST055) - OPTIONAL

The RapidSAT provides the option to install a battery source, to provide long operation life without DC or AC power (assumes battery has charge).

To install the UPS Battery Pack:

1. Unpack the UPS Battery Pack, and disconnect any cables that may be plugged.
2. Turn the Power ON/OFF switch on the RapidSAT to OFF. The Green LED should be OFF.
3. Open the RapidSAT top lid cover.
4. Locate the black locking thumb-screw on the RapidSAT, and unscrew, remove and keep nearby.



5. With the bag handle facing front, unzip the right-side-end-cover of the RapidSAT bag. This will reveal the battery compartment zipper.
6. Stand the RapidSAT vertical - with the battery compartment pointing up.



7. Unzip the battery compartment zip.
8. Before placing the UPS Pack in the compartment, ensure that the output switch is set to 12V.



9. Carefully insert the UPS Pack with the front panel of the UPS Pack facing out. Push completely in.



10. Insert the locking thumb-screw tightly by hand, and ensure that the screw point engages over the front panel of the UPS Pack.



11. Plug in the short adaptor cable from the main output of UPS Pack to the RapidSAT power input connector.



12. Carefully zip-up the RapidSAT right-side-end-cover with the cables stored inside the lid.
13. RapidSAT is ready for use, or the UPS Pack can now be put on charge (see UPS Pack instructions).

Operating RapidSAT

DOCKING & UNDOCKING THE 9555 HANDSET

WARNING:

Ensure that the external antenna grommet at the rear of the 9555 handset is removed prior to inserting the handset into the PotsDOCK cradle.

Docking the 9555

1. To dock the 9555 handset place the base of the 9555 handset into the seat of the cradle ensuring that the pins on the bottom of the 9555 handset line up with that on the seat of the cradle.



2. Push EJECT button located on top of the cradle and press the phone in firmly at the same time. Gently pull on the handset to confirm that it is docked correctly and won't come loose.



Removing the 9555

1. Ensure the Power ON/OFF switch is OFF, and the 9555 handset is OFF.
2. When removing the 9555 handset from the cradle, reverse the above steps, ensuring you firmly press the ***"EJECT"*** button on top of the cradle. The phone will then pop forward into The hand and can then be removed from the cradle. (the ***"EJECT"*** button requires firm force to disengage phone)



NOTE:

The 9555 handset can be removed from the cradle whilst it is powered, however the handset will turn off automatically.

OPERATION OF THE RapidSAT 9555

1. Ensure the 9555 handset is switched OFF, and the Power ON/OFF switch is OFF.
2. Ensure antenna on the 9555 handset is not extended.
3. Place the handset into the RapidSAT as per the previous instructions.
4. Switch the Power ON/OFF switch to ON position (the green LED on the switch is ON). The phone and RapidSAT will automatically power up.



NOTE:
The phone may cycle it's power twice during startup - please be patient.

5. Wait for the 9555 to register on the network.
6. You are now ready to make and receive calls.

CHARGING THE 9555 HANDSET WHILST IN THE RapidSAT

The Iridium 9555 handset's battery has a temperature limit whilst charging. This limit range is set from 0 to 40 degrees Celsius or 32 to 104 degrees Fahrenheit.

It is important to note that IF the ambient temperature inside the vehicle or the operating temperature of the RapidSAT exceeds this limit the handset's battery will not charge until the temperature is reduced.

MAKING CALLS

Making a Voice Call

- Ensure that external antenna is placed in maximum view of the sky.
- To make a voice call, check that the 9555 is "registered", then dial the number on the 9555 keypad.
- Progress tones will be heard from the speaker as the call connects.
- The volume of the call can be adjusted using the 9555 volume buttons on the side of 9555 handset.

Muting Uplink Audio

- The call can be muted at any time using the Mute button on the cradle - when Mute is ON, the red LED will illuminate.

Receiving a Voice Call

Incoming calls can be answered by pressing the green key on 9555.

Hanging-Up a Call

Press the red button on the 9555 keypad to hang-up the call.

Privacy Handset

- To switch to the privacy handset, release it from the hang-up cup. When the privacy handset is in use, the speaker and microphone operation is disabled.
- To return to speaker and microphone handsfree mode, replace the privacy handset into the cup.
- The call can be switched between privacy and handsfree mode anytime.

Cup and Uncup Privacy Handset

1. During a call, the handsfree speaker and microphone are the default audio device unless the privacy handset is removed from the hang-up cup.
2. Please refer to the image (right) on how to remove the handset from the hang-up cup.



MUTE FUNCTIONALITY & EARPIECE-JACK MODE

Mute functionality

The mute function of the RapidSAT, allows the user to mute the uplink (microphone) audio during a voice call.

Press the Mute button on the face of the cradle. A red light will illuminate the Mute button to visually confirm that the RapidSAT is muted.

To exit the mute mode, press the Mute button once.



Earpiece-Jack Mode

This allows a user to utilise an earpiece mic/ear-bud plugged into the 2.5mm jack at the side of the 9555 handset and subsequently does not use the external microphone or speaker or privacy handset in this mode.

To enable Earpiece Mode, press and hold the Mute button for 1.5 seconds. The LED on the Mute button will start flashing orange.

To exit the Earpiece Mode, press the Mute button once. The LED will turn OFF.

NOTE:
The 2.5mm earpiece plug can remain plugged into the 9555 handset whilst in normal mode.

RapidSAT INTERFACE LED

State	Mute LED
Mute Mode	(Solid Red)
Earpiece-jack Mode	(Flashing Orange - Slow)
Incompatible Handset/ Connection Error	(Flashing Red - Fast)
Normal Handsfree Mode	(Off)

DATA COMMUNICATIONS VIA CRADLE USB PORT

The RapidSAT provides the convenience of accessing Iridium data services while the phone is docked in the cradle. You should consult The service provider for full details on the availability of this service with the account.

Data communication with the Iridium 9555 provides the following:

- Ability to issue AT commands directly to the 9555
- Undertake Circuit Switched Data (CSD), Short Burst Data (SBD) and Short Message Service (SMS) communication when services are provisioned.
- Access the internet via Iridium Direct Internet 2 or through a Dial-Up connection

The RapidSAT provides a USB port on its cradle located on the underside of the cradle, this mini-USB interface provides communication to the 9555 for data communication.

TIP:

Learn more about Data Services available at:
www.beamcommunications.com

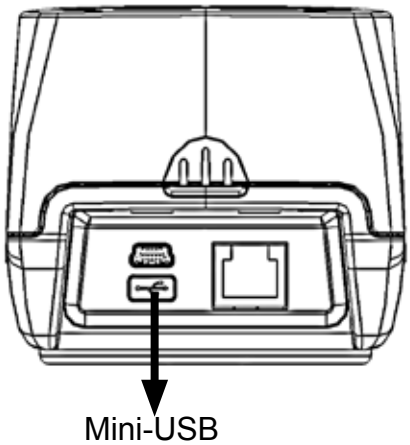
INSTALLING THE USB CABLE

The RapidSAT 9555 utilises the Iridium 9555 portable satellite phone's USB data port. This USB data port allows connection of a PC/Laptop to the 9555 handset. For more information on using the 9555 handset's USB port please refer to the 9555 handset user manual.

Installation of USB Cable

To Install Cable:

1. Locate the USB cable (with mini-B connector) provided with The 9555 Handset. This is mini-USB-B to USB-A data cable. This cable is included in The original 9555 package. Standard USB2.0 type USB cables can also be used – or ordered separately.
2. Unzip fully the antenna compartment zip of the RapidSAT.
3. Carefully insert the USB cable (mini end) into the antenna cable hole, and pass through about 10 centimeters.





4. Use the see-through plastic window to guide the mini-B connector into the port at end of cradle.



5. Ready for use. (This cable can remain plugged in for convenience, and stored rolled up in the antenna end compartment.)

USB Driver Installation

PC USER

The RapidSAT 9555 USB data port requires an interface driver to be installed on the user's computer prior to undertaking data communication. This driver supports the following operating systems:

Windows 2000

Windows XP

Windows Vista

You can download Windows driver for the RapidSAT 9555 from http://www.beamcommunications.com/support

DIRECT INTERNET 2

Iridium supplies Direct Internet 2 software only for the Microsoft Windows based operating systems.

MAC USER

Mac users who are running OS X will recognize the cradle automatically and do not require the installation of any device drivers.



NOTE:

When the 9555 is docked in the RapidSAT cradle, DO NOT utilize the USB port on the side of the 9555. Please use the provided USB port on the bottom end of the cradle to ensure correct RapidSAT synchronization and operation.

AT Commands

When utilizing the data communication port (USB) the RapidSAT must ensure that users do not enter in AT commands that could interrupt the RapidSAT's synchronization with the 9555 handset. Therefore the RapidSAT will block or limit AT commands that could cause any adverse effects to the functional operation of the cradle.

The following AT commands are affected:

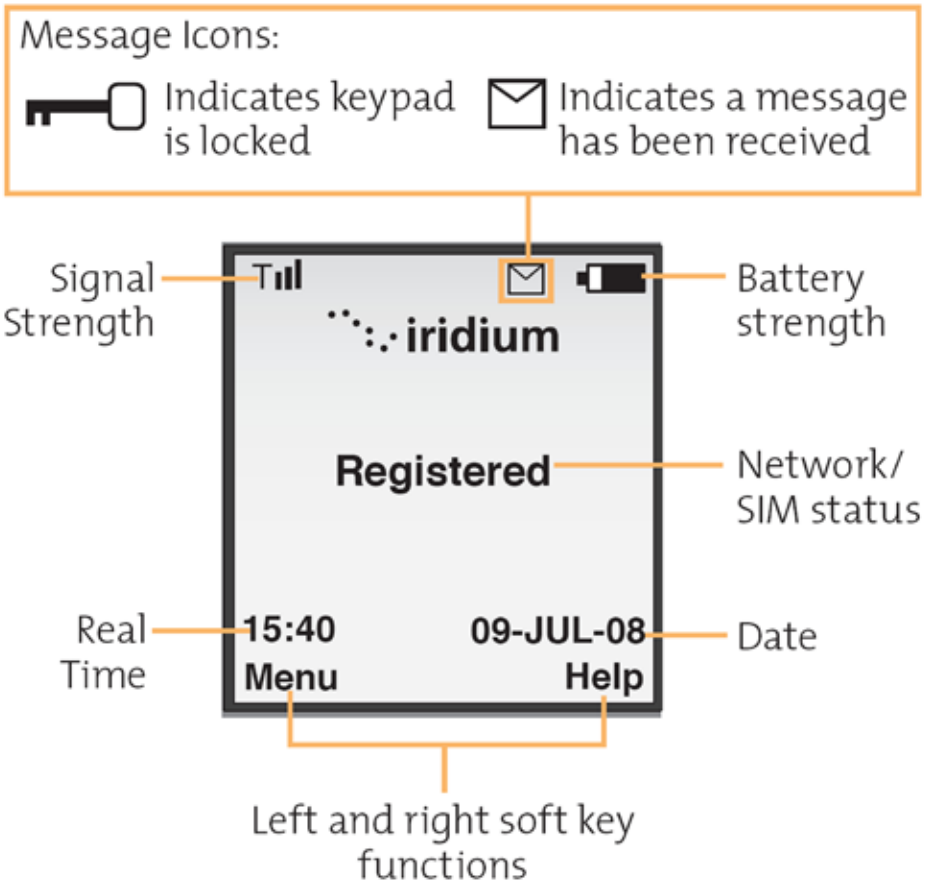
AT Command	Cradle State when docked	Limitation
AT+IPR	6,0 (default)	Auto-baud is permanently disabled with the default baud rate set to 19200. See "Using the RS232 Communication Port" for further information.
ATEn	1	Echo on is permanently enabled.
ATVn	0	Numerical responses only
AT&Cn	0	DCD is forced on at all times
ATQ1	1	ISU responses are not sent to the DTE
AT&F0	-	Blocked
AT&W1	-	Blocked
AT&Yn		Blocked

IRIDIUM 9555 DISPLAY DEFINITIONS

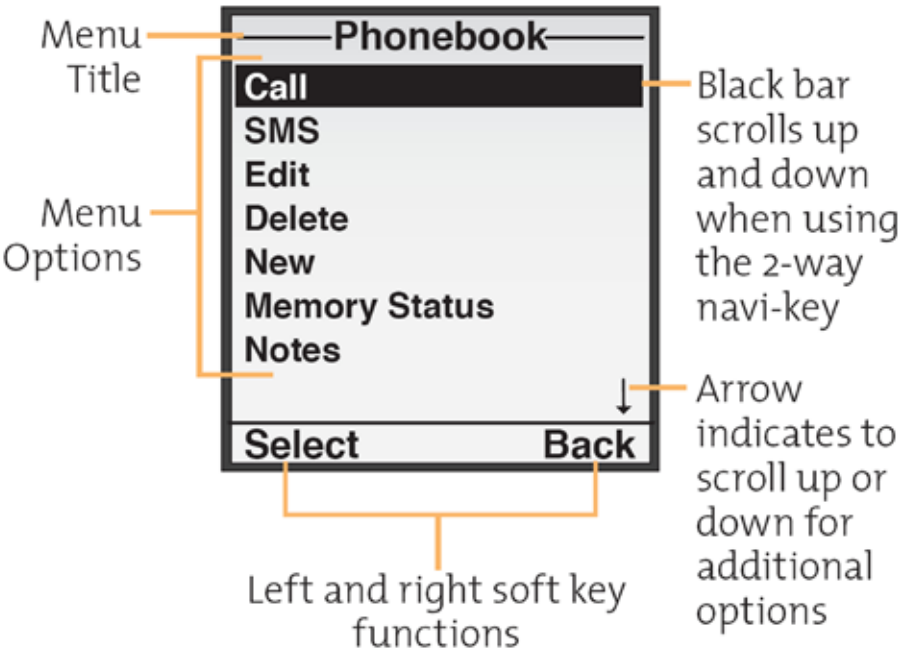
Display Status Indicators and Icons

The following icons will appear in The display to provide you with various information about the phones activity.

MAIN SCREEN COMPONENTS



MENU COMPONENTS



POWER-ON MESSAGES

Once the phone is power on, you may see

	Message Description
Searching...	The phone is attempting to establish communications with the satellite network.
Registering...	The phone is registering with the network. When the process is complete, you will see Registered.
Check Signal	The phone is unable to establish registration with the satellite network. Move to a location with a clear unobstructed view of the sky.
Invalid Account	Contact the service provider.
Enter Phone Unlock Code	The phone was locked after the last use. Enter The four-digit unlock code and press OK to proceed.
Enter PIN	Enter the four-to-eight-digit SIM card PIN code provided by the service provider and press OK to proceed.
Insert Card	Power off the phone, make sure the SIM card is inserted completely, and then power the phone on again.
Check Card	The SIM card is damaged or inserted the wrong way.
Blocked	If the SIM card PIN code is incorrectly entered three times in a row, The phone becomes blocked. Use **05* to proceed to enter the PUK code.
! Blocked	If the SIM card PIN2 code is incorrectly entered three times in a row, some features (e.g., Fixed dialling) become blocked.
Bad Card See Supplier	The SIM card has been damaged or incorrectly issued. Contact the service provider for information.
Busy Try Later or Please Try Later	The phone is unable to access the network. Try again in a few minutes.
Restricted Area	The phone is unable to access the network. Move to an area where calls are allowed.
Redial?	Press OK to redial the number automatically.
Data Call	USB data call in progress

Follow the installation instruction for installing the Antenna system that is provided with the antenna. Ensure that if an optional antenna was not supplied with this kit, the antenna is an approved Iridium antenna.

Assuring Quality of Iridium Service

Iridium is committed to providing subscribers around the world consistent, reliable, quality voice and data access all day every day. The Iridium satellite system is monitored for call performance from numerous locations 24 hours a day, 7 days a week in order to achieve this.

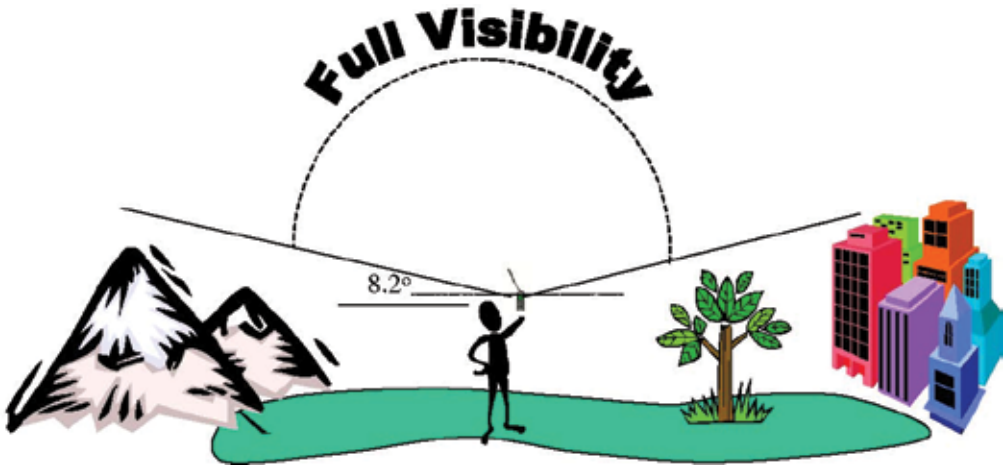
There are conditions that can compromise the quality of the service you may receive. These include:

- Obstructions
- Cabling
- RF Interference

1. Obstructions

The antenna must be able to “see” the entire sky from approximately 8 degrees above the horizon. Nearby tall buildings or similar structures, heavily leafed trees and mountains can all degrade performance as they block the signal between the antenna and the satellites. Having a completely open view of the sky plays a very important role in maximizing performance, as the Iridium satellites cross the sky from North horizon to South horizon during a connected call.

All surrounding obstructions must be lower than the top of a fist extended at arms length and the bottom of the fist placed on the horizon. Iridium performance is immune from natural environments such as clouds, fog, rain, snow, wind and smoke.



2. Cabling

Using an externally mounted antenna provides an ideal solution for many applications. If you have or plan to install an external antenna, it is very important that the cables used meet the Iridium guidelines established for proper performance.

For optimal performance, we recommend using the shortest length of cable and the fewest number of connectors possible.

3. RF Interference

All wireless devices, including satellite telephones, are susceptible to RF (radio frequency) interference from other electronic devices. This problem is more evident when numerous antennas and broadcasting devices are located within close proximity to each other.

Symptoms of RF Interference

Symptoms of RF interference often resemble those that arise when an Iridium phone is being operated with an obstructed view of the sky.

Some of these symptoms include; erratic or no signal strength indication dropped calls or warbled or otherwise distorted voice.

These symptoms may be intermittent or persistent, depending largely on the interference source, its distance, strength and frequency relative to the Iridium unit.

Mitigation of RF Interference

Iridium Service degradation due to RF interference can be significantly improved by:

- Increasing the distance and moving the Iridium antenna off axis from the source of the interference, and
- Using an external band pass filter and an external antenna.

Specification Summary

ELECTRICAL & ENVIRONMENTAL SPECIFICATIONS

Power Specifications		
Power Input Voltage	10 - 32 V DC @ 4-1A	
Power Consumption	12 V DC	24 V DC
Stand by - incl handset	0.4A	0.23A
Transmit - incl handset	0.8A	0.42A
Assumes 9555 battery is fully charged		
Physical Specifications		
Bag Dimensions (L x W x D)	380 x 250 x 150 mm (15' x 9.8' x 5.9')	
Antenna Cable Length	5m (16.4 feet)	
Power Input Cable Length	1m (3.3 feet)	
Weight	3kg* (6.6lbs)*	
* Weight does not include a 9555 Handset & Battery Pack		
Environment Specifications	**Degrees °C**	**Degrees °F**
Operating Temperature #	-20 to +60	-4 to 140
Storage Temperature	-25 to +60	-13 to 140
Humidity	< 85% RH non-condensing	
EMC	IEC60945 (9 & 10)	
Safety	IEC/EN/AS/NZ60950-1	
When used with optional RST055 UPS Pack		
Standby time	Up to 30 hours	
Talk time	Up to 10 hours	

Refer to temperature note in "CHARGING THE 9555 HANDSET WHILST IN THE RapidSAT" (pg. 19)



NOTE:
Specifications is subject to change without notice.

Trouble Shooting

This section provides information to help you troubleshoot problems you may encounter while operating the RapidSAT.

Q	**If during operation of the RapidSAT unit, the 9555 does not turn ON or OFF**
A	*1. Turn Power Switch OFF* *2. Turn the 9555 OFF* *3. Remove the 9555 from the RapidSAT (and switch OFF 9555)* *4. Wait 10 seconds* *5. Return the 9555 to the RapidSAT* *6. Turn Power Switch ON* *The 9555 unit will now power on in Handsfree mode. If it continues to exhibit out of the ordinary operations repeat above process, or try removing the battery from the back of the 9555 for 10 seconds, and then re-fit.*
Q	**After switching on the RapidSAT, the cradle doesn't turn on the 9555 phone although the green LED on the power switch is on.**
A	*Check the voltage on the input power. If the voltage is below 9VDC, the cradle will not be switched on even though the green LED is on. (This is a protection mechanism for low voltage condition).*
Q	**9555 handset fails to register with the Iridium service after 30 seconds**
A	*Check the antenna cable is connected to the antenna* *Check the antenna cable is connected securely to the RapidSAT* *Ensure SIM is inserted in handset* *Remove the handset from the cradle and test 9555 handheld on its own outside of the vehicle*
Q	**Dropped calls / Poor voice quality**
A	Keep in mind that this is a satellite network and when you are in motion form time the satellite signal may become obstructed by such things as buildings, bridges, tunnels, larger vehicles. *Check the antenna connection.* *Ensure the antenna cable has not been damaged* *Ensure that only approved antenna cable has been used* *All satellite network have a slight delay in the call*
Q	**There is extreme echo on the call**
A	*Check the volume of the terminal is not on the highest setting as this will create echo, try turning it down a little*

Q	**Battery not charging on the cradle**
A	*Ensure the ambient temperature is within the specifications for charging the battery. See "Charging the Iridium 9555 handset whilst in the RapidSAT"*
Q	**Unable to make a call / Register on the network**
A	*Check that the antenna cable is connected correctly to the RapidSAT and check that the antenna is properly mounted.* *Check the phone has been turned OFF* *Check the phone is registered on the network* *Check that the 9555 handset is correctly seated in the RapidSAT cradle* *Try powering the handset on and off whilst connected to the cradle* *Do you have a clear view of the sky?* *Did you enter the number in international format?* *All calls made from the Iridium® System require a special calling sequence; please refer to The Service Provider for these details.* *Check the signal strength meter. If the signal is weak, move the vehicle to a more open area.* *Check the Network Selection settings.* *Check The Operator coverage map.* *Is Restricted displayed? Check the Call Barring setting.* *Has a new SIM card been inserted? Is it active?*
Q	**Cannot receive calls**
A	*Check the antenna. Is it properly mounted?* *Do you have a clear view of the sky?* *Check the signal strength. If the signal is weak, move the vehicle to a more open area.* *Check the Call Forwarding and Call Barring settings.* *Check the Ringer setting. If it is off, there is no audible ringer.*
Q	**Cannot make international calls.**
A	*Have you included the relevant codes? Press and hold the (+) key to display the international dialling prefix (+), and then enter the appropriate country code, followed by the phone number.*
Q	**The SIM card won't work.**
A	*Is the card inserted the correct way?* *Is the gold chip visibly damaged or scratched? Return the card to The service provider.* *Check the SIM and phone contacts. If they are dirty, clean them with an antistatic cloth.*

Q	**The PIN is blocked / Message 'Blocked'**
A	*If your PIN code is entered incorrectly three times in a row, BLOCKED appears in the display. You nee to enter a PIN unblocking key (PUK1), which you can obtain from your service provider.* *1. Press **05** *2. Enter unblocking key. Enter the eight-digit PUK1 unblocking key, and then press OK* *3. Enter a new PIN code, and then press OK* *4. Re-enter the new PIN code, and then press OK*
Q	**The PIN2 is locked.**
A	*Enter the PIN2 unblocking key (PUK2) or contact The service provider.*
Q	**Cannot cancel call forwarding or call barring**
A	*Wait until you are in an area with good network coverage and try again.*

For additional product support:

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Beam Warranty Conditions

BEAM Communications gives this express warranty (along with extended warranty endorsements, where applicable) in lieu of all other warranties, express or implied, including (without limitation), warranties of merchantability and fitness for a particular purpose. This constitutes our sole warranty and obligation with regard to our products as well as the Customer's sole remedy.

BEAM Communications expressly disclaims all liability and responsibility for any special, indirect or consequential damages or any further loss of any kind whatsoever resulting from the use of our product(s). The Customer's sole and exclusive remedy and the limit of BEAM liability for any loss whatsoever, shall not exceed the purchase price paid by the Customer for the product to which a claim is made.

All products manufactured by BEAM Communications are warranted to be free from defects in material and workmanship in accordance with and subject to the following terms and conditions:

1. This warranty is limited to the original Customer only. It cannot be transferred or assigned to third parties unless the intent to transfer to a third party is expressly indicated in a purchase order and/or warranty-processing arrangements have been agreed upon in writing by BEAM.

2. BEAM Communications does not warrant any installation, maintenance or service of the Products not performed by BEAM, nor does it warrant the use of Products with unapproved ancillary products.

3. BEAM Communications will correct any defects in material or workmanship of products manufactured by BEAM which appear within (12) months and (24) months replacement warranty for RapidSAT cradle ONLY, from the date of shipment by BEAM Communications to the Customer. BEAM Communications will repair or replace, at our option, any defective product, provided that our analysis and/or inspection discloses that such defects developed under normal and proper use.

4. This warranty does not extend to goods subjected to liquid or particulate ingress, extreme humidity, misuse, neglect, accident or improper installation, or to maintenance or repair of products that have been altered or repaired by anyone except BEAM Communications unless otherwise stated in writing.

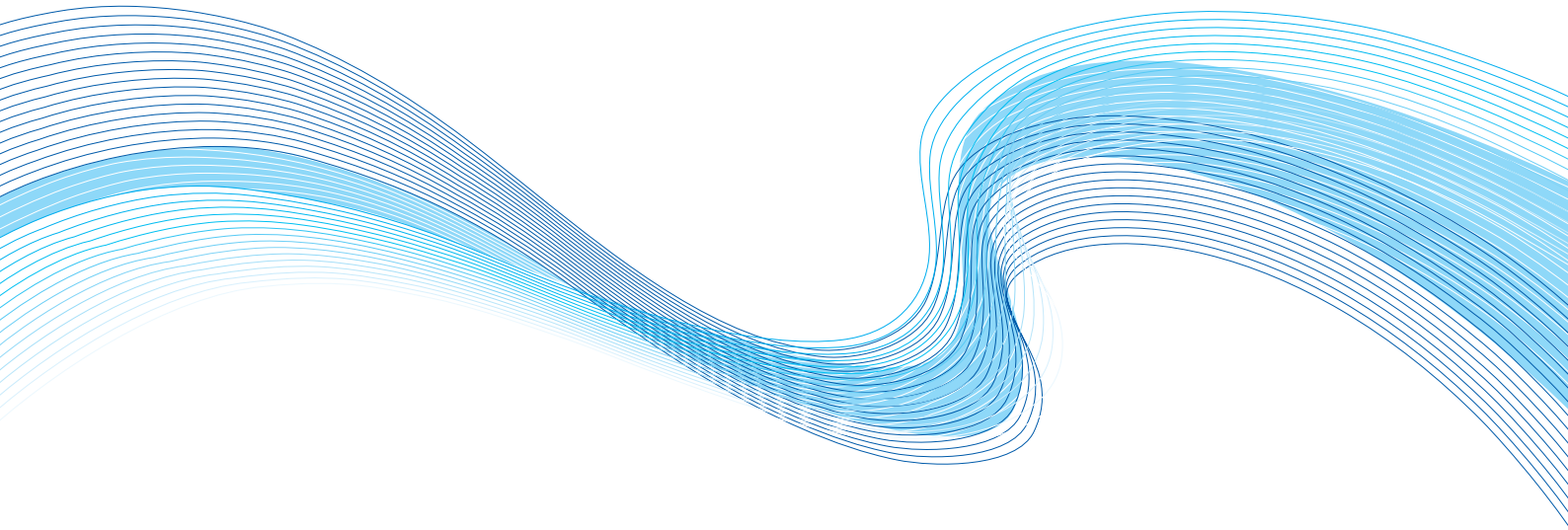
5. The warranty is a return-to-base warranty and freight is paid by the sender.

6. A charge of USD $125 including return freight will be made for testing returned product which is not defective or is found to be defective as the result of improper use, maintenance or neglect.

7. BEAM Communications will not accept responsibility for any invoiced goods or services that are not covered by a BEAM Communications written purchase order. Under no circumstances does BEAM Communications agree to pay for labour or other related expenses associated with the troubleshooting and/or repair of our product without prior specific written authorization.

8. Information in our descriptive literature is based on product specifications that are current at the time of publication. Product specifications, designs and descriptive literature are subject to change as improvements are introduced. Although we announce changes as they occur, we cannot guarantee notification to every Customer. BEAM Communications warrants delivered product to conform to the most current specifications, designs and descriptive literature.

9. This warranty policy may be expanded or limited, for particular categories of products or Customers, by information sheets published as deemed appropriate by BEAM Communications. The warranty for third party Products is that of the third party and not BEAM warranty.



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