ICOM

SATELLITE PTT Radios

iridium®
connected

What is SATELLITE PTT?

The Icom IC-SAT100/M are the dedicated satellite push-to-talk (PTT) radios, and are the only PTT radios offering real-time communications at the push of a button between a group of individuals, each of whom can be anywhere on the planet[*1]. The IC-SAT100/M use the Iridium® satellite communication network, which covers the entire globe, including both poles.
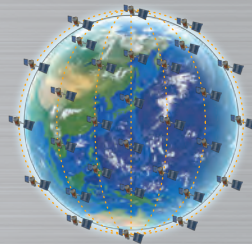
Iridium® satellite

Iridium® satellite

Iridium® satellite

LAN cable

IC-SAT100

IC-SAT100M

IC-SAT100

IC-SAT100

LAN cable

IC-SAT100M

RoIP gateway VE-PG4

RoIP ···· IDAS™ ···· Analogue Transceiver ···· Other Communication Systems

IP Advanced Radio System ···· WLAN Transceiver ···· LTE Transceiver

IP Phone System

External Equipment ···· USB Drive ···· Microphone ···· PA System ···· Sensors

Main Features
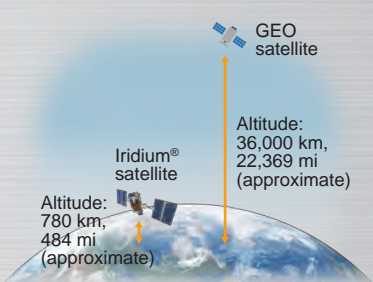
One-to-Many Communication

IC-SAT100/M users can immediately start talking to all the radios in the same talkgroup, with just a push of the transmit (PTT) button.

Total Global Coverage, Including the Poles

The Iridium® satellite network covers the entire globe, including both poles, and can provide global communications anywhere on the planet[*1].

Real-Time Communication

GEO satellite

Altitude: 36,000 km, 22,369 mi (approximate)

Iridium® satellite

Altitude: 780 km, 484 mi (approximate)

Using 66 Low Earth Orbit (LEO) Iridium® satellites, the IC-SAT100/M provides low-latency communication, and broader, more reliable network coverage, compared to Geosynchronous Equatorial Orbit (GEO) satellites.

Interoperability with Conventional Radios

With a VE-PG4 RoIP gateway, the IC-SAT100/M can interconnect with an IP phone, WLAN, LTE, IDAS digital[*2], analogue transceivers and other communication systems.

*1 Subscription contracts are required for using the IC-SAT100/M. Depending on the country or region, carrying and/or use of the IC-SAT100/M may be prohibited.
*2 Type-D multi-site trunking and conventional systems.

Compact Handheld Satellite PTT Radio

SATELLITE PTT

IC−SAT100

- • IP67 waterproofing and dust-tight protection
- • 1500 mW of powerful audio
- • 14.5 hours* of long lasting battery life
- • Emergency key on the top panel
- • Short Data Message
- • Voice Recording function
- • Built-in Bluetooth® capability
- • AES 256-bit encryption for security

And More

- • Multiple language display (English, Chinese, French, Japanese, and Spanish)
- • Integrated GPS receiver shows a received signal position information on the display
- • SMA type antenna connector for an external antenna
- • AquaQuake™ function clears any water ingress that may penetrate the speaker grill of the unit
- • USB charging
- • Tested to the MIL-STD-810 environmental tests

* TX : RX : standby = 5 : 5 : 90.

Supplied Accessories
• BP-300 Li-ion battery pack • BC-241 desktop charger • BC-242 AC adapter • FA-S102U antenna • MBB-5 belt clip

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Optional Accessories (for the IC-SAT100)

Docking Station for In-Vehicle Use

FA-S103U   AH-40

DOCKING STATION
BC−247
Charger cradle for in-vehicle and in-building use. 12/24 V battery compatible.

ONE-TOUCH ANTENNA CONNECTOR
FA−S103U
Easily replace the antenna tip to an external antenna. (SMA to BNC)

EXTERNAL ANTENNA
AH−40
Magnet mount antenna with 1.5 m, 4.9 ft coaxial cable.

SPEAKER-MICROPHONE
HM−222H
Use the HM-222H (or an external headset) to transmit, while the radio is attached to the BC-247.
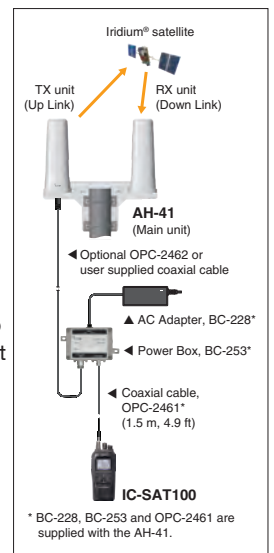
BC-247   HM-222H

Active Antenna for In-Building Use

EXTERNAL ANTENNA
AH−41

Maximum 169 m; 554.5 ft* coaxial cable for installing in a clear location to obtain a line-of-sight path to the satellite.

* Use optional OPC-2462 (59 m; 193.5 ft) or user supplied coaxial cable (Max. 169 m; 554.5 ft) to meet Iridium® performance requirements, and comply with FCC regulations.

Iridium® satellite

TX unit (Up Link)   RX unit (Down Link)

AH-41 (Main unit)
◄ Optional OPC-2462 or user supplied coaxial cable
▲ AC Adapter, BC-228*
◄ Power Box, BC-253*
◄ Coaxial cable, OPC-2461* (1.5 m, 4.9 ft)

IC-SAT100

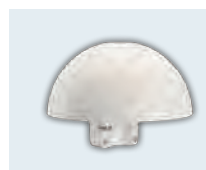* BC-228, BC-253 and OPC-2461 are supplied with the AH-41.

HEADSET
VS-3
Bluetooth® headset

MULTI-CHARGER
BC-214N*
Charges up to six batteries (with/without transceivers) at the same time. (BC-157S, AC adapter supplied.)

COAXIAL CABLE
OPC-2422
Coaxial cable (5D-HFA) for the AH-40.
5 m, 16.4 ft

EXTERNAL ANTENNA
AH-38
Pole mount passive antenna. OPC-2113 coaxial cable separately required.

COAXIAL CABLE
OPC-2113
Coaxial cable (5D-HFA) for the AH-38.
10 m; 32.8 ft

COAXIAL CABLE
OPC-2462
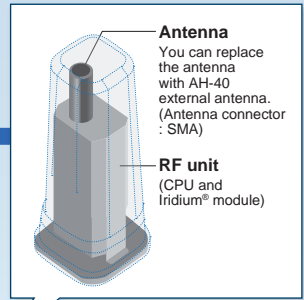Coaxial cable (5D-HFA) for the AH-41.
59 m; 193.5 ft

For more optional accessories, check the Icom website:

* The AD-140 charger adapters are supplied with the BC-214N, depending on the charger version.

In-Building and In-Vehicle Use

SATELLITE PTT
IC-SAT100M

Main unit

Speaker-microphone

Antenna unit (with RF unit)

Antenna
You can replace the antenna with AH-40 external antenna. (Antenna connector : SMA)

RF unit
(CPU and Iridium® module)

- **Install the antenna unit (with RF unit) to the rooftop, and use the radio from indoors, or even from the basement**
- **Easy wiring works between the antenna unit (with RF unit) and main unit using a LAN cable (Cat 5e)*¹**
- **Compatible with both 13.2 and 26.4 V DC vehicle power source**
- **Antenna unit with RF unit: IP67, Main unit: IP54, Microphone: IP55**
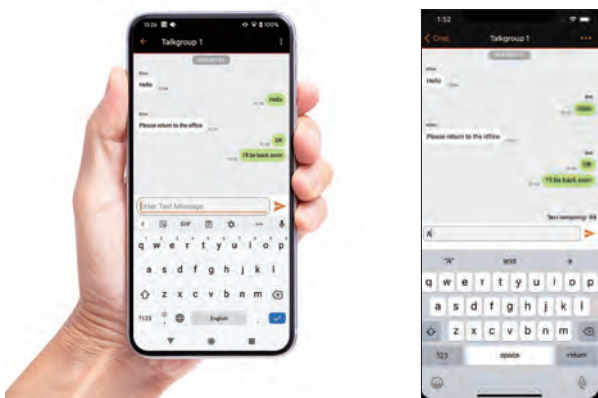- **1500 mW powerful audio output**

And More
- Voice Recording function • Built-in Bluetooth® capability
- Multiple language display (English, Chinese, French, Japanese, and Spanish)
- Integrated GPS receiver shows received signal position
- Short Data Message • AES 256-bit encryption for security
- Tested to the MIL-STD-810 environmental tests

*¹ User supplied LAN cable is required to replace the supplied 20m LAN cable.

Package includes:
- Main unit • Antenna unit with RF unit • Multi-functional speaker-microphone
- OPC-2435 DC power cable • OPC-2102 LAN cable (20 m, 65.6 ft)
- Mobile bracket for the main unit • Antenna angle and mounting kits

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IC-SAT100/M Short Data Message Applications for iOS™/Android™ devices

SHORT DATA MESSAGE APPLICATION
RS-SAT100

This application lets a user send and receive a short data message from a phone through the satellite. Use Bluetooth® connection between the radio and iOS™/Android™ device.

Features
- Easy texting similar to a chat or SNS application using a large display and keyboard on the iOS™/Android™ device
- Download free on App Store or Google Play™

Optional Accessories (for the IC-SAT100M)

EXTERNAL SPEAKER SP-30

EXTERNAL SPEAKERS SP-35 / SP-35L
SP-35: 2 m, 6.5 ft cable
SP-35L: 6 m, 19.6 ft cable

HEADSET VS-3
Bluetooth® headset

AC ADAPTER BC-157S
12 V/7.5 A output for use with the main unit.

ANTENNA AH-40
Magnet mount antenna 1.5 m, 4.9 ft coaxial cable for in-vehicle use.

EXTENSION CABLE OPC-2429
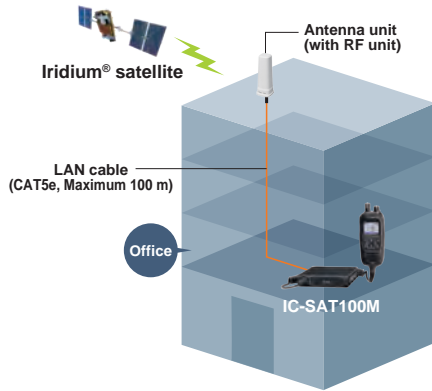Extension cable for use with supplied speaker-microphone 2 m, 6.5 ft

COAXIAL CABLE OPC-2422
Extension cable between the AH-40 and the radio. 5 m, 16.4 ft

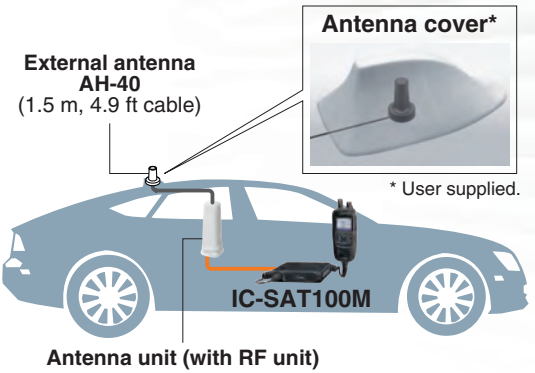For more optional accessories, check the Icom website:

IC-SAT100M Installation Examples

In-Building Use

You can flexibly install the radio and the antenna (with RF unit) with only a LAN cable (Maximum 100 m, 328 ft). Using PoE (Power over Ethernet) capability, the main unit supplies power to the antenna unit through the LAN cable. Connect your PoE injector or switch to extend the distance between the main unit and the antenna unit. (802.3at compatible)
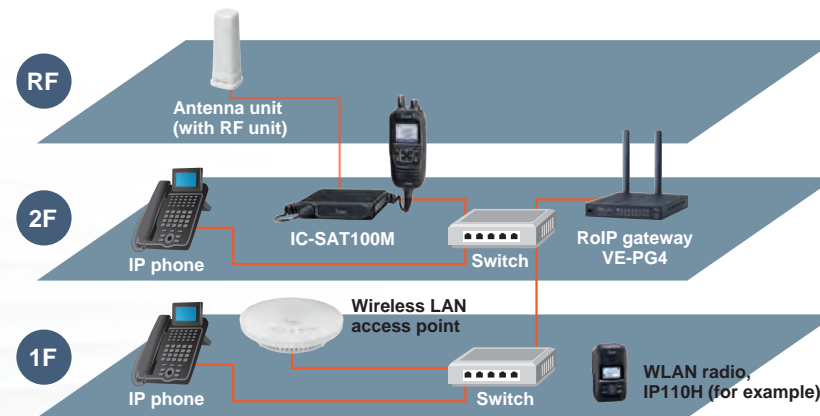
* User supplied LAN cable is required to replace the supplied 20 m LAN cable.

Installation for Mobile Use

For a vehicle use, optional AH-40* must be used for optimal performance and environmental resilience. It must be placed on the top of the roof (highest point) with least sky blocking objects around it. When you use a third-party antenna cover, you can cover the AH-40 making it look more discreet.

* To install the AH-40, drilling a hole on the antenna unit (with RF unit) cover is required.

Advanced System Example with VE-PG4

The VE-PG4 is a versatile RoIP (Radio over IP) gateway unit, which seamlessly interconnects a satellite PTT radio with L MR radios, LTE radios, WLAN radios, IP phone systems, and external devices. In addition to the IP Network (LAN/WAN), the built-in LTE module* provides virtually nationwide communication coverage.

* Service availability depends on the country. Network coverage provided by a custom SIM card.