



# SATELLITE PTT Radios



# What is SATELLITE PTT?

The Icom IC-SAT100/M is the dedicated satellite push-to-talk (PTT) radio, and is the only PTT radio 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 uses the Iridium® satellite communication network, which covers the entire globe, including both poles.



## Main Features

### One-to-Many Communication



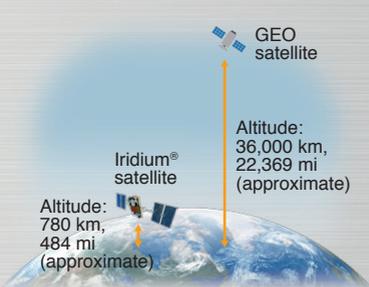
IC-SAT100/M users can immediately start talking to all the radios in the same talkgroup, with just a push of the transmit (PTT) button.

### 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



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

\* 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

## Optional Accessories (for the IC-SAT100)

### Docking Station for In-Vehicle Use



DOCKING STATION+ANTENNA  
+SPEAKER-MICROPHONE

### BC-247 +AH-40 +HM-222

With the AH-40 optional antenna, you can use the IC-SAT100 in a vehicle (by attaching the antenna to the roof).

\*Product image for illustration purposes only.

### Active Antenna for In-Building Use

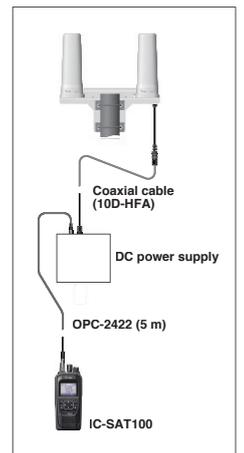


ANTENNA

### AH-41

Can be set maximum 55 m; 180.4 ft away from the radio\*. Supplied with OPC-2422 and DC power supply.

\*Coaxial cable (10D-HFA) required.



### ANTENNA AH-38

OPC-2113 optional coaxial cable required (10 m, 32.8 ft).



### MULTI-CHARGER BC-214N\*

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



### HEADSET VS-3

Bluetooth® headset



### COAXIAL CABLE OPC-2422

For AH-40 and AH-41  
5 m, 16.4 ft



### COAXIAL CABLE OPC-2113

For AH-38  
10 m; 32.8 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



- Power supply capability over Ethernet from main unit to antenna (with RF unit)
- LAN cable (CAT5e) accepts up to 100 m cable connection (from main unit to antenna with RF unit) without any sensitivity loss and thin cable allows easy wiring work
- Supplied multi-functional speaker-microphone
- Power supply requirement: 13.2 V/26.4 V DC
- IP67 waterproofing and dust-tight protection\*<sup>1</sup>

### 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 information on the display
- 1500 mW powerful audio output
- Short Data Message
- AES 256-bit encryption\*<sup>2</sup>

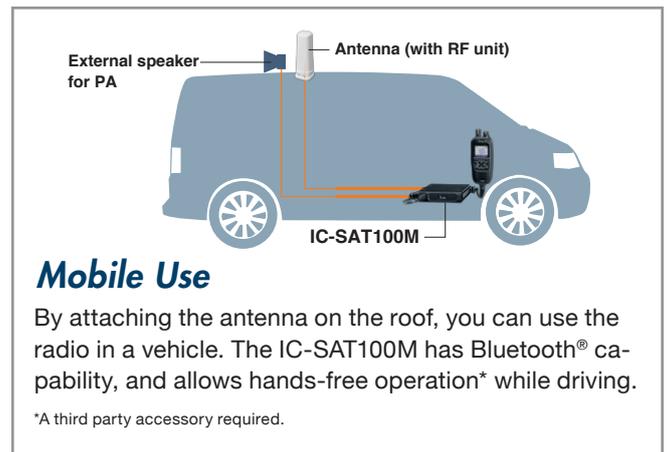
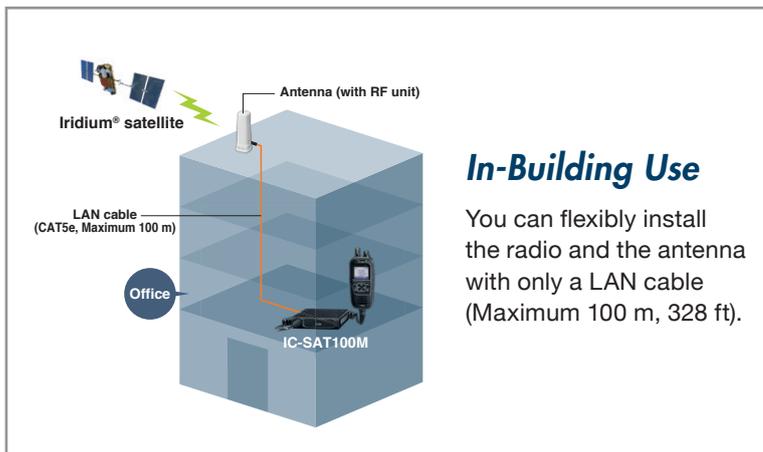
\*<sup>1</sup> Main unit: IP54, Mic: IP55.

\*<sup>2</sup> Communication data is scrambled in the Ethernet section to prevent casual eavesdropping.

### Supplied Accessories

- Multi-functional speaker-microphone
- OPC-585 DC power cable
- OPC-2102 LAN cable (20 m, 65.6 ft)
- Mobile bracket

## Installation Examples



## Optional Accessories (for the IC-SAT100M)



**ANTENNA AH-40**  
For in-vehicle use.  
1.5 m, 4.9 ft.



**EXTERNAL SPEAKER SP-30**



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



**HEADSET VS-3**  
Bluetooth® headset

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

**COAXIAL CABLE OPC-2422**  
For AH-40  
5 m, 16.4 ft



For more optional accessories, check the Icom website:



## Advanced System Examples

LAN cable (CAT5e)

Antenna (with RF unit)

PoE switch

LAN

IP Network

IC-SAT100M

High-rise building

### Flexible Installation with a PoE Switch and IP Network

Using a PoE (Power over Ethernet) switch (for power supply to the antenna) and IP network, you can install the IC-SAT100M more easily. In this installation scenario, you don't have to worry about the distance between the antenna (with RF unit) and the main unit.

External antenna AH-40

Antenna cover\*

RF unit

IC-SAT100M

\* User supplied.

### Low Visibility Installation for Mobile Use

The optional AH-40 antenna provides flexible antenna installation. You can replace the antenna with AH-40, and mount it on the roof instead of the RF unit. When you use a third-party antenna cover, you can cover the AH-40 making it look more discreet.

RF

Antenna (with RF unit)

2F

IP phone

IC-SAT100M

Switch

RoIP gateway VE-PG4

1F

IP phone

Wireless LAN access point

Switch

IP communication terminal IP100H

### Advanced System Example with VE-PG4

The VE-PG4 is a versatile RoIP (Radio over IP network) gateway unit, which seamlessly interconnects satellite PTT radios, PMR 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.



## SATELLITE PTT Radios

	IC-SAT100	IC-SAT100M
Frequency range	1616 MHz to 1626.5 MHz	1616 MHz to 1626.5 MHz
Dimensions (W × H × D, projections not included)	57.8 × 135 × 32.8 mm, 2.3 × 5.3 × 1.3 in	Antenna with RF unit: 76.8 × 200 × 76.8 mm, 3 × 7.9 × 3 in
		Main unit: 125 × 29 × 156 mm, 4.9 × 1.1 × 6.1 in
		Microphone: 59.6 × 130.2 × 28.4 mm, 2.3 × 5.1 × 1.1 in
Weight (approximate)	360 g, 12.7 oz (with BP-300 and antenna)	T.B.D.
Operational temperature range	-30°C to +60°C, -22 °F to 140 °F	-30°C to +60°C, -22 °F to 140 °F
Audio output power	Internal speaker	1500 mW typical (at 5% distortion into an 8 Ω load)
	External speaker	1000 mW typical (at 5% distortion into an 8 Ω load)
Battery life (approximate)	14.5 hours (TX : RX : standby = 5 : 5 : 90)	-
Power supply voltage	-	13.2 V / 26.4 V DC
IP rating	IP67	IP67 (antenna with RF unit), IP55 (mic), IP54 (main unit)
Talkgroup	15 groups (maximum)	15 groups (maximum)
Antenna connector	SMA	SMA (for external antenna)

## Antenna Comparison

Radio	Antenna	Connection cable	Distance from radio to antenna
IC-SAT100	AH-40	-	Maximum 1.5 m, 4.9 ft
		OPC-2422 optional coaxial cable (5D-HFA)	Maximum 6.5 m, 21.3 ft
	AH-38	OPC-2113 optional coaxial cable (5D-HFA)	Maximum 10 m, 32.8 ft
	AH-41	OPC-2422 optional coaxial cable and a third-party coaxial cable (10D-HFA)	Maximum 55 m, 180.4 ft
IC-SAT100M	Antenna with RF unit	LAN cable (CAT5e, theoretical values)	Maximum 100 m, 328.1 ft

### Q&A

#### What about communication fees?

- A.** Communication fees are typically charged at a flat rate through a monthly plan, and there are no additional call charges.\* Communication fees differ, depending on the coverage area and the number of the IC-SAT100/M.  
\* Depending on the country or area, a flat charge plan may not apply, or the service may not be available.

#### Coverage Area

Size	Small	Medium	Large	Extra Large	Jumbo
Coverage area	100,000 km <sup>2</sup> , 38,610 mi <sup>2</sup> (radius 178 km, 111 mi)	300,000 km <sup>2</sup> , 115,830 mi <sup>2</sup> (radius 309 km, 192 mi)	750,000 km <sup>2</sup> , 289,577 mi <sup>2</sup> (radius 480 km, 298 mi)	1,500,000 km <sup>2</sup> , 579,153 mi <sup>2</sup> (radius 691 km, 429 mi)	2,250,000 km <sup>2</sup> , 868,729 mi <sup>2</sup> (radius 846 km, 526 mi)

#### What is a “Talkgroup”?

- A.** Using SATELLITE PTT, you can communicate with other IC-SAT100/M radios assigned to the same Talkgroup. The coverage area of the Talkgroup is selectable from five sizes (see the table above).

#### Can I use the IC-SAT100 in any location?

- A.** The IC-SAT100 can be used in open spaces, like the rooftop of a building. Receiving and transmitting may fail, depending on the satellite position or any obstacles between the radio and satellites. Your body can also be an obstacle. Hook the radio upright on your shoulder rather than on your waist.



\*Ask your dealer for service plan details.

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