# SATRAD MATRIX iSeries XB

*SATRAD MATRIX iSeries comprises a family of products to permit users to communicate, anywhere. The SATRAD MATRIX iSeries XB integrates satellite with mobile radio.*

## Always Available

You can depend on the satellite backhaul to provide reliable, ubiquitous coverage no matter where you are. Satellite backhaul eliminates reliance on radio towers, land lines and fibre. Your communications system cannot be interrupted by an errant backhoe operator accidentally cutting through a fibre-optic cable. Weather events such as hurricanes can devastate radio towers and related infrastructure, however our satellite backhaul is secure, riding high above the storms.

## Best of Both Worlds

Satellite transceivers are complex "high tech" devices with corresponding high price tags. Satellite transceivers require "line of sight" to the satellite in order to maintain a connection and are typically much larger, heavier and considerably more expensive than portable radios.

Compact devices that will work both in-doors and away from vehicles are essential to supporting first responders. Bridging this gap the SATRAD MATRIX iSeries permits users to utilise lightweight, compact, inexpensive, portable radios to access the satellite communications network. Typically a SATRAD MATRIX iSeries is paired with a mobile radio inside a vehicle to act like a mobile base station.

## Reliable and Consistent

In emergency situations, users need systems that respond immediately and operate in a consistent manner. The SATRAD MATRIX has been designed to be user friendly and provide reliable communications.

The SATRAD MATRIX is closely integrated with both the radio and satellite backhaul. A user need only push to talk and immediately commence speaking. There are no "go-ahead" tones.

## Smart Messaging

The SATRAD MATRIX employs Smart Messaging. Voice messages are intelligently managed, for example should two users at different locations push to talk at the same time, one message will be delayed until the other message has been transmitted, then Smart Messaging will transmit the delayed message. Messages are never lost.

A user in a moving vehicle may be communicating with dispatch. If the vehicle enters a tunnel while the user is speaking, Smart Messaging will detect the connection to the satellite network has been lost. Upon the vehicle exiting the tunnel and reestablishing connection with the network, Smart Messaging will transmit the users message from the beginning. Transmitting the full message ensures the recipient retains the message context.

## Interoperability

The SATRAD MATRIX may be used as an interoperability gateway. Sophisticated interfaces enable integration with a wide range of mobile radios. User organisations may inter-connect their radios with the SATRAD MATRIX and share their talk groups or channels with other organisations.

# SATRAD MATRIX iSeries BC

## Multiple Talk Groups

Talk groups / communications channels are easily selectable from the ergonomic handset.

## Control Head

A Control Head option featuring a powerful amplifier and external speaker is available. The control head provides for convenient mounting in the vehicle cabin and may include provision for disabling the satellite backhaul should local communications only be desired.

## Handset with Display

A slim handset with integrated display and keypad is available. The handset offers the user a degree of privacy while making a call.

The display on the handset provides status information relating to the satellite connection, the selected talk group / communication channel as well as providing a means for the user to adjust the settings to suit their specific preferences.

The handset enables the selection of talk groups / communications channels.

## Installation

The SATRAD MATRIX iSeries-XB features a compact rugged design with four external mounting points. Interface points are fitted with locking screws or snap-lock connectors.

## Network

SATRAD MATRIX iSeries units operate over the Iridium network which provides global coverage.

## Power and Reliability

The SATRAD MATRIX iSeries incorporates a regulated power supply to condition the input power and remove transients and noise. In addition it ensures continued uninterrupted operation even though the input power may drop to as low as 9.5 volts.

### Specifications

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| Dimensions | 205 x 222 x 55 mm |
| Weight | 2 kg |
| Power Consumption | 9.5 - 34 VDC - 1.5 Amp |
| Cooling | Mobile - convection |
| Analogue Inputs/Outputs | Console, Auxiliary, Microphone, Handset |
| Analogue I/O Configuration | Balanced 600 ohm |
| Total Harmonic Distortion | < 0.1% |
| Frequency Response | 40 - 5,000 Hz +/- 3 db |
| Signal to Noise | > 50 db |
| Level | -24 dBm - +12 dBm |
| Communications | RS-232, RS-485, IEEE 802.3 LAN via RJ-45 |
| Speaker Amplifier | 15 Watt |
| GPS | NMEA proprietary sentences |