

Remote Satellite Terminal RST100 - Maritime

The Beam Remote Satellite Terminal provides reliable and convenient global telecommunications access voice, data & messaging services via the Iridium satellite network.



For years the maritime market has been the largest users of satellite communications and today is no exception. Whether the application is for commercial, industrial or leisure use the reliance on quality communication services is essential to maritime users all over the world.

Beam provides solutions for the following key maritime users;

- Pleasure Craft,
- Transport,
- Cruise Ships,
- Ferries,
- Commercial Cargo,
- Fishing, Recreation and
- Leisure.



Iridium Satellite System

Iridium is the only provider of truly global satellite voice and data solutions with complete coverage of the earth. Iridium delivers essential communications services to and from remote areas where no other form of communication is available.

The Iridium system is the largest fully meshed satellite network constellation in the world and consists of 66 low-earth orbiting (LEO), cross-linked satellites and has multiple in-orbit spares.

Total Peace Of Mind

The peace of mind to be able to access communication services anywhere, anytime is what makes the Iridium suite of services so unique. These services include;

- World Voice Communications
- Internet & Email Access
- Messaging
- Tracking & Control
- Security & Monitoring

Ease Of Use

The Beam equipment provides the ability for various installation options making it very simple to install and use the satellite system. Being able to use standard phone equipment or hands-free accessories in some installations provides a simple and easy to use solution.



World Voice Services

The Iridium system provides truly global voice services by covering areas that cellular and landline do not. The excellent signal strength provided by the Iridium constellation supports reliable connectivity across wide ranging landscapes and situations.

Inexpensive Calling

The ability for Iridium to provide standard pricing structure for calling from anywhere to anywhere without the need for confusing zones or bands, no unpredictable roaming charges provides an inexpensive means of communicating anytime, from anywhere to anywhere.



World Internet & Data Services

Using Iridium Data Services you now have access to the world from anywhere on earth. The complete range of Iridium data services allows you to simply and conveniently gain access to Internet, Email, and corporate LAN.

Easy Access to Voice Services

Voice services can be easily accessed anywhere on earth using a compact Intelligent Handset or via standard telephone handsets. This means voice communications can be easily accessed using standard Corded, Cordless, DECT or PBX systems.

Standard Telephone Services

Standard telephone service features are available using the Beam RST100 including such services features as Call Forwarding, Call Barring, Voicemail, Auto-dial and Speed dial.

PSTN Emulation / RJ-11

The RST100 provides an intelligent RJ11/POTS interface emulating features of a PSTN (Public Telephone Service). The unit is equipped with off-hook detection as well as the standard features of Ring, Busy & Dial service tones to suit specific country applications. The Beam RST100 supports long runs of standard copper telephone wire and multiple extensions can be connected to the terminal over distances up to 1000 metres.

Intelligent Dialling

The Beam terminal is capable of being programmed to pre-empt such dialling codes as the international access of "00" country codes and or area codes. The intelligent number processing is ideal for various applications to enable ease use by any user. Call barring and restricted dialling within certain countries or area codes can also be configured if required.

PBX / In-building Integration

The RST100 can be easily integrated into a PBX system using the RJ11 connection, enabling calls to be made or received from any extension within a building via the satellite network. In-building integration is ideal for lower costs satellite to satellite calling as well as emergency backup.

Intelligent Handset Interface

The optional Intelligent Handset, RST970, provides voice and SMS communications.

The handset is compact, lightweight, easy to install and comes complete with hang-up cup and inbuilt ringer. The unit supports full SMS functionality as well as an easy menu system to access phone settings.



Iridium Prepaid Services

With Iridium prepaid services, users have a cost-effective communications system at their fingertips, eliminating the headaches of monthly bills or subscription fees. Unused minutes carry forward so your minutes can be used in future months. Prepaid SIM's are ideal for situations with one SIM and one user.

Iridium Crew Calling

With a single SIM Card and a single Beam terminal, vessels can now have both traditional subscription service and prepaid service. Captain and officers use their traditional subscription service as required for ship's business while crewmembers can place prepaid personal calls.



Crew members' prepaid calls are priced at a single flat rate per minute - All day long, no confusing zones or bands and no unpredictable roaming charges

Data & Messaging Service

The Iridium SMS can send and receive messages of up to 160 alphanumeric characters, in a single message. The service operates in the same way as a generic SMS service does providing;

- Two-way global text messaging
- Send to and from other Iridium subscribers
- Send to and receive from email addresses.

The terminal also supports the following Iridium Data Services;

- Circuit Switched Data
- Direct Internet
- RUDICS
- Short Burst Data.



SSAS / Emergency Alert

From July 1, 2004, most deep-sea passenger and cargo ships must be fitted with a Ship Security Alert System (SSAS) so if a ship is under threat or has been compromised an alert containing the ship's ID and position can be transmitted.

Using the Beam TrackALERT RST030 in conjunction with the RST100 is the ideal solution to meet the IMO requirements and flag administration specifications.

Beam enables several options for sending SSAS messages through its global satellite network, using Short Burst Data (SBD) or, Short Messaging Service (SMS).

Vessel Tracking

With an increasing requirement to track and monitor the location of maritime vessels for security and control application the Beam RST100 allows the easy connection of a Beam RST030 TrackALERT module.

The TrackALERT provides the ability to track a vessel at the same time as providing an alert system for emergency situations. The TrackALERT RST030 can be used in conjunction with standard voice and data services of the RST100 terminal.

Position Reporting

- Periodic
- Remotely Polled
- Movement

Delivery Methods

- Short Message Service (SMS)
- Short Burst Data (SBD)
- Email

Network Access Features

- Global coverage -pole to pole
- Low cost airtime rates
- No regions or zones
- Crew calling service
- Pre or post paid
- Itemised billing
- Support all data services
- Support all Voice services

Terminal Features

- Uses intelligent handset
- Supports standard phone equipment
- Connect to PABX
- SMS / SMSMO from terminal
- Supports SMS over POTS
- SSAS compatible
- Tracking & Monitoring Capable
- Intelligent Processor & Interface
- Phone Number Processing
- Line Reversal for Pay phone use
- Secure SIM Card Enclosure
- Local and Remote Configuration
- External Ringer available
- Supports Back up Battery
- Incorporates Call Logging
- Fully Certified - corrosion / vibration
- Easy to install

Power Inputs / Backup Battery

Beam terminals support 11-32V DC power input. A DC power cable is supplied along with an AC 110/240 plug-pack (requires country specific monitor cable) which makes it easy to connect to mains or DC power.

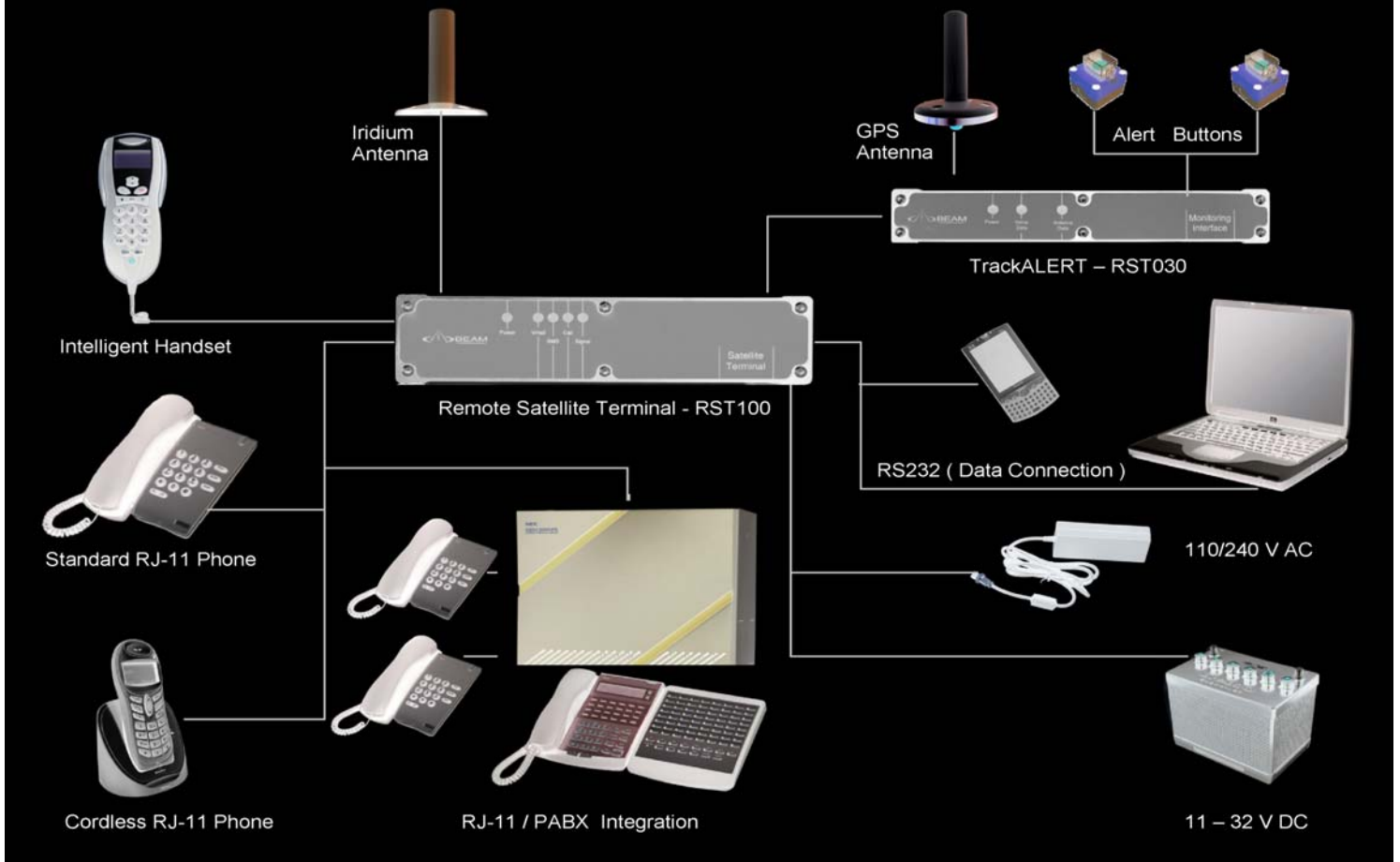
The use of an RST050 Beam Battery Back-up is an ideal accessory where guaranteed communication is required.

Configuration

The Intelligent processor inside the RST100 interface enables the terminal to be configured remotely or locally. Locally it can be simply configured with a PC using the Beam Management System (BMS) software supplied with the terminal.

Whilst using the BMS is the most simple, it is also possible to configure most of the fields by sending dedicated remote commands to the terminal using SMS.

Installation Options



Technical Specifications

Iridium Network	
L-Band transceiver frequency	1616 - 1625 MHz
Compressed Data	2.4 kbps
Voice / data modulation	10 - 12 kbps

RST100 - Remote Satellite Terminal

Power Specifications		
Power input voltage	11 - 32 V DC	
Power Consumption (AMPS)	12 V DC	24 V DC
Stand-by	0.35	0.16
Transmit	0.51	0.25
Stand-by - inc handset	0.47	0.22
Transmit - inc handset	0.59	0.29

Environment Specifications		
Temperature	Degrees °C	Degrees °F
Operating Range	-15 to +55	+5 to +131
Storage	-30 to +70	-22 to 158
Humidity	93% non condensing	
Vibration	2 Hz - 13.2 Hz & 13.2 Hz - 100 hz	
Corrosion	40 °C with 90% - 95% relative humidity after 2h salt spray	

Connectors / Interfaces	
Intelligent Handset	RJ45 DPL BUS
Telephone / POTS	RJ-11 2-wire / TN12 or 600Ω
Data Port	RS232 Serial Interface
Log Port	RS232 Serial Interface
Power	2 Pin screw type

Kit Contents	
RST100 Main terminal	
Mounting Brackets	
AC 110/240V Plug Pack	
DC 1.5m Power Cable	
Data Cable	
User & Installation Manual	
CD - Beam Management System, AT Commands, Manuals	

Satellite Constellation	
Intersatellite Links	23.18-23.38 GHz, Ka-band
Ground Segment Links	
Downlinks	19.4-19.6 GHz, Ka-band
Uplinks	29.1-29.3 GHz, Ka-band

Physical Specifications	Unit only	Packed
Dimensions - mm	225 x 271 x 45	400 x 325 x 90
Dimensions - inches	8.8 x 10.6 x 1.2	15.7 x 12.8 x 3.5
Weight - kg	2.25	3.25
Weight - lbs	4.9	7.1

Certifications	
IEC60945	
Germanischer Lloyd	
American bureau of Shipping	
electrical Safety	
EMC Compliance	

LED / Display	
Power	Green
Signal	3 Colour
Call	Yellow
Voicemail	Green

Accessories	
Mast mount antenna	RST910
Intelligent handset	RST970
Antenna cables	
6 m / 18 f	RST932
9 m / 27 f	RST930
12 m / 36 f	RST933
SSAS / TrackALERT	RST030
External ringer / alarm	RST952