Turboprop

Helicopter

Piston

Jet

SatTalk II Service

– Quickly connect to standard aircraft audio panel

– Does not interfere with ATC

– Clear phone calls anywhere – any altitude

– Use your aviation headset or handset

– Internet and email access

– In-flight weather can be accessed through DUATs and other weather sources

– Take the phone with you for off aircraft use

Service

– Customers get service through Iridium's Service Partner's

– The Iridium Service Partner's supply SIM cards (Subscriber Identification Module), a phone number, technical support, and billing services

– Iridium dealers can also provide service through their affiliated SP's

– SatTalk supports Iridium Short Messaging service (SMS) which allows you to receive a text message up to 120 characters for free. The message can be sent as an e-mail or through the Iridium web site. The delivery is immediate if your phone is on, or it will be delivered when you next turn on your phone.
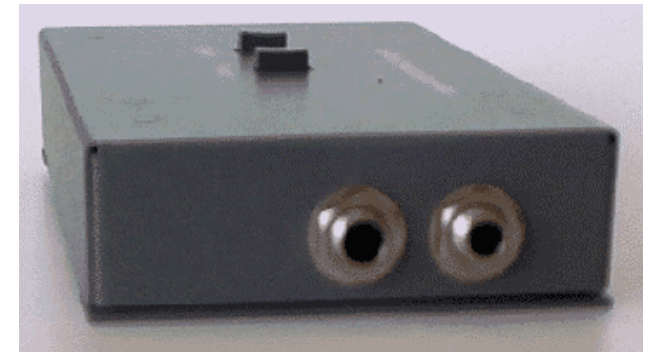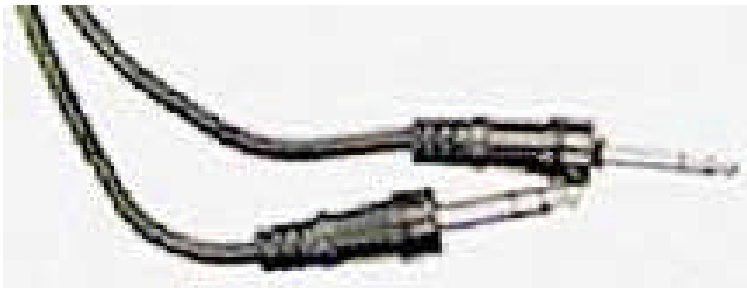
SatTalk II Hardware

The SatTalk connects to the audio panel by plugging the SatTalk audio interface into your existing headset jacks and plugging your headset into SatTalk

The phone itself (Motorola 9505) can be mounted in the aircraft using a ommercial off the shelf aviation clamp. Numerous mounting techniques can be used to secure this clamp to the aircraft including Yoke mount

IRIDIUM

Hardware

– Cabin kit available with a separate handset for use outside the cockpit
– Optional Cabin kit includes cradle for the separate handset and ringing speaker

Antenna

FAA TSO antenna is suitable for pressurized aircraft
Only the antenna for SatTalk must be installed on the aircraft

IRIDIUM

SatTalk II Audio Controller

- Mounting plate available for permanent mounts

- Sub-D37 Connector & Pins Provided with Audio Controller

- Can be configured into intercom system (No Privacy)

- Privacy to Multiple headsets requires multiple Audio controllers

- Coaxial switch is available for using two (2) 9505 phones (i.e. cockpit & cabin) for dialing convenience

- DC/DC converter will be available (Nov '01) to replace "cigarette adapter"

Permanent Hardware Installation

- The DB-37 connector on the SatTalk audio controller allows it to be connected to the aircraft's headset jacks and power then placed out of sight
- An existing headset would be plugged into the current jacks
- The Quiet switch and Power switch can be mounted on the aircraft's panel
- Optional Cabin kit includes cradle for the separate handset and ringing speaker

Approvals

- No FAA approvals are required for portable equipment that is not permanently attached.
- Antenna is TSO'd by US. FAA. TSO's are usually recognized Internationally – check with National Aviation Authority.
- Field Approval or Log Book entry is required to permanently install audio controller (with mounting plate), cabin handset and ringer – since they are passive devices.
- The 9505 (used with the SatTalk II system) is always considered a portable installation because of the R.A.M. mount used.
- DC/DC converter will be available in Nov '01to replace current cigarette lighter adapter
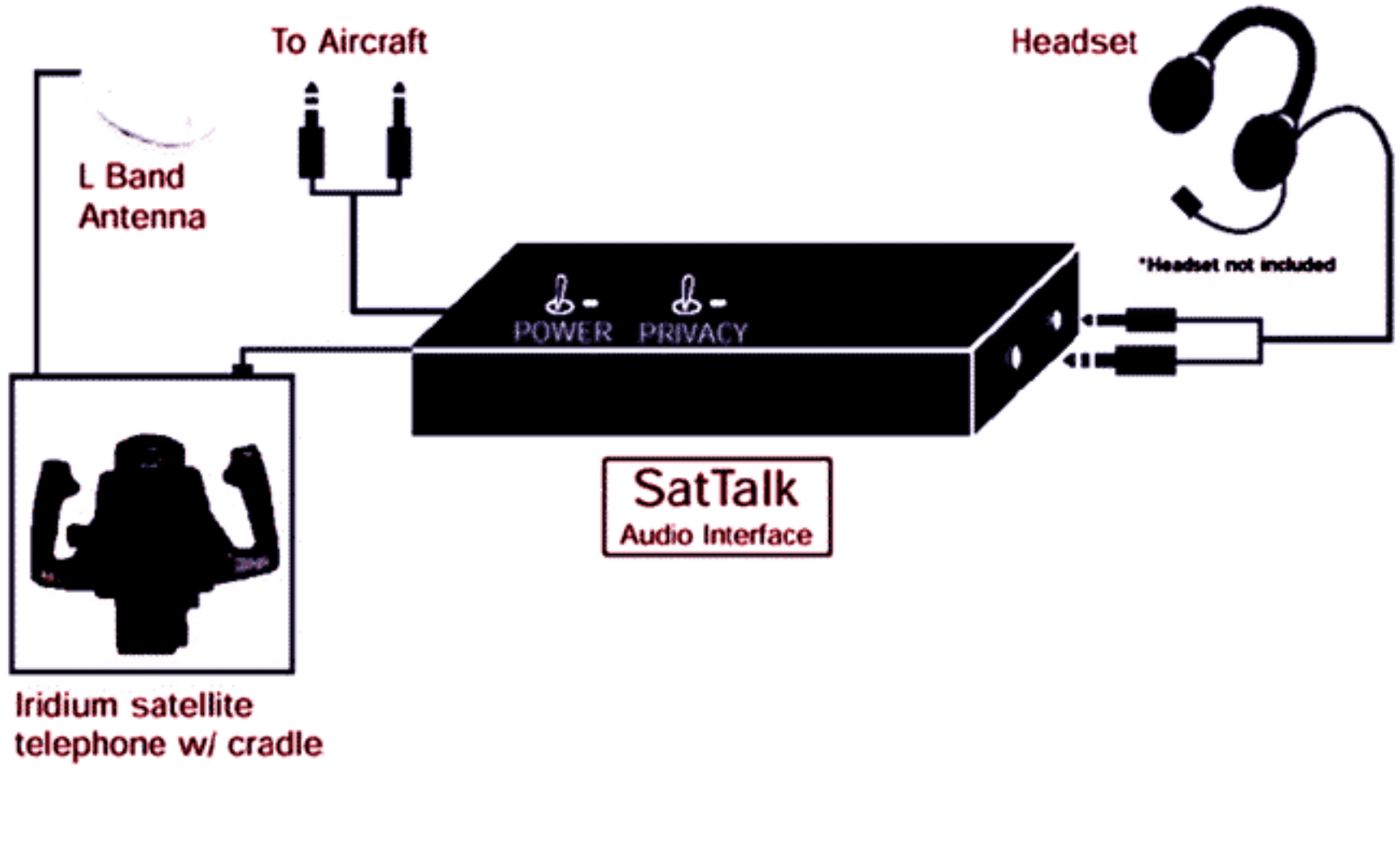
You can use your aviation headset with SatTalk for audio communication

- The SatTalk controller supports helicopter headsets by using adapters
- The SatTalk controller may be hard-wired into the helicopter headphone circuits any where in the aircraft
- If two controllers are installed, two crew members have access to the Iridium phone (simple toggle switch to select user)
- A special model of the SatTalk controller supports low-Z military headsets without any extra external impedance converters. SP must specify the -MIL version
- The Motorola Iridium phone itself is easily removable and will function outside the aircraft using its built-in antenna

IRIDIUM

SatTalk II Hardware Configuration

To Aircraft

Headset

*Headset not included

L Band
Antenna

POWER   PRIVACY

SatTalk
Audio Interface

Iridium satellite
telephone w/ cradle

IRIDIUM

Air Traffic Control

– ATC can be excluded during a call, if you get permission to go "off frequency". (This switch can be remoted). This switch disconnects any incoming audio (radio or intercom) so you can make calls without any interruptions.

– If you haven't gotten permission to go "off frequency", you will hear ATC activity during a call. If you turn up the radio volume, ATC will be heard over the phone call. Simply respond, if the ATC call is for you, using your normal push-to-talk switch. When done with ATC simply continue your conversation.

Data

– Direct Internet Data Service provides connectivity from a PC, through your Iridium phone, directly to the Internet through dedicated servers at the Iridium gateway

– This service utilizes transparent compression, resulting in data of up to 10Kbps, depending on content. (Graphics and images will result in lower throughput)

Cabin Usage

- Phone can be located in either the cockpit or cabin. All calls must be dialed on the phone itself
- Cabin passengers may use a lightweight headset with boom microphone (hands-free) or optional telephone handset
- Incoming calls ring in headset. The phone will automatically answer
- Optional Cabin Kit includes telephone handset, mounting cradle, and a small speaker to generate rings on an incoming call. Incoming call ringing mutes as soon as the handset is lifted

Who Uses SatTalk II

– Sat Talk II's market focus is on Utility Helos, General Aviation, and Light-Medium Corporate Aviation

– General Aviation is typically subdivided into Piston and Turboprop

– Aircraft weight class traditionally divides Corporate Aviation.

– Corporate Aviation is currently subdivided into:

  ☞ Entry level to light-medium jets

  ▪ Medium to Medium-Heavy jets

  ▪ Heavy to Bizliner jets

– Sat Talk II is ideal for serving entry level through light-medium jets

The Utility Helicopter market is largely under-served and has immediate requirements for over the horizon data tracking applications and voice services. The Utility Helicopter market segment includes:

- Offshore supply
- Rescue
- Police
- Sight-seeing
- Fire
- Corporate helicopters

- Typical Installation(s)
  - Single/Multiple Cockpit Headsets
  - Primary application(s)
  - Cockpit Voice
  - Flight Following
  - Secondary application(s)
  - Cockpit Data - Flight Information Services (flight plans, FBOs, wx maps etc)
  - Cabin Data – Transmission of Logistic Data

The Piston sub segment of the General Aviation market includes Cessna 172/182, Mooney, Bonanza, etc…

- This sector does not currently use Satcom
- Owner/Operators are looking for compact (small form factor), easy to install, easy to use, low cost equipment that can provide reliable, low cost voice service and access low cost (subscription-based) services via data modem.

Piston Profile

Small privately owned aircraft would primarily use Satcom for safety.
Satcom would provide:
  Backup voice services
  Flight Information services (flight plans, FBO Comms, weather, etc…)
  Tracking (non-ADS)
  Emergency Communications

Piston Profile

Typical Installation(s)

- Single Cockpit Headsets
- – Primary application(s)
  - Cockpit Data - Flight Information Services
  - (flight plans, FBOs, wx maps etc)
- – Secondary application(s)
  - Cockpit Voice
  - Flight Following (non-ADS tracking)

Turboprop Sub-Segment

- – The Turboprop sub-segment of the General Aviation market includes:
- King Air
- Piper Meridian
- Pilatus PC-12 etc.
- – Turboprop aircraft are typically privately owned aircraft, with limited space & electrical power. Owner/operators are looking for compact (small form factor), easy to install, easy to use, low cost equipment that can provide: Reliable, low cost voice service, and access low cost (subscription-based) services via data modem
- – This sector does not currently use Satcom due to past size and cost restrictions

Turboprop Profile

- Turboprop aircraft would use Satcom for safety first, and then for convenience. Satcom would provide backup voice services, Flight Information Services (flight plans, FBO communications, weather etc…), tracking (non-ADS) and emergency communications; as well as email and Internet access from the cabin.
- These aircraft are strictly regional aircraft. Many have existing installations of terrestrial based telephone systems -which have many limitations.
- The price, small size and weight of Iridium's aeronautical equipment should be attractive to this market – which is very price conscientious.

Typical Installation(s)

- Single Cockpit Headset
- Cabin Handset

- Primary application(s)
  - Cockpit & Cabin Voice
  - Cockpit Data - Flight Information Services (flight plans, FBOs, wx maps etc)
- Secondary application(s)
  - Cabin Data - Email, internet (flight support applications)
  - Flight Following (non-ADS tracking)

Entry level to light-medium Corporate Jet Profiles

- These aircraft are strictly regional aircraft. Many have existing installations of terrestrial based telephone systems -which have many limitations These aircraft are priced around below $15M US, and consist of Cessna Citation, Citation Excel, Falcon 100, Lear 35 & 45, Raytheon and Dassault jet aircraft etc.
- There has been no penetration of satcom in this market, principally because of cost, as well as equipment size and weight of the existing Inmarsat equipment.
- The price, small size and weight of Iridium's aeronautical equipment should be attractive to this market – which is very price conscientious.

Entry level to light-medium Corporate Jet Market

Corporate jets use Satcom as a business tool. The driving requirement for the corporate jet market is good, reliable, high quality cabin (office) voice communications, coupled with the ability to send/retrieve email and access the internet

- Typical Installation(s)
  - Single Cockpit Headset
  - Cabin Handset

Entry level to light-medium Corporate Jet Market

Primary application(s)

- Cockpit & Cabin Voice
- Cabin Data - Email
- Cockpit Data - Flight Information Services (flight plans, FBOs, wx maps etc)

Secondary application(s)

- Cabin Data - Internet
- Flight Following (non-ADS tracking)

Specifications

ICARUS
Instruments Incorporated

- 9505 Phone   -Weight: 14oz (0.4kg). with battery
                                                       -Size: 158 L x 62 W x 59 Dm

- R-A-M Holder   -Weight: 1.0 lb
                                                       -Size: 6.5" x 2.2" x 2.5"plus mounting arm and flange

- Antenna   -Weight: 7 oz
                                                       -Size: 0.70 in Height / 3.5 in Diameter FAA TSO approved

- TNC Connector   -Weight: 10 g
                                                       -Size: 70 K

- Audio Controller   -Weight: 11 oz.
                                                              -Size: 6.5" x 3.25 x 1.0"
                                                              Power: 12 to 30 volts DC via Cigarette Lighter
- Headset Supported   -Power: Standard 1 & 2 jacks, Military low Z
- Cable Lengths   -The maximum loss in the cable is 3db. There are cables that are
                                                          available that can exceed 60 feet in length and are still well below 3db of loss.

- ✓   Antenna to 9505 Phone   -15 feet plus 3 foot flexible cable

- ✓   9505 Phone Data Kit to PC   -6 feet (Supplied with Data Kit)

- ✓   9505 Phone to Controller   -3 feet

- ✓   Controller to Audio Panel   -5 feet (to aircraft jacks)

IRIDIUM

Contact Information

Outfitter Satellite

2727 Old Elm Hill Pike

Nashville, TN 37214   U.S.A

(615) 889-8833 Office

(615) 902-0028 Facsimile

email: satsales@GPSphones.com