Panasonic

GLOBAL AIRCRAFT COMMUNICATION & TRACKING Expert Dialogue on Real-time Monitoring of Flight Data | May 2014

CONNECTING THE BUSINESS AND PLEASURE OF FLYING



Panasonic Avionics Corporation



FLIGHTLINK

Low Earth Orbit L-band Iridium

True global connectivity including polar regions

Smartphone-sized single element antenna

Higher cost of data exchange

A lower equipment & installation cost



Geo-stationary high orbit Ku-band

Majority of the globe covered and operational today

Low profile directional antenna aperture & radome

Low cost of data exchange

A higher equipment & installation cost



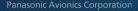
FLIGHT TRACKING PANASONIC OFFERS A TOTAL SOLUTION TODAY

Free Of Charge flight tracking capabilities provided since 2004

- FlightLink: aircraft tracking and atmospheric data
- eXConnect: aircraft tracking
- Both: position report intervals of 5 minutes configurable

Both of our communications solutions

- Utilize global networks which are available today
- Varied service levels from position reporting to streaming of flight data



FlightLink

a fully integrated aircraft communication, tracking and weather information solution.



GLOBAL FLIGHT TRACKING COMPREHENSIVE FLIGHT FOLLOWING SOLUTION

GPS Flight Tracking: Lat / Long Position Ground Track Ground Speed Altitude Time Stamp

Fully Configurable Triggered Event Alerting and Reporting: Flight Path Deviation Triggered aircraft condition events

FLIGHTLINK

Panasonic Avionics Corporation

FLIGHTLINK Specifics

Independent GPS position

Iridium voice fully integrated with flight deck audio systems

Standard interfaces to SOC available

Continuous and configurable data downlink

- No pilot interaction required
- Ground archived, retrievable data
- Secure web portal access for the customer

ADDITIONAL BENEFITS TO AIRLINES



Aircraft Interface Device (AID) and EFB integration options

Operational data to/from the aircraft

Automated independent flight times (OOOI)

Data base of all flight histories

Ku integration option

FLIGHTLINK AIRMAP

AIRCRAFT FLIGHT TRACKING

GPS to Accurately Capture:

- Position
- Heading
- Ground speed
- Altitude
- Time Stamp

Configurable Reporting Intervals Real Time & Archived AirMap

TRIGGERED EVENT ALERTING & REPORTING

- Numerous Aircraft Parameters
- Flight Path Deviation

TAMDAR

Tropospheric Airborne Meteorological Data Reporting

Delivers an independent and unique real-time high resolution data stream for improved atmospheric analysis and weather forecasting

Patented and operational on commercial aircraft since 2004

Panasonic Avionics Corporation is expanding the TAMDAR network worldwide



Summary

Aircraft	G-FBEH
Flight #	566459
Pressure Altitude	15960 ft
GPS Altitude	16000 ft
Air Temperature	-7.40 °C
Relative Humidity	45.00 %
Wind 30	08° / 79.00 knots
Ice Conditions	No Ice
Indicated Airspeed	260 knots (G)
EDR median/peak	0.0 / 0.0
Min. since peak EDR	0.0
56° 17' 48" N, 1° 46' 54" W	

WEATHER & AIRCRAFT ENVIRONMENT

Proprietary TAMDAR weather sensor accurately captures

- Wind
- Temperature
- Relative Humidity
- Icing
- Turbulence (EDR)

Panasonic Weather Solutions

© 2013 Panasonic Avionics Corporation Proprietary and Confidentia

EXCONNECT FLIGHT

New technology brings:

- High capability
- Higher capacity
- Higher resolution of data

Result – more data can be transmitted to and from the ground. As bandwidth increases, cost per MB goes down this leads to a win / win

- More data transferred
- Less cost to the airline

Conclusion: the industry is ripe for a Paradigm Shift

minimumminiiim