



Figure 1- AIR001 Under operation

The AIR001A is a dual system ACARS and ADS-B VHF receiver with the following features:-

- VHF - ACARS can monitor up to 4 channels simultaneously.
- L-BAND ADS-B is monitored at 1090MHz.
- Internal Preselect filters minimise interference from adjacent signals
- Data from ADSB and ACARS is streamed over a network connection.
- Can be configured for use with Stancom MHA003 low noise mast head amplifier. (118-1300MHz, 88-108MHz -55dB)
- Sensitive receivers give good long distance monitoring. With collinear antenna can receive up to 300kms.
- Independent linear PSU's to both receivers.
- Very low power consumption
- Use of Software Defined Radio and single board computers internally allow flexibility. i.e Monitoring of AM/ FM and SSB in the range of 50 – 1500MHz can be accommodated, It is recommended that pre select filters are fitted for any particular band.
- 2 x 3.5" LCD screens provide indication of data stream and additionally allow local control with keyboard and mouse for configuration

**VHF Receiver: (ACARS)**

Frequency	118 – 137MHz
Multichannel to 4 Channels. (must be within 1MHz)	131.525/131.500/131.725/131.825MHz. (default, it can be changed)
Sensitivity, Noise figure	< 6dB
Input impedance:	50 ohm. N type Connector
Input preselect filter	Input Filter <108MHz and >175MHz, <-50dBc.
Switched Bias T	Bias T mechanically switched to provide DC onto RX Coax, (12V)

**L-Band Receiver: (ADS-B)**

Frequency	1090MHz
Sensitivity, Noise figure	< 6dB
Input impedance:	50 ohm. N type Connector.
Input preselect filter	Input Filter <1000MHz and >1200MHz, <-30dBc.
Switched Bias T	Bias T mechanically switched to provide DC onto RX Coax, (12V).

**Local Control Interface:**

Screen	Two 3.5" TFT screens are provided, one for each receiver. This allows local Configuration and in addition display of data stream. NB the screen is touch screen to support future software control.
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USB Inputs

2 USB inputs allow for Keyboard and mouse insertion, or upload of software updates.

**Remote Control Interface:** (Ethernet)

Output

Streaming data via IP, compliant with 'Planeplotter' ACARS and 'ADSBSCOPE' ADS-B protocol requirements.

Connection

LAN (10BASE-TX/100BASE-T)

Mechanical

RJ45

**Internal 'local' Control.** (Enclosed in cover)

Main computer

2 x Raspberry Pi,

Data storage

SD Card

**Electrical** (Power)

Mains Power

110/220V +/- 10V AC, 60Hz

Mains Filter fitted

Fuse

1A AC (Rear Panel)

Front Panel DC fuse 5V A (RX1)

1A DC (Front Panel)

Front Panel DC fuse 5V B (RX2)

1A DC (Front Panel)

**Mechanical:**

Case Size.

2U rack mounted case x 400mm deep.

Weight:

5kg. (est)

ACARS RF Input Connector

N type Female connector.

ACARS RF Input Connector

N type Female connector.

LAN Connection x 2

2 x RJ45 (One for local control/setup)

Mains input

IEC 3 Pin connector.

Main Power Switch

Front Panel, Illuminated.

**Environmental:**

Temperature:

0°C to +40°C

Humidity

Operating 10% to 90% (Non condensing)

**Local Display of streaming data**



ADB-B Raw list of Aircraft Data



ACARS Data being received

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