

## Dual High-Speed Multiplexer with Gigabit Ethernet Output



### Description

The AIM (Airborne Instrumentation Multiplexer)-400X-1 performs high-speed data multiplexing. It has a single backplane PCB (Printed Circuit Board) that has two separate bus segments. This allows an OVH-350-1 overhead board, an RCI-305-2 or -3 CAIS interface and additional input/output (IO) boards to be installed on each of two backplane segments.

Each bus segment supports 64-bit PCI at 66.67 MHz (533 MBps peak bandwidth) and accepts I/O boards for data multiplexing and recording.

Each backplane bus segment is independent, which allows the AIM-400X-1 to act as two multiplexers in one physical chassis.

The AIM-400X-1 accepts IRIG B AC or DC time to support IRIG Chapter 4 for selected data over the CAIS bus.

Each segment of the AIM-400X-1 can also operate as a CAIS remote data acquisition unit. This allows selected data from I/O boards, unit status and recorder status to be provided to the CAIS controller as flight safety data.

### Features

- Dual airborne data multiplexer within a single unit
- Each multiplexer section includes:
  - RCI-305-X remote CAIS and IRIG interface board
  - OVH-350-1 overhead board with two 1-Gb Ethernet outputs
  - Slot(s) for user-selectable I/O boards: one slot for AIM-4004-1, two slots for AIM-4006-1
- Accepts the following AIM-200X/AIM-400X I/O boards:
  - 2-channel Radar IQ data LVDS interface board (RDR-302-1)
  - 2-channel Fibre Channel Receiver board (FCR-302L-1)
  - 4-channel 2.125 Gbps optical Fibre Channel board (FCH-304L-1)
  - 4-channel 400 Mbps IEEE-1394b FireWire board (BIM-394Q-1)
  - 4 and 8-channel 20 Mbps PCM/Clock interface board (PCI-304-1 and PCI-308-1)
  - 4 and 8-channel MIL-STD 1553 bus interface board (BIM-553Q-1, BIM-553F-1 and BIM-553-1)
  - 2-channel 1.0625 Gbps electrical Fibre Channel board (FCH-302E-1)
  - 4-channel audio/video MPEG-2 board (VID-304-1)
  - 4-channel 10/100BASE-T Ethernet board (ETN-304-1)
- Accepts IRIG-B AC or DC time
- The RCI-305-X includes a CAIS bus interface:
  - Single-point programming using CAIS or RS-232/422
  - Operates as a CAIS DAU remote unit
  - Provides recorder and unit status to the CAIS controller
  - Supports selected data and status over the CAIS bus
- The OVH-350-1 overhead module provides the following interfaces:
  - Two 1 Gb Ethernet ports for data recording and download
  - One 10/100BASE-T Ethernet management port
  - Two RS-232/422 ports
  - Four GPIO ports

### Applications

- Flight test instrumentation
- Air vehicle test, certification, and development
- Ethernet-based network data acquisition
- System safety monitoring

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### AIM-400X-1 Datasheet

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