

FlightVu
SmokeVu

The most serious threat to commercial aircraft safety is fire, but Airlines and Freight Carriers are plagued by costly false alarms from traditional smoke and fire alarm systems. SmokeVu provides a cutting edge visual form of smoke detection to be used in conjunction with conventional smoke and fire detectors. The system produces early, accurate detection as it uses video to identify smoke from a distance and allows for a visual verification of any alarms received.

AD Aerospace SmokeVu is a Video Smoke Detection and Analysis system, which uses intelligent software to differentiate between smoke and false alarm triggers such as haze/humidity, even under the high vibration environment of a Freighter airliner. This software is installed on the state-of-the-art digital video processor, which can then alert the Flight deck crew to the presence of smoke.

As the SmokeVu detection method does not rely on smoke particles travelling to the detector, detection can take place long before conventional smoke detectors that rely on detection of particle matter. SmokeVu "takes the detection to the smoke". This leads to better decision making, more timely and safer diversions to accessible airports than ever before.



SmokeVu software produces 'Smoke Signature' alarms

The system uses high sensitivity monochrome video cameras and Infra-red floodlighting to view inaccessible areas of the aircraft where smoke could not normally be seen, such as cargo holds, avionics bays, above the ceiling panels in passenger aircraft, and far into the rear of combi-freighters. Following an alarm flight crew can verify visually if smoke is present using a monitor on the flight deck. SmokeVu is compatible with Electronic Flight Bag (EFB) technology, allowing the flight crew to have complete control of the systems and view both live and recorded video.

Smoke detection zones can be placed anywhere within the camera view, on or around specific items or areas to be protected. The ability to visually verify the alarm condition from the front-end processor screen or CCTV surveillance monitor represents a powerful new tool in the very early detection of fire.

The SmokeVu System is a world first in delivering early warning of fire, using cost effective tried and tested aerospace equipment combined with leading edge image processing technology



SmokeVu Video Processor Unit



Internal Grade Camera



External Grade Camera

The FV-0610 video processor unit, takes a single video channel from a camera such as the FlightVu FV-0110 monochrome video camera (fully environmentally protected) or the FV-0405 Internal Grade video camera, and performs a series of digital signal analyses, based on proprietary algorithms, which identify smoke and rejects non-smoke events. In this way, the false alarm rate from a standard aircraft system can be rapidly and dramatically reduced.

The FV-0640 video processor unit provides 4 independent channels of video smoke detection within a single hardware package.

The system then indicates a smoke alarm, with time and location, on its ARINC429 databus, or CANbus outputs. The video signal from the camera is made available, with a text overlay, for examination by the flight deck crew, who are then in a position to verify the alarm, see the extent of the smoke and/or fire, and take better informed decisions as a result.

Technical Data

	FV-0610	FV-0640
Power Input	28V dc to RTCA DO160D	28V dc to RTCA DO160D
Environmental Spec	A2A2CABHXXXXXAABZBTLXXXXA	A2A2CABHXXXXXAABZBTLXXXXA
Software Spec	RTCA DO178B Category D	RTCA DO178B Category D
Consumption	0.25A Maximum	0.75A Maximum
Input	Single channel camera EIA 170 / CCIR	4 Camera Channels EIA 170 / CCIR
Serial Interface	1.0V p-p into 50 ohms balanced	1.0V p-p into 50 ohms balanced
Form Factor	2 off ARINC429, 2 off CANbus	2 off ARINC429, 2 off CANbus
Size	ARINC600 2MCU 320 x 58 x 195mm	ARINC600 2MCU 320 x 58 x 195mm
Weight	1.5kg maximum	1.5kg maximum
Output	ARINC 429	ARINC 429



aircraft video systems for security, safety and entertainment



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