

Flight Deck Entry Video Surveillance Systems

Boeing 737 and 777



Photo courtesy Boeing

Where ingenuity takes off™



UTC Aerospace Systems

Multifunction Display (MFD) Video System

UTC Aerospace Systems has developed a system that displays video on the Multifunction Displays (MFD) in Boeing 777 and Next Generation 737 and 737 MAX airplanes. The MFD Video System is a seamless retrofit integration into existing 777 and 737NG/MAX flight decks. This MFD Video System is currently installed on the fleets of several major operators.

737/777 FDEVSS System Details

FDEVSS via MFD

- (1) 8400K2 VIU (737NG)
- or (1) 8400K4 VIU (737MAX)
- or (1) 8400K1 VIU (777)
- (3) 8410B6-204-105 or 8410B6-206-105 cameras
- (1) 2003-109-2 or 2003-109-3 Control Panel

Equipment

- Three infrared cameras
- One Video Interface Unit (VIU)
- One Camera Select Panel

Three cameras are installed outside the cockpit door and in the galley to provide complete coverage of the area outside the flight deck door.

The VIU is installed above the ceiling in the galley for easy access and accepts up to three NTSC video streams. The flight crew can select the video display on the MFD, then select a specific camera view from the Camera Select Panel.

The hardware is purchased as Buyer Furnished Equipment (BFE) for production installation by Boeing.



Proven Performance

UTC Aerospace Systems has been selected by Boeing and major operators worldwide to provide our EFB Video and MFD Video Systems for their new Boeing 777 and 737NG/MAX airplanes. The EFB and MFD Video Systems have been designed to meet Boeing, FAA and EASA requirements. They also meet the Eurocae Minimum Operating Specification ED-123, and FAA NPRM for flight deck door monitoring.

In addition, the Flight Deck Entry Video Surveillance System has been certified by the FAA via Supplemental Type Certificate on Boeing 717/737/747/757/767/777.

Electronic Flight Bag (EFB) Video System

UTC Aerospace Systems has developed an Electronic Flight Bag (EFB) Video System to easily integrate with your Electronic Flight Bag. The EFB Video System adds value to the EFB by incorporating video security and surveillance capabilities. It is certified on Boeing 777 and 737NG/MAX airplanes.

737/777 FDEVSS System Details

FDEVSS via EFB Display

- (1) 8430J1-1 CIU
- (3) 8410B6-204-105 or 8410B6-206-105 cameras
- (1) 8432J1-2 Software Client

Class III EFB Video Equipment

- Three infrared cameras
- One Camera Interface Unit (CIU)
- UTC Aerospace Systems EFB Video Software

The CIU compresses and converts the video signals from analog to digital to allow digital video transmission over Ethernet to the EFB. In addition, the CIU features two NTSC video outputs for transmission to a remote viewing station. The CIU supports up to 16 cameras, digital recording capability upgrade and integration of air-to-ground communication. The EFB Video Software displays the video images in a user-friendly format that interfaces with the EFB software application manager.

The hardware is purchased as Buyer Furnished Equipment (BFE) or Seller Purchased Equipment (SPE) for production installation by Boeing.



Benefits & Features

- Certified for all 737 and 777 models
- Utilizes Boeing EFB displays combined with UTC Aerospace Systems' high-resolution video surveillance cameras with integrated near-infrared lighting
- Video surveillance feature meets requirements of ICAO Annex 6, EUROCAE ED-123 and FAA NPRM for flight deck door audio and video monitoring

EFB Video Application

Three cameras are placed above the cockpit door and in the galley for complete viewing coverage of the area outside the flight deck door. The EFB video application displays all three images simultaneously as thumbnails on the screen. The thumbnails may be selected for display in the large primary image by touching the screen. The EFB video application also features a "freeze" option, maintenance page and full menu page that includes its own independent brightness and contrast controls.

Flight Deck Entry Video Surveillance Systems

8410B6 Camera Specifications

Video Signal	NTSC
Resolution	400 TV lines
Minimum Illumination	0 lux
Pick-up Device	1/3 in. (0.84 cm) CCD
Iris Control	Auto
Field of View	Up to 105°
Power Consumption	2W
Weight	0.44 lbs. / 0.2 kg
Operating Temperature	14°F to 131°F / -10°C to +55°C
Qualification	All applicable portions of RTCA / DO-160

8430J1 Camera Interface Unit Specifications

Inputs / Outputs	Up to 16 NTSC video inputs 2 ARINC 429 receivers 4 bi-directional Ethernet connections 2 NTSC outputs 1 RS232 serial port 1 RS485 serial port 12 discrete inputs 4 discrete outputs
Power Consumption	46W
Weight	14.9 lbs. / 6.8 kg
Operating Temperature	5°F to 131°F / -15°C to +55°C
Qualification	All applicable portions of RTCA / DO-160

8400K1/8400K2/8400K4 Video Interface Unit Specifications

Inputs / Outputs	4 NTSC video inputs 3 independent NTSC video outputs
Power Consumption	20W
Weight	11 lbs. / 5 kg
Operating Temperature	5°F to 131°F / -15°C to +55°C
Qualification	All applicable portions of RTCA / DO-160

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