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## Display failures and smoke, Fokker F28 Mark 100, G-UKFR

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**Micro-summary:** This Fokker F-28 experienced a number of display failures, following the smell of burning smoke; the flight diverted.

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**Event Date:** 1999-05-01 at 1316 UTC

**Investigative Body:** Aircraft Accident Investigation Branch (AAIB), United Kingdom

**Investigative Body's Web Site:** <http://www.aaib.dft.gov/uk/>

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# Fokker F28 Mark 100, G-UKFR

**AAIB Bulletin No: 8/99 Ref: EW/G99/05/03      Category: 1.1**

**Aircraft Type and Registration:** Fokker F28 Mark 100, G-UKFR

**No & Type of Engines:** 2 Rolls RoyceTay 620-15 turbofan engines

**Year of Manufacture:** 1989

**Date & Time (UTC):** 1 May 1999 at 1316 hrs

**Location:** Humberside Airport

**Type of Flight:** Public Transport

**Persons on Board:** Crew - 5 - Passengers - 73

**Injuries:** Crew - None - Passengers - None

**Nature of Damage:** Overheat failure of the right primary flight display

**Commander's Licence:** Airline Transport Pilot's Licence

**Commander's Age:** 37 years

**Commander's Flying Experience:** 4,653 hours (of which 432 were on type)  
Last 90 days - 89 hours  
Last 28 days - 20 hours

**Information Source:** Aircraft Accident Report Form submitted by the pilot

## History of the flight

Whilst in the cruise during a flight from Amsterdam to Aberdeen, some 40 minutes after take off, the first officer (FO) asked the commander if he could smell burning. As the commander could not smell any burning at that time, he called the cabin supervisor to the flight deck with the intention of asking her to check the cabin. However, as she entered the flight deck a very strong smell of 'electrical burning' became apparent, and the commander then instructed her to close the flight deck door and to make all further communications using the interphone. At about this time, the crew noticed that the right primary flight display (PFD) had begun to fluctuate and to change to a non-standard format. As a precaution, the commander instructed the FO to switch off his PFD, navigation display (ND) and flight management computer (FMC). As a further precaution, the pilots donned their oxygen masks and turned off the re-circulation fans.

The commander, who had been the non-handling pilot on the flight, transmitted a PAN call requesting a diversion to Humberside with an immediate descent, before taking control of the aircraft from the FO. During the next 5 to 10 minutes a number of level 2 alerts occurred related to

FMC navigation, all map information was lost on the remaining ND and the flight director failed. The aircraft was set up for a raw data surveillance radar approach (SRA) as a precaution against total navigation failure and after a high speed short pattern SRA, during which the runway was acquired visually, the aircraft made an uneventful landing. As there had been no further signs of fire, the commander had decided before landing that an emergency evacuation was not necessary. As soon as the aircraft had come to a halt in a suitable position, all power was switched off and the passengers were disembarked through the normal exit. The Emergency Services were in position on the aircraft's arrival and monitored the situation.

Maintenance personnel from the operator who subsequently examined the aircraft replaced the right PFD, following which the system functioned correctly. There was no smell of burning apparent after the system had been powered up for 30 minutes, and the aircraft was therefore cleared for service.

The suspect PFD was returned to the associated manufacturer for examination and repair, during which a burnt out Random Access Memory (RAM) electronic chip was discovered. After modification of the PFD in accordance with the requirements of several applicable Service Bulletins, the unit was aligned and tested before being passed as serviceable. No reason was apparently determined for the failure of the RAM chip.