



A view from the ramp

By John Jackson

We all travel by air and when we do we listen, or half listen to, the Passenger Service Announcement (PSA) by the Captain that tells us to "listen carefully to the safety briefing" - be warned!

If you fly by a German Airline, or from a German Airport, switch off your mobile phone, or lap-top PC, and listen carefully, for in the near future you may face two years in jail or a US\$ 50,000.00 fine for unauthorised use of a Personal Electronic Device (PED) This law will only apply to German registered commercial aircraft. But it signals growing concern among aviation authorities that Electro-magnetic Interference (EMI) from PED's might disrupt aircraft navigational systems.

As if we, the flying public, have not got enough to worry about - we now have to worry more about what ifs. What if the teenage computer genius in the seat in front of you is hacking into the flight management system? Or, what if the person in the seat next to you is using a CD-ROM player? What if the man across the aisle is on his mobile phone?

Crews cannot be expected to check each and every passenger and whatever "dangerous" gizmos they are carrying and maybe using. Airline and aviation experts talk vaguely about incidents when PED's may have interfered with aircraft systems. In March the UK's Daily Telegraph's Transport Correspondent, Paul Marston, reported that after a series of scares, the UK's Civil Aviation Authority (CAA) had conducted, urgent research into the influence of passengers' laptop computers and personal stereos on aircraft controls.

The CAA reports that it has received information concerning 13 incidents in the past five years from pilots with UK Airlines who suspected malfunctions of their instruments from interference by passengers' electronic gadgets.

In one case a jumbo jet with more than 300 passengers on board suddenly made an unscheduled turn and began banking after the autopilot picked up corrupt data. An investigation showed the problem had been caused by a passenger filming the flight with a camcorder and after it was switched off the autopilot returned to normal operations.

Travellers on another 747 experienced rapid fluctuations in cabin pressure after valves intended to expel air suddenly activated. The source of the trouble was traced to a passenger using a video

walkman sitting two rows in front of a child playing with an electronic game.

One of the more serious UK incidents involved a Shorts 360 aircraft carrying 30 passengers that drifted 40 degrees off course in North West England after a passenger's laptop had disrupted the aircraft's navigational system.

The German authorities are the first to introduce heavy penalties for use of electronic apparatus. So is there something out there that we have not yet been told about?

Most airlines tell passengers to switch off all electronic devices during take-offs and landings, or when the seat belt sign is on. At other times only mobile phones, walkie talkies and children's electronically controlled toys are banned, but the rules differ from airline to airline. At the extreme, Iberia forbids all electronic equipment being used, whilst some domestic US airlines even provide jack plugs for their business class passengers to use their laptops.

IATA says that "Reports of PED interference are inconclusive and would not stand up in an official Court of Enquiry into an air accident. But prevention is better than cure, so three years ago they issued an advice notice to airline operators that such equipment should not be used "during the critical phases of the flight"

The Germans say that any safety risk needs a stronger punishment, if only to convince people not to use these devices when they are forbidden. But the problem is still one of detection. Here trials are being introduced of a scanning device that will be able to detect electronic emissions. The idea is that if somebody is using a device, or a mobile phone is not switched off in somebody's pocket or briefcase, a light comes on as part of the cockpit display. Another idea is to equip cabin attendants with hand scanners that they can use when they go round to check seat belts. But both these ideas have faults, not least of which is being able to identify what electronic emissions are coming from where, and also if they are affecting the aircraft.

Our old friend David Learmouth, Operations and Safety editor of *Flight International* magazine says "that what is at issue here are navigational systems and not controls. Flight management systems - those that fly the aircraft, are not at risk, and have

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