

Attachment 5

Operational Factors Group Chairman's Factual Report

DCA00MA030

Flight Management System (FMS)

**Flight Management, Navigation
Navigation Systems Description**

**Chapter 11
Section 2**

Introduction

Navigation systems include the flight management system (FMS); inertial reference systems (IRS); radio navigation systems (ADF, DME, ILS, VOR, and marker beacons); transponder; and weather radar.

Flight Management System

The flight management system (FMS) is comprised of the following components:

- inertial reference systems (IRS)
- flight management computer system (FMCS)
 - flight management computer (FMC)
 - control display unit (CDU)
- autopilot/flight director system (AFDS)

Each of these components is an independent system, and each can be used independently or in various combinations. The term FMS refers to the concept of joining these independent components together into one integrated system which provides continuous automatic navigation, guidance, and performance management.

The pilots enter the desired route and flight data into the CDU. The FMS then uses its navigation database, aircraft position and supporting system data to calculate commands for manual or automatic flight path control.

The integrated FMS provides centralized flight deck control of the aircraft's flight path and performance parameters. The flight management computer, or FMC, is the heart of the system, performing navigational and performance computations and providing control and guidance commands.

The FMC uses crew entered flight plan information, aircraft systems data, and data from the FMC navigation database and performance database to calculate aircraft present position, and pitch/roll, commands required to fly an optimum flight profile. The mode control panel is used to select the autopilot and flight director operating modes.

Detailed explanation of the IRS and FMCS has been moved to Chapter 7 of the FRM (IRS/FMCS/LNAV tab), and combined with the -700 information due to similarity of content.