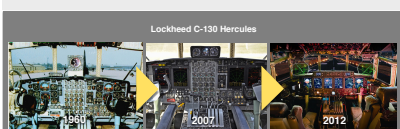


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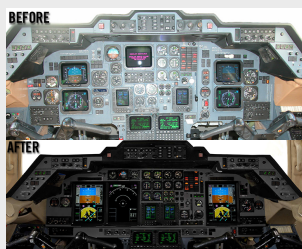
Special story | Modernisation of the AN-74 cockpit: moving from the analogue to digital equipment (concept) | Options for realisation and similar projects

Eternal worker



Lockheed C-130, a veteran aircraft in the U.S. Air Force, got a second chance for the bright future once the program of modernising the cockpit navigation complex has started in 2007. C-130 control system was modernised first with 4 new multi-functional displays. Later in 2012, digital navigation systems completely replaced the old equipment (up to 5-6 displays could be installed in the cockpit). The price of modernisation in 2014 is 7m USD. The total number of C-130 is more than 2,300 airplanes.

Mass renewal



Since 2010, Hawker 800A/B/XP airplanes have been modernised with Honeywell Primus Epic CDS/R systems. Aircraft received modern navigation equipment and a guaranteed technical support around the world. The price of modification starts from 600,000 USD.

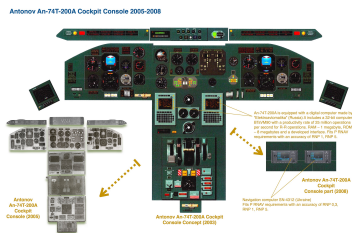


Digital choice

Analogue equipment will soon turn into museum artefacts that would show the highlights of the aviation of the past. The same has happened with dial phones and arithmometers already. This is inevitable for autonomous gyro-horizons and other analogue elements in the cockpit. In the short-term new pilot regulations will not account for hundreds of airplanes equipped with analogue equipment. Since 2003, Honeywell (US) has started working on a universal digital navigation complex that could be installed on both civil and military airplanes. The process of adaptation for this complex on a new aircraft relies entirely on the calibration of the mathematical model of the aircraft. Moreover, it could be modified to fulfil particular tasks and extend its features according with the requirements of the aircraft designer. The complex called Primus Epic® could be installed on new airplanes, as well as modifications of older ones, as it happened with the modernised version of Lockheed C-130 Hercules.

Forced searches

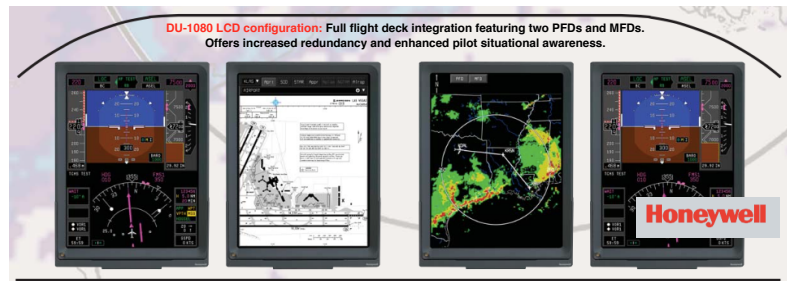
AN-74 navigation system was once modernised due to tightening international requirements regarding aircraft control systems. These changes occurred under cooperative production agreement between Ukraine and Russia that was enacted in 2003. Due to the small number of aircraft produced, this navigation system involved local and even experimental solutions, which were then integrated into



the main control system. The conceptual solution from Honeywell Primus Epic allows to use the electronic systems that could be universally applied. These qualities were successfully tested on Lockheed, Embraer, Hawker, SyberJet and other airplanes.

Glass convertation.

AN-74 enjoys a high demand on the international market because of its unique flight characteristics. The market price of the aircraft in 2014 is around 32m USD. Thus, installing Primus Epic® on the current fleet of AN-72 and AN-74 could be commercially viable. It is possible to modernise AN-74 and set up Honeywell Primus Epic for just 2m USD (without accounting



for a single payment for design and engineering works and certification) and might take up to two months. Such kind of modification does not require any changes to AN-74 control systems and Engine Instrumentation Display System, which is a better option for airplanes that has been in use for a long time (the total number of AN-72 and AN-74 currently in use is 195 airplanes).

Antonov An-74 Cockpit Console Concept



Honeywell Aerospace (US) Electronic Systems
Primus Epic® CDS/R provides the following features:

- Large, clear, 8x10 in (203x254 mm) AMLCD full-color liquid crystal displays;
- Scalable architecture to accommodate 2, 3, or 4 Display configurations;
- Growth capabilities for advanced Display features including Charts & Maps and Data Link Weather;
- Weight, wire and power savings through system integration;
- Increased reliability with a reduction of line replaceable units and LCD technology;
- Ability to grow with emerging CNS/ATM operation environment requirements & related products:

- (1) Flight Management Systems
- (2) Global Positioning Systems
- (3) SATCOM Communication Management
- (4) GPS Landing Systems
- (5) Traffic Alert and Collision Avoidance Systems
- (6) Weather Displays
- (7) Enhanced Ground Proximity Warning Systems

Honeywell Aerospace (US) Electronic Systems **FMZ Series** Flight Management System (FMS) consists of the following components:

- Control Display Unit (CDU)
- Navigation Computer (NZ)
- Data Loader (DL)