INSTRUMENT DISPLAY SYSTEM

The Instrument Display System shows the digital simulation of select on-board controls on screens located in the cockpit of the device and the instructor’s desk.

The Design
The Instruments Display System (IDS) was developed as a library of aircraft-specific controls using the VirtualPanel (ViP) library. The system contains a main program, which allows for exchange of information between the IDS and other systems. It receives data buffers with instrument indications calculated in the dynamics and installations modules.

COTS/Multi-System/Multi-Hardware
COTS/multi-system/multi-hardware Instruments Display System uses the ViP library for repetition software. ViP library uses the OpenGL library for drawing and the libPNG library for loading textures. The result is exceptional flexibility of use. It is possible to apply with any graphical card and to run it under control of any of the leading operating systems. The indispensable connection between the graphic library with the system of windows is provided by GL Utility Toolkit (GLUT). AiSocket library is used for exchanging data with other systems. It is widely used in ETC-PZL products and has similar advantages as the ViP library, including flexibility and interoperability.
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Configuration
Corresponding to the requirements of the ViP library, the number of instruments panels as well as the size, texture, position and arrangement of instruments is saved in external configuration files.

Technical Bits
Moving elements are drawn as rectangles with superimposed, specially-prepared textures. Textures are based on pictures taken in the cockpit of the actual aircraft so the display is highly accurate.

It is possible to modify configuration files offline, changing both the size and position of any of the instruments on the panel as well as the panel itself. However, the IDS can be configured automatically using a keyboard.

Portfolio
Our portfolio includes aircraft dating back to World War II as well as advanced digital glass cockpits: F-15 Eagle, F-16 Falcon, F-18 Hornet, T-6 Texan II, PC-9, BAE Hawk, UH-60 BlackHawk, MiG-21 Fishbed and the MiG-29 Fulcrum.

Our instrument panels are included in:

• Full Motion Simulators, Unit Level Training Devices and Ejection Seat Trainers manufactured by ETC-PZL Aerospace Industries and delivered to the Polish Air Force;


• Egress Procedure Trainers manufactured for L-3 Communications Link Simulation & Training and delivered to Polish Air Force.