

Psychophysical Research in Development  
of a Fibre-Optic Helmet Mounted Display

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The Fibre Optic Helmet Mounted Display (FOHMD) was conceived as an innovative solution to existing flight simulator display deficiencies. An initial (breadboard) version of the system was fabricated to permit experimentation which would help define design requirements for a more refined engineering prototype.

A series of visual/human factors studies is being conducted at the USAF Human Resources Laboratory (AFHRL) Operations Training Division, Williams AFB, Arizona to determine the optimum fit of human observer operating characteristics and fibre optic helmet mounted display technology.

Pilot performance within a variety of high resolution insert/binocular overlap combinations is being assessed in two classes of environment. The first two of four studies planned incorporate an air-to-air combat environment, whereas the second two studies will use a low level environment with air to ground weapons delivery.

This paper presents the research results to date from the air to air portion of the program.

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