

GEC AVIONICS



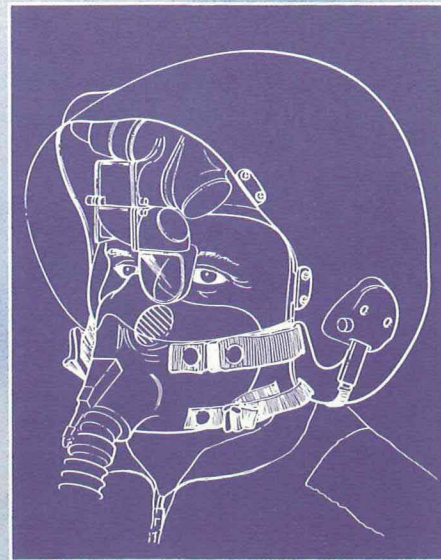
Helmet Mounted
Display Systems

www.rochesteravionicarchives.co.uk

Our History

GEC Avionics' work on Helmet Mounted Displays began in 1969 with the development of an LED addressable matrix Helmet Mounted Display.

This system was successfully trialed in Europe and the USA. The trials were carried out in both fixed wing aircraft and helicopters. The major US trial was conducted on a USN F-4 and T-38 at the US Navy Pacific Missile Test Center, Pt Mugu. Other trials gave us the experience to continue further developments....



The Helmet Mounted Display

This is a full function display system providing the range of information usually associated with Head Up Displays. Several variants are under development for fighter airplanes. The objective is to provide maximum field of view, with minimum real world obscuration, in conjunction with a helmet tracker system. This will provide the fighter pilot with a truly unique system with the following features:-

- Total head weight less than 4lbs
- Field of view 20° circular
- Obscuration < 7%
- 25mm Eye relief
- High brightness cursive symbols.
- TV Raster with cursive symbols in flyback.
- Contrast ratio 1:1.2
- Wind blast survivable to 600Kts

'Falcon Eye'

This helmet display system has been developed for General Dynamics for use on the F-16 and provides:-

- Biocular helmet mounted displays plus helmet tracking
- Raster display with full cursive symbols in flyback
- Raster from head steered FLIR
- Cursive symbols giving flight and weapon data
- 4.2lbs total head weight including visor and oxygen mask
- Field of view 30° circular

This system will be extensively evaluated by General Dynamics for proof of concept. For pilots of the future we are developing....



The Integrated Helmet System

This is a private venture program developed in parallel with our other projects, having the benefit of 17 years trials and user feedback, it provides:-

- A fully integrated helmet system
- NVG's and/or video and flight symbology
- Lightweight (less than some existing helmets)
- Wide field of view (in excess of 30°)
- Ability to meet high specification wind blast tests
- Retainable during ejection
- Large eye relief
- High sound attenuation
- Good helmet/canopy clearance
- Built in power supply with back up mode
- Upgraded to accommodate stroke flight and weapon data
- Modular design

CURRENT NIGHT VISION GOGGLES

"Cats Eyes" - Designed for the Fighter Pilot

Designed for today's fighter pilot the intensified image is viewed through an optical system on which the intensified scene is overlaid. This gives a better look-round facility which is suitable for fast jet use. "Cats Eyes" offers a 30° field of view in conjunction with a proven rugged design. They allow direct viewing of FLIR video on a raster HUD thus guaranteeing the preservation of FLIR resolution. They have been extensively flown both in Europe and USA. They are currently under full scale development for production for the USN/USMC:

- RAe Hunter
- A-7 Marine Corps (Project Cheap Night)
- AV-8B
- F-16
- A-6E (Project Real Night)
- F-18



"Night Owl" - The General Purpose Goggle

This is the normal straight through goggle which offers a 40° field of view. It is both rugged and lightweight in construction and easy to operate with its own built in power supply. It has many varied applications ranging from helicopters to security forces. Some of its salient features being:-

- Eye relief 25mm
- Variable focus 0.3 metres to infinity
- Integral power supply with full back up
- 135° flip up
- Unique one piece design

GEC AVIONICS

GEC Avionics Limited
Airborne Display Division

Airport Works Rochester Kent England
Telephone: (0634) 44400
Facsimile: (0634) 827096
Telex: 96304

