The Ultra Electronics, PALS replacement Warrior Driver Information Panel (DIP) was developed to demonstrate how Ultra’s existing capability in power management, crew station displays and vetronics could be rapidly integrated to provide a significant capability enhancement within the form and fit constraints of an existing vehicle.

Packaging and functionality requirements were developed with UK MoD, key amongst these were to offer a Warrior ‘drop-in’ replacement for the existing obsolete unit.

By rationalising the current range of displays in the driver’s compartment the DIP has the potential to improve the driver’s operating environment while providing a sustainable path for full integration of Urgent Operational Requirement (UOR) fit equipment.

Technical specification
- Daylight readable rugged LCD display
- Mechanical fit for existing Warrior DIP
- 16 solid state power switch circuits
- All vehicle warnings produced on screen
- Critical warnings repeated on dedicated indicators
- Embedded processor servicing high integrity functions
- 2 PAL video inputs to facilitate driver’s vision system
- Accepts existing or modified Gear Range Selector
- Battery Monitoring System direct input
- Engine start and warnings available immediately after power on
- Full functionality within 15 seconds of power on
Driver Information Panel
8537 series

The DIP uses a modular architecture consisting of an embedded processor dedicated to servicing high integrity automotive sensor information and power switch control. A general processor is used to provide a higher level of capability, to drive additional features including HUMS data capture, battery monitoring and integration of other systems.

Human factors
The Ultra DIP deliberately keeps user functions grouped in a similar manner to the existing unit to minimise retraining. Soft button menus provide access to greatly increased layers of functionality whilst interlocks have been provided to automatically return to the instruments screen above a vehicle speed threshold. In addition, a number of display formats have been trialed to optimise user readability and functionality.

Trials
Ultra’s DIP has undertaken static and moving vehicle trials. An Ultra DIP unit is integrated by each team competing for the Warrior (WCSP) upgrade.

DIP information screens
- Driver’s instruments
- HUMS and diagnostic
- Intelligent power switch control
- Power monitoring and management
- Night mode