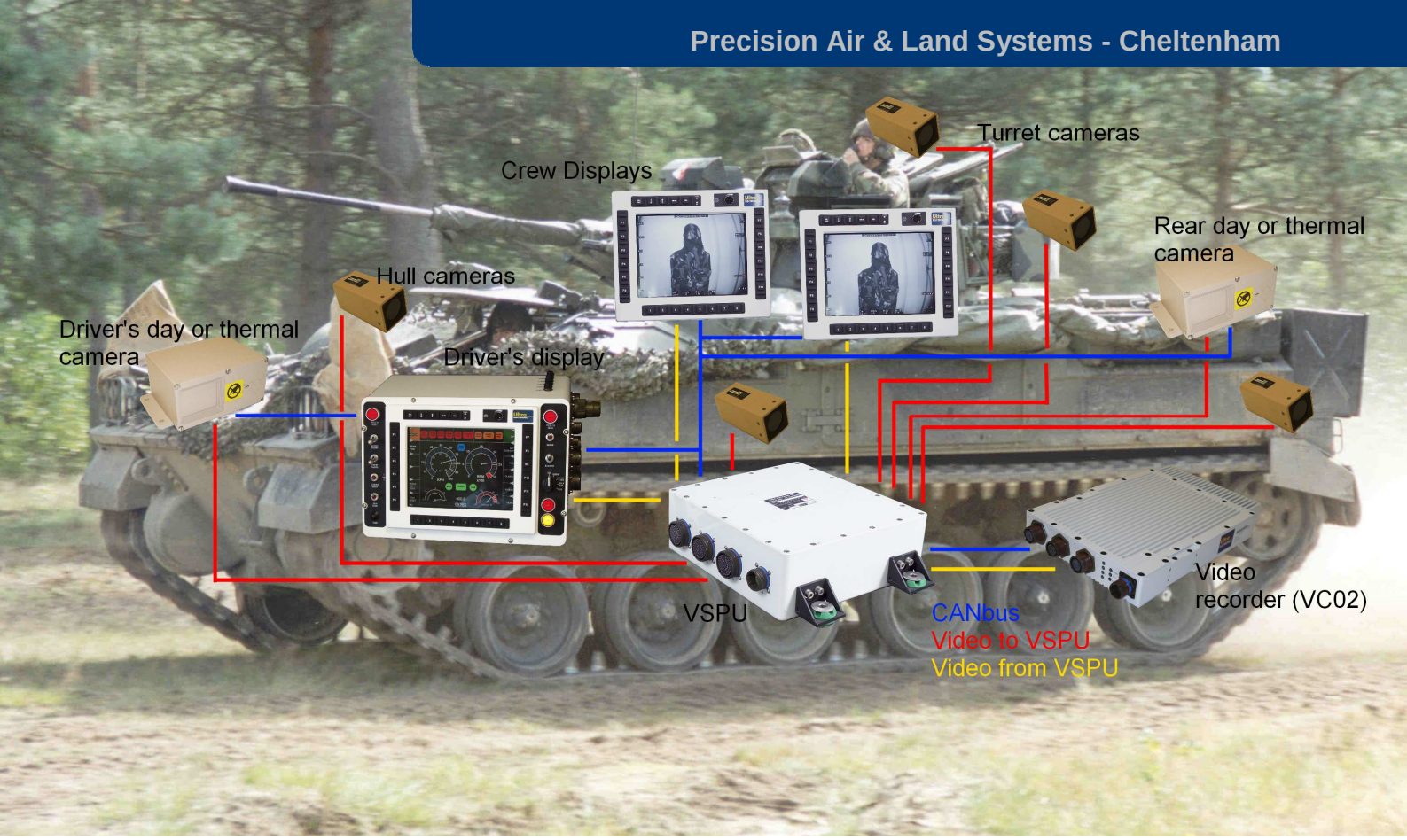

Local Situational Awareness Systems

Integrated LSAS solutions

Features

- Thermal, low light, daylight and combined sensor options
- Quantity of sensors and displays tailored to the requirement
- Guaranteed delay characteristics from sensor to display
- PAL video
- Image processing
- Video recorder options
- CAN control
- Available with integrated HMI
- Supports OWS

Local Situational Awareness Systems (LSAS) developed by Ultra Electronics, Precision Air & Land Systems, greatly improve the operators' visibility of the environment immediately surrounding a vehicle.

This capability significantly enhances crew utilisation of a vehicle's main asset, from deployable bridges and clearance tools through to infantry preparing to disembark. Low light and thermal imaging can also increase the operating envelope of a vehicle

Recognising that there is a wide range of vehicles in a typical fleet Ultra offers tailored LSAS solutions based on a foundation of proven components for a cost effective solution.

Video Switching and Power Unit (VSPU)

The VSPU forms a cost effective central hub for multi-camera LSAS solutions by providing power to and receiving video from an array of camera sensors. Each of up to twelve sensor inputs can be routed to any of three video outputs to drive crew displays.

Typical LSAS elements

- Driver's camera
- Reversing camera
- Up to ten additional camera sensors
- All camera sensors can be specified as thermal, lowlight or daylight, with a suitable Field of View (FoV) for the role
- One or more rugged LCD crew displays
- Video Switching and Power Unit (VSPU)
- Video recorder or processing
- Harnessing and installation brackets
- Test equipment and in-service support

Ultra ELECTRONICS

Local Situational Awareness Systems

Sensors

Sensor selection is key to creating an optimum LSAS for a given requirement. Working closely within the Ultra Group and with external partners, Ultra is able to offer a complete suite of sensors covering thermal imaging, lowlight and daylight cameras. Field of view and focal length can be optimised to the camera role with 55° recommended for driving and between 78° and 104° for all round observation.

	Field of View	Focal Range	Image	Video	Mass	Application
DV55	55°	8 - ∞	Thermal (optional daylight)	PAL/NTSC	~3.8Kg	Drivers thermal capability
SA90	90°	3 - ∞	Thermal (optional daylight)	PAL/NTSC	~3.8Kg	Reversing thermal capability
SA180	180° stitched	3 - ∞	Thermal and daylight	Video over IP		Roof/turret mounted all round thermal capability
Daylight HUBE	92° (option 54° or 104°)	1 - ∞	Colour (CCD)	PAL	<0.65Kg	All round vision with colour images
Lowlight HUBE	92° (option 54° or 104°)	1 - ∞	Mono IR region (CCD)	PAL	<0.65Kg	Reversing and all round lowlight capability

Ultra LSAS can support full 360° combined thermal imaging and daylight capability but can equally be tailored to a lower cost sensor suite.

Displays

Ultra's integrated LSAS supports up to three crew displays as standard. Ultra supplies rugged LCD screens that feature high brightness, 400cd/m^2 or greater, for effective daylight readability. Screens typically incorporate a number of user input buttons which can be configured to meet a specific requirement. Button function can be identified on screen by picture overlays, with CAN or RS422 messages converting user input into action elsewhere in the system.

Image processing and recording

Image processing can enhance LSAS functionality, Ultra LSAS fully supports the mirroring of rear cameras for reversing and displaying multiple sensors in a 'mosaic' screen; more advanced algorithms can also be accommodated. Image processing is carried out within the VSPU or an Ultra VC series rugged computer, which also features the ability to concurrently record multiple channels of video and other data streams.

System Integration

Having supported the customer to identify an optimum system, Ultra can deliver equipment in kit format, with all brackets, harnessing, displays, sensors, switching components and software integrated ready for vehicle fit.

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