TRAILBLAZER

ARMOURED VISION

TAKING RESPONSIBILITY IN A CHANGING WORLD

RHEINMETALL

TRAILBLAZER improves driver and crew effectiveness by extending the field of view beyond the daylight spectrum, even in adverse weather, obscured or low-light conditions. Featuring a range of very low-latency camera units, it aids the driver in terrain negotiation, obstacle avoidance and route selection while maintaining complete situational awareness. Independent wide-angle channel outputs give crew and commander a powerful surveillance and threat detection capability with world-leading contrast enhancement processing. GVA compliant, native digital and analogue variants make TRAILBLAZER easy to integrate.

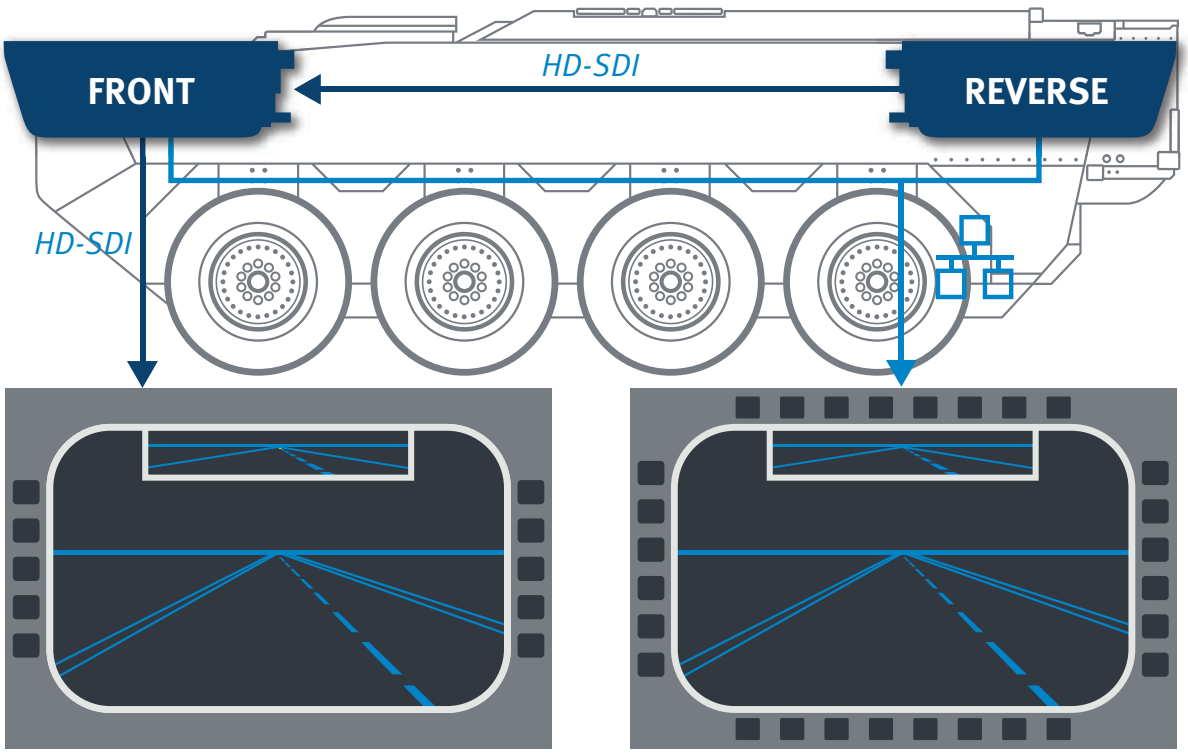
TRAILBLAZER is provided with expert project management; systems configuration and integration capability; and a range of off-the-shelf or bespoke displays and other ancillary equipment. The software-defined architecture allows customers to receive the latest feature enhancements and upgrades, supporting iterative capability development models.

KEY FEATURES

- Enhances operations in degraded visual environments
- Dual-band: high performance sensors and optics
- REUK Video fusion technology maximises DRI
- Conventional and/or networked video connectivity
- Driver and local situational awareness channels
- Extra-wide angle options
- Rugged dual wiper cleaning system
- Comprehensive platform integration – GVA and DEF STAN 00-082 compliant (GVA & VIVOE)

APPLICATIONS

TRAILBLAZER is designed for hatches down driving in tracked and wheeled armoured vehicles. Other specialist vehicles such as engineering or special operations platforms can also benefit. The system can operate with single or multiple camera configurations, providing forward, reverse and complete situation awareness.



**simplified illustration*

- Functionally safe HD-SDI video chain can support up to 3 cameras
- Number of networked cameras only limited by vehicle network capability

NETWORKED VIDEO

TRAILBLAZER camera modules can simultaneously operate in VIVOE and SDI modes. DEF STAN 00-082 VIVOE Ethernet interfaces make the system easy to integrate in a Generic Vehicle Architecture (GVA) system, and native HD-SDI interfaces provide a closed-circuit output for high integrity, low latency vetronics fit-out. The network output also provides other users with independent Situation Awareness (SA) fields of view, minimising the needs for separate sensors.

VIDEO PROCESSING

TRAILBLAZER'S Video Fusion algorithm by REUK, produces an optimum, composite image from the daylight and IR sensors. With significant performance advantages over traditional blending methods, the advanced multi-resolution solution boasts impressive features and can aid in spotting potential threats hidden from view. Contrast and Edge Enhancement are also included to offer users world-leading video processing technology.

VEHICLE INTEGRATION

Dedicated mounting assemblies, cables and reservoirs are available to support vehicle specific integration, alongside systems integration support and configuration services. Protective covers provide additional protection for mechanical parts and from solar radiation.

Protective covers offer mounting points for add-on anti-IR covers, optic covers or gratings for added protection against debris.

Contact REUK Sales Team for ordering information and to speak to one of our experienced integration engineers for standard and customized solutions.

HD68W MODEL SPECS	
Daylight sensor	CMOS low light colour, 1920 x 1080
Wavelength	350 – 1100 nm
Thermal sensor	Uncooled micro bolometer, 640 x 480
Wavelength	8 – 14 µm
Daylight FoV	68° horizontal
Device control interface	CAN bus (J1939), RS 422, GVA (DEF STAN 23-009)
Video: Driver output	HD-SDI (720p50)
Video: Distribution output	DEF STAN 00-082; HD-SDI (720p50)
Latency	‹40 ms
Image enhancement	Distortion correction, Adaptive contrast enhancement, Edge enhancement
Cleaning functions	Dual optic mechanical wiper
Weight	‹3.4 kg
Power consumption	‹26 W
Dimensions (W x H x D) without connectors	210 x 80 x 170 mm

Available without wiper system and in single sensor configuration for reduced SWAP-C. Contact REUK Sales Team for more information.

HD90 MODEL RANGE		
Model Specs	**HD90W**	**HD90W-IR**
Daylight sensor	CMOS low light colour, 1920 x 1080	N/A
Wavelength	350 – 1100 nm	
Thermal sensor	Uncooled micro bolometer, 640 x 480	
Wavelength	8 – 14 µm	
Daylight FoV	90° horizontal	N/A
Thermal FoV	90° horizontal	
Device control interface	CAN bus (J1939), RS422, GVA (DEF STAN 23-009)	
Video: Driver output	HD-SDI (720p50)	
Video: Distribution output	DEF-STAN 00-082	
Latency	‹40 ms	
Image enhancement	Distortion correction, Adaptive contrast enhancement	
Cleaning functions	Dual optic mechanical wiper	Mechanical wiper
Weight	‹3.8 kg	
Power consumption	‹26 W	
Dimensions (W x H x D) without connectors	234 x 90 x 189 mm	

HD180W MODEL SPECS	
Daylight sensor (x2)	CMOS low light colour, 1920 x 1080@3.45 µm pitch
Wavelength	350 – 1100 nm
Daylight FoV	180° horizontal
Device control interface	CAN bus (J1939), RS 422, GVA (DEF STAN 23-009)
Video: Distribution output	DEF STAN 00-082
Latency	‹40 ms
Image enhancement	Distortion correction, Adaptive contrast enhancement
Cleaning functions	Mechanical wiper x2
Weight	6.5 kg
Power consumption	‹27 W
Dimensions (W x H x D) without connectors	270 x 130 x 160 mm

HD240W MODEL SPECS	
Daylight Sensor (x3)	CMOS low light colour, 1920 x 1080@3.45 µm pitch
Wavelength	350 – 1100 nm
Thermal sensor (x1)	Uncooled micro bolometer, 640 x 480 480@17 µm pitch
Wavelength	8 – 14 µm
Daylight FoV	68° horizontal
Device control interface	CAN bus (J1939), RS 422, GVA (DEF STAN 23-009)
Video: Driver output	HD-SDI (720p50)
Video: Distribution output	DEF STAN 00-082
Latency	‹40 ms
Image enhancement	Distortion correction, Adaptive contrast enhancement
Cleaning functions	Mechanical wiper x3
Weight	8.5 kg
Power consumption	‹37 W
Dimensions (W x H x D) without connectors	298 x 118 x 192 mm

SOFTWARE FEATURE UPDATES NOW AVAILABLE FOR TRAILBLAZER

- Dynamic, adaptive driving guidelines
- On-screen Speed indication
- On-screen Gear indication
- Compass heading
- Position (from platform GNSS/INS location feed)

**Feature delivery subject to contract*

DISPLAYS

To support stand-alone and hybrid installations, REUK offers a range of optimised **TRAILBLAZER** displays; the Display and Control Unit (DCU) and Drivers Display Unit (DDU).

These displays have been specifically designed for situations where the user needs to access digital video feeds, but where the space envelope is severely constrained, such as the driver compartment of modern armoured vehicles. They are available in a range of resolutions with a number of fixed function buttons and configurable buttons to deliver a flexible user interface, tailored to the specific requirements of each installation.

The **TRAILBLAZER** displays are fully hosted by the camera module and do not require any additional data or power connection to the vehicle to support stand-alone installation.

MODEL RANGE			
Features	**DCU9**	**DCU5**	**HDCU8**
Viewing angle degrees	85/85/85	85/85/85	85/85/85
Latency	‹20 ms	‹20 ms	‹20 ms
Weight	‹2.5 kg	‹2.0 kg	‹2.0 kg
Dimensions (W x H x D) without connectors	250 x 150 x 35 mm	200 x 100 x 35 mm	310 x 126 x 28 mm

Rheinmetall Electronics UK Ltd.
UK Office
Unit B The Apex
St. Cross Business Park
Newport, Isle of Wight
PO30 5XW
sales_reuk@rheinmetall.com
Phone +44 1983 216600

US Office
American Rheinmetall
15 Morin Street
Biddeford, ME 04005
USA
reuk@rheinmetall-us.com