



Features

- Up to 16 single cameras (16 video input)
- Up to 4 monitors (4 video output)
- Split screen function on 4 monitors: Single-Quad
- PAL / NTSC video input
- CAN-BUS control
- Simultaneously independent selection of inputs

Description

The Citadel Connex is designed to be the central key element in a Drivers vision enhancement system or a complete local situational awareness system (LSAS) on a vehicle.

The purpose of Citadel Connex is to distribute video signals and power to all cameras and monitors in the vehicle. Furthermore, it can apply graphics e.g. boundaries of the vehicle, do split screen, quad video display, mirror the image from rear viewing cameras and more. The split and graphic features can be controlled and utilized individually on all monitors connected to the Connex matrix. Video input from other sensors like RWS, UAV or mast mounted sensor systems etc. is also possible.

Interchangeable hardware

In a complete CST LSAS system the matrix has the ability to allow interchangeability for cameras with-in the physical placement of each vehicle or directly from stock with-in the same camera address (ID). This gives the end-user much more flexibility to manage spares and do emergency replacements.

Auxiliary input/output

If auxiliary inputs are needed, CST provides an optional expansion module that can control or receive signals from other hardware.

This is provided if there is a need to control IR lights, washer tank or receive input from external control switches.

Additional specifications:

- Graphics overlays
- Power supply to cameras
- Designed to meet MIL-STD -461E, -810F, -1275D
- Automatic camera configuration
- Auxiliary inputs/outputs (optional AIB)

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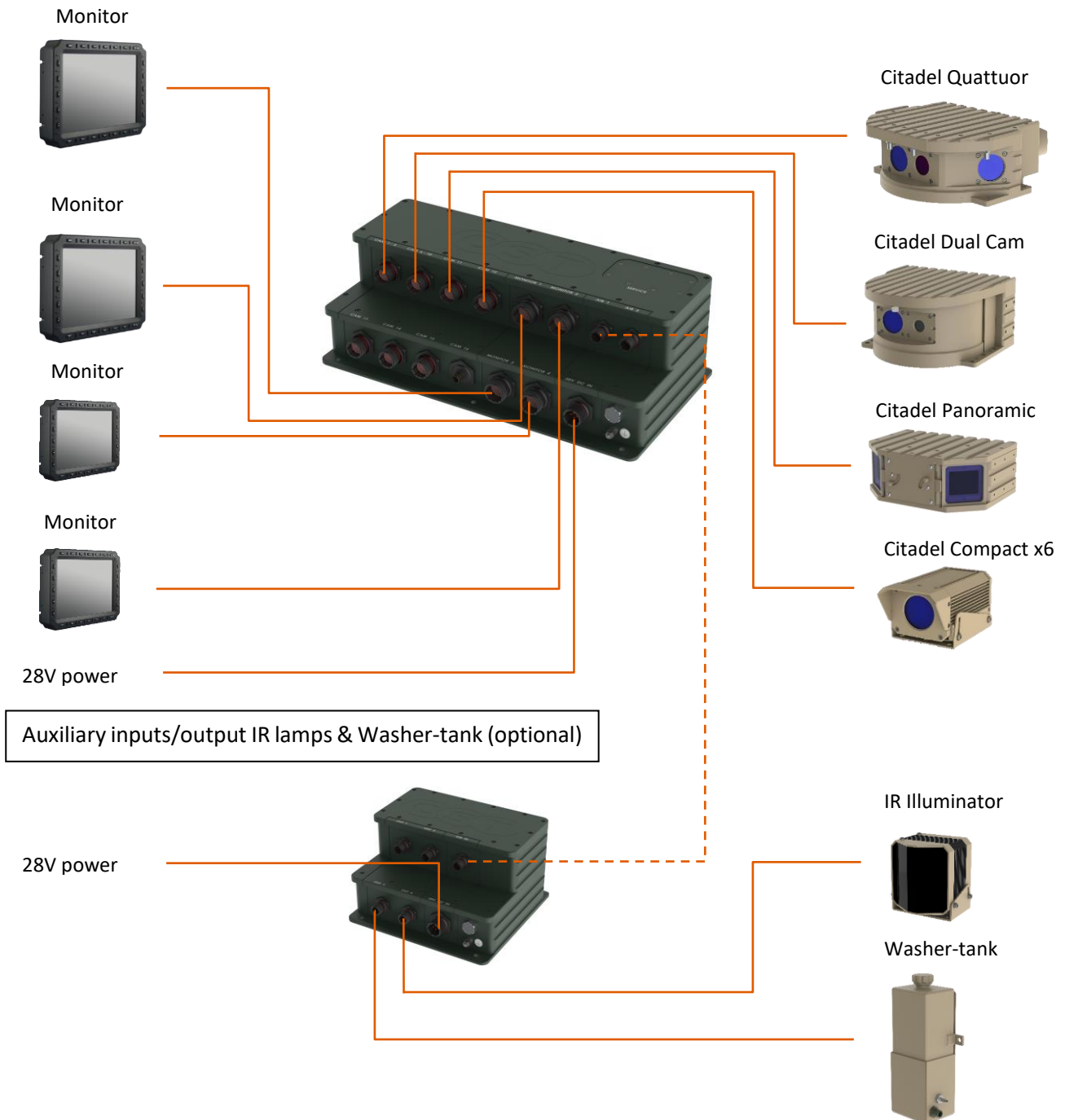
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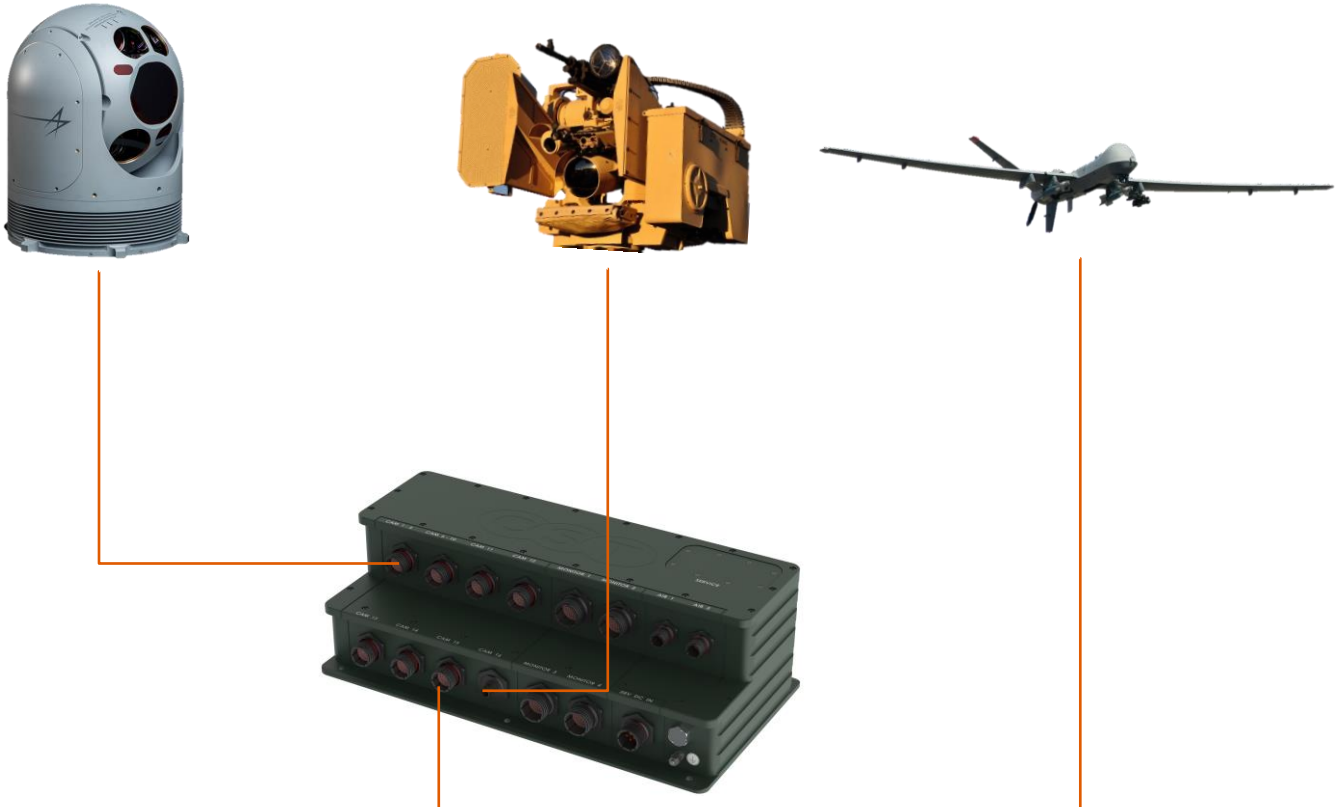
Basic principle of Citadel Connex

Distribution of video and power



Principle of a Vehicle Video System

Possibility to add more video input from external sensors.



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Citadel Connex Video matrix	
Electrical specifications	
Video input	16 Input Composite video 1V @ 75 Ohm
Video output	4 Output Composite video 1V @ 75 Ohm
Video format	Composite video PAL or NTSC
Latency	20ms
Video Bandwidth	6Mhz
Optionally Gigabit Ethernet output	Option DEF-STAN 0082 or GigE-Vision
Interface / Control for Camera	16 Canals, Can-Bus 250kbit
Interface / Control for Monitor	4 Canals Can-Bus 250kbit
Interface / Control for AIB box	2 Canals Can-Bus 250kbit, 24V regulated 0,1A output
Power out to camera	16x Output 18-33V, 1,8A max per channel
Power out to monitor	4x Output 18-33V, 1,8A max per channel
Main Power input	18-33Vdc,
Power consumption video matrix	25W Max.
Power for all Cameras & Monitors	12A max total
Mechanical specifications	
Overall dimensions (W x H x L)	410 x 136 x 214mm
Net weight	< 7Kg
Housing material	Aluminium
Colour	Army green or Black
Protective housing integrity	IP 54
Citadel Compact connector x6	D38999/24ZC-35SA
Citadel Quattuor connector x2	D38999/24ZC -35SN
Monitor output connector x4	D38999/24ZD -35SN
AIB box out connector x2	D38999/24ZA-35SN
Power input connector x1	D38999/24ZC-4PN
Chassis Ground Terminal	M5mm
Functions	
Graphical overlay	Separate selectable overlay on al video outputs
Split screen function	On all 4 monitors: Mode single-Quad
Camera function outputs	CAN bus commands from Video matrix controller to camera
Function control inputs	CAN bus commands from Monitor bottoms

Citadel Connex

Analog Video Matrix Datasheet



AIB Accessory Interface box (OPTIONAL)	
Electrical specifications	
AIB Main Power input	18-33V, 13A max total
AIB Control interface input	CAN bus 2.0, 250kbit & 24V power from video matrix
CAN bus address	0x201 or optionally 0x202
Accessory Fixed power output	4 channels 18-33V max 5A
Accessory Switched power output	4 channels 18-33V, 2A per channel
AIB Mechanical	
Overall dimensions (W x H x L)	225 x 136 x 214mm
Net weight	< 5 Kg
Housing material	Aluminium
Colour	Army green or black
Protective housing integrity	IP54
AIB control input connector	D38999/24ZA35PN
AIB box power outputs connectors	D38999/24ZA98SN
Power input connector	D38999/24ZC4PN
Chassis Ground Terminal	M5mm

Environmental specifications CONNEX and AIB	
Power input 28V	MIL-STD-1275
EMC/EMI	MIL-STD-461
Environmental specification	MIL-STD-810
Operating temperature	-40°C to +70°C
Storage temperature	-40°C to +70°C
Vibration	6,25 Grms 3 axis 6h
Shock	40g at 11ms

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About Us

CST - Copenhagen Sensor Technology A/S is a privately held Danish company specialising in the design and manufacture of high-performance electro-optical solutions for demanding battlefield and surveillance applications.

Founded in 2001, CST has rapidly grown to a mature organisation, capable of serving a global customer base. In modern facilities on the outskirts of Copenhagen, Denmark, CST houses R&D, production, QA and sales and marketing functions. With a collective experience in CCD camera, optics, electronics and software development, the highly skilled staff at CST is committed to creating rugged, durable and innovative electro-optical solutions.

CST is certified to ISO 9001:2015, which applies to the whole process flow of design, development, manufacturing and testing. Furthermore, ISO 10007:2003 configuration management standards are used as a guideline for design and development activities. CST products are not restricted by ITAR.

Customer and OEM solutions

CST has a long tradition of working closely with its customers, identifying unmet needs and creating solutions with sustainable value for the users.

With a strong R&D base at the headquarters in Denmark, CST is able to provide mechanical, optical, software and hardware customisations while meeting the toughest requirements for military, homeland security and high-end surveillance applications. Whether the need calls for a ruggedized high-precision zoom lens or a highly sensitive CCD camera, or a complete system comprising lens, camera and advanced video processing, CST can offer a fast-track design process. Contact us in order to discuss your specific requirements. Together we can create a solution that provides the best price and performance ratio.

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