AV710-VM-D

12CH VideoManagement
FPGA-GPU BasedSystem

LAND
SEA
AIR

- 12 Video Input Includes 4 HD-SDI and 8 Composite (PAL)
- Support up to 4 vides output channels.
- Support Output channel a Bird's-Eye-View
- 360 Stitching View from 4 Digital Videos Channel
- Picture-In-Picture (PIP)up to 2 videos on top screen
- IP65 Sealed with External Cooling Blade
- MIL-STD-810G Thermal, Shock, Vibration, Humidity
- Power :18V~36V EMI Filter DC Input
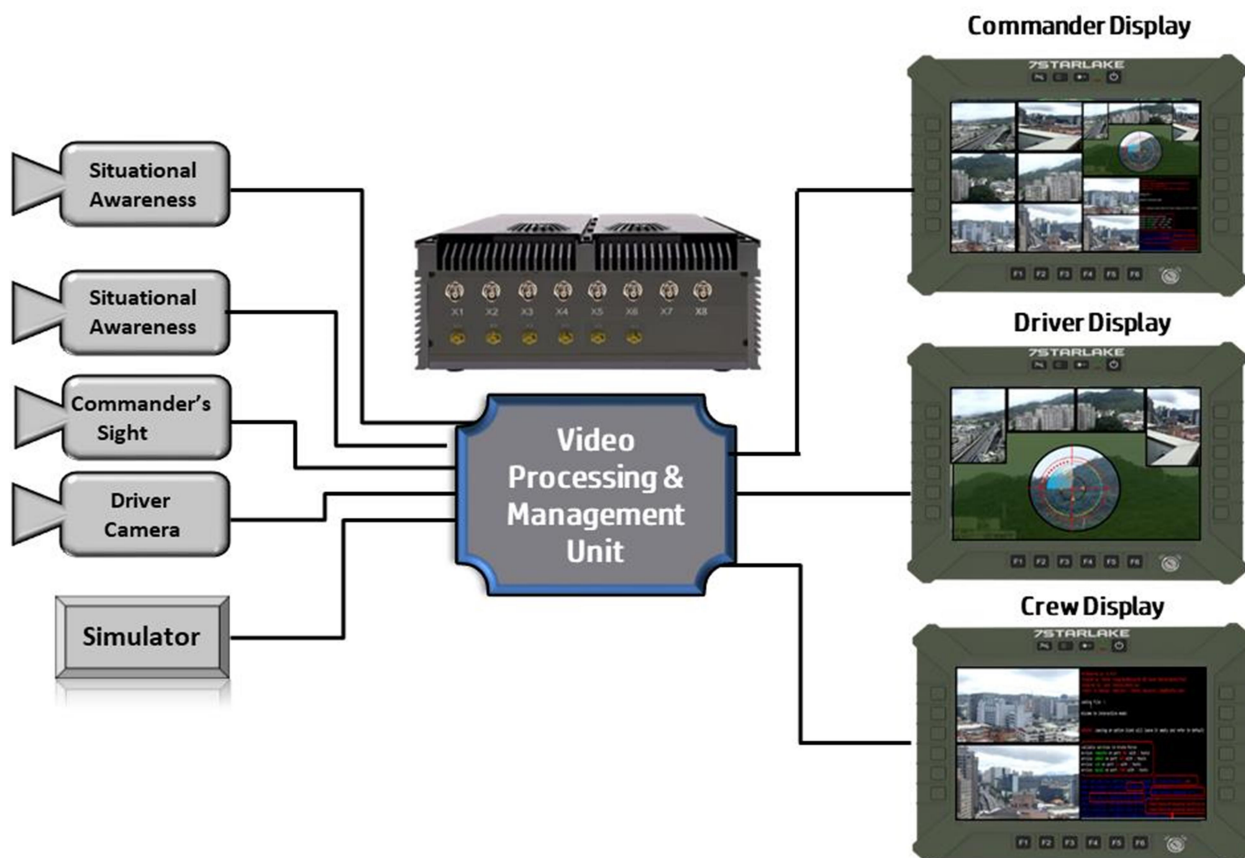
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1. INTRODUCTION

Artificial intelligence is quickly becoming one of the most crucial elements of business success. Today, deploying powerful computing platforms to accelerate and scale AI-based products and services while adapting them to harsh environments has become vital in many successful military applications.7Starlake is innovating to address the emerging high-throughput inference market driven by IoTedgedevices which are generating huge amounts of data. The combination of FPGA and NVIDIA Jetson AGX is a powerful solution for demanding and latency-sensitive workloads.
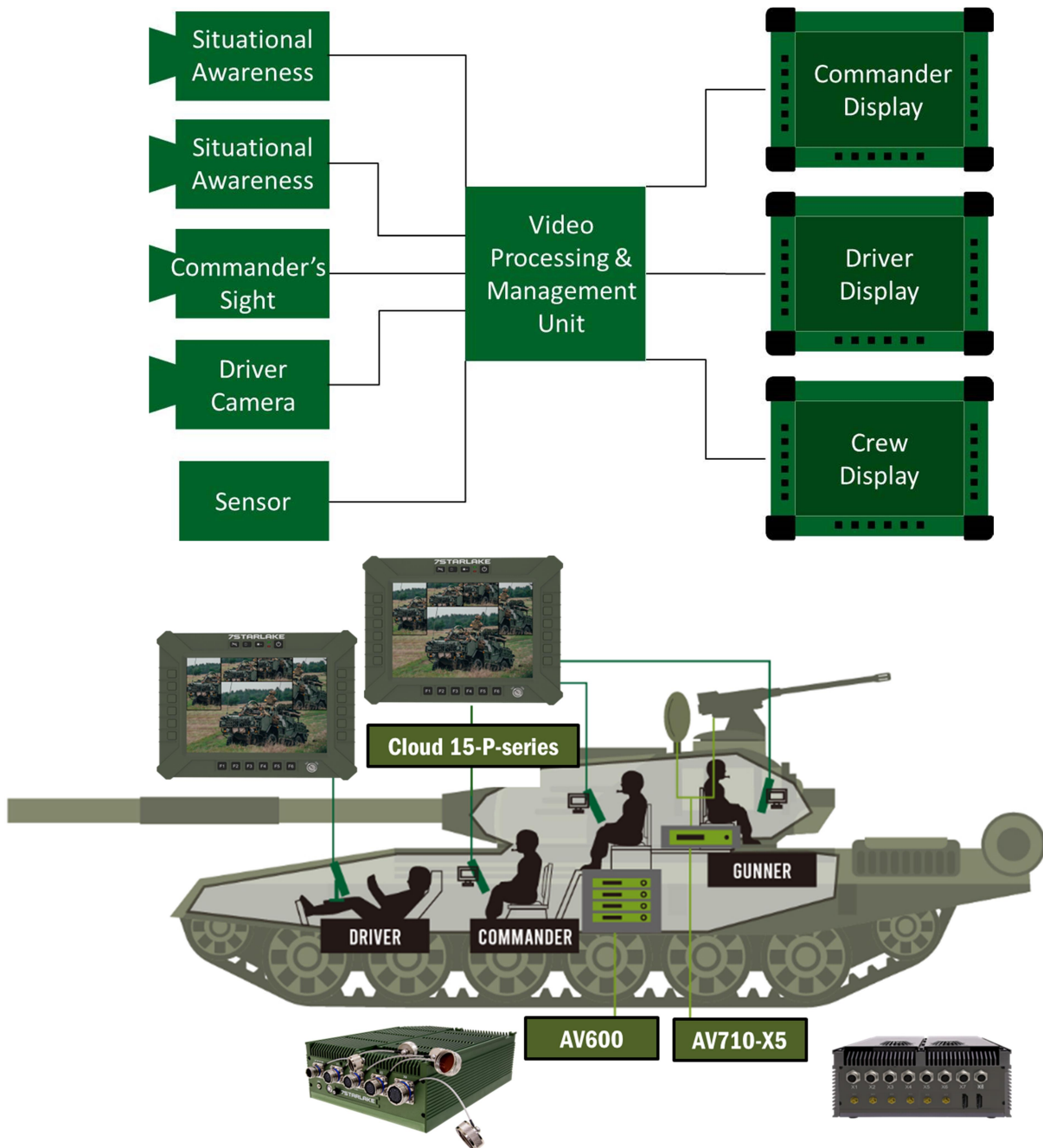
2. MAIN FEATURE

1. Connection to 12 Video Input channels, including 4 HD-SDI video channels and 8 composite (PAL) Channels.
2. Generate from 2 up to 4video output channels.
3. Keep Low Latencybetween input video channels and generated output video channels.
4. Generated Output channel a Bird's-Eye-View created from 4 SDI input channels.
5. Each output channel can be selected into one main channel
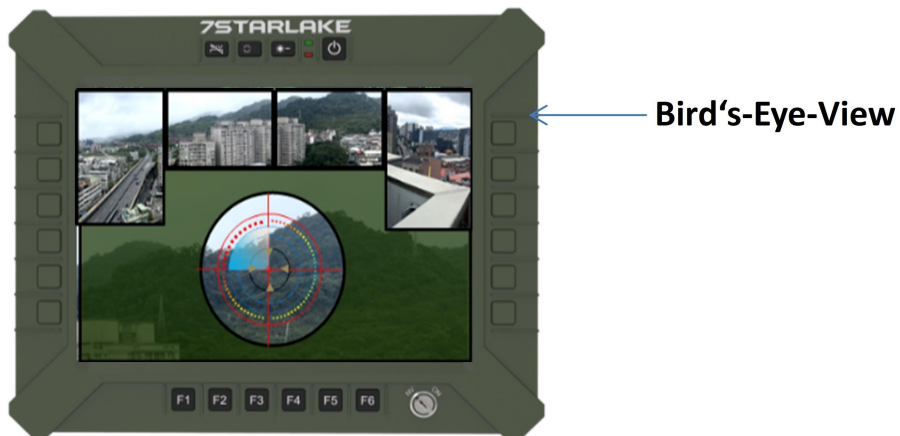6. Up to 2 videos inserted on top screen -Picture-In-Picture (PIP).

2-1 MAIN FEATURE

Commander Display

Bird's-Eye-View
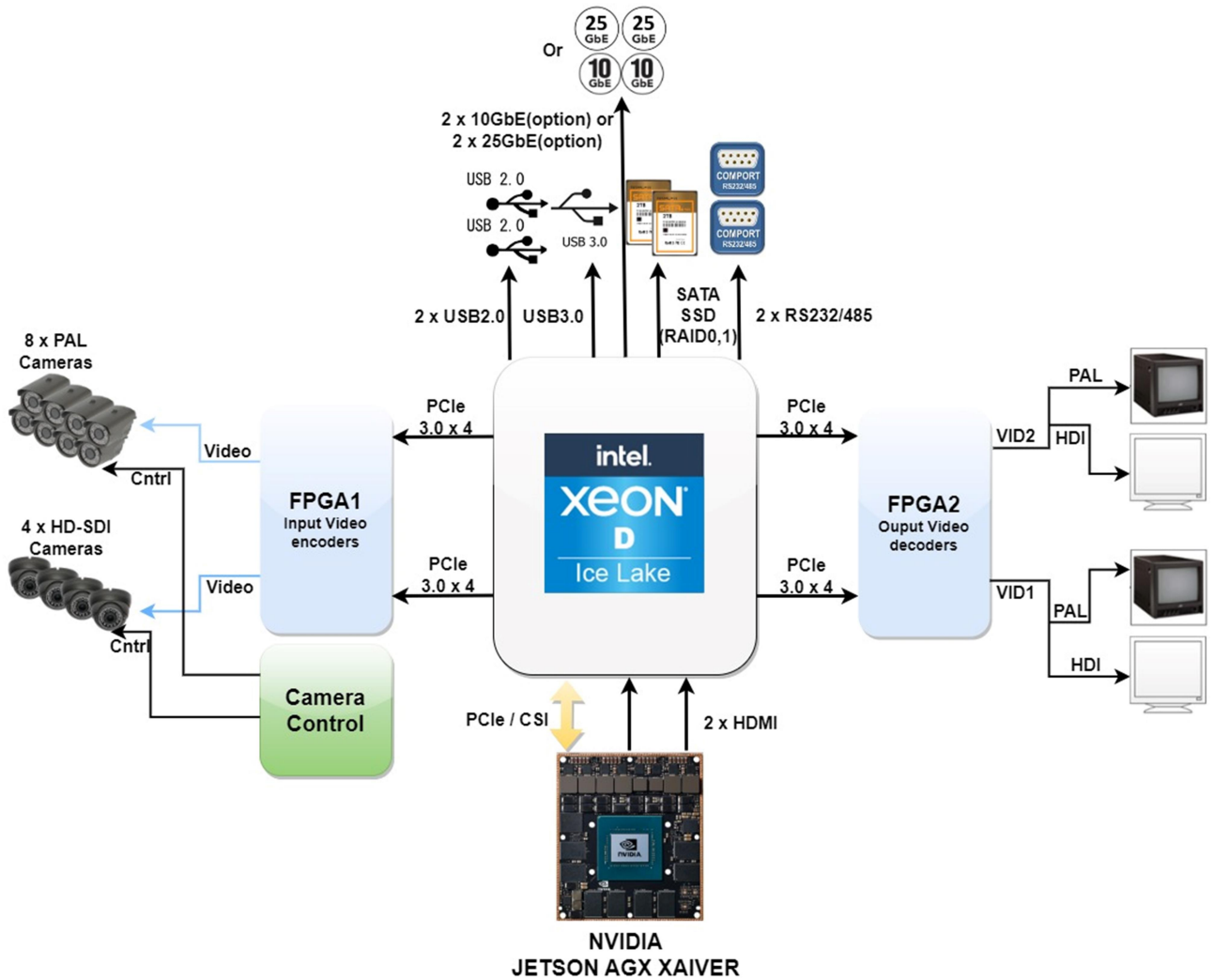
Picture in Picture

Driver Display

Bird's-Eye-View

Crew Display

Picture in Picture

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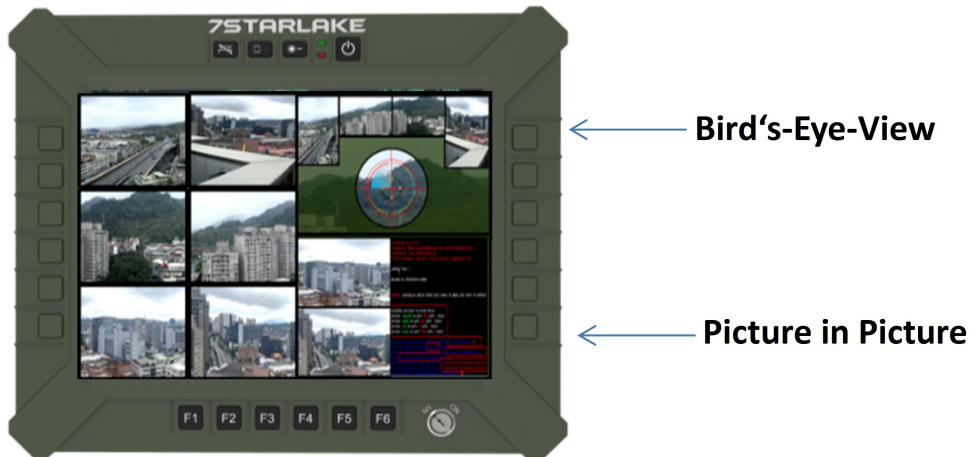
3 System Diagram

3.SYSTEM SPEC

System

CPU	Intel® Xeon® D-2733NT, 8 core, 16 thread,15MB Cache, 2.1GHz Max Turbo up to 3.2GHz., up to 80W TDP Intel® Xeon® D-2712T, 4 core, 8 thread,15MB Cache, 1.9GHz Max Turbo up to 3.0GHz., up to 65W TDP
Memory type	Up to 128GB ECC RDIMM, DDR4-2666MHz Up to 128GB ECC/non-ECC , DDR4-2666MHz
Chipset	Intel® SoC Integrated
Ethernet Controller	Dual LAN with 25G LAN via SoC Dual LAN with 10G LAN via Intel® X550-AT2
LAN	2 x 10GBase-T LAN(Option) or 2 x 25GBase-T LAN(Option)
Storage	2 x 2TB 2.5" SSD hot-swap, with AES function 1 x 2TB NVMe M.2 2280 by PCIe
Power Type	18V~36V EMI DC Input
Dimension	250 x350 x 100mm (W x D x H)

Front I/O

COM	2 x RS232/485
LAN	2 x 10GbE (Option) or 2 x 25GbE(Option)
USB3.0	1
USB2.0	2
Power	1 x DC-IN 18~36V
LED	1 x SSD LED
PW Button	Power Switch with LED indicator
SSD	2 x SSD swap tray

Rear I/O

PAL Input	8
SDI Input	4
SDI Output	2

Environmental

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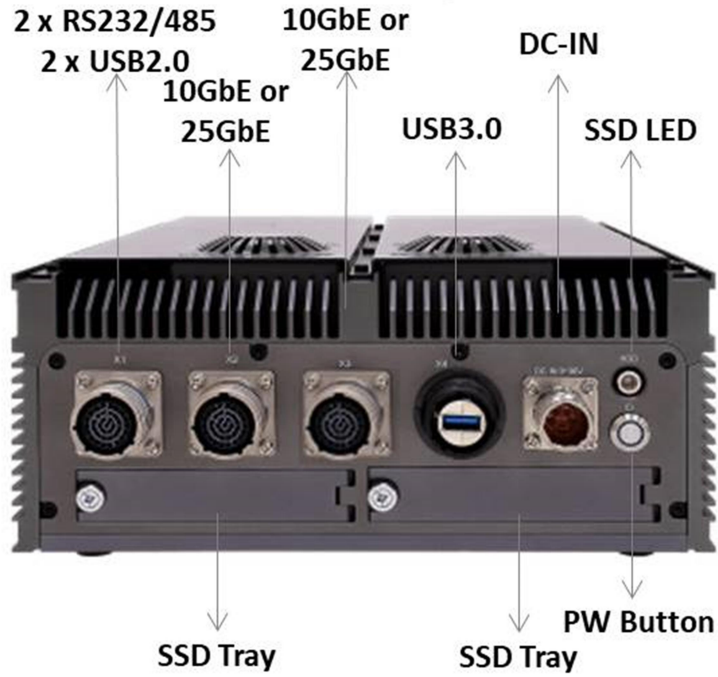|	
MIL-STD-810 Test	Method 500.5, Procedures I and II (Altitude, Operation): 12,192M, (40,000 ft) for the initial cabin altitude (18.8Kpa or 2.73 Psia) Method 500.5, Procedures III and IV (Altitude, Non-Operation): 15,240, (50,000 ft) for the initial cabin altitude (14.9Kpa or 2.16 Psia) Method 501.5, Procedure I (Storage/High Temperature) Method 501.5, Procedure II (Operation/High Temperature) Method 502.5, Procedure I (Storage/Low Temperature) Method 502.5, Procedure II (Operation/Low Temperature) Method 503.5, Procedure I (Temperature shock) Method 507.5, Procedure II (Temperature & Humidity) Method 509.7 Salt Spray (50±5)g/L Method 514.6, Vibration Category 24/Non-Operating (Category 20 & 24,Vibration) Method 514.6, Vibration Category 20/Operating (Category 20 & 24,Vibration) Method 516.6, Shock-Procedure V Non-Operating (Mechanical Shock) Method 516.6, Shock-Procedure I Operating (Mechanical Shock)
Reliability	Conduction Cooling. Designed & Manufactured using ISO 9001 Certified Quality Program.
Operating Temp.	0 to +50℃
Storage Temp.	-40 to +85℃
Relative Humidity	5% to 95%, non-condensing.
Operating System	
Operating System	Windows 10 64Bit, Linux by option
RoHS	RoHS compliant

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4.System I/O

Front I/O

2 x RS232/485
2 x USB2.0

10GbE or 25GbE

10GbE or 25GbE

USB3.0

DC-IN

SSD LED

SSD Tray

SSD Tray

PW Button

Rear I/O

8 x PAL Input

X1 X2 X3 X4 X5 X6 X7 X8

4 x SDI Input

2 x SDI Output

6. Ordering Information

Model	AV710-VM-D4G	AV710-VM-D8F
CPU	Intel Xeon D-2712T (4C)	Intel Xeon D-2733NT (8C)
Memory	64 GB RDIMM ECC DDR4-2666 MHz	128 GB RDIMM ECC DDR4-2666 MHz
GPU	Xavier AGX 32GB (512 CUDA)	Xavier AGX 64GB (512 CUDA)
Video Input	8 PAL + 4 HD-SDI	8 PAL + 4 HD-SDI
Video Output	2 x SDI	2 x SDI
Storage	1x M.2 NVMe 2 x SATA III SATASSD	1x M.2 NVMe 4 x SATA III SATASSD
I/O	2 x RS232/485 2 x USB 2.0 **2 x 10GbE (Option)** 1 x USB 3.0 1x DC	2 x RS232/485 2 x USB 2.0 **2 x 25GbE(Option)** 1 x USB 3.0 1x DC
Power	18V~36V EMI DC-DC	
Dimension	250 x350 x 100mm (W x D x H)	

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