

# ZX2-VCES CAPTURE & ENCODE SERVER

## VIDEO CAPTURE, ENCODING, COMPRESSION, STREAMING & ARCHIVING SERVER SYSTEM



### Rugged. Reliable. Performance.

The Z Microsystems' ZX2-VCES (Video Capture & Encoding Solution) Server is a high performance video capture and encoding platform engineered specifically for demanding video applications in military, aerospace, and other high priority deployments. The ZX2-VCES integrates Intel®'s powerful Xeon® processors, the latest high performance e-ATX motherboards, NVidia® and ATI® graphics cards, and the ruggedized GE® ICS-8580 card for advanced capture, compression, streaming and archiving capabilities. With storage for up to 6 rugged TranzPak 2 modules, the ZX2-VCES offers advanced protection and "hot-swappable" convenient data storage for all of your deployed video content.

### Advanced Video Capture, Compression and Streaming

The Z Microsystems ZX2-VCES Server hosts one or two ICS-8580 video capture and encoding cards from GE® Intelligent Platforms. This lightweight and low power consumption card provides real-time multi-channel encoding and decoding for video streaming and transmission, making it an ideal solution for military and aerospace market video demands. Each card is capable of processing two channels of high-definition video (1600x1200p); one channel of high-definition and two channels of standard definition (720x480p) video; or four standard definition video channels. The ICS-8580 features configurable and adaptable video compression formats. Video data compression ratios range up to 150:1 with approximately 60ms latency from input to output for full high-definition video. For more information visit our website or check out [Military Embedded Systems](#), March 2013 Vol. 9 Edition (Field Intelligence: Video Processing on the Fly., Pg. 10).

### MISSION-READY™ Computers for Mission-Critical Applications

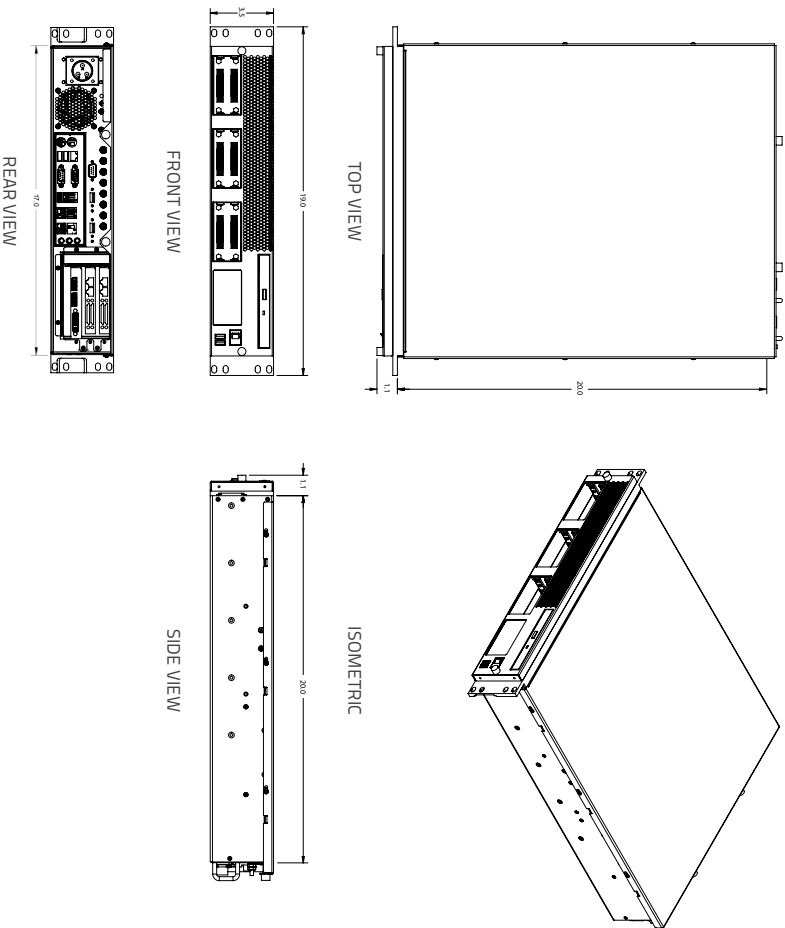
Z Microsystems has over 27 years of experience in ruggedizing COTS components to operate reliably at peak performance in harsh environments. ZX2-VCES Servers meet stringent MIL-STD requirements for shock/vibration, and EMI by implementing: 3-axis PCI expansion card support brackets, a reinforced aluminum chassis, RTV and locking connectors, and input filters and cable shielding protectors. Designed for reliability and performance, the ZX2-VCES is equipped with Z Microsystems' proprietary Environmental Control Board (ECB) that actively monitors and drives adaptive airflow to 'hotspots' within the server. Visit our website for more information.

### HIGHLIGHTS

- Rugged 2U rack unit (20" depth) server
- Latest motherboards up to e-ATX form factor
- Powerful Intel® Xeon® processors
- High performance NVIDIA® & ATI® graphics cards
- Up to 512GB DDR3 1600MHz registered ECC memory
- GE® ICS-8580 video capture and encoding cards
- Lightweight aluminum chassis
- AC/DC power supply options; Mil-5015 connector
- Up to 6 TranzPak 2 storage modules (up to 1TB ea)
- RAID configurable data storage
- Front accessible system status display & USB slots
- Intelligent system monitoring and adaptive cooling
- MIL-STD-810G Shock & Temperature
- MIL-STD-461F EMI/EMC, MIL-STD-167 & DO-160 Vibe
- Also available in 3U for added storage & expansion

# ZX2-VCES RUGGED SERVER

## Mechanical Drawings



## GE® ICS-8580 Highlights

- Real-time multi-channel encoding and decoding for transmission of video over IP data link
- 2 channels of high-definition (1600x1200p) encoded video @ 30fps **OR**
- 1 channel of high-definition & 2 channels of standard-definition (720x480p) video @ 30 fps **OR**
- 4 channels of standard-definition encoded video @ 30fps
- ITU-T H.264 AVC Codec (MPEG-4 Part 10) main profile with configurable codec parameters
- MPEG2 TS multiplexing with audio and meta-data encapsulation
- Data rates from 512kbps to 20Mbps < 60ms Latency
- Supported I/O: HD/SD SDI, NTSC/PAL, HDTV (1080p/720p), CVBS, S-Video, Component
- PCIe Gen1 x4 Data link for Raw/Compressed Video Transport, Metadata and H/W configuration

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Z Microsystems, Inc. is an ISO 9001:2008 certified company and compliant with AS 9100 requirements. Information and technical data provided are typical of standard configurations. Measured results may vary between units. This information is subject to change without notice.  
For more information, or the latest version of this product sheet, please visit our website @ [www.zmicro.com](http://www.zmicro.com)

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## ZX2-VCES Technical Specifications

### SERVER OVERVIEW (customizable upon request - standard configuration shown)

Motherboard	Tyan S7055AGM3NR-2T (Intel C602 chipset) (latest X8 and X9 motherboards up to eATX form factor)
Processor	2 x Intel® Xeon® processors E5-2648L (20M Cache, 1.8GHz, 8.0 GT/s Intel® QPI, 70W, 8 cores) (latest Intel® Xeon® and AMD® multi-core processors available)
Memory	24GB (6 x 4GB) DDR3 1600 Registered ECC Memory (Up to 512GB available)
Storage	4 x TransPak 2 storage modules (HDD up to 1TB, SSD up to 800GB) (Up to 6 drives available)
Graphics	PNY NVidia® K4000 3GB (1 x DV-I, 2 x Display Port PCI-e x16) (latest NVidia® and ATI® graphics cards)
Video Processing	GE® Intelligent Platforms ICS-8580 video capture and encoding card
Cooling	Environmental Control Board (ECB) + thermal sensor network
Dimensions	3.5"H x 17.0"W x 20.0"D (inside rack)
Weight	25 lbs.
<b>POWER</b>	
DC Power Supply	750W Max Supply, Fixed, MIL-DTL-5015 connector
DC Input Range	18-36 VDC @ 46 to 26A (Inrush current 100 Amps @ 24VDC @ 25° C)
AC Power Supplies	Available Upon Request

### ENVIRONMENTAL

Operating Temperature	MIL-STD-810G, Method 501.5 and 502.5 (constant temperature duration) 0° C to 50° C (Extended operating temperatures available) *Server can be powered on @ 0° C, when powered on below 5° C, the server enters a warm-up cycle preparing internal components. When primary components reach 5° C, the server performs a standard boot sequence.
Non-Op Temperature	-40° C to 70° C
Operating Altitude*	Up to 10,000 ft.
Non-Op Altitude*	Up to 40,000 ft.
Vibration	DO-160 Section 8, Curve B (with SSDs)
Shock	MIL-STD-810G 30 g's, Saw-tooth, 11rms
Fungus*	Non-Nutrients/Contaminants
EMI/EMC*	MIL-STD-461F RE101 Army Limits, RE102 (Aircraft > 25m), RS101, RS103 (up to 60v/m), CE102, CS101, CS114, CS115, CS116

### OTHER

Expected Operating Life	10 years
Maintainability	<20 minutes @ Line-Replaceable Unit (LRU) Level
Safety	CE Compliant (AC Servers)   IEC 60950 (Used as a guideline)
Quality	IPC/ISO 9001:2008 and applicable sections of the MIL-HDBK-454
ECCN	4A994

\*Test results pending or qualified by similarity. Contact your Z Microsystems Sales Representative for more information.

For more information visit: <http://defense-ge-ip.com/products/ics-8580/p3525>

OR check out **Military Embedded Systems, Field Intelligence**, March 2013 Vol. 2, No. 9 Edition

