LCR EMBEDDED SYSTEMS

VE02

SAVE COMPLIANT DUAL SYSTEM SOLUTION
GROUND VEHICULAR SYSTEMS

MOSA OpenVPX & SOSA Payloads

Dual VE02 Chassis in the SAVE Envelope

The VE02 is part of LCR's family of SAVE-compliant chassis solutions. This compact 4-slot chassis allows dual VPX / SOSA-aligned systems within the SAVE envelope. By enabling dual chassis operation, the VE02 supports both complementary functional or redundant operations enhancing mission flexibility and ensuring continuity for critical C5ISR electronics in Army ground vehicles. In accordance with the Standardized A-Kit/ Vehicle Envelope (SAVE) framework, the VE02 meets all requirements for size, weight, power, connectors, and electrical interfaces in multi-system installations. With these capabilities, LCR's SAVE chassis solutions extend the practical value and adaptability of the SAVE standard across modern defense platforms.

Standard Features

- Facilitates complementary operational or redundancy requirements
- 4 payload and 1 VITA 62 PSU slot per system
- Intended for MOSA OpenVPX and SOSA Payloads
- Intended for integrated C5ISR applications
- Custom backplanes support VPX and SOSA aligned modules
- 40Gb and 100Gb capability plus VITA 67 apertures for optical and RF I/O
- Custom backplanes support VPX SOSA aligned modules
- Inserts into the SAVE (Standardized A-Kit Envelope)
- Complies with SAVE SWaP, mounting and I/O requirements
- Designed to meet MIL-STD-810, MILSTD-461, and MIL-1275
- Cooling for up to 650W of TDP
- Supports VITA 48.2 conduction cooled modules

lcrembeddedsystems.com

2621 Van Buren Ave, Audubon, PA 19403
(800) 747-5972
sales@lcrembedded.com

VE02

Dual Chassis Advantage

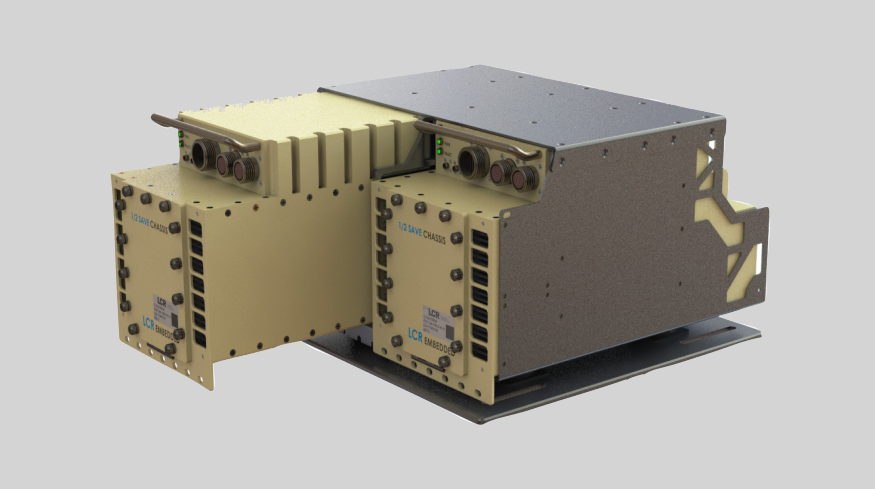
The VE02 chassis broadens the utility of the SAVE standard by enabling dual 4-slot plus power supply VPX SOSA-aligned systems to fit within the SAVE envelope for Army ground vehicles. The design facilitates complementary operational or redundancy requirements within the SAVE envelope. Individual cooling systems provide added thermal protection for high power dissipating systems in high speed applications.

I/O – 38999

Ethernet
USB
GPS
10GbE Fiber
Crypto Key
RF
SBC I/O – COM, video, 1GBase-T, SATA, GPIO

I/O – DB

PNT
Crypto Clock



The VE02 supports the full SAVE compliant I/O complement including connector types and sizes. The chassis also supports custom I/O configurations for any ground vehicular application.

LED Indicators

Power
Run
Fault
Temperature
Zero

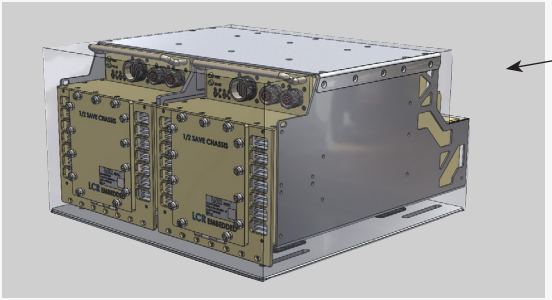
Toggles

Power
Reset
Zero

28VDC (rear)

Meeting SAVE Dimensional Requirements

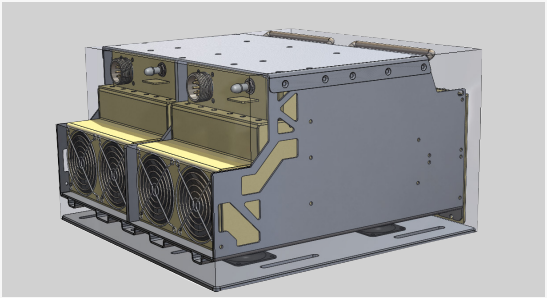
Dual mounted VE02 chassis meet overall SAVE dimensional requirements 9.3” (H), 15.9 (W) x 16.1” (D) with 2” x 4” notch / keep out space, top rear. Chassis dimensions allow space for cables and shock tray within the envelope.



Front View

New notch/keep out space in top rear, 2” x 4”

Individual chassis measure 7.63” (W) x 7.88” (H) x 16” (D) incl. handles and connectors



Rear View

Integrated Shock and Vibe Protection

Trays ensure payload protection from shock and vibration and the combined assembly conforms to the SAVE envelope dimensional requirements as stated in the standard. The tray utilizes the SINCGAR hole pattern with optional configurations that accommodate both wire rope isolators and cup mount isolators allowing more control over shock and vibration attenuation over a wide range of applications.

LCR EMBEDDED SYSTEMS

lcrembeddedsystems.com

2621 Van Buren Ave, Audubon, PA 19403
(800) 747-5972
sales@lcrembedded.com

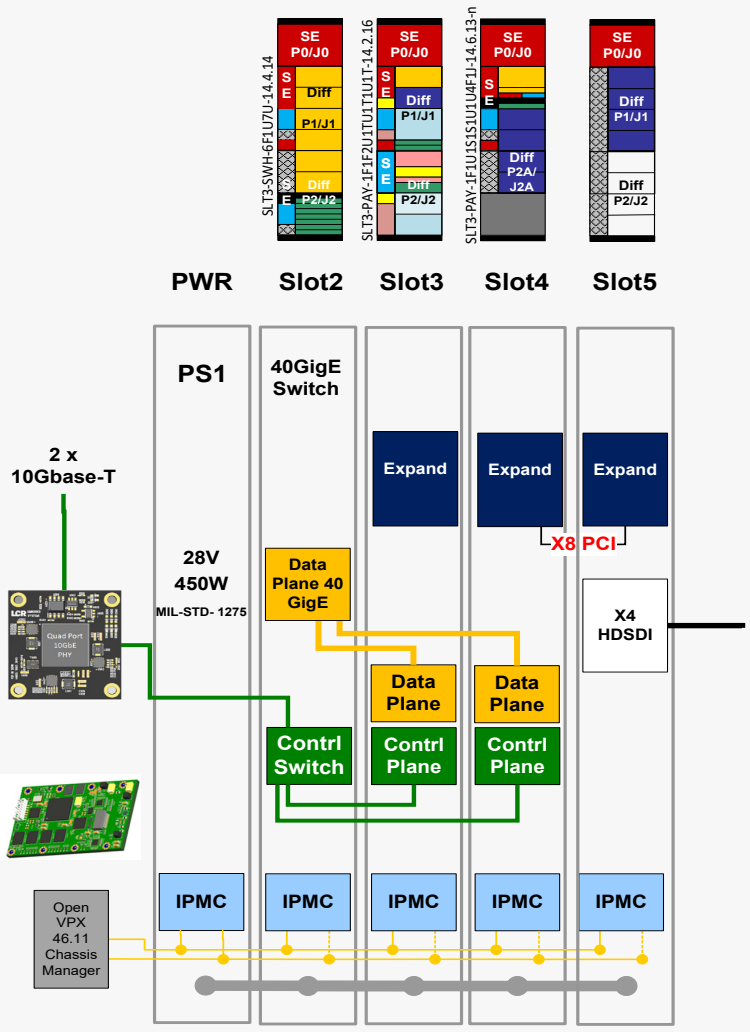
Backplane Profile

This is an example of a backplane that may be supplied with the VE02. Backplanes support commonly used SOSA-aligned modules and their associated profiles. It is designed to support typical payload combinations in SAVE deployment chassis, including Ethernet switches, I/O-intensive SBCs, and compute-intensive FPGA/RF cards. It features VITA 67.3 apertures for custom RF connector integration.

Other backplane configurations can be provided to meet specific application requirements.

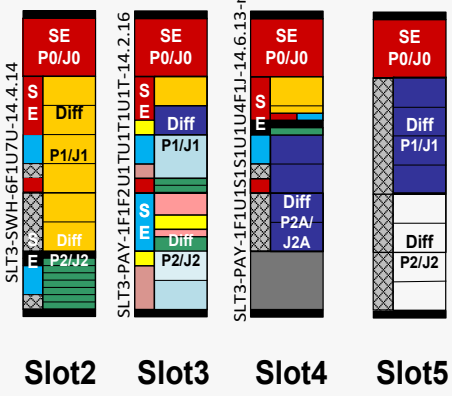
Media Conversion. The VE02 chassis may be configured with a 10G and 1000 Base-T to KR and KX converter for slot to slot backplane signaling.

Chassis Managenment. VITA 46.11 compliant chassis manager for SOSA aligned systems.



Module Profiles Supported

The backplanes in the VE02 enable use of VITA 48.2 3U modules with commonly applied OpenVPX and SOSA slot profiles. The system is designed to accommodate payload combinations in SAVE deployment chassis including switch, I/O intensive SBC, and compute intensive full aperture FPGA/RF cards.



LCR EMBEDDED SYSTEMS

lcrembeddedsystems.com

2621 Van Buren Ave, Audubon, PA 19403
(800) 747-5972
sales@lcrembedded.com

VE02

Specifications

Physical	Designed for insertion into the SAVE (Standardized A-kit Envelope), revised with the 2" x 4" top rear keep out area. SAVE dimensional requirements: 9.3" (H), 15.9 (W) x 16.1" (D) including shock tray Individual chassis measure 7.63" (W) x 7.88" (H) x 16" (D) incl. handles and connectors Machined aluminum alloy 6061-T6, bolt together construction Approximate weight 20lbs for each mounted chassis, no payload boards
Environmental	Shock: 30 Gs @ 11ms half sine Vibration: 20 to 2000Hz at 5Gs Designed to meet MIL-STD-810, MIL-STD-461, and MIL-S-901D
Thermal (each chassis)	Operating: -40°C to 55°C 2 x high cfm fans Max altitude 15Kft at 400W and 30Kft for sub 400W payloads
Power Supply (each chassis)	1 VITA 62 MIL-STD-1275 pluggable power supply Input voltage: 18 to 36 VDC Output: up to 700W total
Backplane	Custom 4 payload plus 1 power supply slot, VPX and SOSA aligned slot profiles, High speed 40Gb and 100Gb capability plus VITA 67 apertures for optical and RF I/O
I/O Capabilities	SAVE compatible I/O panel supporting high speed connectivity including high density MIL-STD 38999 circular connectors and high speed 10GbE 38999 Hercules connectors.
Applications	Ground combat vehicular applications including mission computing, systems command and control digital recording systems, digital signal processing, high speed data acquisition operating in demanding environments.
Payload Compatibility	3U VPX multi-core single board computers, high speed GPGPU and FPGA modules, radial network timing and Ethernet switching.

Order Number

VE02-305A

Description

SAVE compliant chassis with 4 payload and 1 VITA 62 PSU slot, active air cooling supporting 3U VITA 48.2 conduction cooled modules, custom backplane and I/O set. Consult LCR sales to discuss your specific requirements.

LCR EMBEDDED SYSTEMS

lcrembeddedsystems.com

2621 Van Buren Ave, Audubon, PA 19403
(800) 747-5972
sales@lcrembedded.com