

# 2 Slot Rapid Rugged Test System

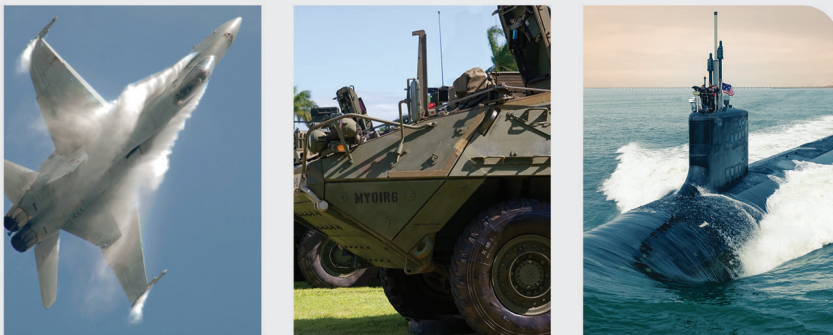
## Application Environment Demonstrator

Perform functional system demonstrations and validation testing in harsh environment platforms using LCR's dual slot rugged chassis for VPX / SOSA aligned payloads – the RTS-210. When benchtop testing and integration activities near completion, it's time to take it to the next level. The rugged design of the RTS-210 enables enhanced performance demonstration and testing at or near application level environmental conditions. The chassis incorporates proven LCR design solutions for reliable deployed system performance in extended temperature and high shock and vibration conditions.

- **Vehicle mounted testing**
- Enables demonstrations and validation testing in real world application installations
- A transition platform from the bench top to the onset of deployment.
- Modular design supports incremental testing levels within one chassis
- Supports a streamlined testing process leading to the full deployment system

RTS-210 chassis – The path to next level system testing

**Contact LCR to discuss specific configuration requirements**



The system is intended for use in high power, high speed C4ISR (Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance) systems operating in mission critical defense applications.



### Features

- Accommodates best-in-class 3U VPX SOSA aligned payloads
- SOSA alignment to the connector level
- Custom I/O panel with MIL-STD 38999 options for high-speed copper, optical or RF signals
- Cooling for up to 175W of total power
- Conduction cooled VITA 48.2 chassis with air assist
- Expander module allows custom backplane cabling supporting multiple SOSA backplane profiles
- Deployment ready design at testing completion
- SOSA aligned module profile support
- Rapid backplane modifications using Meritec cabling
- Custom I/O panel configuration changes
- VITA 66 and 67 optical and RF connectivity
- Selected MIL-STD environmental compliance
- Deployable platform

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## I/O EXPANDER - INTELLIGENT MODULARITY

The front I/O expansion module provides space for slot to slot and slot to I/O panel cabling used in early development and integration stages.



Bolt on expansion module enables access for slot to slot and slot to front panel cable installation for application I/O and signal testing



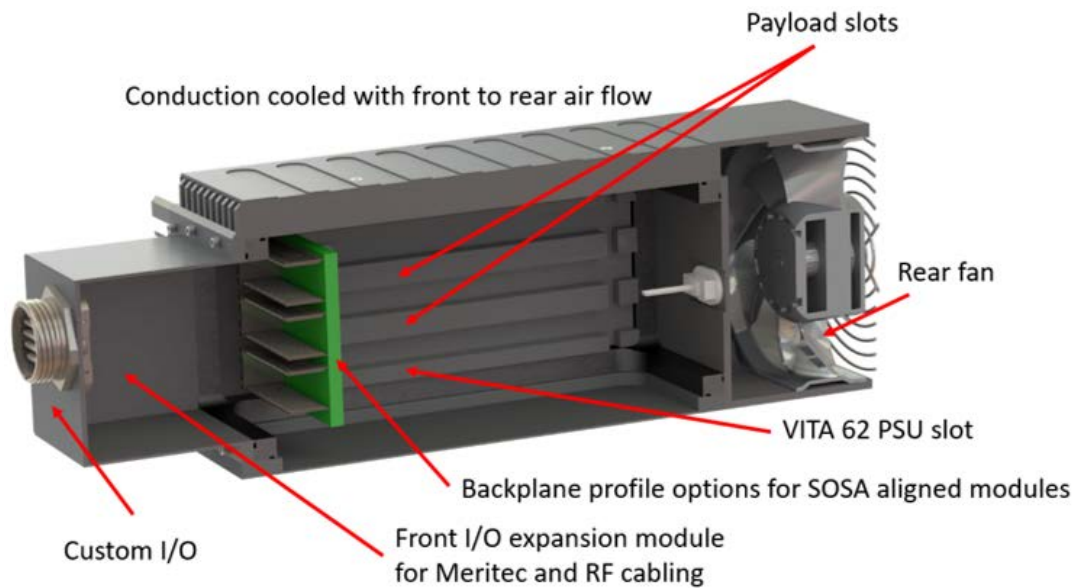
Chassis ready for on platform testing and demonstration



Rugged cabling systems from Meritec for slot and I/O connectivity



## INTERNAL CHASSIS VIEW



## DEPLOYMENT VIEW

As the development process nears completion, a custom direct connect I/O panel replaces the expansion module in the final design phases leading to the final system optimized for the application requirements.



Example final deployable chassis

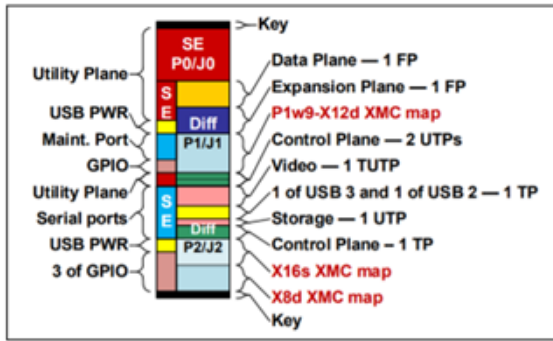
- The expansion module is replaced with a direct connect I/O panel
- Final committed backplane design
- Final chassis dimensions - shorter length for deployment

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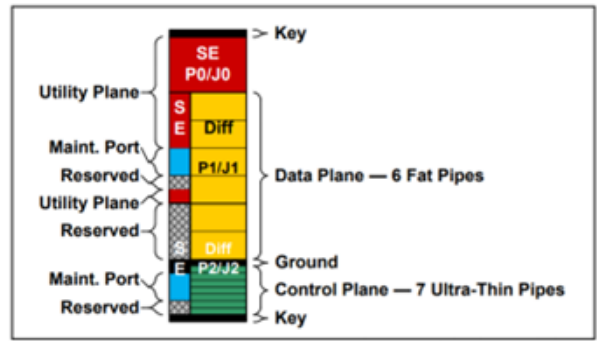
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## SLOT PROFILES SUPPORTED

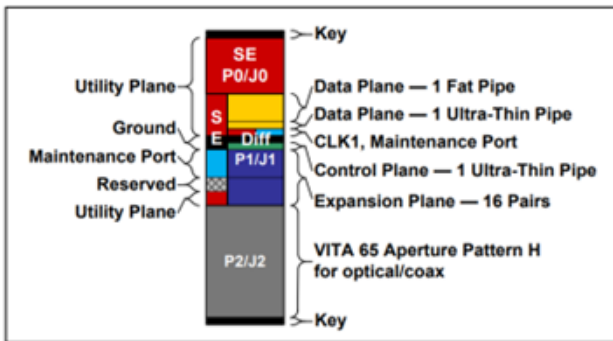
The RTS-210 enables use of 3U plug in cards supporting these 4 commonly applied SOSA slot profiles. Slot to slot and slot to I/O panel connectivity is established using the Meritec backplane cabling system.



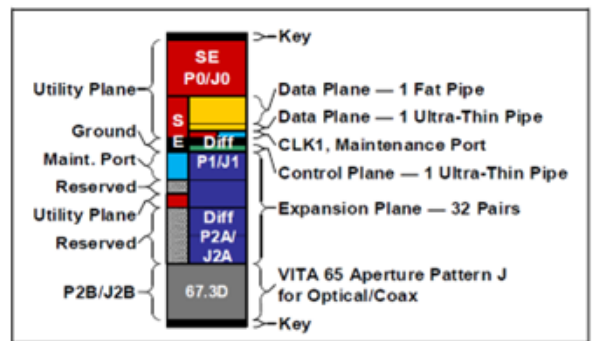
I/O Intensive Slot Profile  
SSLT3-PAY-1F1F2U1TU1T1U1T-14.2.16



Data /Control Plane Switch Slot Profile  
ST3-SWH-6F1U7U-14.4.14



Primary Data Intensive Payload Slot Profile  
SLT3-PAY-1F1U1S1S1U1U2F1H-14.6.11-n

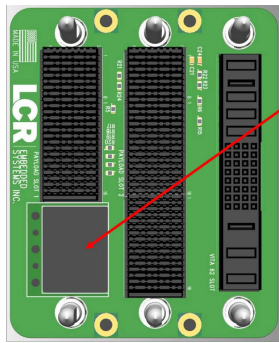


Secondary Data Intensive Payload slot profile  
SLT3-PAY-1F1U1S1S1U1U4F1J-14.6.13-n

## BACKPLANE PROFILE OPTIONS

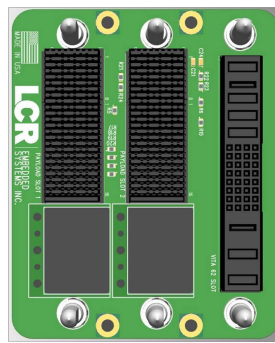
System backplanes may be configured for the data flows, data rates and I/O requirements specific to the application. All backplane profiles support 40Gb / 100Gb data rates and full and half height apertures for RF and optical I/O connections.

Backplane option 1

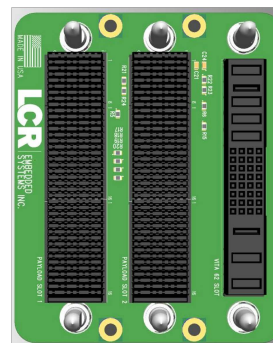


Full width aperture

Backplane option 2



Backplane option 3



Three backplane options supporting combinations of 4 supported module profiles

Payload slots

VITA 62 PSU slot



Backplanes may be populated with VITA 66 and 67 connectors for optical and RF signaling

## SPECIFICATIONS

### Physical

Dimensions: 5.61" (H), 6.96" (H), 13.8" (D) without expansion module and 16.60" (D) with expansion module.  
 Machined aluminum alloy 6061-T6, bolt together construction Weight: Approximately 14.6 lbs, no payload boards

### Backplane options

Choice of 3 dual slot options plus single VITA 62 slot  
 10, 40 and 100GBase KR4 capable  
 SOSA aligned profiles  
 VITA 66 and 67 optical and RF apertures

### Thermal

Operating: -40°C to 55°C  
 1 x high cfm fan  
 Max altitude 15Kft at 175W and 30Kft for sub 175W payloads

### I/O Capabilities

Custom I/O panel supporting high speed connectivity  
 High density MIL-STD 38999 circular connectors  
 High speed 10GbE 38999 Hercules connectors  
 Rugged SMA connectors for RF and optical I/O

### 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

### Payload Compatibility

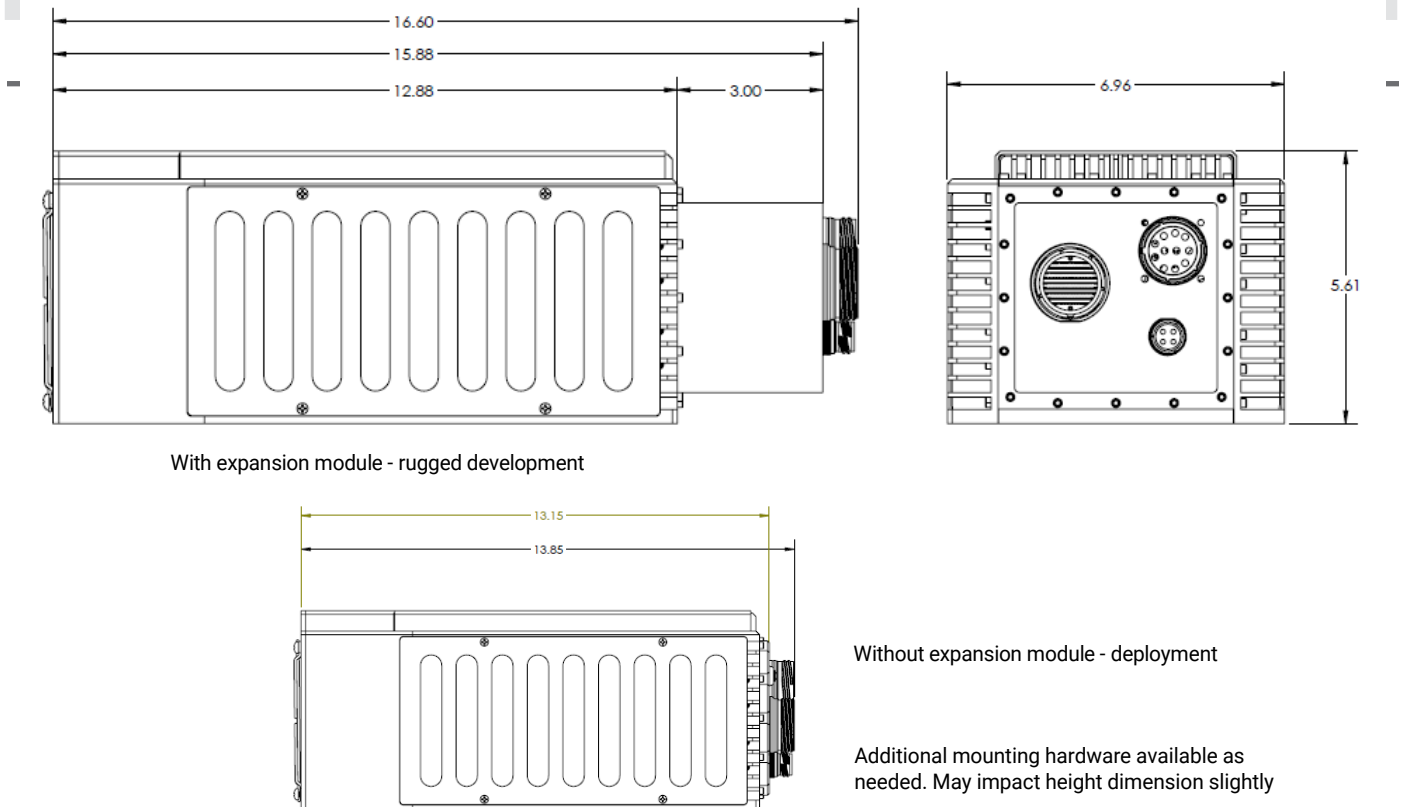
All 3U VPX plug in cards with SOSA aligned module profiles

### Power Supply

VITA 62 pluggable power supply supporting 12 and 5V modules  
 MIL-STD-704E, MIL-STD-1275  
 Input voltage: 18 to 36 VDC  
 Output: up to 500W total

### Applications

High speed data acquisition in EW and ISR applications operating in demanding environments across a range of land, air and sea installations



### ORDER NUMBER

### DESCRIPTION

RTS-210-1	RTS-210 with backplane option 1
RTS-210-2	RTS-210 with backplane option 2
RTS-210-3	RTS-210 with backplane option 3

LCR provides a full line of VPX products and services - everything you need from development to deployment including; COTS rugged application ready chassis solutions as well as custom designs, custom 3U VPX backplanes supporting the latest slot profiles plus development tools including load boards and test fixtures.

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