# 5/8 ATR Chassis, Sealed with Airflow over Fins

# ATR058-3U

## KEY FEATURES

- 5/8 OpenVPX Top-loaded ATR enclosure for 3U OpenVPX / SOSA aligned boards
- Versions for 6U boards or hybrid 3U/6U available upon request
- Versions with standoff below backplane for VITA 66/67 interface cabling or shelf manager mezzanine
- Fully ruggedized with MIL-grade or commercial cabling for demo purposes
- Sealed conduction cooled enclosure with rear fans pulling airflow over extended external fins
- Various slot sizes at 1.0" pitch + VITA 62 PSU slot(s), consult Pixus for details
- Design options to 16 slots upon request
- 233mm H x 163mm W x 336mm D (standard, depth depends on slot number)
- 3U OpenVPX or custom backplanes
- Conduction cooled with external fans (contact Pixus for higher heat dissipation options—simulation to 800W has been performed)
- VITA 62 and specialty PSU options, MIL 704
- 12V, 5V, and 3.3V power outputs standard
- Customizable backplane I/O, cabling, and front

The ATR058-3U (formerly ATR058-HEX-3U) is a MIL-rugged ATR enclosure, available in development or deployable versions. Pixus leverages our library of OpenVPX / SOSA aligned backplane profiles to provide you with a solution to meet your requirements and minimize NRE costs.

Depending on your needs, Pixus will tailor the backplane I/O, cabling, and I/O to your specifications. An optional VITA 46.11 SOSA aligned shelf manager mezzanine behind the backplane is available. (It does NOT interfere with VITA 66/67 blocks/cabling in P2 of the backplane — see the datasheet in the Pixus OpenVPX Accessories section). The rear of the enclosure has fans (depending on cooling level required—application specific). The inside of the ATR is fully enclosed, while the outside shell pulls air through the sidewalls for enhanced cooling. Pixus has developed these enclosures in multiple slots sizes, consult Pixus for options.

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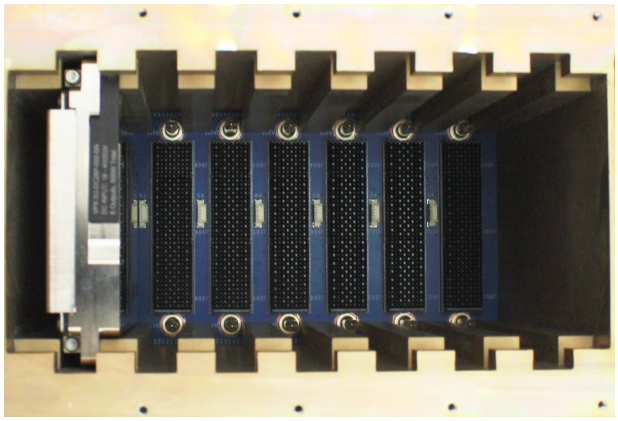
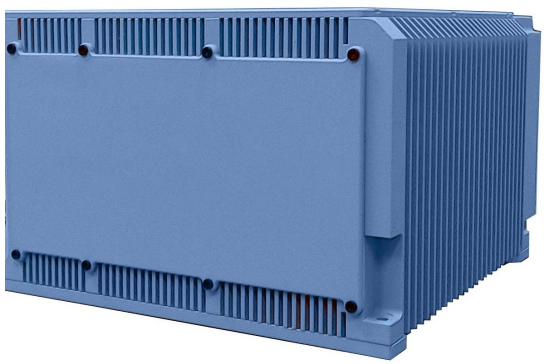
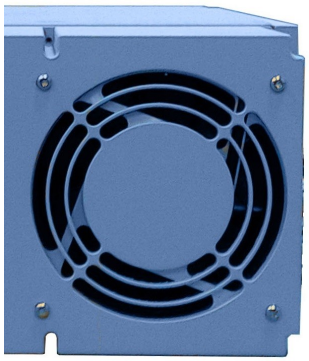
## POWER & COOLING

The ATR058-3U can employ various grades of PSUs. Typically VITA 62 / SOSA PSUs are utilized, up to 800W in 3U size. However, other PSU options are available. VITA 62 power supplies are designed for avionics and other MIL rugged applications and conform to MIL-STD-704, 461, and 810. There are also various options for AC or DC power feeds (typically 24-36VDC or 48VDC, or 90-264 VAC, etc.). Note that we typically load a higher power PSU than the max payload power for overhead and prolonging the MTBF. Dual 202 CFM/ea. MIL-grade fans are standard, but the fans are chosen per application. Commercial-grade fans are available for demo/development systems.

## EXAMPLES—INTERNAL, REAR, SSD DOOR, AIR INTAKE, & FAN







Pixus has various size, depth, and cooling orientation configurations for supplemental airflow over fins through the ATR's sidewalls. The company leverages standard COTS components and proven based platforms to tailor a solution for your specific application.

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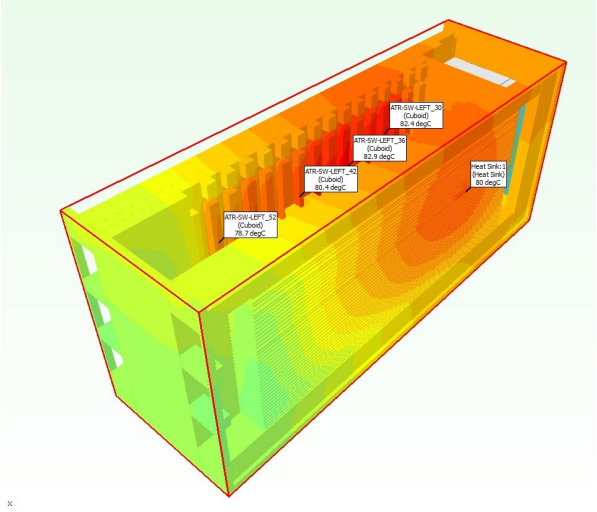
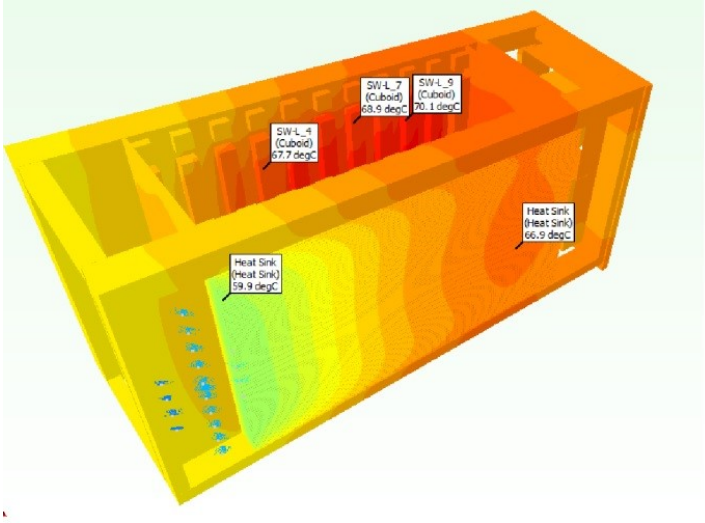
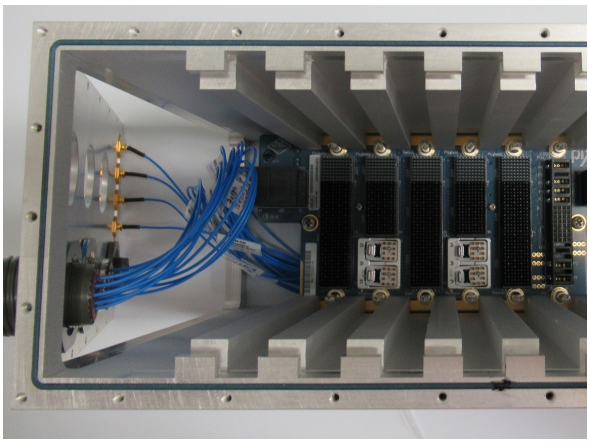
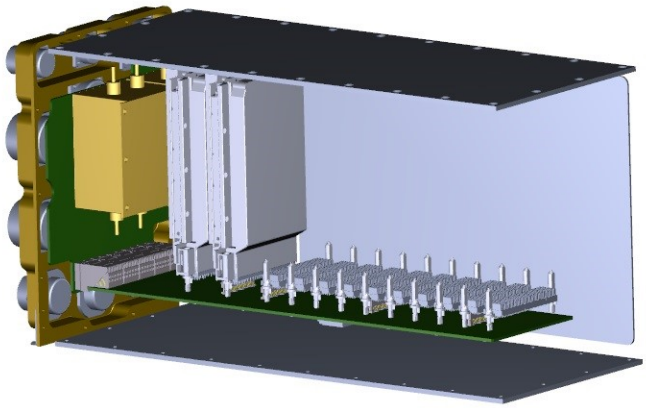
## Other Sizes & Design Options

Longer and wider options of the ART058 are available upon request. Below are a couple of examples of thermal simulation of high wattage (including up to 800W) OpenVPX designs. Contact Pixus to discuss your application.





## SOSA Aligned Slot Profiles

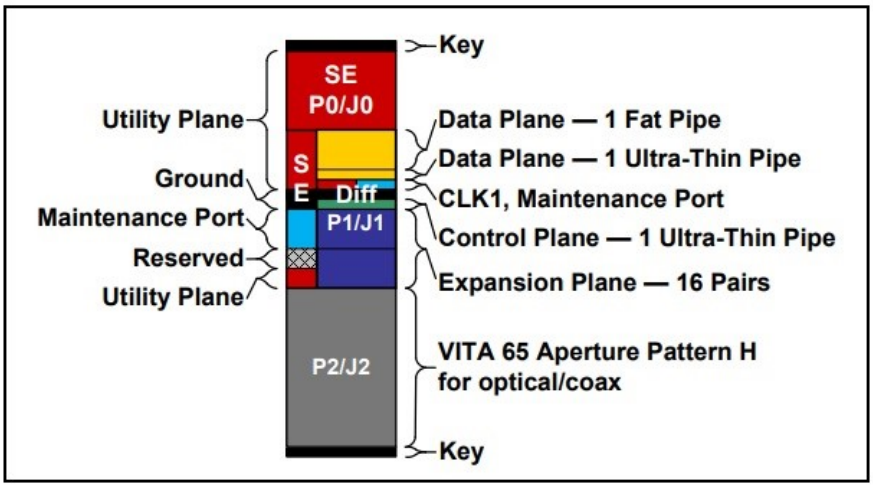



Figure 14.6.11-1 SLT3-PAY-1F1U1S1S1U1U2F1H-14.6.11-n

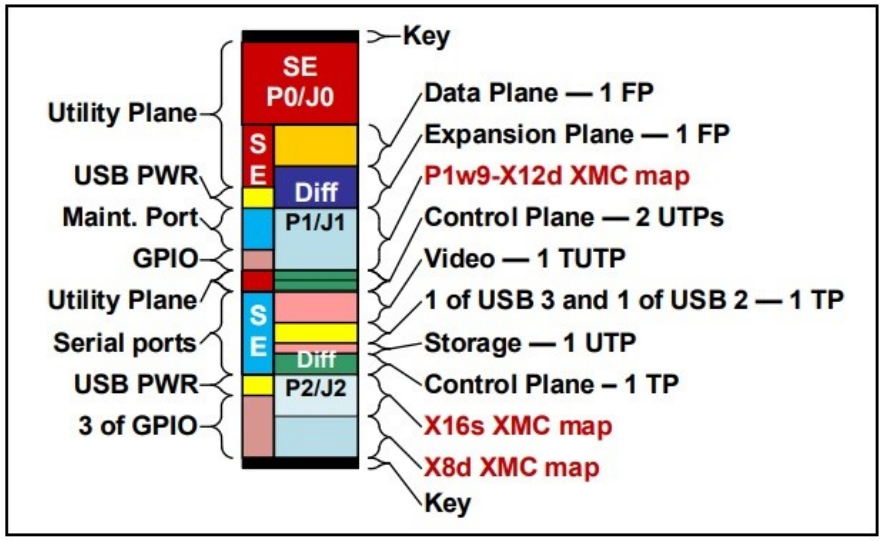



Figure 14.2.16-1 SLT3-PAY-1F1F2U1TU1T1U1T-14.2.16

Pixus has multiple backplane options that support various SOSA slot profiles. SOSA aligned systems utilize just the 12V (VS1) rail along with some 3.3 AUX. The IPMB is routed across the backplane to support the use of a SOSA aligned chassis manager and VITA 46.11 compliant versions. Visit https://pixustechnologies.com/products/enclosure-system-solutions/vpx-vme64x-chassis-2/openvpx-3u-6u-sosa/ to see Pixus' offering of SlotSaver™ mezzanine-based and pluggable SOSA aligned/VITA 46.11 chassis manager options.

An examples of the wide variety of options are shown below. Several of the Pixus power and ground and routed backplanes have cutouts for Aperture H (VITA 67.3c) or other RF/Fiber sizes (Aperture J—VITA 67.3d, etc)

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## SPECIFICATIONS

| | | |
|---|---|---|
| **Architecture** | | |
| Physical | Dimensions | Height: 233mm* |
| | Pitch | 1.0" slot pitch standard, 0.85" optional |
| | | Width: 163mm*, width may vary for cooling requirements, consult factory |
| | | Depth: 336mm* for 7-slot version, various depth options, consult factory |
| | Weight | ~ 17 lbs, dual fan configuration, cabling not included |
| Type | ATR chassis | *consult Pixus for other size options |
| **Standards** | | |
| ARINC | Type | ARINC 404, 600 |
| VITA/ANSI/SOSA | Backplane, Chassis | VITA 65 for OpenVPX (optional), VITA 48.x, SOSA Aligned options |
| MIL-STD | Type | 810F (shock, vibration to 20G, environmental), 461F (EMI), 704 (power) |
| **Configuration** | | |
| Power | Type | 18-36VDC, 37-56VDC, 90-264VAC input @ 47-880Hz (consult Pixus for other options |
| | | Various output options (3.3V, 5.5V, +/- 12V) |
| Environmental | Temperature | Operating temperature: -40° to +71°C (application dependent) |
| | | Storage temperature: -55° to +90°C |
| | Altitude | Application dependent, consult Pixus for details |
| | | |
| | | |
| Conformal Coating | | Upon request (See page 4 selection "J" for available options) |
| | | |
| **Other** | | |
| MTBF | Varies, consult factory for details, MIL-HDBK-217A | |
| Certifications | Designed to meet FCC, CE and UL certifications where applicable | |
| Standards | ISO9001:2015 | |
| Compliance (DTM) | MIL-STD-810, MIL-STD-461, DO-160 | |
| Warranty | Two years | |
| Trademarks and logos | The Pixus Logo is a registered trademark of Pixus Technologies Inc. other registered trademarks are the property of their respective owners. Specs. subject to change without notice. | |

Flight Tested

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(Previously ATR058-HEX prefix)

## ORDERING OPTIONS

**ATR058-ABCCD-EFG-JK**

### A = Backplane

1 = 3U OpenVPX / SOSA (standard)
2 = Other

### B = Backplane Speed

1 = 6.25 Gbps
2 = 8 Gbps (for PCIe Gen3)
3 = ~10 Gbps (for 40GbE)
4 = Other
5 = ~ 25 Gbps (for 100 GbE)

### CC = Payload Slots (Not including PSUs)

Example 0n = n slots
01 = 1 slot
02 = 2 slots
03 = 3 slots
09 = 9 slots

### D = PSU Slots

1 = 1 VITA 62 / SOSA slot (standard)
2 = 2 VITA 62 /SOSA slots
3 = Other

### E = PSU Input

1 = 24-28V DC
2 = 48V DC
3 = 90-230V AC
4 = Other

### F = PSU Type

1 = VITA 62 / SOSA to 400W
2 = VITA 62 / SOSA to 500W
3 = VITA 62 / SOSA to 800W
4 = VITA 62 / SOSA to 1000W
5 = Other

### G = Cooling

1 = Sealed with heat exchange (standard)
2 = Sealed with heat exchange, fan(s) not installed

### J = Conformal Coating

0 = None
1 = Humiseal 1A33 Polyurethane
2 = Humiseal 1B31 Acrylic

### K = Finish/Coating

0 (or Blank) = Clear chromate finish (standard)
1 = Painted (contact Pixus for options)
2 = Anodized (external only)