



# 61-174

## OPENVPX ATR HEAT EXCHANGER CHASSIS SOLUTION

### FEATURES

- Modified ATR form factor: 12.25" x 14.00" x 17.5" (H x W x D), not including handles, connectors and fan assembly (+3.74")
- Unusual liquid/air heat exchanger solution allows use of air-cooled payload in rugged airborne applications
- Liquid-cooled chassis and power supply
- Supports air-cooled chassis payload with re-circulating cooling air utilizing liquid/air heat exchanger and internal MIL grade fans
- Application-specific 10-slot hybrid 3U/6U OpenVPX backplane:
  - (10) OpenVPX 1.0" pitch slots
  - 8 slots 6U OpenVPX
  - 2 slots 3U OpenVPX
- Liquid-cooled using PAO
- -10 to +50°C
- 0 to 20 kft
- 3-phase 115VAC input MIL-STD-704F 900W power supply
- Elapsed time indicator

### MARKET

Military

### APPLICATION

Airborne ISR Application

### CHALLENGE

Design and manufacture an airborne high-power liquid/air heat exchanger cooled ATR chassis with 10 high-power 3U & 6U OpenVPX™ slots and 900W 3-phase 115VAC MIL-STD-704F power supply.

### CONCERNS

Program required high-performance custom power supply along with challenging thermal requirements using unusual liquid/air heat exchanger cooling approach.

### HOW CAN WE HELP REDUCE YOUR RISK?

Atrenne can help you with all of your application-specific backplane and chassis requirements.

The solutions that you see on our website are just a small sample of what we have done. Please browse our solutions and contact us for a consultation.

Part of the industry-leading, from Atrenne, line of high performance chassis and backplane solutions, this ruggedized liquid-convection cooled ATR solution (Solution 61-174) was designed to meet customer requirements for an airborne ISR application. The enclosure is a 1+ ATR chassis designed to perform in 0-20,000 ft and -10 to +50°C environment. The chassis supports 3-phase MIL-STD-704F 115VAC input with a MIL-STD-704F compliant 900W power supply. The 1+ ATR enclosure is forced liquid-cooled and supports air-cooled OpenVPX payload boards. The backplane supports 8x 6U OpenVPX slots and 2x 3U OpenVPX slots of 1.0" pitch. This ATR enclosure includes an OpenVPX hybrid 3U/6U backplane, liquid-cooled power supply, and liquid-air heat exchanger.



**SPECIFICATIONS:**

PHYSICAL	
Width	14.00"
Height	12.25"
Depth	17.5" not including handles, connectors and fan assembly (+3.74")
Weight	50 lbs.
Construction	Welded aluminum
ENVIRONMENTAL	
Operating Temperature	-10 to +50°C
Storage Temperature	-40 to +85°C
Altitude	0 to 20,000 ft MSL
Humidity	5 to 95% non-condensing
Cooling	<ul style="list-style-type: none"> <li>Chassis is liquid-cooled using PAO coolant at 1 Gpm and 23°C</li> <li>Payload modules are air-cooled using re-circulating internal air through a liquid/air heat exchanger and utilizing built-in MIL grade high-performance fans</li> </ul>
Shock	15 Gs, 11ms
Vibration	3 Gs RMS 15 to 2000 Hz
EMC	MIL-STD-461E CE102
POWER/ELECTRICAL	
DC Input	115VAC 3-phase 400 Hz per MIL-STD-704F
Backplane Connectors	<ul style="list-style-type: none"> <li>3U OpenVPX connectors</li> <li>6U OpenVPX connectors</li> </ul>
Connector Pitch	1.0"
Transmission Rate	6.25 Gbaud
CONSTRUCTION	
Top & Bottom	Aluminum
Card Cage	Aluminum 6063 extrusions, plastic card guides
Power Supply	<ul style="list-style-type: none"> <li>Liquid-cooled power supply, DC outputs total 992W (900W max continuous)</li> <li>+3.3VDC 40A</li> <li>+5VDC 100A</li> <li>+12VDC 26A</li> <li>-12VDC 4A (900W max continuous)</li> </ul>

**WARRANTY**

This product has a one year warranty.

**CONTACT INFORMATION**

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