

The SRC-7 ATLAS™ Processing System

The SRC-7 ATLAS system from SRC Computers is a versatile compute system intended for use in harsh environments, including both ground based and airborne applications. ATLAS can incorporate a customer-selected mix of low-power SRC® APM processor modules (with the Intel Atom™ Processor), SRC reconfigurable MAP® processors and Multi-Ported Common Memory Modules (MPCMs), interconnected with the SRC high bandwidth Hi-Bar® crossbar switch. All modules are interconnected with an aggregate sustained payload bandwidth of 57 GBytes/s.



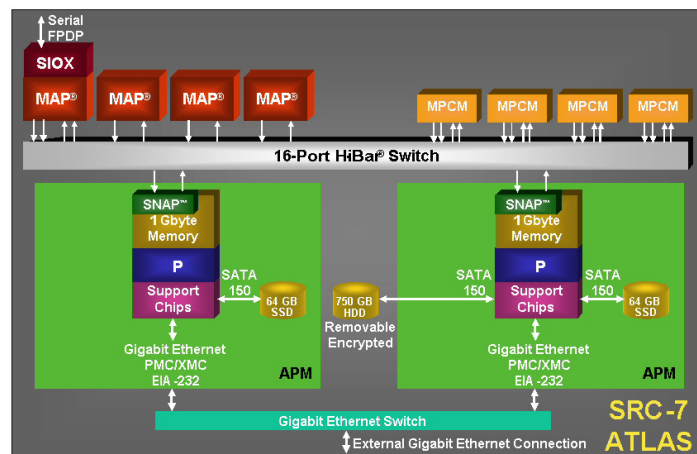
SRC-7 ATLAS System
20.4" W x 16.7" D x 10.5" H
75 pounds and 500 watts
(with typical 10-module complement)

The ATLAS system offers size, weight, and power benefits that are not available in alternative solutions. It has extreme external I/O capability of up to 12 Gbytes/s per MAP processor, making it ideal for use as a signal data processor. The overall volume of the system is 3577 cubic inches (2.1 cubic ft.) including the external heat exchanger. The overall operational weight with a typical 10-module complement is 75 pounds. The power consumption is only 500 watts for a complement of four reconfigurable MAP modules, two SRC APM modules and 128 Gbytes of shared DDR-2 memory spread across four MPCM modules running a typical radar backprojection application. In addition, the SRC-7 ATLAS system is a powerful general-purpose processing system for ground station environments.

Like all SRC systems, the ATLAS system is programmed with ANSI standard High-Level Languages such as C and Fortran using the SRC Carte™ Programming Environment.

Other features of the ATLAS system include:

- Multi-Tbyte removable encrypted storage
- Hi-Bar crossbar module interconnect
- Multiple heat exchanger location options
- Multiple mounting options including standard 19" racks
- Can be used in UAV, traditional military aircraft, UGV, or ground-based applications



Typical ATLAS Module Configuration

SRC-7 ATLAS™ System Specifications

ATLAS Feature	Parameter
Enclosure	
Dimensions	20.4" W x 16.7" D x 10.5" H (51.8 cm W x 42.4 cm D x 26.7 cm H)
Weight with typical 10 module complement	75 pounds (34 kg)
Power with typical 10 module complement	500 watts
Input voltage	28 vdc
External cooling methodology	Ram air or liquid to liquid
Liquid to air heat exchanger dimensions	10" W x 3" D x 4" H (25.4 cm W x 7.6 cm D x 10.2 cm H)
Removable data disk	4-SSD RAID, encrypted, 2TB
Heat exchanger mounting location	Side, rear or remote
Mounting	Arinc 404 style
Altitude	40,000 feet
Ambient operating temperature	-55°C to +50°C
I/O connectors	38999
Reconfigurable MAP® Processor Module	
User Logic	2 Altera EP2S 180 FPGAs
Core clock rate	150 MHz
On Board Memory (OBM) SRAM size	64 Mbytes
On Board Common Memory (OBCM) SDRAM size	2 Gbytes
# simultaneous 64-bit OBM references per clock	16
# simultaneous User Logic DMAs	4 (2 in & 2 out)
Sustained aggregate DMA payload bandwidth	14.4 Gbytes/s
Sustained GPIOX bandwidth	12 Gbytes/s
APM Processor Module	
Microprocessor type	Intel Atom™
Clock rate	1.4 GHz
Total SDRAM memory size	2 Gbytes
Integrated SNAP interface bandwidth	3.6 Gbytes/s
I/O available	HDMI, GigE, RS-232, USB, ESATA
Disk	1.8" On-Board
Multi-Ported Common Memory (MPCM)	
SDRAM volume per bank	16 Gbytes
# banks per MPCM module	2
# ports per MPCM usable by ATLAS	2 in & 2 out
Sustained DMA bandwidth per port	3.6 Gbytes/s
Hi-Bar® Crossbar Switch	
# input ports	16
# output ports	16
Sustained payload bandwidth per port	3.6 Gbytes/s
Aggregate payload bandwidth	57.6 Gbytes/s
Interconnect media to modules	Ribbonized Microcoax