RCP900 Ruggedized Computer Platform

Features

- Application Ready Rugged Computing Platform
- Compliant to:
  - MIL-STD-810
  - MIL- STD- 461
  - MIL- STD- 704
- Forced Air or Forced Air-Conduction cooled
- Standard 1 ATR
- Tray or Hard Mount
- 1 to 12 Slots of VME, VPX, or CompactPCI
- Up to 24 PMC/XMC Expansion Sites
- Customizable I/O Interfaces
- Removable SSD Hard Drives
- D38999 Connectors
- Ideal for any application:
  - Flight Hardware
  - Ground Mobile
  - UAV
  - UGV
  - UUV

Summary

Phillips' RCP900 is a ruggedized computer platform with multiple board/backplane form factors. The RCP900 is designed for harsh environment applications.

The 1 ATR RCP900 is available with 1 to 22 backplane slots. The single board computer provides two PMC sites. Additional backplane slots may be loaded with 6U peripheral, processor, or PMC/XMC carrier cards for customized I/O solutions.

Removable SSD drives up to 128GB may be accessed from the front of the chassis. Two additional solid state or rugged rotating disk drives may be installed internally.

Internal components are conformal coated and mechanically stabilized to provide a high level of resistance to extreme temperature, shock, vibration and humidity conditions.

The RCP900 uses D38999 circular connectors for I/O and one 6-pin D38999 connector for MIL-STD-704 compliant input power. Other connector configurations are available per application requirements.

The team at Phillips Aerospace works with our customers to understand and design the RCP900 solution to be application ready and compliant. The RCP900 is delivered integrated and configured as a turn key solution.

Each RCP900 receives a single thermal cycle test and functional test to ensure application readiness. Additional testing can be preformed as required.

Mechanical

Dimensions: 10.125"L x 19.5"H x 8.75"W
Weight: TBD kg (TBD lbs)

Operating Temperature

Standard: -40°C to +75°C

Qualifications

MIL-STD-810E
- High temp methods 501.1, low temp method 502.1
- Altitude, method 504.1, cat 1 except 45,100 ft and 1,000 ft
- Vibration, 2.05 GRMS for up 2 hours in each direction of 3 axes
- Shock, method 516.2, Proc II, 40 Gs 11 ms, sawtooth, 3 shocks in each direction of 3 axes
- Acceleration, 3 Gs in each of six directions for one minute
- Humidity, method 507.1

MIL-STD-461D
- CE102 section 3.2.1
- CS114 section 3.2.1
- RS103, 10kHz to 18 GHz, @ 60 V/m max per section 3.2.1
- Lighting induced transient susceptibility per section 3.2.1.1
- Power line spike susceptibility per section 3.2.1.2

Power

- 28VDC, up to TBD W
- 50ms hold-up option
- OC, OV and inrush protection
- Meets MIL-STD-704E, MIL-STD-461E

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8.750

19.500

10.125
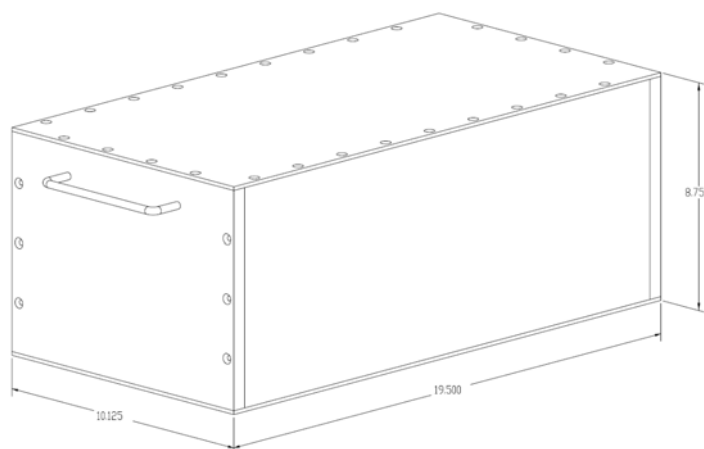
Intel SBC's

Pentium M 1.2 GHz
Dual Pentium M 1.6 GHz
Intel Core 2 Duo 1.5 or 2.16 GHz

From 1 to 4 GB of ECC DRAM
Compact Flash – Up to 32 GB
(2) Gigabit Ethernet Ports
USB, COM, SATA, VGA Ports
(2) PMC/XMC sites for I/O

Windows, VxWorks, Linux, Solaris, QNX
    supported

PowerPC SBC's

MPC 7447A 667 or 1.4 GHz
MPC 7448 667 or 1.4 GHz
MPC 8270 PowerQUICC 450 MHz
MPC 8640 dual e600 cores 1.25 GHz
MPC 8641D dual e600 cores up to 1.5 GHz

From 1 to 4 GB of ECC DRAM or SSRAM
From 1 to 4 GB of Flash or NAND Flash
(2) Gigabit Ethernet ports
USB, COM, SATA Ports
(1 or 2) PMC or XMC sites for I/O

VxWorks, Integrity, Linux supported

Extended I/O Options

- CAN Bus
- RS-232/422/485
- Digital I/O
- Analog I/O
- Telemetry I/O
- Servo Control
- Gigabit Ethernet Switch
- Fiber Optic Interface
- ARINC-429
- MIL-STD-1553
- Ethernet
- USB
- High-Performance Video
- Frame Grabber/Image Processing
- Solid State Storage
- Disk Storage
- FPGA Co-processor
- DSP
- Additional Processor
- Encryption Processor
- Custom Solutions

Any combination of standard and/or specialized PMC/XMC's can be integrated within the RCP-900 family of systems by Phillips Aerospace.

RCP900 Configuration Table

RCP-910-xxxx-xx

                 Revision Control Number
                 Custom Part Identification Number

All versions are custom configured to meet customer's application requirements.

PHILLIPS

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