

## *RCS-PC Computer*

RCS-PC is a rugged PC compatible computer specially designed and qualified for use in harsh Naval, Airborne and Ground mobile military environment.

**The RCS-PC is installed in Helicopters, Planes, Missile Ships, and Radar Shelters.**

**It can be supplied with one or two CPU boards that support two identical Workstation housed in one enclosure.**

RCS-PC is built for full size ISA and/or PCI cards. The RCS-PC is capable of supporting a variety of software Operating Systems including Windows® NT 4.0, Windows® 2000, Windows® XP, and Linux.

RCS computer includes a passive back-plane featuring dual purpose slots for PCI and ISA buses. This back-plane, is designed for Pentium Single Board Computer (SBC) class cards. The computer is shock mounted when installed in a vehicle.

### RCS-PC Power Supply

Power In: 18-32VDC per MIL 1275A, MIL-STD-704A approx. 4Amp.

RCS-PC power supply provides:  
+5VDC 25A, +12VDC 2A, -12VDC 1A, -5VDC 0.5A  
Total 185W, Hold Up time > 50mSec

### Major Assemblies

Major RCS-PC assemblies are:

- Power Supply Assy.
- DVD
- Removable disk (up to 40.0GB)
- **Internal Fixed** Hard Disk (up to 60 GB)
- Passive back plane
- Custom made Connector Panel.
- Option - Internal 5 port HUB/Switch

### Typical Configuration

The following represents a typical configuration of the RCS-PC CPU.

Processor - Pentium® M 1.1 or 1.6GHz  
Chipset - Intel 82855GM,  
400MHz FSB, integrated graphics  
DRAM - 512M-1 GByte max.  
DDR-SO-DIMM,



### Video

Video Controller - Intel Extreme Graphics2 32 MByte UMA Video RAM  
Resolution - QXGA 2048x1536  
Ethernet - 10/100Base-T Intel® 82562  
USB - 4 x USB 2.0 OHCI ports

### Dimensions

RCS-PC - 225X200X495 (WxHxL) [mm]  
RCS-PC Weight approx. 14.5Kg

### Interchangeability

The components of the RCS-PC are physically and functionally interchangeable in accordance with MIL-STD-454.

### Reliability

The RCS-PC -PC MTBF is 10,000 hours at 25°C. Mean Time To Repair (MTTR) does not exceed 30 minutes.

## RCS-PC Construction

The RCS-PC is designed, constructed in accordance with the general requirements of MIL-STD-454.

## Thermal Design

The cooling of the components on the RCS-PC cards is accomplished by forced flow of air. The cooling of the RCS-PC Power Supply and the Pentium chip are accomplished by conduction through the aluminum enclosure of the unit.

## Processes and Treatment

Processes and treatments (welding, soldering, brazing and corrosion (resistance protection) of the enclosure is in accordance with MIL-STD-454.

## Moisture and Fungus Resistance

RCS-PC assemblies are moisture resistant and are not nutrients for fungi. The PC Cards are treated with Conformal coating, according to MIL-I-46058C.

## External Finishes

The computer external surfaces are chemically treated prior to painting. All residues and contaminants are removed prior to applying one coat of primer. The finish is semi-gloss per FED-STD-595.

## External Connectors

External connectors are used for interfacing with the subassemblies or equipment and are in accordance with requirement of MIL-STD-454.

## Electromagnetic Interference

The RCS-PC as specified complies the requirements of MIL-STD-461C as follows:

### CE03

Electromagnetic emissions do not appear on In leads in excess of values shown in MIL-STD-461C, Fig 4-3.

### RE02

Electromagnetic emissions are not radiated from the RCS-PC equipment in excess of values shown in MIL-STD-461C, Fig 4-14, 4-15.

### RS03

The RCS does not exhibit any permanent degradation of performance or any deviation from its specifications when subjected to radiated electrical of 1 Volts/meter from 14KHz to 10GHz.

### CS02

The RCS does not exhibit any permanent degradation of performance or any deviation from its specifications when subjected to 100 Volt from a 50 ohm source to its AC power leads.

## Temperature

RCS-PC will not be damaged or affected by the effects of ambient air temperature as follows:

Operating:

RCS-PC performs as specified herein after exposure to temperatures from 0° to 60°C.

Non-operating (storage): -40° to 85°C.

Option:

Extended temperature from -30°C to 70°C, or per Customer's specifications.

## Relative humidity

RCS PC, in an operating/non-operating condition, shall not be affected by humidity for both continuous and intermittent periods

including conditions wherein condensation takes place in and on the equipment in the form of water.

Operating: 95% relative humidity (RH) with no condensation. Non-operating: 95% RH.

RCS-PC meets the requirements specified in MIL-STD-810E.

## Vibration

RCS-PC has been tested per MIL-STD-810E for airborne, ground and Naval environment including shipboard vibration spectra per MIL-STD-167.

## Shock

RCS-PC operates as specified herein after being subjected to operational shock as encountered on board (airborne, naval) or during vehicular transport. Testing according to MIL-STD 810E, 40g for duration of 11msec.

## Sand and Dust

The RCS-PC shall operate as specified herein while and after being subjected to sand and dust as encountered in dry arid areas. The RCS-PC shall meet the requirements specified in MIL-STD-810E.

## Salt Fog

The RCS-PC is resistant to the corrosive effects of salt fog environment. The RCS-PC meets the requirements specified in MIL-STD-810E Method 509.3 Procedure I.

## Fungus

RCS-PC is non-nutrient to fungus growth. RCS-PC meets the requirements specified in MIL-STD-810E.