

# Solid State Disk PCI RAID Adapter

LT-PCI-CF



## Highlights

- 4 Channel SSD Disk Adapter
- Industrial Compact-Flash
- SLC NAND Memory
- 1,000,000 Erase / Write Cycles
- Drivers for Windows and Linux
- Boot BIOS
- RAID Configuration
- PCI 64 bit 66 MHz
- Simultaneous Channel Transfers
- Scatter Gather DMA

## Description

The LT-PCI-CF is a high performance PCI 64-bit, 66 MHz, 4-channel Solid State Disk (SSD) RAID adapter, targeted for server class, high-performance workstations and embedded environments.

The built-in Flash SSD controller/bridge supports Ultra DMA modes which yield data transfers at speeds of up to 133 MB/s per channel.

The adapter houses all SSD memory, providing a single card solution for your non-rotating media requirements.

All SSD channels operate simultaneously which is essential for demanding multi-tasking environments, providing the highest transfer rates available in the market.

PCI scatter/gather functionality reduces interrupt handling thus tremendously increases overall performance. Raid Striping is used to optimize on sustained transfer rates. Thus a fully populated board provides the best performing solution.

CompactFlash modules were designed in as a cost effective solution while maintaining comparable performance to SSD modules.

Adapter capacities follow CF module availability. Only the fastest and most robust modules qualify, thus adapters are preconfigured before shipment.



*Embedded Solid State Disk Adapters*

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# Specifications

## PCI Interface

64-bit, 66 MHz PCI bus with data rates up to 533 MB/s  
PCI specification Rev 2.3 compliant  
PCI Bus Power Management Interface Specification Version 1.1 compliant  
Bus Master Scatter/Gather DMA  
Programming Interface IDE ATA Controller Rev 1.0  
Flash ROM BIOS provides RAID setup utility and OS booting

## Flash SSD

SLC NAND Flash Technology  
Sustained Data Rates: Reads 170 MB/s, Writes 83 MB/s  
Up to 4 independent SSD channels. Each SSD channel supports DMA 133 transfers  
PIO mode 0 through 4 and Multiword DMA mode 0,1,2 transfers up to 16.6 MB/s  
Ultra DMA mode 0 through 6 transfers up to 133 MB/s per SSD channel  
Supports RAID0, RAID1, RAID0+1, RAID 5 or JBOD  
Built-in timer for Auto-Rebuilding on RAID1 and above levels  
Simultaneous data written to both channels in RAID1 mode  
Error Detection and Correction  
Wear Leveling

## System Support

Windows and Linux Device drivers  
Onboard BIOS based RAID Configuration Utility  
Windows Configuration and Monitor Utility

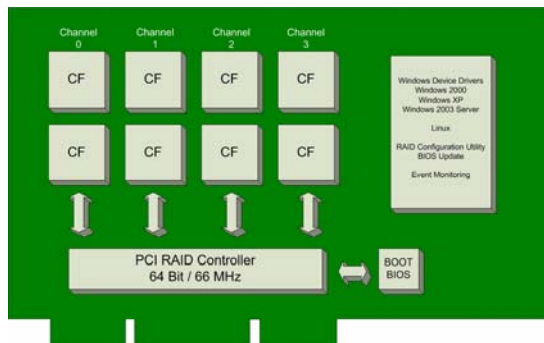
## Reliability

MTBF: >1,000,000 hours  
Data reliability: Built-in EDC/ECC  
Patent pending Wear-leveling algorithms

## Endurance

Read: Unlimited  
Erase / Write Cycles: 1,000,000  
Erase / Write: >140 years @ 50GB write-erase / day

## Four Channel RAID Control



Stripe, Mirror and Parity Modes  
Simultaneous Channel Transfers  
RAID0, RAID1, RAID0+1, RAID 5 or JBOD  
BIOS and Windows RAID Utilities  
System level monitoring  
Windows and Linux RAID Device Drivers

## Physical Dimensions

Length: 27 cm, 10.75 inches  
Height: 10 cm, 4.2 inches

## Environment

Operating temperature: -25°C to 85°C  
Storage temperature: -40°C to 85°C

## Power requirement

Voltage: 3.3V, 5V +/-10%  
Current: 1.0A Max.

## Ordering Information

LT-PCI-CF-XX  
XX: Flash memory size from 2 GB to 128 GB

The LT-PCI-CF is only offered preconfigured with industrial quality CF modules. Our modules are carefully selected to provide the performance data specified here. These modules also support wear leveling, so that you may use our product in demanding environments with confidence.

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