TuffServ® 480GE Airborne Network Server

AMPEX

Features

- Ruggedized Computer / Server / Recorder
- Hot-Swappable Solid State Disk Array
- Five Gigabit Ethernet Interfaces
- NFS, CIFS/SMB Network File Systems
- FTP and iSCSI Servers
- Web Interface for Administration and Environmental Monitoring
- Conduction-cooled Flight-proven Package
- Compact: 5.25" H x 7.25" W x 10" D

TuffServ 480GE Airborne Server

Product Description

The TuffServ™ 480GE gigabit Ethernet airborne server is a rugged, general purpose computing platform packaged with five gigabit Ethernet ports for airborne and mobile applications. It functions as a ruggedized computer, a file server, or, with available application software, as a recorder. Offering 5 distinct Ethernet ports, the need for network switches and routers is reduced. It could also be configured as a network-attached block-storage device using the iSCSI protocol.

Typical Applications

- *Network Storage and Processing for Networked Systems*
- *Airborne and Mobile Data Collection*
- *Flight and Vehicle Testing*
- *Mapping and Earth Resource Data Collection*
- *Video, Radar, EO and IR Data Storage*

The airborne server provides a large removable storage capacity with four commodity solid-state disks in a hot swappable solid state disk array. By using carefully selected OEM solid state devices of capacities of 2TB ad higher, the system can deliver in excess of 8TB of rugged, high-performance storage at an economic price point.

The standard system is delivered with a Linux system based on the 2.6 kernel. This provides a wide range of network services out of the box, including NFS, SMB/CIFS, FTP and iSCSI, as well as routing and bridging capabilities between the network interfaces. As a completely open system, based on the industry standard Intel architecture, there is a wealth of additional open-source or commercial software which may be installed and deployed, including databases, multimedia packages and management tools. The standard system can be controlled and administered with a web browser or a terminal emulator and a traditional command line interface. Direct access is also available via the service ports.

Contact Ampex for details of hosting custom software on the TuffServ system.

Removable Storage Module
Eight Terabytes of Solid State Array Storage
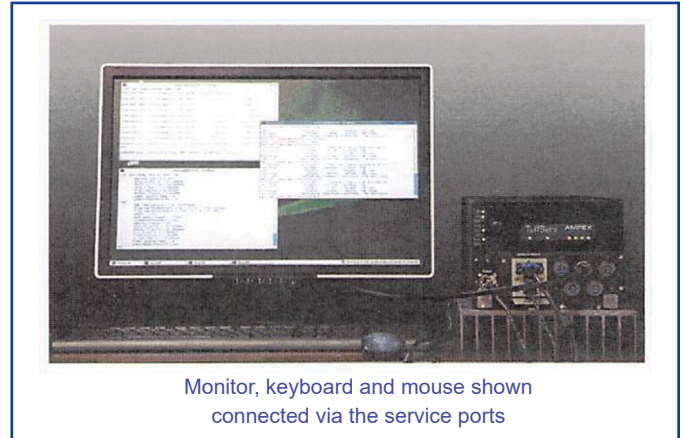*Canister is 5.5" x 1.8" x 9" and weighs just 5 lbs.*

Read   Write
Internal IO Performance

Specifications[1]

System

CPU:	Intel Core 2 Duo SU9300, 1.2GHz
	3MB L2 Cache
Memory:	4GB PC3-6400 DDR3 800MHz RAM
	8GB Dedicated flash boot device
Network Interfaces:	Five Gigabit Ethernet (PCIe)
	(Each identical to interfaces on base TS480)
Service Ports:	Two USB 2.0, VGA
Removable Storage:	Array of four solid state drives
	Flash type: High Density standard
	Options: Emergency erase, "data at rest" protection via AES in the drives (256 bit).
Network Storage:	NFS, CIFS/SMB, FTP
Operating system:	Linux
Configuration:	Browser based administration tool, Linux command line

Monitor, keyboard and mouse shown connected via the service ports

Performance

Internal Data Rate:	250+ MByte/sec writes (sustained), 350+ MByte/sec reads
Network Data Rate:	50 MByte/sec typical with CIFS per Ethernet
	Actual performance will vary with file access protocols and patterns
Storage Capacity:	8TB (with four 2TB solid state drive modules)

Power

Power input:	28VDC per MIL-STD-704F
Power dissipation:	70 W

Mechanical

Dimensions:	5.25" H x 7.25" W x 10" D (133mm x 184mm x 254mm)
Weight (System):	19.7 lbs (8.9 kg) – with drive array installed
	3.8 lbs (1.7 kg) – four drive removable disk array

Environmental

Temperature:	Operating – standard:	0º C to +50º C
	Operating – with heaters:	-40º C to +50º C
	Optional extended range:	-40º C to +71º C
	Non operating:	-50º C to +85º C
Humidity:	0% to 100% RH	
Operational Vibration:	10 g$_{rms}$	
Operational Shock:	20 g, half sine, 11ms	
EMI Compatibility:	MIL-STD-461E	

[1] Specifications subject to change without notice.