

## Osprey Hardware Overview

This document provides a brief description of the Osprey PDP-11 emulator hardware. The Osprey is a FPGA-based co-processor card available in ISA and PCI form factors that emulates the CPU and memory of legacy Digital Equipment Corporation PDP-11 computer systems. The Osprey is designed and manufactured by Strobe Data, Inc. It is sold and installed by Migration Specialties.

The Osprey is hosted within a Windows-based server. The card works in conjunction with software components that allow legacy PDP compatible physical devices such as disk drives, tape drives, serial cards, and other common I/O devices to be virtualized. The Osprey also provides the means to connect to a physical UNIBUS or QBUS, allowing it to interface with more exotic PDP compatible I/O cards.

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### OSPREY CARD

The Osprey Co-Processor is available in ISA and PCI formats. The PCI card is depicted here. It is available in four speeds, SX, DX, TX, and QX. The Osprey/SX is equivalent in speed to a PDP-11/94. The Osprey/QX is four times faster.



### Osprey Tech Specs

Osprey Co-Processor executing PDP-11 instruction set. Occupies one ISA or PCI slot. A writeable control store, FPGA implementation of the PDP-11 architecture with 4 MBytes of tightly coupled, zero wait-state memory. Includes FPJ11 compatible hardware floating point. UNIBUS or QBUS support logic for non-emulated devices is provided on-board with connector to wide bandwidth adapter. Windows compatible software support environment included. FCC/CE certified.

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### OSPREY LEGACY INTERFACE CARD

The Osprey can interface with a legacy UNIBUS or QBUS via the Legacy Interface Card (LIC). The PCI-based LIC depicted here utilized a Firewire connection to the Osprey Co-processor card. The ISA-based Osprey utilizes ribbon cable connections between the Co-processor and LIC.



### LIC Tech Specs

Dual-height QBUS or quad-height UNIBUS card plugs into PDP-11 backplane. Interface cable plugs into logic connector on Osprey. I/O adapter logic provides programmed I/O and DMA access to legacy controllers. 32 MB/sec transmission meets most ultra high bandwidth application requirements. FCC certifiable.

## OSPREY RACK MOUNT CHASSIS

The Osprey chassis provides the means to house the Osprey emulator, the Windows host server, and legacy I/O cards in a single rack mount chassis. The chassis provides new power supplies and cooling fans so support legacy I/O cards. QBUS chassis' can house up to four quad-height QBUS I/O cards. UNIBUS chassis' are available in four (depicted) and nine slot configurations.



### Chassis Tech Specs

19" wide by 20" deep (483 x 508 mm), height varies based on configuration. This chassis is FCC certifiable. A 100-120/200-240 VAC, 47-63Hz system power supply delivers +5@60, +12@13, +15@5, -5@0.5, -12@1, and -15 VDC@Amps. Cooling fans and space are included for user's hex-height, 4-slot or 9-slot DD-11 Unibus backplane, or 4-slot QBUS backplane. ATX PC motherboard, diskette and hard drives (one hidden and four visible half-height bays). One 4-slot, Hex-wide Unibus Backplane is included.

### PC Subsystem

- ATX Motherboard
- Pentium 4, 2.4 Ghz 533Ghz FSB
- Memory, 1 GB, ECC, PC2100
- Video card, AGP
- Disk, Hiatachi, 80GB, IDE
- DVD, Plextor, IDE
- Rack mount monitor
- Keyboard
- Mouse
- Windows XP