A Versatile Multiprocessor

by **IAN WESTMACOTT,** Technical Editor

Ross' hyperSTATION 30 will be at home in any multithreaded application area, including database and Web server applications, CAD/CAM and graphics design.

As multithreaded applications–uncoupled transaction systems such as Web servers and database engines–become the norm rather than the exception, multiprocessor servers and workstations are becoming more common, and cheaper. Ross Technology Inc., a subsidiary of Fujitsu Ltd. and perhaps best known for hyperSPARC processors (used in the Sun Microsystems Inc. SPARCstation 20 line) and SPARC multiprocessor upgrades, offers single-, dual- and quad-processor SPARCstation 20-compatible workstations in its hyperSTATION line. Being SPARCstation-compatible, the hyperSTATION supports Sun's Solaris operating system off-the-shelf and more than 10,000 SPARC applications.

The hyperSTATION 30 is Ross' top of the line, offering up to four 200-MHz processors, 1 GB of RAM, 6 GB of internal storage and 24-bit graphics. Ranging in price from $10,000 to $40,000, the hyperSTATION 30 is available in various configurations. Graphics options include the Turbo GX frame buffer with 1 MB or 4 MB of memory, or the AG10-E 24-bit 3D

frame buffer; peripheral options include a six-speed CD-ROM drive and full-featured digital 17- or 21-inch color monitor with on-screen display; SBus options include 100BaseT Ethernet, FDDI and SCSI; software options include various versions of Solaris

and Netscape Communications Corp.'s SuiteSpot.

The hyperSTATION is also easily upgradable, so you can add processors as the need arises. Our review unit came equipped with four 142-MHz hyperSPARCs, 256 MB of RAM, a 2-GB internal hard disk and SunOS 5.5.1 (Solaris 2.5.1) preinstalled. All units include a standard 3.5-inch floppy disk drive, generic Type 5 keyboard and a Fujitsu three-button mechanical mouse. The keyboard and mouse leave a little to be desired. The small keys have a
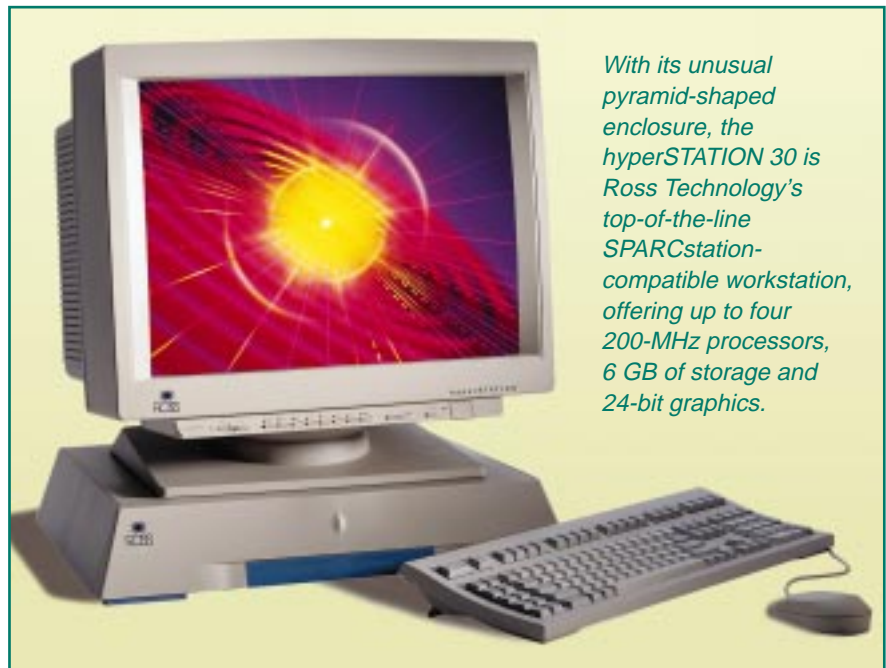
With its unusual pyramid-shaped enclosure, the hyperSTATION 30 is Ross Technology's top-of-the-line SPARCstation-compatible workstation, offering up to four 200-MHz processors, 6 GB of storage and 24-bit graphics.

shallow stroke with no feedback, and the mouse buttons and ball are sticky.

The dimensions of the base unit are 3.75 inches high by 20 inches wide by 17.25 inches deep, and it weighs 28 pounds. Its unusual truncated pyramid-shaped enclosure was designed by Austin, TX-based Design Edge. Although at first this design may seem somewhat gratuitous (and a waste of footprint space), for office installations it is certainly an improvement over the bland boxes most workstation vendors are so fond of (kudos to Ross for actually hiring a design firm). Moreover, Ross claims the design improves airflow in the hyperSTATION ventilation system.

Removable storage devices are accessible on the right-hand side, where the single 5.25-inch and single 3.5-inch externally accessible bays are located. The rear panel includes SCSI, serial, parallel and twisted-pair Ethernet ports, and 16-bit audio ports for stereo in/out, mono microphone input and stereo

headphone output. Inside the box are two additional 3.5-inch bays, one of which was occupied with the internal hard disk; four SBus slots, two of which were occupied by the AG10-E; and two 50-MHz MBus slots, each occupied by dual-CPU daughter cards. Engineering is excellent. Despite cramped quarters, every component is easily accessible, and cable management is good. High-quality parts and attention to detail are evident.

Two Are Better Than One

As a multiprocessor, the hyper-STATION will find a home in any multithreaded application area, including database and Web server applications, CAD/CAM and graphics design, and most technical compute-intensive applications such as visualization and simulation. We tested our unit with Adobe Systems Inc. PhotoShop, Netscape's Enterprise server and a non-commercial molecular dynamics simulator. In all cases, the hyperSTATION

performed well, on par with the SPARCstation 20. One limiting factor of the hyperSTATION is its sustainable memory throughput, which we found to be about the same as the SPARCstation 20, but which is about one third the rate of an Ultra 1 140 (thanks to the Ultra Port Architecture). This can be a factor for applications that work with large data sets (larger than the cache size).

If a SPARC-based desktop multiprocessor is what you are looking for, then your choices are limited. And if your budget constrains you further, then the hyperSTATION line from Ross may just fit the bill. We found the hyperSTATION to be a well-constructed workstation with available options to fit most installations, and at a price that won't break the bank. You may want to replace the keyboard and/or mouse, but otherwise we had no problems with the system. ✐

Ross hyperSTATION 30

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WWW
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Best Feature
Design, construction and price

Worst Feature
Keyboard/mouse

Price
Depends on configuration

Reviewed Configuration
Quad 142-MHz with 1-MB cache
64-MB RAM
2-GB hard disk drive
Turbo GX frame buffer
6X CD ROM
Solaris 2.5.1
17-inch color monitor
$23,560

Circle 170