

Rodime has recently announced half-height 5¼-in. drives in ESDI versions of 106 and 149 Mbytes formatted. Like the little Conner drive, these use RLL 2,7 coding to pack the data onto a few surfaces.

An AT box could hold four of these along with one floppy, for a total formatted capacity close to 600 Mbytes. The average seek time is 22 ms, and the volume price is under \$1,200. Four of these cost more than the 765-Mbyte unformatted Maxtor XT-8760E, but the possibility of striping or risk-spreading (but not both) over separate drives is appealing.

Micropolis offers half-height drives with capacities similar to the Rodime units but with a 16-ms access time and a 35,000-h MTBF, nearly twice the Rodime's 20,000. The prices in thousands are \$1,095 with ESDI interface and \$1,165 with SCSI, both for 182-Mbyte unformatted capacity.

Micropolis has also extended its full-height capacity to 765 Mbytes unformatted, approximately 600 Mbytes formatted, meeting Maxtor's giant head on. In quantities of 2,500, these are \$2,295 and \$2,395 for ESDI and SCSI, respectively.

Five-drive storage subsystem

Along with its separate drives, Micropolis makes a storage subsystem with five full-height 300-Mbyte drives, four running in parallel and a fifth for parity. Each drive has the customary 1.25-Mbyte/s data rate. Since four are transferring in parallel, the total is 5 Mbytes/s. If a drive fails, the parity drive reconstructs the missing data nearly in real time, for a subsystem MTBF of 140,000 h.

If four drives, each with a 30,000-h MTBF were used serially, the MTBF for the system would be nearer 8,000 h, with any drive failure counted a system failure. The parity and automatic correction in the Micropolis system allows a faulty drive to be replaced without shutting down. Prices are \$8/Mbyte in thousands.

Full-height 5¼-in. drives also come from Control Data, in a series called Wren. Capacities range from 344 to 574 Mbytes, in both ESDI and SCSI versions. Transfer rates for the SCSI peak at 15 Mb/s. Average seek times range from 14.5 ms to 19.5 ms,

and MTBF is 40,000 h. Volume prices are about \$4 to 5/Mbyte.

Also claiming 15-Mbit/s transfer is Toshiba America's full-height 382-Mbyte MK-250. The volume price is \$1,695. Both ESDI and SCSI are available, and multiple drives can sequence their own power up, reducing the load on the power supply.

Miniscribe, known for very inexpensive but slow 40-Mbyte drives for PCs, also has a fast SCSI-ESDI entry over 300 Mbytes. The full-height 9380 formats to 347 Mbytes with SCSI or 330 with ESDI, finds a sector in 16 ms, and costs about \$1,900 each in thousands.

Fujitsu builds its full-height drives, including the 320-Mbyte M2249SA, into free-standing storage subsystems with tape backup. These have SCSI interface with their own power supply and fan, and come preformatted. End-user list prices range from \$3,695 for a single-disk 140-Mbyte unit to \$15,500 for a three-drive 960-Mbyte model.

—Rodney Myrvagnes

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Disk Products Div. Irvine, CA 714-583-3108	

In Brief...

LSI Logic takes on the SPARC chip set

ASIC vendor LSI Logic has come down squarely on both sides of San Francisco Bay. It has signed up to produce Sun Microsystems' 32-bit SPARC RISC processor chip set, an outgrowth of RISC research at the University of California at Berkeley. Last year, LSI Logic took on a 32-bit RISC processor emanating from Stanford University and developed by MIPS Computer. Now LSI Logic will let the market decide which chip set is best.

LSI Logic of Milpitas, CA, joins previous SPARC licensees Fujitsu, Cypress Semiconductor, and Bipolar Integrated Technologies. Already underway are standard parts that LSI Logic expects to

make available this summer. They will be 15 VAX-MIPS parts in a 0.9-µm-channel-length CMOS process to be followed by BiCMOS parts running at 40 to 50 MIPS.

A small chip with about 80,000 transistors, the SPARC CPU will also be offered by LSI Logic as a standard cell for ASIC designs. The many systems houses worldwide with LSI Logic design centers already on premises could produce SPARC systems with their own value-added features that could be certifiable as SPARC-compatible by Sun. These could run the standard Unix promised by AT&T. The simplicity of the silicon also makes future inroads into the personal computer marketplace a possibility, possibly as a mass-produced low end to a workstation line.