

Helical-scan subsystems: a broad spectrum of storage

ELIZABETH LINDHOLM

The helical-scan tape marketplace has grown tremendously over the last several years. This Buyers Guide includes 8mm and 4mm systems, incorporating a total of 104 systems from 23 vendors. The storage capacity of the products included in the accompanying chart covers a broad range. Base storage runs from a low of 1.3 MBytes to a high of 0.5 terabytes; maximum

storage ranges from a low of 5.2 GBytes to a high of 2 terabytes.

VAX managers have several options to increase the storage capacity of helical-scan systems as their needs grow: stringing multiple drives together, data compression and cartridge-handling systems.

Stringing drives together may be the simplest way to expand storage capacity. All of the drives included in this Buyers Guide are multiple-drive systems with a base of one or

two drives and a maximum of seven drives. On the other hand, cartridge-handling systems and those with a data-compression option can increase storage capacity without adding drives to the system.

Cartridge-handling or stacker systems automatically load and unload individual tapes much like the automated jukeboxes of optical storage systems. This approach provides an option for unattended backup for large systems or net-

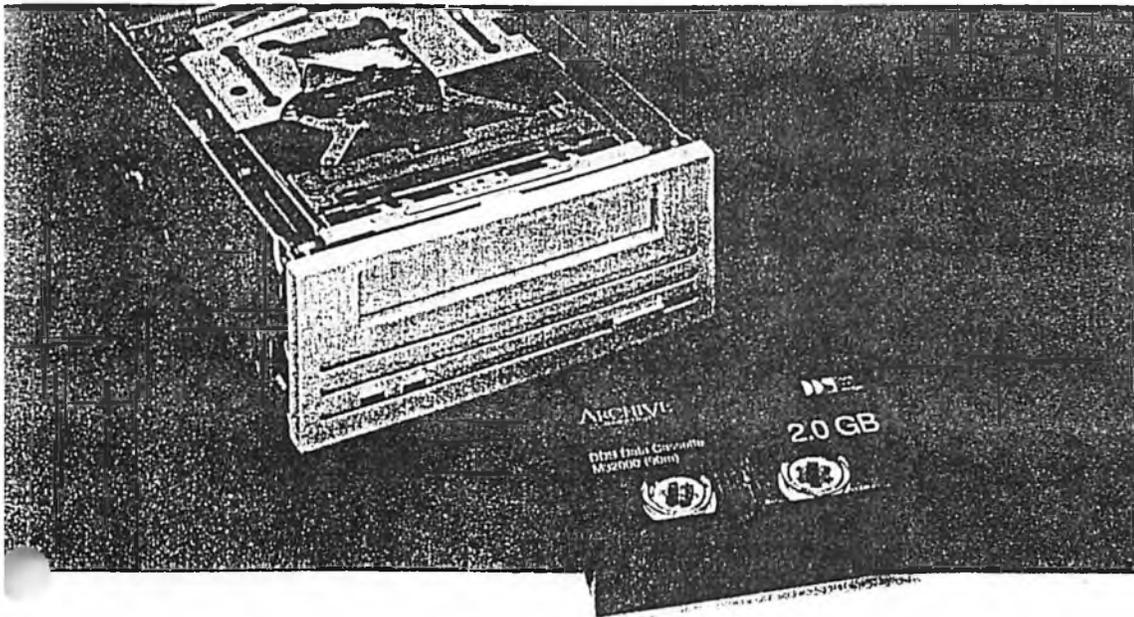
works if a multiple-drive system provides insufficient capacity. The tape-changing systems included here are gravity-fed stackers or revolving carousel systems. For instance, Woburn, Mass.-based Aviv Corp.'s gravity fed-stacker handles 10 tapes, and Houston-based Summus Corp.'s Magnus carousel system handles up to 54 tapes.

Regardless of which method is used to handle individual tapes, helical-scan subsystems greatly increase the amount of storage provided. For instance, Summus' Magnus system provides 125 GBytes of storage; Aviv's AD8501-S1 provides up to 350 GBytes of storage; and the CY-10-C115 from Contemporary Cybernetics, Group of Newport News, Va., provides up to 2 terabytes of storage. Twelve of the systems included in the Buyers Guide provide an automated stacker or carousel system. In some systems, such as those from Aviv, VAX managers can string several stackers together to increase storage, but vendors warned that performance problems may arise from overloading the CPU.

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Data-compression option

Many of the systems included in the Buyers Guide provide a data-compression option that enables drives to literally squeeze more information into less space. For instance, MegaTape Corp. of Duarte, Calif., provides systems with compression ratios ranging from 2-to-1 to 5-to-1. With such ratios, the company's 8mm offering provides from 4 to 10 GBytes of storage. But according to Clyde Cornwall, MegaTape's marketing manager, compression rates cannot be a constant on the same system because several variables affect the compression achieved. For example, MegaTape's Exabyte 8200 requires a sustained transfer rate of 246 KBytes/sec. to maintain continuous streaming. With a 2-to-1 compression ratio, the system must provide data at 492 KBytes/sec. to keep the drive streaming. Data transfer rates must increase as the compression ratio increases. Therefore, systems must have enough horsepower to provide data at this rate. ■



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Circle 230 on Reader Service Card (Page 8)

Helical-scan vendors

American Digital Systems Inc., 490 Boston Post Road, Sudbury, Mass. 01776, (800) 767-7712 or (508) 443-7711. **Circle 101.**

Aviv Corp., 26 Cummings Park, Woburn, Mass. 01801, (617) 933-1165. **Circle 102.**

CMS Enhancements Inc., 1372 Valencia Ave., Tustin, Calif. 92680, (714) 259-5903. **Circle 103.**

Contemporary Cybernetics Group, 11830 Canon Blvd., Newport News, Va. 23606, (804) 873-0900. **Circle 104.**

Digital Basics Inc., 689 S. Canterbury Drive, Shakopee, Minn. 55379, (800) 522-1742 or (612) 496-2550. **Circle 105.**

Digital Equipment Corp., 146 Main St., Maynard, Mass. 01574-2571, (508) 493-5111.

Dilog Corp., 1555 South Sinclair St., Anaheim, Calif. 92806, (800) 345-6432 or (714) 937-5700. **Circle 106.**

Emulex Corp., 3545 Harbor Blvd., Costa Mesa, Calif. *Continued on page 36*

LICAL-SCAN TAPE SUBSYSTEMS

Edited by Elizabeth Lindholm

Company/Product	List price	Tape size (mm)	Operating systems	CONFIGURATION/PERFORMANCE					FEATURES				RELIABILITY							
				Interface	Base/Max. drives	Base storage (GB/bytes)	Max. storage (GB/bytes)	Max. sustained transfer (MB/sec)	Cache buffer	Drive manufacturer	Controller manufacturer	TMS/CP controller emulation	Dual porting	Multiple users	Block mode DMA	Encrypted data writes	Onboard error correcting code	Auto read-after-write verification	Error logging	Uncorrectable error rate
American Digital Systems																				
MasterTape II/HSC	\$24,000	8	VMS,LI	HSC 40/50/70	2/4	4.0	9.2	248	256K	Esabyte	N/A							10 ⁻⁶	20,000 +	2
MasterTape II/MQT153	\$4,995	8	VMS,LI	Q-bus	1/7	2.3	18.3	248	256K	Esabyte	CMO							10 ⁻⁶	20,000 +	2
MasterTape II/MQT153	\$3,495	8	VMS,LI	Unibus	1/7	2.3	18.3	248	256K	Esabyte	CMO							10 ⁻⁶	20,000 +	2
MasterTape II Z/MZT153	\$3,650	8	VMS,LI	SCSI	1/7	2.3	18.3	248	256K	Esabyte	N/A							10 ⁻⁶	20,000 +	2
MasterTape 4/HSC	\$20,000	4	VMS,LI	HSC	2/4	1.3	9.1	183	512K	WangDAT	N/A							10 ⁻⁶	20,000 +	2
MasterTape 4/MQT154	\$4,695	4	VMS,LI	Q-bus	1/7	1.3	9.1	183	512K	WangDAT	CMO							10 ⁻⁶	20,000 +	2
MasterTape 4/MQT154	\$4,995	4	VMS,LI	Unibus	1/7	1.3	9.1	183	512K	WangDAT	CMO							10 ⁻⁶	20,000 +	2
MasterTape 4 Z/MZT154	\$3,350	4	VMS,LI	SCSI	1/7	1.3	9.1	183	512K	WangDAT	N/A							10 ⁻⁶	20,000 +	2
MasterTape 4/MQT153	\$3,395	4	VMS,LI	Q-bus	1/7	2.0	18.2	248	256K	WangDAT	CMO							10 ⁻⁶	20,000 +	2
MasterTape 4/MQT153	\$6,195	4	VMS,LI	Unibus	1/7	2.0	18.2	248	256K	WangDAT	CMO							10 ⁻⁶	20,000 +	2
MasterTape 4/MZT153	\$4,050	4	VMS,LI	SCSI	1/7	2.0	18.2	248	256K	WangDAT	CMO							10 ⁻⁶	20,000 +	2
Aviv																				
AB4201-ST	\$21,000	4	VMS,LI	Q-bus,Unibus,SI	1/7	10.4	72.8	183	1MB	WangDAT,OI	Aviv							10 ⁻⁶	30,000	1
AB4202	\$19,000	4	VMS,LI	SI	2/6	2.4	7.2	258	1.5MB	WangDAT,OI	Aviv							10 ⁻⁶	20,000	1
AB8201-ST	\$24,000	8	VMS,LI	Q-bus,Unibus,SI	1/7	25	175	245	768K	Esabyte	Aviv							10 ⁻⁶	27,000	1
AB8202	\$20,000	8	VMS,LI	Q-bus,Unibus,SI	2/6	5	15	492	1MB	Esabyte	Aviv							10 ⁻⁶	30,000	1
AB8501-ST	\$2,000	8	VMS,LI	Q-bus,Unibus,SI	1/7	30	350	500	1KB	Esabyte	Aviv							10 ⁻⁶	27,000	1
AB8502	\$25,000	8	VMS,LI	Q-bus,Unibus,SI	2/6	10	30	1MB	2.5MB	Esabyte	Aviv							10 ⁻⁶	30,000	1
ACT4100S	\$3,000	4	VMS,LI	SCSI	1/7	1.3	9.1	183	512K	WangDAT,OI	N/A							10 ⁻⁶	20,000	1
ACT41003-ST	\$11,000	4	VMS,LI	Q-bus	1/7	10.4	72.8	183	1MB	WangDAT,OI	Aviv							10 ⁻⁶	15,000	1
ACT4203	\$3,955	4	VMS,LI	Q-bus	1/7	1.3	9.1	183	1MB	WangDAT,OI	Aviv							10 ⁻⁶	20,000	1
ACT420U	\$3,500	4	VMS,LI	Unibus	1/7	1.3	9.1	183	1MB	WangDAT,OI	Aviv							10 ⁻⁶	20,000	1
ACT420S	\$3,200	8	VMS,LI	SCSI	1/7	2.5	17.5	248	256K	Esabyte	N/A							10 ⁻⁶	30,000	1
ACT82003	\$8,258	8	VMS,LI	Q-bus	1/7	2.5	17.5	248	768K	Esabyte	Aviv							10 ⁻⁶	30,000	1
ACT82003-ST	\$14,000	8	VMS,LI	Q-bus	1/7	25	175	248	768K	Esabyte	Aviv							10 ⁻⁶	27,000	1
ACT820U	\$6,200	8	VMS,LI	Unibus	1/7	2.5	17.5	248	768K	Esabyte	Aviv							10 ⁻⁶	30,000	1
ACT850-03	\$5,200	8	VMS,LI	SCSI	1/7	5	35	500	512K	Esabyte	N/A							10 ⁻⁶	30,000	1
ACT850G3	\$8,258	8	VMS,LI	Q-bus	1/7	5	35	500	1MB	Esabyte	Aviv							10 ⁻⁶	30,000	1
ACT850U	\$8,200	8	VMS,LI	Unibus	1/7	5	35	500	1MB	Esabyte	Aviv							10 ⁻⁶	30,000	1
AH8202	\$22,000	8	VMS,LI	HSC	2/4	6	10	248	1MB	Esabyte	Lago							10 ⁻⁶	30,000	1
AH8502	\$27,000	8	VMS	HSC	2/4	10	20	500	2.5MB	Esabyte	Lago							10 ⁻⁶	30,000	1
CMS Enhancements																				
COAT13/Q	\$5,330	4	VMS	Q-bus	1/7	1.3	9.1	183	64K	WangDAT	CMS							10 ⁻⁶	50,000	1
COAT13/O3	\$6,690	4	VMS	Q-bus	1/7	1.3	9.1	183	64K	WangDAT	CMS							10 ⁻⁶	40,000	1
COAT13/U	\$4,455	4	VMS	Unibus	1/7	1.3	9.1	183	64K	WangDAT	CMS							10 ⁻⁶	50,000	1
CX822/Q	\$6,110	8	VMS	Q-bus	1/7	2.3	18.1	240	256K	Esabyte	CMS							10 ⁻⁶	40,000	1
CX822/O3	\$6,690	8	VMS	Q-bus	1/7	2.3	18.1	240	256K	Esabyte	CMS							10 ⁻⁶	40,000	1
CX822/U	\$6,455	8	VMS	Unibus	1/7	2.3	18.1	240	256K	Esabyte	CMS							10 ⁻⁶	40,000	1
VSE-DAT	\$4,050	4	VMS	SCSI	1/7	1.3	9.1	183	64K	WangDAT	N/A							10 ⁻⁶	50,000	1
Contemporary Cybernetics																				
CY-8200-031	DIP	8	VMS,LI,U	Q-bus,Unibus,SCSI	1/7	2.5	70	DIP	256K	Esabyte	DIP							10 ⁻⁶	30,000	1
CY-8200 H81	DIP	8	VMS,LI,U	STI	1/7	2.5	70	1MB	1.3MB	Esabyte	DIP							10 ⁻⁶	30,000	1
CY-8200 QBAS1/UBAS1	DIP	8	VMS,LI,U	Q-bus,Unibus	1/7	2.5	70	1MB	256K	Esabyte	DIP							10 ⁻⁶	30,000	1
CY-8200 T81	DIP	8	VMS,LI,U	TU/TAS1	1/7	2.5	70	1MB	1.3MB	Esabyte	DIP							10 ⁻⁶	30,000	1
CY-120-CH3	DIP	8	VMS,LI,U	Q-bus,Unibus	1/4	STB	ZTB	ZMB	256K	Esabyte	DIP							10 ⁻⁶	27,000	1
CY-16-CH3	DIP	8	VMS,LI,U	Q-bus,Unibus	1/1	100	100	1MB	256K	Esabyte	DIP							10 ⁻⁶	30,000	1
Digital Basics																				
DB82R	\$4,050	8	VMS	SCSI	1/7	2.3	18.1	248	256K	Esabyte	CMO							DIP	30,000	1
DB83R/S	\$3,485	4	VMS,LI,U	Q-bus,Unibus,SCSI	1/7	2	112	183	512K	Wangtek	CMO							DIP	50,000	1
Digital Equipment																				
TL204	\$3,500	4	VMS,LI	Q-bus,SCSI	1/W	1.2	V	183	512K	DIP	DIP							10 ⁻⁶	DIP	
Dlog																				
DT3-4mm	DIP	4	VMS,LI,U,SasO3	Q-bus,Unibus	1/7	10.4	72.8	183	DIP	Sony	Dlog							10 ⁻⁶	40,000	1
DT4-8mm	DIP	8	VMS,LI	HSC 40/50/70	1/2	2.3	4.8	248	256K	Esabyte	DEC							10 ⁻⁶	20,000	1
DT5-4mm	DIP	4	VMS,LI	HSC 40/50/70	1/2	10.4	20.8	183	256K	Sony	DEC							10 ⁻⁶	40,000	1
DT5-8mm	DIP	8	VMS,LI,U,SasO3	Q-bus,Unibus	1/7	1.3	9.1	183	256K	Sony	Dlog							10 ⁻⁶	40,000	1
DT6-8mm	DIP	8	VMS,LI,U,SasO3	Q-bus,Unibus	1/7	2.3	18.1	248	246K	Esabyte	Dlog							10 ⁻⁶	20,000	1
Emulex																				
EH22	\$6,600	8	VMS,LI,RSTS,OI	Q-bus,Unibus,SCSI	1/7	2.3	18	248	256K	Esabyte	Emulex							10 ⁻⁶	20,000	1
STEX	\$17,490	8	VMS,LI	STI	1/4	2	8	248	768K	Esabyte	N/A							10 ⁻⁶	20,000 +	1

Product has indicated feature; INP - Information not provided; N/A - Not applicable; Opt - Optional; U - Unix; LI - Ultrix; V - Varies; 1 - 2 drives; * - Larger with data compression; ** - 246 times data-compression rate; * - Includes stacker/carousel. All information was provided by the product vendors.