CONTROLLER MANUFACTURER LISTING

COMPETITIVE INFORMATION

Prepared by

Bert Armijo

CIPHER DATA PRODUCTS, INC. 7301 Orangewood Avenue Garden Grove, CA 92641

(714) 891-3711 TWX 910-596-1870

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INTRODUCTION

The following is a reference list of Controller Manufacturers who have advertised or announced controllers or adapters for cartridge tape products. It should aid potential tape users in selecting interface equipment which suits their needs. Indications are made in the listing where specific design or testing has been done with Cipher Products.

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ADDRESS LISTING

Adaptive Data (ADES) 2627 Pomona Blvd. Pomona, CA 91768 714-594-5858

Advanced Electronics Design, Inc. (AED) 440 Potrero Ave. Sunnyvale, CA 408-733-3555

Advanced Micro Devices Microcomputer Systems 901 Thompson Pl. P. O. Box 3453 M/S 140 Sunnyvale, CA 94088 408-732-2400

Alpha Omega Computer Systems 33868 Eastgate Circle P. O. Box U Corvallis, OR 97339 503-754-1911

Antonia Corporation 13600 Ventura Blvd. Sherman Oaks, CA 91423 818-986-6651

Axis, Inc. 7825 Engineer Rd., Suite 208 San Diego, CA 92111 619-560-7737

Colex America, Inc. 15028 Beltway Dr. Dallas, TX 75234 214-458-2779

Comark Corp.
93 West St.
P. O. Box 474
Medfield, MA 02052
617-359-8161

Computer Dynamics Inc. 105 S. Main St. Greer, SC 29651 803-877-7471

Computer Storage Technology 1369 South State College Blvd. Anaheim, CA 92806 714-778-3656

Creative Micro Systems 3822 Cerritos Ave. Los Alamitos, CA 90720 213-493-2484

Data-Sub Systems/U.S., Inc. 2219 S. 48th St., Suite J Tempe, AZ 85282 602-438-1492

Data Technology Corp. 2775 Northwestern Pkwy. Santa Clara, CA 95051 408-496-0434

Distributed Logic Corp. (DILOG)
12800 Garden Grove Blvd.
Garden Grove, CA 926434
714-534-8950

dy-4 Systems, Inc. 888 Lady Ellen Pl. Ottawa, Ontario, Canada K1Z5M1 613-728-3711

Emulex 3545 Harbor Blvd. Costa Mesa, CA 92626 714-662-5600 Faraday 743 Pastoria Ave. Sunnyvale, CA 94086 408-749-1900

Intel Corp. 3065 Bowers Ave. Santa Clara, CA 95051 408-987-8080

Konan 1456 N. 27th Ave. Phoenix, AZ 85009 602-269-2649

Micro-Link 14602 N. U. S. Hwy. 31 Carmel, IN 46032 317-846-1721

Micro Technology 1620 Miraloma Ave. Placentia, CA 92670 714-632-7580

Motorola Semiconductor Products Div. 4030 Moorpark Ave., Suite 121 San Jose, CA 95117 408-985-0510

OMTI 777 E. Middlefield Rd. Mountain View, CA 94043 415-964-5700

Plessey Periphral Systems Computer Products Division 1674 McGaw Ave. Irvine, CA 92714 714-540-9945 Rancho Technology 10238 Monte Vista Rancho Cucamonga, CA 91701 714-987-3966

Scientific Micro Systems 777 E. Middlefield Mountain View, CA 94043 415-964-5700

Sigen Corp. 1800 Wyatt Dr., Suite 6 Santa Clara, CA 95054 408-988-2527

Xebec Corp. 432 Lakeside Dr. Sunnyvale, CA 94086 408-287-2700

ADAPTIVE DATA SYSTEMS, INC.

SCSI 536 STC

Features

- o Industry standard SCSI host interface.
- o Industry standard QIC-36 peripheral interface.
- o QIC-11 or QIC-24 selectable media formats.
- o SCSI bus and buffer parity (optional).
- o Read--After--Write data check.
- o 16 bit CRC error detection coding.
- o Single 5 1/4 inch form factor.
- o 8K on board buffer.

Adaptive Data--Python--AP Tape Link

- o Multi-tasking operation.
- o Industry standard SCSI host interface.
- o Single ended or differential interface options.
- o Controls 1/4" cartridge or 1/2" streaming devices.
- o QIC-11 or QIC-24 selectable media formats.
- o 512 byte block sizes.
- o 16 bit CRC error detection coding.
 - *IBM PC and IBM Personal Computer are trademarks of International Business Machines Corporation.

ADVANCED ELECTRONICS DESIGN, INC. (AED)

5 1/4" Winchester/floppy controller, supporting most floppy disk drives.

ADVANCED MICRO DEVICES MICROCOMPUTER SYSTEMS (MCS)

Intelligent floppy disk controller board.

Features

o Handles up to (4) 5 1/4" and (4) 8" drives concurrently, supporting both single and dual-density, as well as single and double-sided drives in intermixed systems.

ALPHA OMEGA COMPUTER SYSTEMS

ASY-8301

- o STD Z80 bus
- o On-card processor with automatic format adjustment
- o Error detection and correction
- o Data buffering W/DMA to/from bus memory
- o Logical or physical disk address
- o 4 or 6 MHZ
- o (4) drives any mix 3 1/2, 5 1/4, or 8"

ANTONA CORPORATION

ANC-7393 floppy disk controller card.

Features

- o Industry Standard STD bus.
- o Up to (4) 5 1/4" or 8" drives.
- o SS or DS, SD or DD.
- o CP/M software drivers.
- o Digital phased lock loop.
- Write precompensation.
- o All I/O lines fully buffered.

AXIS, INC

Floppy disk conttroller, #LSB-7810

Features

- o Industry Standard STD bus.
- o Controls up to four (4) disk drives with any size and format combination.
- o DMA option available.

COLEX AMERICA

STD-FLP2 floppy disk interface

- o Industry Standard STD Z80.
- o Supports 5 1/4" and 8" diskettes.
- o SS or SD, SD or DD software selectable.

COMARK CORPORATION

MF80 dual 8" floppy disk controller.

Features

o Intel compat (201/202), write protect and unit selection switches.

CBX-FDC Floppy Disk Controller

- o Controls up to 4 drives.
- o SS or DS, SD or DD.
- o Either 5 1/4" or 8".
- o IBM format.

COMPUTER DYNAMICS, INC.

FLP dual density floppy controller.

Features

- o Full DMA to 6 MHz supports 8" and 5 1/4".
- o 8" and 5 1/4".
- o SS or DS, SD or DD

COMPUTER STORAGE TECHNOLOGY (CST)

CC-100 1/4" streaming cartridge tape controller.

Features

- o For all IBM series/1 computers.
- o QIC-02 Interface.

CC-300 1/4" streaming cartridge tape drive controller.

- o For LSI-11.
- o QIC-02 Interface.

COMPUTER STORAGE TECHNOLOGY (CST)

CC-400 controller.

Features

- o \$100 bus compatible.
- o QIC-02 Interface.

CREATIVE MICRO SYSTEMS

9671 universal floppy disk controller.

Features

- o For up to (4) 5 1/4" and 8" drives.
- o SCSI compatible.

DATA SUB SYSTEMS/U.S., INC.

Floppy disk controller board.

- o Uses the Western Digital WD1793.
- o VME bus compatible.
- o Supports up to (4) 8" or 5 1/4" drives.
- o SS or DS, SD or DS.

DATA TECHNOLOGY CORPORATION

Controllers for most 5 1/4" and 8" flex drives.

Features

Controllers have SASI/SCSI interface to host adapters.

DISTRIBUTED LOGIC CORPORATION (DILOG)

DQ409 floppy disk controller.

Features

Dual wide controller interfaces up to 2 Shugart SA800 or 850 equivalent drives to LSI-11, 11/2, 11/23, micro PDP-11.

DQ419 floppy disk controller.

Features

o Dual-wide controller interfaces up to (2) SA801 or equivalent drives.

dy-4 SYSTEMS, INC.

DSTD-711-4.0 floppy disk and DMA controller.

Features

o Supports up to (4) 5 1/4" or 8" drives.

EMULEX

Titleist-(MT01)

- o SCSI implementation based on ANSI x 379.2/82-2 Revision 14.
- o Support of disconnet/reconnect function.
- o Command queuing from multiple initiators.
- o Hard reset.
- o Buffered operation to optimize tape streaming.
- o Extensive self-test and diagnostic facilities.
- o Single board 5 1/4" footprint.

FARADAY

FE 2100 floppy disk controller.

- o IBM format compatible.
- o Single 5V supply.
- o Complete data separator for FM and MFM encoded data.
- o Variable write precompensation.

INTEL CORPORATION

SBC 208 flexible disk controller.

Features

- o Controls up to (4) soft sectored drives.
- o SS or DS, SD or DD.
- o Software drivers available for RMX86.

SBX 218A flexible disk controller.

Features

- o Controls up to (4) soft sec
- o SS or DS, SD or DD.
- o Software drivers available fo

SBX 217C 1/4" tape drive interface mul

- o Support for up to four (4) 1/4" streaming cape drives.
- o QIC-02 Interface.

KONAN

Konan "Quick Tape" IBM PC* interface card

- o Conforms to all QIC-02 specifications.
- o Complete electrical and physical compatibility with the IBM Personal Computer.
- o Performs direct memory access of any three standard IBM PC channels.
- o Software support to perform backup and restore to/from various hard disk interfaces.
- o 90 ips streaming tape capability in most environments.
- o Capable of addressing up to four streaming tape drives.
- o IBM PC* interface.

^{*}IBM PC and IBM Personal Computer are trademarks of International Business Machines Corporation.

KONAN

Konan Taisho 7000--Hark disk, floppy disk, and tape controller.

- o Cipher* FloppyTape compatible.
- o Z80A* microprocessor--based design.
- o Intel Multibus* interface.
- o Full track DMA transfers on one disk revolution.
- o 90 ips QIC-02 streaming tape intelligent interface standard.
- o Programmable sector sizes (128 bytes, floppy; 256 and 512 bytes, floppy and hard disk).
- o All transfers are DMA including the command block.
- o Full sector buffering (dual buffers).
- o Sector interleaving (software selectable).
- o Error correction (fully automatic).
- o Floppy can be 5 1/4" or 8" single or double sided, single or double density.
- o No adjustments on board.

^{*} Z80 is a trademark of Zilog Corporation. Multibus is a trademark of Intel Corporation. Cipher is a trademark of Cipher Data Products, Inc.

KONAN

Konan Taisho 6000--Hard and floppy disk and tape controller.

- o Cipher* FloppyTape Compatible
- o Z80A* microprocessor--based design.
- o Full track DMA transfers in one disk revolution.
- o Intel Multibus* compatible.
- o Programmable sector sizes (128 bytes, floppy; 256 and 512 bytes, floppy and hard disk).
- o All transfers are DMA including the command block.
- o Full sector buffering (dual buffers).
- o Sector interleaving (software selectable).
- o Error correction (fully automatic).
- o Automatic retries upon error.
- o Multiple sector transfers.
- o Floppies can be 5 1/4 inch or 8 inch, single or double density, single or double sided.

^{*} Multibus is a trademark of Intel Corporation.

KONAN

Disk Drive Interfaces

Interfaces to any 5 1/4 inch fixed or removable Winchester drives with the industry standard ST-506/412 interface. Also interfaces to four floppy disk drives.

Konan Host Personality Adapters.

Host Personality Adapters Available.

- o Apple II, II+, IIe*
- o IBM personal computer*
- o NEC*
- o TRS-80 Model III*
- o S-100 (IEEE 696)

Z80A is a trademark of Zilog Corporation. Multibus is a trademark of Intel Corportion. Cipher is a trademark of Cipher Data Products, Inc.

^{*} APPLE II, II+, IIE ARE TRADEMARKS OF APPLE COMPUTER COMPANY. IBM personal computer is a trademark of International Business Machines Corporation. NEC personal computer is a trademark of Nippon Electronics Corporation. TRS-80 Model III is a trademark of Tandy Corporation.

MICRO-LINK CORPORATION

STD-01 floppy disk controller.

Features

- o Industry standard STD bus.
- o Universal with on board DMA controller.
- Intermix sizes and densities.

MICRO-TECHNOLOGY, INC.

MXV21 floppy disk controller.

Features

o Supports two (2) Shugart 8" drives.

MXV22M floppy disk controller.

- o DEC RX02 formats.
- o Supports (2) 96TPI 5 1/4" drives with Shugart interface.

MICRO TECHNOLOGY, INC.

MXV42C floppy disk controller.

Features

- o RX02 formats.
- o Supports (2) 8" and (2) 5 1/4" 96TPI drives.
- o Dual height card.
- o Shugart interface compatible.

MX22 floppy disk controller.

Features

- o Supports four (4) 8" drives with Shugart interface.
- o PDP-11

MX22 floppy disk controller.

- o DEC Unibus compatible.
- o Controls up to (4) Shugart SA801/850 drives.

MOTOROLA, INC.

MVME 320 Winchester/floppy disk controller module.

- o VME bus.
- o Controls mixed 5 1'4" and 8" drives.
- o Up to (2) Winchesters.
- o Controls up to (2) Winchesters and (2) Floppy disks, or (4) floppy disks.

OMTI 5201

5201 SCSI Controller

Features

- o SCSI interface
- o Supports Winchesters, FloppyTape, and Flexible Disk Drives
- o 2 K Ring Buffer
- o Up to 1.5 MBytes/second SCSI bus transfer rate
- o Consecutive Sector transfer. One to one interleave.
- o Maintain 525 FloppyTape streaming operation
- o Command set compatible with OMTI 5000 Series (New commands for FloppyTape)

o Winchester Disk Drives

- Supports 3.5" or 5 1/4" ST506/412 Interface compatible drives
- Fixed, Removable or Fixed Removable Winchesters
- Hard or Soft sectored Winchesters
- Winchesters with up to 16 heads

o FloppyTape Drive (6 Streams)

- Specific 525 FloppyTape commands:
- Format FloppyTape Drive (04)
- Verify Stream Format (05)
- Format Segment (06)
- Define FloppyTape Format (CO)
- Assign FloppyTape Parameters (C2)

o Flexible Disk Drives

- 3.5 inch or 51/4 inch or 8 inch Drives
- 250 Kbits/second or 500 Kbits/second Transfer rate
- Supports the new generation of half height, 5 1/4" flexible disk drive

PLESSEY PERIPHERAL SYSTEMS, INC.

PM-XCV21 floppy disk controller.

Features

- o Compact single, dual wide board.
- o SD or DD
- o LSI-11 compatible
- o RX02 compatible

PM-XCV31 floppy disk controller.

- o Compact, single dual wide board.
- o DSDD
- o LSI-11 compatible
- o Instruction to modify DEC's software driver is supplied for most operating systems.

RANCHO TECHNOLOGY

RT 3002-WFT Winchester and FloppyTape controller.

Features

- o Support up to (3) Winchesters and (4) floppy disk drives or (1) Floppy Tape.
- o Supports Cipher 525 FloppyTape or 5 1/4" floppy drive.
- o Single +5 V power supply.
- o Write precompensation on Floppy Tape, floppy disk, and hard disk drives.
- o Sector buffer on board supports up to 1K byte sectors.
- o Self-test diagnostics/test command included.

SCIENTIFIC MICRO SYSTEMS (SMS)

Winchester, floppy and tape controllers.

Features

o Multi-function data controllers for SASI/SCSI bus.

SIGEN CORPORATION

Sigen DC-5

Features

- o Supports 5 1/4 inch 8 inch hard and/or 5 1/4 and 8 inch floppy drives, Floppy Tape.
- o Compatible with several industry standard disc interfaces.
- o Packaged on a single compact multilayer board.
- o High level command set.
- o VME bus compatible.

XEBEC

S-1420--General purpose disk controller.

- o Interlocked data transfer through the Shugart Associates Systems Interface (SASI).
- o 5 1/4" or 8" disk drives.
- o Microprocessor--Based architecture (patent pending).
- o Full Sector Buffer.
- o Automatic retries during disk access.
- o Internal Diagnostics.
- Automatic burst error detection.
- o Separate sector format for ID and data fields with individual CRC fields for both the ID and data fields.
- o High level command set.

APPLE PC

Data Technology Corporation

Controllers for most 5 1/4" and 8" floppy disk drives.

Xebec

S1420 Winchester/floppy controller.

MOTOROLA

EXORBUS

Creative Micro Systems.

9671 universal floppy disk controller.

IBM-PC

Data Technology Corporation

Controllers for most 5 1/4" and 8" flex drives.

Faraday

FE5141 integrated floppy disk adapter.

FE2100 floppy disk controller

Xebec

S1420 Winchester/floppy controller.

Konan

Controllers and host adapters.

OMTI

5201 Winchester/floppy disk/FloppyTape controller.

Rancho Technology

RT 3002-WFT Winchester/floppy disk/FloppyTape controller.

INTEL MULTIBUS

Comark Corporation

MF80 dual 8" floppy disk controller.

Intel Corporation

SBC 208; flexible disk controller.

SBX 218A; flexible disk controller.

Xebec

\$1420 Winchester/floppy controller.

Advanced Micro Devices Microcomputer Systems (MCS)

Intelligent floppy disk controller board.

DIGITAL EQUIP CORPORATION

Q-Bus

Advanced Electronics Design, Inc. (AED)

5 1/4" Winchester/8" floppy controller

5 1/4" Winchester/floppy controller.

Data Technology Corporation

Controllers for most 5 1/4" and 8" flex drives.

Distributed Logic Corporation (Dilog)

DQ409 floppy disk controller.

Micro Technology, Inc.

MXV22M 5 1'4" floppy disk controller.

Plessey Peripheral Systems Inc.

PM-XCV21 floppy disk controller.

PM-XCV31 floppy disk controller.

Computer Storage Technology (CST)

CC-300 1/4" streaming cartridge tape drive controller.

Emulex Corporation

Controllers for most 5 1/4" and 8" floppy drives.

STD BUS (IEEE P961)

Alpha Omega Computer Systems

ASY-8301 Std Z80 bus smart floppy disk controller.

Antona Corporation

ANC-7393 Std bus floppy disk controller card.

Axis Inc.

Floppy disk controller, #LSB-7810.

Colex America, Inc.

STD-FLP2 floppy disk interface for Std-280.

Computer Dynamics Inc.

FLP dual density floppy controller.

Micro-Link Corporation

STD-101 floppy disk controller.

MOTOROLA

VERSAbus

Data Technology Corporation

Controllers for most 5 1/4" and 8" floppy drives.

Motorola Inc.

M68KVM20 floppy disk controller.

VMEbus

(IEEE P1014)

Data-Sud Systems/U.S., Inc.

VMEous floppy disk controller.

dy-4 Systems Inc.

DVME-716 intelligent 9-trk tape host adapter.

Sigen Corporation

DC-5 floppy disk/floppy tape controller.

OTHER

Scientific Micro Systems (SCI)

Winchester, floppy, and tape controllers.

COMPETITIVE ANALYSIS

(Reference Chart)

Company	Model	Interface	Size	Capacity (MB)	Operating Mode	No. Trks	Notes, Features, Options
Analog and Digital	Model 1	TTL Serial	2.5 x 4 x 6	.158	Start/Stop	1	
Peripherals	Model 2	TTL Serial	2.5 × 4 × 6	0.5	Start/Stop	2	
	DC 300	TTL Serial	8×7×8	12	Start/Stop	4	
	Byte Bucket	RS232C, 1EEE-488, NCR	6 x 4.5 x 9	.5	Start/Stop	1	
	Feedback 340	RS232C, RS422		4	Start/Stop	4	
	Feedback 344	RS232C RS422	8 × 8 13	12	Start/Stop	4	
	Mini DC1	RS232C, 8 Bits, Parallel	6 x 5.5 x 7	.25	Start/Stop	2	
Archive Corporation	Scorpion 45 MB	QIC-02	1.625 × 5.75 × 8	48.6	Streeming	9	Half-Height
	Scorpion 20 MB	QIC-02	1.625 × 5.75 × 8	21.6	Streaming	4	Half-Height
	Sidewinder	QIC-02	4.5 x 8.55 x 10	21.6	Streaming	4	Train-riorger
i i	Super Sidewinder	QIC-02	4.5 × 8.55 × 10	48.6	Streaming	9	
			3.25 x 5.75 x 8			-	Sandan Standa Diak
Cipher Data Products, Inc.	525 Floppy Lape	SA 450/850	3.25 x 5.75 x 6	32	Streaming	6	Emulates Floppy Disk Performance
•	Series 540	CIC-02	3.25 x 5.75 x 8	45/60	Streaming	9	QIC-24 Formst, Front Loading, Optional 8" Form Factor
	Series 400	OIC-02	4.5 x 8.55 x 14	20	Streaming	4	QIC-24 Format, Transpare Error Detection, Correction
Columbia Data Products	300C	RS232C	5.2 x 7 x 14	1.5, 2.25		4	
	300D	RS232C	5.2 x 7 x 14	2.57, 3.8	Start/Stop	4	
Control Data Corporation	CDC 92190	RS232C	4.6 x 8.5 x 14.06	50	Streaming	1,1	Integrated Formatter
	CDC 92192	Serial Data	4.6 x 8.5 x 14.06	70	Streaming],,	Integrated Formatter
						1-1	
Data Electronics, Inc.	Streaker	SCI, SASI	4.5 x 8.5 x 6.4	26.6	Streaming	4	
	Mini-QIC Stream III	QIC-02	1.62 x 5.75 x 8	60	Streaming	4-9	Half Height Tape Drive
Digi-Data Corporation	6400	Funnel	3.25 x 6.9 x 5.75	21	Start/Stop Streaming	4	Serpentine or Standard Head Configurations
	8300	Funnel	3.25 x 6.9 x 5.75	30	Start/Stop Streaming	4	Serpentine or Standard Head Configurations
Electronic Processors	STR-812	RS422	4 x 7 x 12	3.4	Start/Stop	4	:
	STR-Stream	ST506.	4.15 x 7 x 13.25	130	ESDI	20	
		SA 1000					
Feedback Data LTD	330	TTL Serial CMOS Serial	5.9 × 7.7 × 6.4	4.31	Start/Stop	4	
	334	RS232C	5.9 x 7.7 x 6.4	17.25	Start/Stop	4	
	351	RS232C	7 x 8.6 x 17.8	4,31	Start/Stop	4	Dual-Drive Version Availa Rackmount or Free Stand
	340	RS232C	7 x 8.6 x 17.8	4.31	Start/Stop	4	Local Control or Commar Protocol, DC Power Optic
	344	RS232C	7 x 8.6 x 17.8	17.25	Start/Stop	4	Local Control or Comma Protocol, DC Power Optic
Kennedy Company	6455	Pico Bus Pertec ,5in Tape	45 x 85 x 14	23	Start/Stop	4	Emulates 5in Tape Drives without Software changes to system; Optional Front Panel
				•			ratie

Company	Model	Interface	Size	Capacity (MB)	Operating Mode	No. Trks	Notes, Features, Options
Northern Telecom	MCT/6190	QIC-02	3.9 x 7.7 x 5.7 (internal)	48/81	Streaming	9	
	MCT/6112	QIC-02	3.9 x 7.7 x 5.7	64/108	Streaming	12	
Pertex LTD	HD6400		4.25 x 6.9 x 5.7	17	Start/Stop	4	
	8000	R\$232C, 8 Bit Parallel	5.6 X 11.2 x 15.6 (Stand Alone)	3	Start/Stop	4	
	9000	RS232C, HDLC	5.2 x 8.3 x 16.3 (Stand Alone)	17	Start/Stop	4	
Quantex	Jet Stream 16	Q1C-02	4.62 x 8.51 x 14	99	Streaming	9.16	Reads and Writes 9 or 16 Track Tape
	200 Mini Drive	RS232C	3 x 4 x 4	.7	Start/Stop	2	
Tandberg Data, Inc.	TDC 3200	Q1C-02	4.6 x 7.8 x 10.3	62	Streaming	4	
	TDC 3300	Q1C-02	1.69 x 5.76 x 8 (Stand Alone)	62	Streaming	9	
3M Data Recording Products	HCD-75/30	Parallel 16 Bits, 8 Bit BiDirectional UniDirectional	4.6 x 6.8 x 17.6	67	Start/Stop Streaming	16	
	HDC-75/60	Parallel 16 Bits, 8 Bit BiDirectional UniDirectional	4.6 x 6.8 x 17.6	67	Start/Stop Streaming	16	
	DCD-3	TTL	6.9 x 8.7 x 9.4	4.3	Start/Stop Streaming	4	
Wangtek	Series 5000	QIC-02	3.25 x 5.25 x 8 (Stand Alone)	20-60	Streaming	4.9	