



AED Double Density Floppy Disk Subsystems

AED 6200LS Single Head

- Shugart SA800-2R Drives
- 630,784 bytes of data per drive
- 2,523,136 bytes on four drives
- Available in Kit form
- MFM encoding
- Upgradeable to dual head drives

AED 6200LD Dual Head

- Shugart SA 850-2R Drives
- 1,261,568 bytes of data per drive
- 5,046,272 bytes on four drives
- Available in Kit form
- MFM encoding
- Cylinder or track recording



Interfaces

The AED 6200LS and AED 6200LD subsystems, require an interface or adaptor board to be compatible with a particular mini or micro computer. 16 bidirectional data lines (alternatively 8 bits = 1 byte), plus seven command and sense lines comprise the bus between the AED 6200 formatter and the computer interface. The following interfaces are currently available from AED:

Digital Equipment Corporation

LSI-11 DMA (Q-BUS)	Card plugs into CPU
PDP-11 DMA (UNIBUS)	Accepts UNIBUS cable. I/F mounts in AED 6200 cabinet.
PDP-8 (OMNIBUS) DMA&PIO	Two cards plug into CPU

Data General Corporation

NOVA/ECLIPSE DMA	Single card plugs into CPU
MICRONOVA DMA	Single card plugs into CPU

Hewlett Packard

HP21MX DMA & PIO	Single card plugs into CPU
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Sperry/Univac (Varian)

V70 Series BIC	Single card plugs into CPU
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Interdata

7/16 Series MUX/SELCH	Full width or half card plugs into CPU
7/32 Series MUX/SELCH	Full width or half card plugs into CPU

Other Interfaces

The user can obtain sufficient information from AED to design an interface or, if the quantities warrant the design, AED will develop special interfaces for customers.

Powered Cabinet or Kit

The AED 6200 is normally provided complete with cabinet, control panel, drives, and interface. However, a user may order drives directly from the manufacturer and either integrate the drives at his facility or drop-ship the drives to AED for integration. For particular applications where the

drives are to be remoted from the AED electronics, the user may order just the formatter, drive electronics, interface, cables and power supply from AED as a fully tested "Kit".

Expansion Cabinet

The AED 6200LS/2 expansion cabinet provides controls, power and cables for two more drives for a total capability of four drives in two low-profile cabinets. The AED 6200 LD/2 likewise expands the AED 6200LD system to a four-drive capability.

Cables & Slides

The AED 6200 cabinet is equipped with rubber feet for table top mounting the unit. Optional chassis slides and mounting hardware are available for rack mounting. For extra deep cabinets, chassis slide extenders are available.

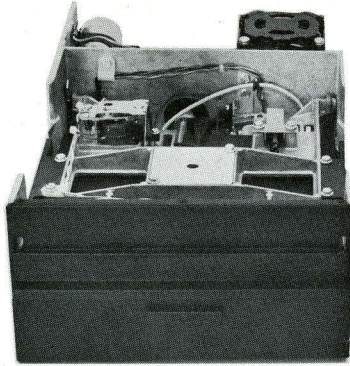
When purchased complete with the interface and drives from AED, all cables are provided. For customers who wish to design a special interface or purchase their own floppy disk drives, appropriate cables are available from AED.

Warranty and Service

The AED 6200 Series and Options are guaranteed to be free from defect in workmanship, materials or design for a period of 90 days from date of invoice. During this warranty period the buyer ships the malfunctioning part or system to Advanced Electronics Design, Inc. freight collect. We repair it and return it to the buyer freight collect. AED-paid freight costs apply only to the 48 contiguous states and Canada. Outside this area, round-trip freight costs are paid by the buyer.

SHUGART DRIVES
DOUBLE DENSITY FLOPPY DISK SUBSYSTEMS

Shugart Floppy Disk Drives



SA 800-2R SINGLE HEAD



SA 850-2R DUAL HEAD

The SA 800-2R drive provides up to 630,784 bytes of data on one side of a soft sectored diskette. The media is inserted thru the front of the horizontally mounted access door. The AC motor belt-drives the diskette at 360 revolutions per minute. A DC stepper motor positions the single head across 77 tracks at 8 milliseconds per track. The drives are available in any of four combinations of 115 or 230 Volts AC and 50 or 60 Hertz.

The SA 850-2R accommodates the same type of IBM 3741 diskette media as the SA 800-2R except the SA 850-2R has one head on each side of the media to directly transfer up to 1,261,568 bytes of data. A stepper motor positions both heads across 77 cylinders at 3 milliseconds per cylinder. The drive motors are available in any of four combinations of 115 or 230 Volts AC and 50 or 60 Hertz. Horizontal mounting provides easy access for mounting and demounting the diskettes.

specifications

	AED 6200 LS		AED 6200 LD		AED 6200 LS/2 or AED 6200 LD/2	
	A	B	A	B	C	D
DRIVES						
VOLTAGE	Either 110-130 or 220-260		Same		Same	
AMPERES	at 115VAC 2	2.3	2	2.3	1.5	1.8
	at 230VAC 1	1.2	1	1.2	.8	.9
LINE FREQUENCY	Either 50 or 60 Hz $\pm 0.1\%$		Same		Same	
WEIGHT	46 lbs	60 lbs	46 lbs	60 lbs	42 lbs	56 lbs
	21 kg	kgs.	21 kg	27 kg	19 kg	25 kg
CABINET SIZE	7" H x 16.8"W x 22"D		7" H x 16.8"W x 22"D		7" H x 16.8"W x 22"D	
OPERATING LIMITS	17.86cm H x 42.7 cm W x 55.9 cmD		Same		Same	
	Temperature: 50°F - 100°F (10°C - 38°C)		Altitude: -500 ft to 10,000 ft. (-152m to +3048m)			
	Relative Humidity Limits: 20% to 80% with a maximum wet bulb temperature at 78°F (25°C)					

formatter

To calculate maximum number of sectors per track or maximum number of bytes per sector;

$$S = \text{Sectors per track} = \frac{10,259}{N+44.5} \quad \text{or } N = \text{bytes per sector} = \frac{10,259 - 44.5S}{S}$$

An expanded formula equation must be used for formats with greater than 313 sectors per track.

EXAMPLES OF 6200LD* (With Dual Head & Dual Density)

Sectors/Track (typical)	1	2	4	8	16	32	55	210
Bytes/Sectors	20,400	10,000	4,920	2,048	1,024	512	256	4
Bytes/Diskette	1,570,800	1,540,000	1,515,360	1,261,568	1,261,568	1,261,568	1,004,160	64,680

*NOTE: 6200LS with single head & dual density would correspond to half the number of bytes in this example.

REGISTERS

DATA:

0	DATA IN OR DATA OUT
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	

STATUS:

0	Initialize Flag
1	Index Bit
2	Data Check Error
3	Seek Error
4	Select Error
5	No Record Found Error
6	Write Protect Error
7	Initialize Error
8	
9	Reserved
10	6200 Identify (bit=1)
11	Initialize Bit
12	Read/Write Overrun
13	On-Line Bit
14	
15	Data Mark ID

COMMANDS:

0	UNIT	Function of Type Bits (5 & 6)
1		
2	FUNCTION	
3		
4	TYPE	
5		
6	DATA BYTE	
7		
8	COMMAND FUNCTION	
9		
10	00 Track	
11	01 Sector	
12	10 High Order Sector Size	
13	11 Low Order Sector Size	
14	0 HEAD SELECTION (only on 6200LD)	
15		

SOFTWARE Drivers are also available for the AED 6200LD and AED 6200LS.



ADVANCED ELECTRONICS DESIGN, INC.

P. O. Box 61779, Sunnyvale, California 94088 U.S.A. / Cable: Disksystem / Telex: 357 498
Headquarters: 440 Potrero Ave., Sunnyvale, California 94086 / Telephone: 408-733-3555