ALF COPY SYSTEM

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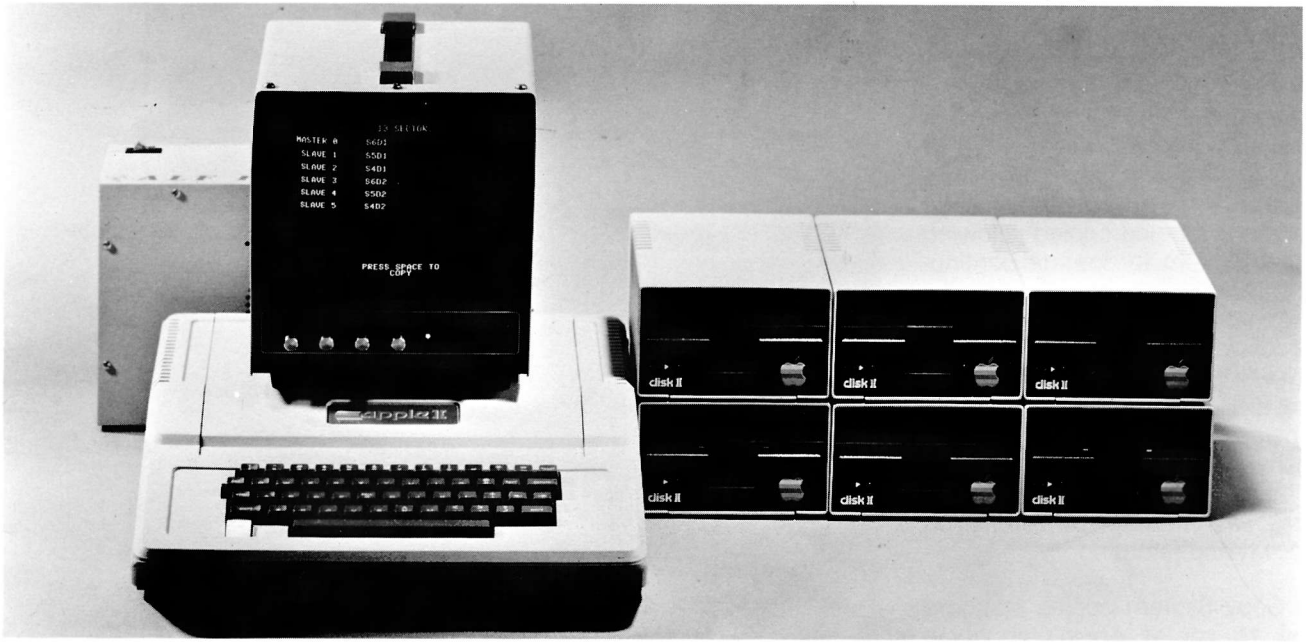

Today, more and more companies are recognizing the need for accurate, reliable disk reproduction. ALF's Copy System is designed to produce perfect copies, time after time. To minimize labor costs, hardware and software houses want rapid copying. ALF's Copy System meets this need with copying time under 18 seconds per disk (using 8 drives). Although faster copying is possible, this copying rate has been selected because it allows for full data comparison on each track (for maximum accuracy) and for a price much lower than standard copying systems.

The ALF Copy System consists of hardware and software for use with a standard Apple® II or Apple® II Plus computer with video display and two to ten Apple® disk drives. The hardware is easily plugged into the computer with no need for permanent modifications. When not copying, the computer can be used normally.

Setting up the system is easy. Other than plugging in the hardware, the only modification required to standard Apple® equipment is adjusting the rotation speed of each disk drive. A program is supplied which measures drive speed without disassembly of the drive. If the speed is out of specified range, it must be adjusted by removing the drive cover and turning the speed adjustment inside. Complete instructions are given in the Copy System owner's manual.

Operation of the Copy System is also simple. All software is supplied on a 13-sector (DOS 3.2.1) disk, and can be moved with MUFFIN onto a 16-sector (DOS 3.3) disk if desired. Once configured to your particular system set-up, the copy program is run by typing BRUN COPY. You then place the disk to be copied in a drive designated as the "master drive" and blank disks in one to nine "slave drives". Pressing space then begins the copying process. Approximate copying time is as follows:

# OF DRIVES	TOTAL TIME	/ # OF COPIES	= TIME PER COPY	COPIES PER HOUR (PER SYSTEM)
2	37 seconds	1	37 seconds	97
2*	27	1	27	133
3	48	2	24	150
3*	43	2	21.5	167
4	59	3	19.7	183
5	75	4	18.8	192
6	92	5	18.4	195
7	108	6	18	200
8	124	7	17.7	203
9	140	8	17.5	205
10	156	9	17.3	207

*using one drive per slot; otherwise two drives per slot (controller)

If more copies are desired per hour, additional Copy Systems can be used. Several Copy Systems and the computers and drives required can be purchased for less than one of the expensive reproduction systems currently available. The copying time is conveniently similar to the time required for inserting the duplicated disks in sleeves and into whatever simple packaging may be required. Thus, the Copy System operator does not have brief periods of activity followed by long waits, as with Apple's copy programs. The Copy System is specially designed to allow removal of the copied disk and insertion of the next blank disk in sequence while other disks are being copied, allowing the Copy System to operate continuously with no "idle" time. Essentially, a person who normally does labelling and/or packaging can run the Copy System while labelling. In most cases, copying disks requires little or no extra manpower than just packaging. Expensive maintenance is reduced since there is no need for automatic feeders, which may be prone to breakdown and jamming.

The Copy System copies standard 13 and 16 sector Apple-compatible disks such as DOS 3.2, DOS 3.2.1, DOS 3.3, Apple® Pascal, Microsoft Softcard™ and others. Keyboard commands easily set the copy program for 13 or 16 sector formats. The copy program also has a Verify mode which compares two disks to determine whether or not they are identical. This is very handy for quality assurance and for making sure back-up copies are truly identical to the originals. (During copying, each track is similarly verified after it is written.)

The owner's manual supplied gives valuable tips on reliable copying, based on ALF's extensive experience in disk copying. Since mid-1980, ALF's disk copying service has been used by many hardware manufacturers and software houses for all their duplication needs. A section is included on drive maintenance. If you have a technician familiar with electronics, this section, along with standard electronic test equipment and various items from Shugart Associates (the

manufacturer of the drive mechanism), will let you keep your drives accurately adjusted and in top shape. Special hardware and software supplied allows standard Shugart techniques to be used on Apple's modified drives. If you do not wish to do your own drive maintenance, you can still send your drives to your Apple® service center as usual; no special equipment or training is required to use the normal Copy System functions.

SPECIFICATIONS

An Apple® II or Apple® II Plus computer with 48K of RAM memory, a video monitor (or television with modulator), and two to ten Apple® "disk II" drives are required to use the Copy System. Drive controller card(s) must have 16-sector (P6A) control PROMs if the system is to copy 16-sector disks. Opening disk drives to adjust speed may void their warranties.

The Copy System includes the ALF Power II high-current power supply, a clock modifier module, disk software, and owner's manual.

The Power II is placed directly behind the computer and connects through the power connector on the computer's mother board. (The internal power supply is disconnected.) The power switch on the Power II then controls power to the computer rather than the switch on the internal power supply. A switched outlet is provided on the Power II for connecting a small monitor or television.

The clock modifier module replaces an integrated circuit on the computer's mother board and need be installed only if drive maintenance is to be done. The clock modifier may remain installed at all times if loss of color on the video output is not objectionable.

Both the Power II and the clock modifier module are easily installed and also easily removed if required.

Order number 10-5-5. For pricing, see latest price sheet.

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