



the

DATA DOMAIN

inc.

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NEWSLETTER

The winner of the Space Eggs game contest is Peter Alyea. Congratulations Peter! Be sure to come in and pick out your prize.

This issue features a new CP/M computer based on the popular Televideo terminal, a profile of one of the better small printers, and a discussion of some new items for the Apple.

John V. Lombardi, editor

RAY'S REPRIEVE

I couldn't meet the Newsletter deadline this month. But I wanted you to know that thanks to you, our customers, we have just closed our third \$90,000+ sales month during the last 10 months, and the total sales for the first 9 months of 1981 is already approaching the total for all of 1980. Now, if we can keep you happy for three more months, we'll be up to the growth projected by the media pundits for the microcomputer industry.

Ray Borrill

FROM THE APPLE-PIT

Well, it's time for another epistle from the Pit, Apple that is. I have had an opportunity this month to review several items of interest, both software and hardware.

On the hardware side are two interesting items. Apple-Juice and Datasaver. Both of these products are designed to minimize operator anxiety during periods of high power failure risk. With the possible exception of some older and slower mainframe computers that use or used magnetic core memory, and a few current designs that use slower magnetic bubble memory, most current computers from mainframe to micro use some sort of semi-conductor memory. Semi-conductor core memory (that term 'core' hangs on from times when most computer memory consisted of tiny magnetic donuts or cores which could be magnetically flipped between two states for binary storage) had a great number of advantages over magnetic core memory. Semi-conductor memory is smaller, faster, and less expensive. The support electronics required to interface to magnetic core memory is expensive, requiring sense and line drivers in addition to the core plane itself.

Semi-conductor core memory has one annoying feature however. When the power goes...so does the data. Other than the various forms of ROM (PROM, EPROM, EAROM, etc.), semi-conductor memory is volatile. From the Twilight Zone, consider the following scenario. You have spent the better part of a weekend playing MicroSoft Adventure, having accumulated enough booty and points to qualify as assistant dungeon master, and you are about ready to save the current game to prove you did it. Your three-year old comes by to say goodnight, trips over the power cord, and the screen goes blank. "But," you say, "my power cords are off the floor". Maybe, but when was the last time you were brave enough to work on an important program or type in several pages of text with a thunderstorm brewing outside. The first time the lights blink there is a fair chance that you may have to reboot and restart from where you last saved your files.

Apple-Juice and Datasaver are two similar devices to avoid the problem of memory volatility. Apple-Juice is specific to the Apple computer. It consists of a battery pack system which is connected to the Apple by unplugging the Apple power supply from the mother board and plugging it into the Apple-Juice as a charging source. The Apple receives its power from the Apple-Juice unit;

therefore, if power from the AC line is interrupted, the Apple-Juice takes over without losing a single bit. The Apple-Juice gives an audible and visual warning that the system is operating on battery power and has 5 to 20 minutes of life left depending on the power drain (how many boards in the computer and how much disk activity takes place).

The Datasaver is more flexible in that it can be used with any microcomputer system up to 90 watts and can rely on its internal batteries or an external 12 volt DC supply. The Datasaver is actually an inverter with two AC line receptacles on its back for the computer and monitor power cords. Using its internal batteries, it is rated for a shorter duration than Apple-Juice. With a fully loaded Apple and a monitor, five minutes or less is to be expected. In spite of the shorter duration, the extra socket for the monitor is a distinct advantage if your power interruption is long enough to exceed the back-up time of the batteries. Under those conditions, you would logically prepare to exit from your program in an orderly fashion with a disk save. How many of your programs could you back out of with a successful disk save typing blind with no monitor?

Next time we'll take a look at some alternatives to Basic for the Apple. We are looking at a version of LISP for the Apple.

John Prather

THE TELEVIDEO SINGLE USER COMPUTER

Long a well-known supplier of high quality terminals for large computer systems, Televideo Systems has recently introduced a new microcomputer. This machine uses a 4-mhz Z80 microprocessor and comes equipped with 64K of random access memory. In addition, the machine has a 4K EPROM monitor with diagnostics. The main board is housed in an attractive cabinet that includes the disk drives. The Televideo TS801 comes standard with two mini-floppy disk drives. These double-density, double-sided units have a capacity of 500 Kbytes of storage each, or a total of one million bytes. The computer comes with CP/M 2.2 as its standard operating system.

The basic computer also contains an RS232C serial port, a parallel (Centronics type) printer port, and a high-speed serial RS422 output port. The cabinet with the drives and main board measures a compact 7 inches in height, and about 17 inches in depth and width. The TS801 has a number of advantages over its competitors. For one thing, this machine can be expanded through the RS422 port to become part of a multi-user system. Because the computer and disks are housed separately from the keyboard and screen, it is possible to attach a wide variety of terminal devices to the computer, providing an unusually wide array of keyboard and screen options. The Televideo is serviced not only by Data Domain, but also through an arrangement with General Electric Company's Instrumentation and Communication Equipment Service Centers, ensuring nationwide service for this computer and its associated terminal.

The Televideo TS801 will work with any of the three principal Televideo terminals: the 910, the 912/920, or the 950. Each of these terminals has a wide range of options. For example, even the lowest priced terminal, the model 910, has the capacity to emulate the Lear Siegler ADM 3A or ADM-5, the Hazeltine 1410, or the ADDS 25. It permits four switchable character sets including English, Spanish, German, and French. The screen displays 80 characters per line on 24 lines, and the upper/lower case character sets are formed by an 8 by 10 dot matrix. In addition, the Televideo 910 also supports typewriter tabs, monitor mode, and some programming features. The other terminals in the Televideo line have all these features plus increased intelligence and capabilities.

For users with an interest in a CP/M stand-alone microcomputer who also want the ability to connect to a mainframe computer, the Televideo computer is an ideal solution. The combination of the TS810 plus one of the Televideo terminals will cost no more than competitive 64K microcomputers. Moreover, the Televideo terminal can easily be hooked to a modem or acoustic coupler to operate in conjunction with a mainframe with no compromises in utility.

If you are interested in this versatile solution to micro and mainframe computing, visit the Data Domain for more information.

80-COLUMN DOT-MATRIX PRINTER

Most microcomputer users discover soon after beginning work on their machines that they need some kind of hard-copy output. Because of the universal demand for low to medium cost printers, many manufacturers have produced units in the \$500 to \$1,000 category that provide an excellent combination of speed, features, and reliability. The Epson MX-80 F/T is one of the best in this class.

Dot-matrix printers form characters with a pattern of closely spaced dots. The more dots used to form the characters, the better the characters look. Dot-matrix printers tend to be relatively cheap, very versatile, and some are capable of high quality output. Because there is a great variation in the quality and features possible with these units, it is difficult to generalize about them. Some dot-matrix printers, such as the MX-80 series from Epson and the Paper Tiger series from Integral Data Systems, are of high quality and excellent reliability. Others of this general design are much less reliable. Those interested in purchasing a dot-matrix printer should ask other users about the reliability, features, price, and convenience of any particular unit before purchasing. A reliable dealer, computer club members, or other user groups can often provide good evaluations of these machines. Because most of them work well at the beginning, it is difficult to evaluate printers on the basis of initial performance or published features.

The Epson MX-80 F/T is one of the most versatile, high quality dot-matrix printers on the market. Its list of features is impressive. Not only can it take fan-fold paper with its tractor-feed mechanism, but it also has a regular typewriter style platen for friction feeding of single sheets or other forms. This is an 80 column printer, which means that in its normal mode of 10 characters per inch the Epson can put 80 character per line on the page. In its compressed mode of 16.5 characters per inch it can get 132. In addition, the MX-80 will produce expanded characters in either normal or compressed mode.

The printer uses a 9-wire print head, which produces nicely formed characters on a 9X9 matrix. It prints at about 80 characters per second which is almost twice as fast as the letter quality Diablos, NECs, or Qumes. It handles all 96 printable ASCII characters and its character set has descenders on letters such as "y" or "j", thus increasing readability. The printer will also produce 64 graphics characters. The MX-80 supports a wide range of line length, form length, and horizontal and vertical tab options. The printer comes equipped with a standard, Centronics-type, 8-bit parallel interface and can be equipped with either an RS232 or an IEEE488 interface. It has a one-line input buffer. The printer is easy to maintain with a disposable print head that can be thrown away after its 100 million character life span is over. The cartridge ribbon is also very easy to replace.

A-STAT: STATISTICS FOR THE APPLE

A-STAT 79, now available at the Data Domain, is an outstanding general purpose statistical analysis package for the 48K Apple computer. Because the data is analyzed from disk files, A-Stat is not limited by the amount of information that can be stored in memory but by the amount that can reside on a disk. This permits files of over 2,600 cases with 45 variables, or a full disk of information. The program has many interesting features, but it is best summarized as a micro version of a large computer statistical analysis package. It has routines that will be very familiar to users of the BMD or SPSS packages, and it is modeled after the well known P-STAT package available on some large computers.

A-STAT allows the manipulation of data entered in a variety of ways. A file can come from Visicalc, from a mainframe computer file, from the File Cabinet program, or it can be entered directly into the Apple with a convenient free-form data entry routine. Variables can be combined, rearranged, or modified, and the file can be sorted on any number of variables. Subfiles can be extracted, files can be merged, or they can be permanently modified. The statistical procedures available include bivariate frequency distributions with a large number of appropriate statistics, correlation matrices up to 25 by 25, regression analysis including multiple regression, multiple-stage least-squares, Durbin-Watson statistics, files of residuals, and a host of other measures.

The program comes with an explicit, fully detailed manual describing not only the program but the

assumptions and logic of the procedures. For microcomputer users interested in sophisticated statistical analysis, this is the best Apple-based package available. If you are interested, come in to the Data Domain for a brochure describing the many features of this remarkable software package.

THE BOOT BUTTON

Because most Apple users have some disks in DOS 3.2 and some in DOS 3.3, the availability of The Boot Button from Computer Station is a great convenience. This hardware adapter attaches to the disk controller board and uses the old P5 PROM. A small pushbutton on a wire can be attached to the Apple case. Then, when you are ready to boot a 3.2 disk, you only need to hold the button while the boot starts. The old 3.2 disks will boot perfectly. This is especially valuable if you have some 3.2 disks, such as one version of Microchess, that will not boot with the BASICS disk.

THE DATA DOMAIN PRE-CHRISTMAS SALE
10% OFF ALL GAMES

This extraordinary pre-Christmas sale provides a 10% discount on all games in the store. The Data Domain has lay-away plans and gift certificates, and if you order \$100 or more, the Data Domain will pay all the shipping charges.

Here are some examples of the games for sale:

Bridge Tutor, Galactic Wars, Snoggle, Alien Rain, Galactic Saga, Apple Panic, Raster Blaster, Bill Budge's Space Album, Appleoids, Ultima, Fender Bender, Pool 1.5, Sargon II, Shuffleboard, Global War, ABM, The Voice, Robotwar, Castle Wolfenstein, The Wizard and the Princess, Hi-Res Football, Hi-Res Soccer, Missile Defense, Sabotage, Gobbler, Gammon Gambler, Zork, Microchess, Star Crusier, Cyber Strike, Phantoms Five, Pulsar II, Orbitron, Gamma Goblins, Space Eggs, Autobahn, Gorgon, Sneakers, Craps, Roulette, Screen Machine, Star Mines, Flight Simulator, A2-3D1 Graphics Package, A2-3D2 Animation Package, Dungeon Campaign, Wilderness Campaign, Doom Cavern, and many more.

Don't forget your favorite game player for Christmas, for birthdays, for any day. Take advantage of this continuing sale until Christmas day, December 25th.

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