



MICROCOMPUTERS

797 DANDENONG ROAD, EAST MALVERN 3145.  
VICTORIA AUSTRALIA.

Telephone:-

(03) 2118855 2118344

# STRINGY FLOPPY

# NEW SOFTWARE

Issue 2

November 1981

See, you did live long enough to receive our second issue! And we have decided to expand the SFN coverage, to include other products and matters of interest since it has been pointed out to me that SF doth not a computer system make. I took some time to be convinced of this, but after an afternoon of observation I was reasonably confident that even if connected to power SF by itself isn't very active. Of course, it WAS completely reliable!

SOFTWARE FOR THE TRS-80 SF (candid reviews of new products)

**TYPE RIGHT SECRETARY** - we rate this a "not yet". The idea of a machine language word processor for \$25.00 appeals, but we have not yet been able to get lower case out of it, you cannot define your left margin, you cannot have a line break between paragraphs, and the page line counter doesn't take some lines into consideration. Worst of all input does not appear to be buffered so you lose characters as you go from one line to another. The manual mentions a new version possibly in preparation so we shall cross our fingers and let you know if we receive a new version. Contact with the author and EXATRON has suggested their may be something wrong with our copy but this doesn't excuse the shortcomings of the documentation. If the concept of a cheap WP appeals, let us know and we'll chase up on this one.

**ELECTRIC SPREADSHEET** - highly recommended. This is a VISICALC substitute at a bargain price. It will run on a 16K machine but should be even better with one of our Internal Memory Expansions. It is written in Basic with some machine language, and very well documented. In concept imagine an electronic ledger sheet where you define column and line names and then how the data is derived relative to other columns. There are a bewildering number of ways to do this and even the ability to build your own formulas into the program in difficult cases. Data entry/alteration is on a cursor oriented word processing basis. Your defined sheet complete with data may be saved at any time using the FREEZE capability built into the program, and mentioned in more detail below. The only drawback we can see is that as the program is mainly in BASIC data entry can be slow at times. Price is \$55.00.

A further point on this subject is that patches for genuine disk VISICALC have just been finished to allow it to operate on SF. This will be of particular interest to those looking for machine language speed, or the ability to use disk created models. Let us know if you're interested. We are currently completing our pre-release checks. Price is likely to be \$50 for the patches, which have taken a good deal of work. VISICALC is available for \$130 in the original disk version.

**AT FREEZE** - highly recommended and should set your mind spinning with the possibilities. Freeze is an extra command for your SF. It allows you to simply save a Basic program with all variables and screen memory intact. The program can then be reloaded at any time where you left off. This of course greatly simplifies the storage of data, and the Data I/O program is not required. Price is \$10.00. Sorcerer owners, how about a version for the Sorcerer.

**BASIC OPERATING SYSTEM** - A dull name for a program getting an "incredible" rating. Essentially this is like a slow disk operating system for SF. You get named rather than numbered files, a directory, passwords, random record access, the ability to reserve space for growing files AND (believe it or not) A SOUND GENERATOR through an audio amplifier. We haven't tried, but with the number of Disk Basic commands included you could probably run some disk programs directly. And the price? - \$27.00.

**CHEQUEBOOK GENIE** - The name makes this program sound cute, but it is really very good. So it should be as it is written by the author of the File Management System. It could be rather simply modified into an Accounts Receivable program or used with value as is. It cleverly tricks Basic into storing input information as DATA Statements, so that everything is stored with the program. We believe the price is under \$20.00 but are checking.

**WHAT'S ON IT** - A handy utility which scans a wafer giving you enough information on each file to identify it. Highly recommended at \$10.00.

**PATCH PROGRAMS GENERALLY** - You should be aware that we already have patch programs for the most popular TRS-80 machine language utility programs. Covered are the Radio Shack and Microsoft Editor/Assemblers, Electric Pencil and Scripsit Word Processing Programs. If you have a need for other patches let us know, we may be able to make custom patches for you, and add them to the general collection of patches if a market exists.

**MEMORY TEST** - In case you have ignored our pleas to buy an INTERNAL MEMORY (more later) you may be interested to know that ASP has produced a VERY comprehensive Memory Test program (in machine language of course). The program is available on wafer or cassette for \$9.50 including postage in versions for the TRS-80 and Sorcerer. It is included FREE when you buy a Sorcerer SF or an Internal Memory for the TRS-80.

## RAMBLING POLICY

In line with our policy of just rambling along, you must have heard about the amazing INTERNAL MEMORY. This sophisticated (ie. complicated for us to assemble) printed circuit module plugs into the TRS-80 keyboard expanding memory immediately to an amazing 48K. Cost,

a mere \$152.00 including all the new Sales Tax. Yes, the price has grown somewhat since our last SFN...but so has the memory. If a 32K Internal Memory was to cost \$99 then the 48K version should be \$198!! So don't complain. The INTERNAL MEMORY is intended to work in ANY TRS-80, so the printed circuit is covered with by-pass capacitors and termination resistors, let alone special connecting pins and gold plated solderless connectors, so it's no wonder it's so sophisticated! NO NO NO...there is no version for the System 80 yet, but if you keep ringing us I suppose we'll have to do something about it. INTERNAL MEMORY is manufactured in Australia by ASP under licence from Holmes Engineering of Utah USA. Holmes expect to further develop their range of low cost TRS-80 add-ons, and as their Australian Distributors, we will keep you informed. Currently on the way are a clock speed-up/parallel printer port, and a disk controller that plugs into the back of the TRS-80 keyboard. (a WHAT!)

## PROTECTED CASSETTES

First a statement of policy. We do not condone the stealing of software. However, as a SF owner we feel you are entitled to use the superior SF media for your legitimately purchased cassette programs. So we suggest you tell us of your experiences for inclusion in the SFN. To start the discussion Peter Jetson, the designer of SF for the Sorcerer, has written the following. The concepts apply equally well to the TRS-80 version.

Some software manufacturers are now distributing their software in a protected form to prevent copies being made of the programs. In doing this the manufacturers have also made it impossible for the user to make backup copies of a program he has purchased, or in our case, make a SF duplicate of the program.

The basic method that is used in protecting cassette programs is to have a small loader program in normal format that is used to load the actual program, which is recorded in another, incompatible format.

The easiest method of copying these programs is to work out exactly how the loader program works. This will require a good knowledge of machine language programming, and a good disassembler program. First, load and disassemble the loader program, and work out the address that the loader jumps to after loading of the main program is over. This address will become the autostart address. Note this address down, and then change it to the Monitor warm start entry point. This is so when you run the loader, it will not start the main program. Now save a copy of this program so that you can load it after clearing memory. This can be saved on SF, but it will not be needed afterwards. Do not save this loader with autostart, because you will need to use it to load the cassette main program later. Note the autostart address of this loader, so you can run it later. Now we must clear memory, and we can do this with the Monitor M0 command, as below. First reset the Sorcerer-

Power On Monitor V1.0 (C) 1978 by Exidy

The top of ram is B7FF hex.  
Stack begins from B786 hex.

> /EN 0

0000: 0  
0001: /

> M0 0 1 SB780

The above steps will clear all of memory to 00. Note that the number given after the S in the move command is the stack address rounded out to the next lower 16 byte address.

Now load the modified loader we created above, then set up the cassette system so the loader can bring the main program into memory. The modification we made to the loader will bring the main program into memory, but not run it. By using the Monitor memory dump command, we should be able to locate the addresses into which the program was loaded. Note the first and last program addresses used, then fill the memory with FF as above, and load the program again. Locate the start and end addresses again, and compare them to the other figures we calculated. If they are the same, we can now save the program to SF using these addresses and the autostart address we calculated earlier. If the addresses we got are different, take the bigger of the set, and use them.

You may have realized by now that this is not an easy procedure, but the manufacturers did not try to make it easy. The above instructions should allow you to copy any tape that you can load.

## ON WINDOWS

Pat Briscoe of Frankston Victoria (The man to know if you want your swimming pool maintained - Crystaclear Pool Services) has pointed out the importance of not covering the little window in the middle of the SF Wafer which exposes the EOT/BOT marker. As an experiment, record a program twice on a wafer, then cover the window and initialize from file 2 on. Both programs will be erased. The problem is that the label covering the window is being treated as the End of Tape/Beginning of Tape marker by SF. When SF first turns on it believes it has encountered the EOT/BOT and starts writing. The end comes only when you BREAK.

PROGRESS OF OTHER SF VERSIONS

Sorcerer units have now been shipped for about 4 months. We have received a sample Apple SF which uses a direct drive transport. It operates well but would benefit greatly from some additional software to allow data storage, not just programs. The PET version has still not been released.

USED EQUIPMENT

One of the interesting things emerging is a much more active second hand market in computer equipment. Should you have any surplus equipment, phone us and let us know. We may be interested ourselves, or know someone who may be. On the other side if you are after a piece of equipment, let us know in case we can help. Now to help us we are grossly overstocked on Burroughs Self-Scan Panels, \$100 8080A CPU (plus 2 x RS232) boards. Oh, there is also a Centronics Microprinter (up to 80 columns wide on aluminium type paper) for around \$300.

ASP ASP ASP

Now being somewhat egotistical, we at ASP could not comprehend why anybody, having dealt with us once, would want to deal with anyone else. (Rather they'd give up computers all together and go back to model planes!) But recently a couple of errant customers, having paid more elsewhere, have said something like "but we didn't know you could supply those". So we have failed. May we suggest for the future that you consider contacting us before major purchases. Even if we can't supply you, we have a broad knowledge of the industry and will be happy to refer you to the "good guys".

Meanwhile we had better summarize ASP's current involvements:

-STRINGY FLOPPY PRODUCTS Stringy Floppy systems for TRS-80 Model 1, and soon Model 111, Sorcerer (designed by us and EXPORTED to the USA), Apple, MicroSponge RS232/Parallel, Stringy Bare for the diehards.

-TYPEWRITER INTERFACES For our old favorite the IBM Selectric Model 1, 11 and 111; for IBM's new and beautiful Electronic Models 50, 60 and 75; for the Olivetti daisywheel (running at FULL speed, unlike some other interfaces); for the Olympia daisywheel. Also available of course are interfaces and cables for specific computers.

-PRINTERS The EPSON and Tandy ranges. Malibu on special order.

-TANDY ADD-ONS The Internal Memory, lower case conversions, memory expansion and disk controller for the new Colour Computer, dynamic RAM and Level 11 expansions.

-TANDY EQUIPMENT You'll be surprised what can be arranged for a reasonable price.

-\$100 COMPUTERS The products of DELTA PRODUCTS INC and CALIFORNIA COMPUTER SYSTEMS.

-RESEARCH AND DEVELOPMENT Watch for our sophisticated new single board processor with ROM/RAM and SF interface for dedicated applications. Also under development is a full bi-directional RS232 I/O port for the TRS80 Model 1 with communications software.

-SOFTWARE Most well known CP/M compatible system and application packages; SF software.

-CONSULTING Although we provide a great deal of information without charge, we are pleased to provide a more detailed service at our prevailing hourly rate.

SPECIAL OFFERS

As part of the Newsletter's expanded role we are going to introduce a special offer section. Your response shall determine its future form. So to start off, a special offer on the excellent EPSON matrix printers. These are supplied with full local warranties. The new F/T model includes a friction feed platen, like a typewriter, to allow the use of single sheets as well as continuous stationery. Both the printers below have Centronics standard Parallel interfaces.

	ex Sales Tax	incl. ST
(1) EPSON MX-80 PRINTER	\$780.00	\$890.00
(2) EPSON MX-80 F/T	910.00	1,043.00

Freight will be approximately \$10.00, but check with us when ordering.

Our last special offer is intended to encourage existing TRS80 ESF owners to add an extra drive. About 50% of Sorcerer SF owners have 2 drives, as a result of our controller design, allowing low cost addition of the second drive. So for a short time we will see if we can encourage more dual drive Tandy units. These Drives will be supplied ready to run as Drive 2 (or 3, 4 etc. if you specify) without bus extender or wafers. They are not able to function as a first drive without a controller ROM.

(3) STRINGY FLOPPY FOR TRS80 (subsequent drive only)	\$265.00	\$299.00
---	----------	----------

Freight is a flat \$6.00 within Australia.

ON TYPEWRITERS AND DAISYWHEELS

ASP has considerable experience in the area of typewriter conversions, and printers generally, so a few words on our observations. Simply horses for courses. If you need a typewriter and would also like your computer to operate it you want a typewriter conversion. If you are happy with a separate typewriter, with a font which doesn't match your computer printer, go for a daisywheel or matrix printer. A daisywheel typewriter should be firmly classified in your mind with the typewriters, not the daisywheel computer printers. If you lean towards a modified typewriter ALWAYS try it out for a period as a typewriter. You will be surprised at the difference between the products of different manufacturers. Some units (usually those made by IBM) are clearly superior as functional machines. There is wide variation in quality of construction. It is almost mandatory to see the machine with its case off. If it is difficult to disassemble, and appears to be of flimsy construction, imagine it after a few years of heavy use. Think about resale value. Usually heavy discounting by dealers is an indication that resale value will be low, so if you go that way you had better be sure you pay rock-bottom price. Ask to be referred to a few previous customers using both the typewriter, and also the intended interface. In Interfaces, do not assume that all are created equal, check their specifications, appearance, whether they have their own intelligence, whether they can access any special functions of the typewriter in question.

And our biased view (but remember we can supply interfaces for several different machines) : The IBM Model 111 shades even the fully electronic machines from other makers, and for the future the IBM Electronic Models 50, 60 and 75 are built like tanks, and, thank heavens, have kept a mechanical keyboard with proper feel. Next time you see one of those terrible Olivetti comparison ads, ask yourself why they compare themselves with IBM's 20 year old Model 111 design, and not IBM's new Electronics! And in Daisywheels, only one choice for speed, quality of construction and price... Tandy's Daisywheel 11 at around \$2250.

SORCERER SF NOTE

Our thanks to Andrew Gleadow of the Department of Geology, Melbourne University for the following.

Andrew has devised a method of saving a Word Processor Pac file as a Monitor file. The advantages are: approximately twice as fast, more than twice as much text fits on each wafer, automatic verification of a correct write, no Patch Program is needed. The disadvantages are: Writing a file is slightly more complicated, incoming text will not automatically merge with existing text in RAM and will overwrite it. A method of overcoming this is included below. (ASP NOTE: The Word Processor Pac Patch was designed to be as simple as possible to use for a non-technical person already familiar with the tape commands, Andrew's comments are however quite fair.)

METHOD

1. Exit WP Pac to Monitor: Command X
2. Dump addresses 074A and 074B.: DU 074A 074B  
These two bytes contain the end of text address.  
Note that 074B contains the first part of the address and 074A the second. For example if 074A contains 1E and 074B contains 12, the end of text address is 121E.
3. Set the auto execution address to the warm start address for the WP Pac (C003): SE X=C003
4. Save the file on SF Wafer using the usual Monitor syntax: SA 1 080F 121E 0  
The first number (1) is the file name, the second is the start address of the file (always 080F for WP Pac files), the third is the end of text address (see 2 above) and the last number (0) is the SF Drive number.

LOADING A WP MONITOR FILE

1. Exit WP Pac: COMMAND X.
2. Load file with the command LO n, where n is the file number. The file will load and automatically return control to the WP Pac in EDIT mode.

MERGING TWO WP MONITOR FILES

1. Put all existing text in the holding buffer: COMMAND T then COMMAND H.
2. Load second file from SF as above.
3. Restore first file from holding buffer by moving cursor to the required location and using COMMAND U.

STRUCTURE OF WORD PROCESSOR PAC FILES IN MEMORY

In the WP text buffer the structure is a set of ASCII strings with the lines terminated by either single CRs (0D hex) or by 0C hex characters in the case of lines which have wrapped around without explicit carriage returns. The end of the text file is marked by a 03 hex byte, not a null. The start of the buffer is at 080F for all sizes of machines. There is no pointer to the end of text as such, but the two bytes at 074A and 074B contain a pointer to a location 16 bytes (10 hex) above the last character in the file. The intervening space is filled by 0E values.

The address of the first character in the line containing the cursor is stored in the two bytes at 0746 and 0747, and the position of the cursor in that line is stored at 074E. If the line length is set to greater than 63 then the absolute position of the cursor in the line is still indicated at 074E but the position of the cursor on the screen (i.e. the 63 character-wide part of the text displayed at any one time) is given by the byte in 074F.

When text is stored in the holding buffer it is transferred to the top of RAM starting at the top and reading down.

TANDY COLOUR (or COLOR) COMPUTER

According to Tandy deliveries of the Colour Computer commence just before Christmas. You'll find an excellent article on the amazing capabilities of this computer in the March 1981 issue of Byte magazine. EXATRON has already released a 32K Memory Expansion/Disk Controller for this machine, with a Disk Operating System (DOS) which allows loading of TRS80 Model 1 BASIC Disks for modification to suit the new Colour Basic.

Price for a 16K Extended Basic unit will be \$849. When you add EXATRON's 32K memory expansion and disk controller at approximately \$375 including DOS and Sales Tax, and a small floppy/power supply (assuming around \$400) the package seems quite attractive, particularly for graphics. Alphanumeric display may have some limitations, but watch for the system, and remember where to order if you want one. The memory expansion and disk controller are external to the computer, so Tandy warranty will be unaffected.

TANDY MODEL 111

Watch for the new SF for the Model 111. No case opening will be required so your warranty will not be affected.

Well that's it for this issue and we look forward to the deluge of contributions!

PAUL STUART