



# STRINGY FLOPPY

# NEW NEW NEW NEW NEW NEW NEW NEW

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Welcome to the long overdue SFN. Thought it was about time to bring you up to date with the new product range, give you our new address and phone number, and explain some organizational changes. First, the products!

The enclosed sheet of fine print covers most of our current offerings. It's not exhaustive because we are small and don't work to a static inventory. For instance you may suspect that we use a certain component or connector you are after, but it is not amongst our product list. Risk a call, if we can help we'll be pleased to do so, and at reasonable prices.

The new components for the Model 3 are really nice. But you may be wondering why we held off for so long. Trouble is we see the customer's point of view. We've sold a number of disk Model 3's, but until now always genuine Tandy. You know the potential problem. Model 3 doesn't work right. Tandy says it is the "foreign" disk controller. Controller supplier says it is the rest of the computer. Customer swears at both and accelerates his impending baldness.

So what changed our minds? The versatility of the designs we were being offered by Holmes Engineering. The advantages of these boards weighed heavily against our misgivings. The total expansion direction was so logical and added so much to the Model 3. The telling points were these:

- The disk controller could handle intermixtures of 5 and 8 inch disk drives. Although 5 inch drives are much improved, those brought up with floppy drives over the last few years know that the only real drives are 8 inch. You may never use the capability, but at a lower price anyway, why not have it?
- There is a certain luxury to a computer that has its own wrist watch. Especially with a Lithium battery. And gold plated edge card connectors are nice. And the ability to locate drive 0 outside the computer case.
- Those with genuine Tandy disk systems were not precluded from running CP/M and 80 x 24 Video. The VID-80 incorporates functions that ENHANCE existing Tandy's, without duplicating any logic. And the computer may still be used in its original form, or with enhancements.
- The Sprinter allowed increased throughput, and even double density 8 inch drives.

### CP/M DISK OPERATING SYSTEM

At this point a short tutorial on CP/M. I'm sure many of you still wonder what the import is of those mystical letters. Contrary to popular belief they were not handed, carved out of solid stone, to Adam Osborne at the foot of Mount Diablo. But they do have a certain religious importance.

CP/M is a disk operating system. Like TRSDOS, only different. A DOS spends its life rather like a 19th Century butler. Doing all those little bits of organizing that ensure the "master" will lead a pleasant effective life. For master read high level language (such as BASIC), and YOU as the user of the computer. These duties include obeying simple direct commands, such as DIR (tell me what files are stored on this disk), and recovering from disk a specific sector required as a record by BASIC.

To assess the religious importance of CP/M I must take you back into the dim dark past (in computers, about 6 years) before the first Tandy Model 1 4K Level 1 crawled from the swamps. At this time a lot of people in the know were having a lot of fun inventing the microcomputer industry. The large computer companies hoped they would go away, and so ignored them. (Large companies tended not to be innovative in early days, they waited until the field was large enough to ensure profits). Microsoft was around in those days, and the first computer systems we imported were from Industrial Micro Systems. They came with a Microsoft Basic that sort of built in a simple disk operating system. Until we were able to implement an early version of CP/M on our computers we were isolated. Even our word processor had to be written in BASIC. CP/M meant extra software, the ability to use programs prepared on another manufacturers machines. How?

To keep this simple, I shall note the original requirements for using CP/M:

- An 8080 or Z80 microprocessor as CP/M was written in 8080 machine language.
- 8 inch disk drives, single density, in IBM's format.
- Random Access Memory starting at location 0. Tandy Model 1 and 3 locate their ROMs from 0 up.

With these pre-requisites, CP/M was customized to run on particular hardware by a section called the BIOS. The manufacturer of a computer would prepare a BIOS incorporating software designed to operate his printer and terminal ports, and his particular disk controller design, and any other peculiarities of his computer. Once prepared, and incorporated into CP/M, he was ready to swap disks. The level of interchange was above CP/M. Languages and system utilities such as editors, were designed to make calls to CP/M, which was itself standard on the products of many manufacturers. The computers of different manufacturers differed in their BIOS, and differed in their hardware, the CP/M was the same.

This had profound effects on the emerging industry. A manufacturer did not carry the burden of creating his own versions of languages and utilities, he could concentrate on making his computer CP/M compatible, then let the products of an emerging software industry (sensing the potential size of the CP/M market) satisfy the needs of his customers.

The mass manufacturers entering the market (such as Apple and Tandy) invented their own DOS's to lock in their customers to products supplied by them. So CP/M became equated with the difference between home (Tandy, Apple) and business (CP/M) computers. Computers using CP/M were generally more sophisticated, and had a strong "hacker" interest. So an amazing variety of public domain (free) software emerged (CP/M Users Group).

So the religious significance is this. CP/M marks the transition to the greatest collection of free (CP/M Users Group) and commercial software available for any computer variety. This is not to say that it is objectively "better" than TRSDOS, or NEWDOS or whateverDOS, just that it is where the strength is.

### SO WHAT?

Well, a Tandy Model 1 or 3 has the advantage of an excellent BASIC in ROM, coarse graphics, plenty of cheap games and useful programs. If the same Tandy can also run CP/M programs there is virtually no application or language it can't undertake.

### AND HOW?

Accepting the desirability of running CP/M, how do you manage it on a Tandy? Well looking back at the list of pre-requisites you will notice that the Tandy fails on two counts. One, the 8 inch disk drives, can be ignored. In the last few years CP/M has been implemented on all sorts and sizes of drives. Problems of standards remain, but let's ignore this for the time being. The second count is more fundamental. Tandy's memory map is wrong, having ROM not RAM at location 0. So a hardware modification to run CP/M must fix up the Tandy's memory map to put RAM at 0. Ideally it should also extend the computer's memory when using CP/M to 64K. Most application programs for CP/M now require at least 56K, as everything is in RAM, not part in ROM as in the Tandy. Of course in the case of the VID-80, there is also room for an additional 64K of memory bank selected, probably best used as a disk emulator.

### YEAH - BUT WHAT ABOUT THE BAD NEWS?

CP/M is a nice straightforward operating system to use. But its aforesaid religious significance has led some irritating software companies to assume that its devotees will pay an arm and a leg for software. For example, look at the prices in the magazines for Microsoft Basic Compiler for an ordinary Tandy, and the Compiler for a CP/M System. And the recommended retail for programs such as Wordstar. (Of course I suppose realistically that not everyone pays for their software). Just remember those programs you have to run on your standard Tandy won't work. You'll be able with two computers or some interchange software to get the Basic programs across (though you'll then need a CP/M Microsoft Interpreter). But the dazzling CP/M Users Group should not be forgotten. Last time I enquired it amounted to something like 70 8 inch disks full. Available in Australia at around \$12 per disk full!! So maybe there is more good than bad news.

### AND NOW FOR SOMETHING COMPLETELY DIFFERENT.

### COMMUNICATION

Look at your computer equipment and ask yourself what you are doing. Swapping cassettes, Wafers or disks, typing in published programs, writing and running your own applications, essentially ALONE. Even this biennial Newsletter. Its really the effort required to write, edit, layout, print, post that makes it so infrequent. Those of you in the country are generally even more alone.

Our computers can overcome these limitations through COMMUNICATION. SFN could be entirely electronic. But how many of you would be able to access it currently? To connect your computer to the world requires a Modem. A device to convert your computer's digital signals into analogue signals to travel down the phone lines, and convert received signals back into digital signals. To connect the Modem to the computer will also require an RS232 Interface.

Modems are essentially of two types. Acoustic (establish contact then plug the telephone handset into a receptacle) and direct (plugging directly into the telephone socket). Until recently you either rented a direct modem from Telecom (expensive) or bought an acoustic modem (not so reliable). Our modems use different standards to those in the USA so there was no point in importing the advertised ones. Then Dick Smith came out with a Telecom approved direct modem, at just under \$200. The only trouble is that, through apparent under-engineering, there have been reliability problems.

Enter the CICADA (named for the sound modems make on the phone lines) from Centre Industries in Sydney. Centre Industries is a long time contractor to Telecom, employing disabled people. They have shown us their modem, which impresses with its quality of construction, and is now Telecom approved. They start shipments at the end of May, assuming satisfactory passing of final tests. And guess who is one of their final tests? Right, ASP. So we are taking orders for late May shipment subject to us being satisfied with the modem's performance. And at a special price of \$189 tax paid INCLUDING RS232 DATA CABLE (normally about \$40). Recommended Retail is \$199 WITHOUT data cable. To communicate with the Model 1 Tandy you'll also need a COMM-1 (either by itself with your own terminal program, or with our ASPTERM). For a Model 3, order Tandy's RS232 Board through us (around \$140 including fitting).

Now I do have a vested interest in all this. But as you are at the forefront of the computer revolution (stirring eh!) think seriously of the utility that can be gained from low cost communications. Imagine a 24 hour a day Bulletin Board to disseminate an up to date electronic Newsletter, to which you could directly contribute, product information available in detail, swap service, ability to leave messages and orders. Free, or perhaps say \$20 per year. We anticipate putting such a system on line, initially outside normal hours, on an experimental basis in a couple of months. Meanwhile there are a growing number of Bulletin Board Systems available either without charge, or with a low fee, without going to the expense of the commercial information networks here and overseas.

So remember direct modems at \$189 INCLUDING DATA CABLE, and COMM-1 at \$135 or \$175 with ASPTERM.

#### CHEAP PRINTERS

Mr. Epson has just come out with some new printers that I am not going to discuss because they are TOO DEAR, or TOO LACKING FEATURES. However there is now available from a Japanese distributor, a printer that is functionally equivalent to the MX-80 F/T Type 3 with Graftrax. It is called the AMUST, and looks as though the mechanism is from EPSON. Possibly they are selling the mechanism in view of their new products. Anyway it works just like an EPSON though the ribbon is slightly different, is parallel as standard, although a low cost RS232 option is available. To refresh your memory, all those fancy and high density print styles, complete dot control for graphics, tractor feed and roller for single sheets, 80 cps, bi-directional, replaceable print head etc. etc. And the best news is the price, \$669 with Sales Tax, \$589 without. Hurry!

And views on other printers we have available:

- Tandy DMP 200 (LP 8 replacement), reportedly very good and reasonably priced (around \$840 from us), though in short supply, and I haven't pulled one to pieces yet.
- C-ITOH Dot Matrix, both the 80 and 132 column versions are well constructed and fairly priced. A little hard to work on the logic board for repair I suspect. Excellent print quality like all the printers mentioned here.
- Tandy Colour Printer/Plotter. At around \$320 is winning many hearts as an alternative to the LP 7 (now I think the DMP 100), a printer I am not so keen on. Seems to be related to the printer in the PC2 Pocket Computer, only wider. 4 little pens actually write onto the paper. Black, red, green and blue. Result is very clear, adequately fast. The printer is very compact and has parallel and RS232 interfaces. Different print sizes selectable.

#### USER CONTRIBUTIONS

And now the section you have all been waiting for, your contributions. I'm afraid we haven't got room! So I'll list what is on file in case you require it straight away, otherwise it will form the basis of the next SFN in about 6 weeks.

Model 1 SF: From the always amazing Gary Osborn, auto loading and starting of Basic programs, controlled by lightpen, and a routine to change ASCII characters in print statements, to other ASCII characters!! From Mr. Pearce mods to the ESF-80 Monitor to allow correct operation of the internal print routines when used with a System 80 and GP-80 Printer. From Mr. Tito (from sunny Urangan) start/length/auto start addresses for a LOT of programs, and a short routine to get those programs like Scott Adams Adventure that don't want to run with SF in 16K, going. And if your having trouble squeezing absolutely every capability from an EPSON printer, then I'll give you Bob Capper's phone number (just don't tell him who told you).

Sorcerer SF: For their numbers, always very busy. Alan Schmid from Santa Cruz California said some nice things that we may repeat. Ted Fox sent details on making the low cost GP80 Printer work with the Sorcerer. John Casey from Mildura provided code to print start and end address for saving source code when using the Development Pac. Mr. Carragher from South Australia sent his method of saving Development Pac files, a Basic catalogue program and a method of increasing fast forward usage. He then followed up with modifications to our I/O program to allow it to be accessed by a single Basic USR call, and mods to make QS Shapemaker work. On the subject of Quality Software products, an American Sorcerer SF user advised he had implemented QS's FORTH for SF.

To autostart Basic programs. You must have a line 0, even if it is only a REM. You must also save some of the Basic work area pointers to the variable storage area. These start at 1B7h (439 for those with 10 fingers!). Then find out the address of the end of the program. This is stored at 1B7h and 1B8h (439 and 440) in standard Z80 reversed byte format. The low byte of the address is at 1B7h and the high byte is at 1B8h. (If 3Fh and Ffh appeared at 1B7h and 1B8h respectively, the address is 03Ffh). Save the program with the Commands:

```
>SE X=C858
>SA 1 1B7 3FF
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Remember to substitute the appropriate addresses for those used in the example. The program can now be CLOAded or L0Aded from the Monitor, it will autostart upon loading.

#### ACCOUNTING PROGRAMS

In answer to all those who don't like excessively complicated US accounting programs... Flexi-Ledger and Flexi-Billing. Written in Melbourne by John Loftus, these programs are written in Microsoft Basic and run on the Model 1 TRS-80 (with SF or disk and 48K), and the Model 3 TRS-80 (disk and 48K). They could be adapted to any system with Microsoft. John is studying accounting and has written programs that function efficiently, in "text book" conformance to Australian accounting conventions. The programs may function standalone, or fully integrated, and have extensive capacity in both the general ledger (Flexi-Ledger) and billing (Flexi-Billing) sections. The nature of the system integration and quality of documentation, allows a user to simply add his own modules (such as an Invoice generation program) which may become part of the total integrated package. If you think these programs may be of interest, let us know and we'll send full details. Prices for each of the two modules are \$119.50 (Stringy Floppy) and \$149.50 (Model 1 or 3 disk).

#### MODEL 3 PACKAGES

Tandy currently has the Model 3 "on special" and we are supplying them for \$950 including Sales Tax (and an even lower price if ex ST applies). This means that total tested system packages can be put together by ASP at very favourable prices. For instance a 48K unit with 2 40 track single sided MPI's and TRSDOS is \$2,200. Of course we can also supply genuine Tandy twin drive machines at a discount, but they are more expensive (although including the RS232 Interface) and don't have the special features of our Holmes Controllers.

If you need it add one of our Parallel Printer Cables at \$45, instead of \$59.95 from Tandy. Prices on double sided drives etc. on request. All supplied drives fully checked for alignment and speed.

#### REORGANIZATION OF ASP

When ASP Microcomputers started some years ago I was one of the three owners, but with responsibility for day to day running. I'm Paul Stuart, for those who don't know. Recently Gina and I acquired sole ownership of the business, and we are introducing some changes that you should know about.

We enjoy our work. We like our computers and our customers. We like to give very personalized service. However we do not like the emerging impersonalized mass marketing of computers. So we have decided to stay small.

ASP is relocating as from the end of May. You'll note the new address and phone number. This is also the address of our home. Fortunately our extensions over the last few years will let us fit (and the pool will be pleasant during summer!). We intend to significantly increase our efficiency. More Newsletters must be written! But the personal element must remain. We foresee that the business will follow these main directions: consulting, sales of reasonably priced computer products (primarily on a mail order basis, or picked up from us), and servicing of equipment supplied by ASP. Low overheads will aid in expanding our range of reasonably priced products. We intend to install a dial up system for ordering, general communication and customer problem solving. Your participation will be essential and encouraged by keeping the system as a customer resource rather than just an "ordering machine".

Enough crystal ball gazing. It's just that this is the way we see viable survival without compromising our ideals or enjoyment. We look forward to your support.

#### IT WORKS!!!

A flash! We have adapted the Holmes Model 3 Disk Controller to our nice 64K single board computer, and have been implementing CP/M 2.2. This is a long involved procedure, and finally last Friday it came up running, VERY SLOWLY. Peter made a couple of magic changes to the BIOS that came to him in a blinding flash (religious significance again), and it booted and copied programs THREE TIMES FASTER. It's now slightly faster than our ASP Zee development system (which is pretty fast). Projected price is around \$800 ex ST for the 64K system with 2 x RS232 Ports, Parallel Port, switching power supply, disk controller able to run 5 or 8 inch drives, in a low profile enclosure to fit under a video monitor. Add CP/M and your own drives (or let us supply them). Rather than try to get CP/M running on your Model 1, use the Model 1 as a terminal (via COMM-1). Later you can buy a nice video terminal if you really like CP/M. Let us know if you are interested.

#### COMM-1 - REMEMBER

Final reminder of the power of the little COMM-1 with all those unallocated parallel lines, think of the things you could CONTROL!

Bye for now.

Paul & Gina Stuart