



**NEWSLETTER OF SYDTRUG INC.
SYDNEY TRS-80/MS-DOS USERS' GROUP
P.O. BOX 223, BANKSTOWN 2200**

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MEETING ARRANGEMENTS

* Meetings will be held on Saturday afternoons *
* commencing at 1:00 P.M. as follows:- *
* *
* 14th and 28th of July at the 1st Sefton Scout Hall *
* 2 Waldron Road, SEFTON *
* *

WHO'S WHO

| | | |
|-----------------------|-----------------|----------|
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| TRUG-86 Sysop | Errol ROSSER | 796-7646 |
| Hardware Co-ordinator | Errol ROSSER | 796-7646 |
| Newsletter Editor | John MERCER | 579-2915 |

BANKCARD and MASTERCARD

We have the facility to charge your membership fees, or renewal fees to either MASTERCARD or BANKCARD. Additionally, purchases made on your behalf by the club may also be charged to your credit card. If you wish to use this service, please quote your card number, type of card, expiry date of card, and SIGN your request.

Newsletter Closing Dates

Hard Copy only - 7th July 1990 -

On Disk or

Via Bulletin Board - 14th July 1990 -

DISCLAIMER

No Patent liability is assumed with respect to the use of the information contained herein. While every precaution has been taken in the preparation of this publication, neither SYDTRUG Inc. nor its appointed office bearers assume no responsibility for errors or omissions. Neither is any liability assumed for damages arising from the use of any information contained herein. Any opinions expressed are those of the author concerned, and not necessarily those of the Group or its committee.

* We are now Incorporated *
* Membership and BBS Renewals are due on July 1st *
* MEMBERSHIP: \$25.00, Bulletin Boards: \$15.00 *
* For more details see page 111 *

NOTE: There are now TWO SYDTRUG Bulletin Boards

TRUG-86, the MS-DOS Bulletin Board, is now functioning on (02) 790-5681, and should cater for all data formats as with CLUB-80 described below. It is currently in the developmental stage, so please bear with us if it is not quite as easy as you might have hoped. For those who wish to use PROCOMM, there are some patches available on the TRUG-86 board to enable it to function with TRUG-86. All members who have paid for access to CLUB-80, should automatically have access to TRUG-86. Initially, your Password is your Membership Number, so it would be a good idea to log on and change your Password to one which only you know.

CLUB-80, the TRS-80 Bulletin Board, operates for members seven days a week twenty-four (24) hours a day on (02) 332-2494. We use a NetComm 1234sa "intelligent" MODEM, and the following data formats are available :-

CCITT V21 (300/300), V22 (1200/1200),
V23 (1200/75) and V22 bis (2400/2400).
BELL 103 (300 FULL Duplex), BELL 212 (1200/1200)
2400 (2400 FULL Duplex)

All formats utilize 8 DATA Bits, 1 STOP Bit and NO Parity

You should set your Modem and/or software for "ORIGINATE" except for V23 (1200/75) which should be set for VIATEL or 1200 Receive/75 Transmit

Limited access is granted for visitors. Articles for publication should be left in the News Room of CLUB-80 for collection by the Editor. Please leave ASCII files.

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NEWSLETTER

Distributed on a regular basis, includes group business information along with software and hardware articles and information from local and overseas sources. Contributions from members are always welcome.

COST: Included in your membership fee. Back issues available at \$1.50 ea plus \$1.15 (NSW) or \$1.30 (interstate) postage.

Other NEWSLETTERS

We receive numerous exchange newsletters from like minded groups both locally and from overseas. See the resume which appears regularly in our own newsletter. Copies are available for borrowing from our Sefton meetings. You can also borrow by mail if you drop us a line including outgoing postage, as for back issues of "SYDTRUG News" shown above, one magazine at a time for one month.

DISKS

We purchase 5.25" disks in bulk, they are suitable for 40 or 80 track double sided formatting either on TRS-80 or MS-DOS machines, but not HIGH DENSITY on MS-DOS machines. If you need HD 5.25 or 3.5" in normal or HD write for a price. Get a few mates together so we can bulk purchase for you.

COST: Box of ten disks \$12.00 or in bulk lots of 100 disks at \$100.00. Postage is \$1.65 (NSW), \$2.10 (interstate) for box of ten and for box of 100 it is \$12.50 for postage.

LIBRARY

We maintain a library of interesting books mainly at present on TRS-80 matters along with most issues of 80 MICRO. There are a number of other magazines available as well as copies of some local computer magazines. These are available for borrowing from the group for one month at a time.

FABRIC RIBBON RE-INKING

Most printer ribbons can be reinked quite successfully, so long as they haven't been thrashed. There needs to be a reasonable fabric base to absorb the ink. NOTE: Fabric ribbons only, We cannot reink carbon ribbons.

COST: At \$2.00 per ribbon plus postage, this is a viable alternative to continually purchasing new ribbons. If given to re-inker person at meetings they will normally be ready at the corresponding meeting of the next month. By mail, send them to the Group P.O. Box in a padded jiffy bag. Before you mail it, get it weighed and pop postage value of stamps into the bag before you seal it so that we can return it.

SOFTWARE

MS-DOS Public Domain/Trial Disks.

We have an ever increasing range of MS-DOS Public Domain and Trial Ware disks from a number of sources. Watch the newsletter for details.

COST: \$3.00 per disk (360K) plus post and packing as follows:-

| | |
|---------------|--------------------------------------|
| 1 to 5 disks | 75c for mailer, postage \$1.15 (NSW) |
| | \$1.30 (interstate) |
| 6 to 15 disks | 80c for mailer, postage \$1.80 (NSW) |
| | \$2.50 (interstate) |

TRS-80 Public Domain

A huge range of TRS-80 Public Domain Software available for Mod I/Sys 80 along with Mod III, 4/4P. See our catalogue disks for details, if you don't have one write and ask including \$8.00 to cover disks and P/P. Be sure to let us know in what format you require the disks written.

COST: \$2.00 per disk plus postage and packing (as for MS-DOS disks above)

BULLETIN BOARDS

Our NEW MS-DOS BBS called TRUG-80 just up and running which will have services similar to CLUB-80 (detailed below), see front page of newsletter for details of Phone number, BPS rates, etc.

For many years we have run a TRS-80 BBS called CLUB-80 on which you will find discussion groups, message bases and loads of software for TRS-80 machines. See the front of the newsletter for details.

COST: At present a \$15.00 per year fee will give you access to both boards.

SIGs (Special Interest Group)

On the second meeting of the month we usually have either hardware or software tutorials. We have had an excellent series chaired by Ivan KENNEDY on the 'C' language. If you can present an area of interest or can suggest something that you might like to learn about please contact a committee member.

ADVERTISEMENTS

Members may place "For Sale", "Exchange", or "Wanted" advertisements in "SYDTRUG News". There is no charge, but inclusion is dependent upon space being available. The editor reserves the right to amend as thought fit.

Incorporation And Membership Fees

Thanks to the good work of Tom FOLEY, our recently appointed Public Officer, our group now rejoices in the title of "SYDTRUG Inc."

This took effect from 24th May, which was just too late to report in the last issue of "SYDTRUG News". We were, however, just able to ensure that the front page and the wrapper were changed to reflect our changed status.

What concerns members most urgently, is that all those who were financial members of SYDTRUG on 24th May 1990 will automatically become members of "SYDTRUG Inc.". From that date, under the rules, membership continues until such time as the member dies, tenders his/her resignation in writing, or is expelled from the association according to the rules. This means that a member **DOES NOT** cease to be a member simply by failing to renew his/her subscription.

Members are reminded that membership fees are due each year on or before the 1st of July. If you **DO NOT** wish to continue as a member **YOU MUST SUBMIT YOUR RESIGNATION IN WRITING**. So, if you have not already paid your fees for 1990/1991, please do so ASAP (As Soon As Possible).

In case you have forgotten, group membership is \$25, membership of the bulletin boards is an additional \$15. A renewal form was included with the June Newsletter.

THANK YOU SYDTRUG!

We have received from Cliff RICHARD's widow a Thank You card which reads:

I wish to personally thank all members the Sydney TRS-80 Users' Group for their kind and thoughtful donation to the Children's Medical Research Foundation in memory of Cliff.

With Regards
Rosslyn RICHARDS

Solving a Problem of My Own Making

by Roy T. BECK

[Reprinted from "The Interface", newsletter of the San Gabriel Valley Tandy User's Group, P.O. Box 6818, BURBANK CALIFORNIA 91510, June 1990]

Some time ago I acquired a used Model 4P. I immediately decided to install double sided drives in it. When I tackled the job, I found the internal cable had the usual Radio Shack "pulled pins" for purposes of selecting drives. The cable needed repairs due to patching by the previous owner, and so I simply fabricated a new one, using the old connectors. I carefully positioned the connectors for drive :0 and :1. When I was all finished, I used the J&M test disk to verify everything was OK, including front and rear side operation, all using the J&M disk.

Since the machine was essentially a spare, I did nothing for some months. Then one evening I was scheduled to give a demonstration utilizing a hard drive, and rather than pack up the 4P from my office with which the hard drive normally ran, I simply brought the hard drive from the office home and grabbed the spare 4P mentioned above. At the meeting the demo refused to work. I found I could Boot TRSDOS from a floppy in the 4P, but when I tried to boot CP/M from a floppy, everything hung. Since the hard drive had two bubbles in it, and each DOS was on a separate bubble, I immediately suspected the controller card had decided it would no longer select the second bubble. Seemed logical at the time.

I therefore removed the two small bubbles (each 5 Meg) from the hard drive and replaced them with one large bubble (12 Meg). This worked OK, and I thought I had solved the problem. Little did I know!

Somewhat later, my Model 4 died, and I attempted to use the same 4P in its place. Trouble again. After some checking, I confirmed the 4P was simply not reading the backside of either of its two DS drives. But it worked fine when I put them in!

Yesterday I tore into the 4P, expecting to find a bad cable or bad side select latch. But when I started checking, the side select line, pin 32, was changing levels correctly. Now what! It seemed inconceivable that both drives could have developed the same defect at

the same time, yet the signal on the cable was operating normally. I tried another drive in place of one of the drives, and began getting squirrely results. Finally I took a careful look at the connectors with the pulled pins, and what do you know? Pin 32 was pulled also!

That immediately accounted for being unable to select the back side of the drives. But wait a minute. When I put those two DS drives in the 4P, I used the J&M disk to test them, and the rear sides were OK, according to J&M. A little more cogitation, and I decided the front and rear sides of the J&M disk must have the same info recorded on corresponding tracks. Thus, even though I commanded the J&M test to select the rear side, and it undoubtedly issued the signal to the drives, the drives never received the signal due to the pulled pin 32 at each drive. I concluded the J&M disk must have the same info recorded on front and back, because the display was OK front and rear!

When I tried to do the demo, the TRSDOS hard disk came up OK because I happened to be using a SS boot disk. The trouble only showed up when I tried to boot CP/M, because I was then using a DS boot disk!

To confirm all of the above, I reversed the cable connectors (an old TRS trick), which had the effect of replacing all the missing pins and immediately everything was OK. My 4P is now working as I thought it had been all along, and my suspicions of the controller in my hard drive are proven unfounded. My troubles were the result of two errors on my part. First, I failed to notice the missing pin 32 in the cable connectors. Secondly, I falsely assumed the J&M test disk could distinguish between signals coming from the front of the disk as opposed to those coming from the rear, but I was wrong! How many of you have made this same assumption? Of course if your drives handle a DOS or any program that wraps from front to rear without complaint, then your DS drives are selecting correctly. If I ever install DS drives again, I will know to test with a DS DOS disk as well as with the J&M disks.

I am not sure what the moral of this story is. Obviously one can reach a false conclusion if the underlying assumptions are incorrect, and I committed that error, along with failing to notice pins 32 were missing from both connectors. The only conclusion I can reach is to check and double check, and view everything with a certain degree of skepticism.

Thank You Fred

At the meeting held on 9th June, Mike CHAPMAN brought in some software etc. which had been donated to our group by Fred CROWE.

Fred is a colleague of Mike's and had no further use for this material. However, he felt it would be a shame to just scrap it as it could very well prove useful to someone else.

He very generously decided that SYDTRUG Inc. would be a suitable recipient, and we can assure him that we will make sure that it is made available to members who will be able to make use of it.

Our grateful thanks go to Fred for making the donation and also to Mike for his part of the exercise.

If any of our members are thinking of disposing of software or hardware, books or magazines on computing, or know of anyone else who is contemplating this, give a thought to donating it to the group rather than just trashing it.

FOR SALE

Model 16 - 64K RAM
Line Printer 6
Profile Plus, Accounting Package
Plenty of diskettes

Barry HAVELOCK : (047) 39-4614 (24 Hours)

System 80 - 48K RAM
1 Tape Drive, 1 External Disk Drive
2 Additionally External Disk drives (need Power Supply)
Plus Books, Software & Games

Ted STEWARD : (02) 744-1328 (Work) (02) 632-9908 (Home)

FULL POWER FROM THE MODEL 4 SHELL2.0

by Ivan KENNEDY

In a computer world where microprocessors running at 33 MHz on 32 bit data paths will soon be common, why stay with a slow old 4 MHz, 8 bit machine no longer even supported by its maker? Namely, the TRS-80 Model 4, or even for other SYDTRUG members, the Models 1 and III.

It's basically because LDOS/TRSDOS 6/LS-DOS in particular provided a truly powerful operating system for a Z-80 based computer that was ahead of its time, and streets ahead of MS-DOS then. Features abounded such as total device independence (ability to LINK, ROUTE and so on), a powerful job control language (/JCL files to organise the computer), supervisory (system) calls (SVCs) to memory address-independent routines for easier machine-language programming, excellent error trapping and a remarkable range of utilities. Add to that the hardware features of ability to access up to 8 disk storage devices, including 40 Meg hard drives - this with a minimum of fuss (just use unique names for all files and let the DOS find them) - an RS-232 serial port, a capable input/output bus (the latter facility largely unexploited - but consider Alpha Products A-Bus, still available at very reasonable prices, able to control model trains to advanced robotics), etc., etc., etc. Overall, you had a system that brought a great deal of mainframe power to the microcomputer user in 1983.

To a large extent, these features have never been fully exploited by the available software programs. This suggests that the underlying hardware, the basis of all this computing power, was more advanced than necessary to sell the TRS-80 computers. For one I'm very pleased that it was. And pleased that people have made available hardware 'add-ons' such as hi-res boards, extended memory and hard drives, even as late as 1989 (e.g. Roy Soltoff's MISOSYS gear).

Fortunately, much remarkable and versatile software was written (I have about 20 Mb of it, and that's only a fraction of the total) and the power of LS-DOS (and some of the other operating systems with similar capabilities, e.g. DOSPLUS, NEWDOS80/86) allowed this software to have most of the features available on 16 bit and even 32 bit machines. One cannot deny that the new 80386 and 68000 series 32 bit machines can do more and that fancier than an old Z-80; but the Model 4/4P still matches them in many applications (the human response time limits the speed of operation possible in any case), provided you have just a little patience in a few others (e.g. disk duplication) and are happy with 90 Kb spreadsheets (I am).

With the Z-80 chip replaced in a Model 4/4P by an XLR8er HD64180, even the speed gap narrows, as Frank Slinkman and others are showing (see The Misosys Quarterly (TMQ), IV.iii); using clever software, it is possible to exploit advanced features of the 64180 chip (Memory Management Unit, MMU; Direct Memory Access channels, DMA) that enable much faster sorting (up to 65535 32-byte records sorted in 75 min, or 8192 records in less than 3 min) or classy animated graphics capabilities using memory block transfer rates up to 1 megabyte per sec. There is even the prospect of high resolution (640x480) colour (4096 choices on the screen) using the GT-180 graphics board, a VGA monitor, or for best results, a high frequency

analog RGB monitor. With a drawing speed of 1 million pixels a second (3 screens per second) this is twice as fast as the Amiga - see article of Jeff Joseph, TMQ IV.i. Plainly, this area will only benefit the hardware hobbyist/enthusiasts who expect to stick with their Model 4/4Ps through thick-or-thin - and there won't be much software available.

But for the ordinary user who wishes to go on using the Model 4/4P as capably as possible without spending more dollars or writing their own code, there are two software programs that I consider essential. These are SHELL/CHD and PRO-WAM. Together with LS-DOS, these programs will give you most of the capabilities that MS-DOS 4.0 is now attempting to provide as late as 1990.

A separate article will demonstrate the very powerful features of PRO-WAM and how I use it to extend the capability of LS-DOS and other software. Here we will examine the very useful product of Stephen Milliken, SHELL2.0.

SHELL is in the class of Extended Command Interpreters, but by far the most powerful I know, providing a 'user-friendly' interface with the LS-DOS operating system itself. This simplifies use of the DOS, but also speeds it up considerably. For me, the most useful features of SHELL (which seems to be perfectly-behaved software able to run all other Model 4 programs), are the ease of directory display (just key the drive number, including diskDISKS, and a paged CATALOG appears), the capacity to display only files with a particular extension (CLEAR E), to tag (T) groups of files or all files (for mass copying or erasing), the ability to run /CMD, /BAS, /JCL files just by placing the cursor on the filename (using Go to to get there faster, if you wish) and hitting <ENTER>. When mass-copying after tagging, all files may be copied but it is necessary to manually enter passwords in response to a prompt when protected files are involved. A very useful feature is listing of files by pressing L, giving a paged display of the file under the cursor. Free space on the current drive is indicated by pressing F, when a map of used and unused granules will be displayed. <CLEAR M> results in a file display only of the files modified since the last backup of the disk; these may then be mass-tagged for copying with <SHIFT T>.

It's better not to use the patch to convert the REMOVE command of LS-DOS to LDOS's KILL; SHELL looks for REMOVE behind the scene and the KILL facility (K) of SHELL then won't work.

Also very useful is the facility by which you can previously nominate a text editor or word processor such as ALLWRITE, SCRIPSIT, TED, SEDIT (a handy Ascii editor that comes with SHELL) and just by placing the cursor on a text file on the "menu", first load the program and then display the text file on the screen with SHIFT E <ENTER>.

Installing SHELL is easy. Just type INSTALL <ENTER> with the Share-ware program files including INSTALL/CMD on drive 1, answer one or two simple questions and the system disk in drive 0 will have SYS13/SYS loaded with the SHELL program. (Unfortunately, SYS13/SYS is then 13.5K, making a 64K MEMDISK as a system disk difficult, but not impossible, to set up). Typing in * <ENTER> brings up the SHELL "menu" screen with a built-in HELP facility; typing H produces a more detailed HELP screen to remind you of all SHELL's facilities, shown below.

| U N S H I F T E D | I S H I F T E D | C L E A R | 09:19:44 |
|------------------------------|---------------------------|-----------------------------|----------|
| # 10-7 Selects drive | 11-5 Programmable Keys | | |
| A !Display file ATTRIBUTES | !Display system ATTRIB. | !APPEND file to ... | |
| B !BASIC(G)/CMD executed | | !BLANK screen toggle | |
| C !COPY file | !COPY w/password | !COPY tagged files | |
| D !Display file DESCRIPTION | !Display all DESCRIPTIONS | !Print all DESCRIPTIONS | |
| E !EXECUTE a cmd.or program | !Load text EDITOR | !Change EXTENSION, \$\$=ALL | |
| F !FREE map of current drive | !FREE space all drives | !Set FORMS parameters | |
| G !GOTO file => letter | | | |
| H !This HELP display | !TRSDOS HELP function | | |
| I !Tagged files (IN)VISIBLE | | !INVISIBLE file toggle | |
| K !KILL file | !KILL w/password | !KILL tagged files | |
| L !LIST file, shift 2 pauses | !LIST w/password | | |
| M !MARK (Tag) file | !MARK (Tag) all files | !MODIFIED file toggle | |
| P !PURGE unused descriptions | !PRINT all catalog files | !Send TOF to Printer | |
| Q !QUIT, * re-enters SHELL | | | |
| R !RENAME file | !RENAME w/password | !Set RS232 parameters | |
| S !SORT description file | !SEARCH catalog files | !SYSTEM file toggle | |
| T !TAG file | !TAG all files, (inverts) | !Total bytes tagged | |
| U !UPDATE user Keys 1-5 | !UPDATE drive numbers | !Add (X) to F2 cmd. | |
| W !WRITE file description | !WRITE desc.file->catalog | !Mass WRITE descriptions | |
| F1 !FORMAT/CMD executed | !SYSGEN system | | |
| F2 !BACKUP/CMD executed | !DISKCOPY/CMD executed. | | |
| F3 !Display TRSDOS directory | !Print TRSDOS directory | | |

HELP PAGE 2:

ARROW KEYS: move cursor around. +/-, Next/previous page 09:20:23
 ENTER KEY: /BAS,/CMD,/JCL files are executed. /ACH loads ARCHIVE4.
 /CAT files displayed.
 SHIFT ENTER: /CMD files will display a prompt on re-entry to SHELL.
 /CAT files printed.

SHELL/CMD version 2.0 Copyright 1987 (c) by Stephen Milliken is being distributed as SHAREWARE. A lot of time and effort went into this program. If you use the program regularly a donation would be appreciated. (\$15 req.) Only registered users will have the option to receive future versions. Send to:

Stephen Milliken
 10 Cochato Park
 Randolph, MA 02368, U.S.A.

If you have any questions or suggestions about the program, feel free to drop me a message at the above address or at:
 CIS: 73577,267 GENIE: S.MILLIKEN OUTPOST BBS, NH: (603)-886-1371

Hitting SHIFT F1 while in SHELL will make it auto-execute on RESET.
 Hit any key for directory.

As you can see, there's a rich array of of about 50 keystrokes available that simplify the use of LS/TRS-DOS 6.x.x and cover most of the DOS's functions. It goes a lot further than that other useful DOS-tamer, IFC/CMD, although IFC is a lot better than nothing and IFC (interactive file copier) is available for LDOS 5.x for the Model III whereas SHELL2.0 is not. SHELL works on a hard drive, with Double Duty and with diskDISK or subDISK drives. Clearly, it's one of those programs that Roy Soltoff calls "behaved", addressing the DOS by using the SVCs (supervisory calls) that ensure that programs do not clash with one another by overwriting memory, etc.

SHELL can be SYSGENed (SHIFT F1), so that it is automatically installed on boot-up, even with the operating system in extended RAM or on a hard drive. SHELL includes a SHELL/TXT file that contains simple descriptions of the files on a particular drive (W and type in a description) and SHELL/TXT forms the basis for an excellent file listing catalog that can be formed automatically (SHIFT W) on any drive in the system with ease. FORMAT, BACKUP and DISKCOPY execute using the function keys (F1, F2, SHIFT F2) and a full DIR is obtained for the current drive with F3. As shown on the HELP menu above, several printer functions are also available.

The FORMS/FLT can be set with CLEAR F and a map of free space on the current drive selected with F, or free space indicated with SHIFT F. I also make a great deal of use of LIST (L), which gives a single-paged display of files I want to peek at (ASCII or not), simply requiring the cursor to be moved with the arrow keys (or Go To) to the file of interest first.

It's easy to go back to LS-DOS (hit Q) if you need to, but this is rarely. When Stephen Milliken wrote SHELL, he certainly used most of the powerful features of LS-DOS, and provided much easier use (much less typing) of the operating system. In view of its quality, it's hard to credit that this software is SHARE-WARE, available for a voluntary contribution of only \$US15. One senses that the achievement and camaraderie that went with using these computers produced a generous spirit.

Last week, I had a look at the newest MS-DOS (version 4.0) and it struck me that it was just catching up with LS-DOS wrapped in SHELL 2.0. SHELL is available from the TRS-80 PUBLIC DOMAIN library of SYDTRUG, or you could write to Stephen Milliken at the above address (if it's still his current one) to obtain his latest version. For anyone using the model 4/4P, it will be the best \$20 you ever spent on software!

Later, we can look at PRO-WAM, a Windows Applications Manager from MISOSYS, that provides added ease of use of LS-DOS, as well as an unlimited range of useful applications. In fact, together with ZSHELL, another MISOSYS product that enables piping of program input and output between devices, this is an area where I'm continually finding new procedures that speed up use of the computer. These often make 4 MHz, 8 bits 2-80 seem as fast or faster than 16 or 32 bits machines - and usually more convenient. The procedures are readily saved in one file and invoked with a two-letter code as single multi-command lines up to 78 characters long that function as mini-JCLs. Never again should I need to search for lost notes on how to carry out complex but rarely used tasks. They can be invoked with just two keystrokes plus <ENTER> using PHRASE from PRO-WAM. I'll show you how this works later.

Your Computer Tutorial - Part 6

by Les BELL

[Reprinted by courtesy of "Your Computer", from the May 1985 issue.]

We've now seen how sequential files can be used to store information and how the computer can sort information into order.

These concepts are very important in organising information on a computer, particularly for rapid access later. But you have probably spotted the drawbacks of sequential files. First, we have to load the entire file into memory to sort it, and second, the only way to find a particular record is to sequentially search through the file until it is located.

Random access files will help us to get around these problems. The solution to the second problem is implicit: instead of sequentially searching a file, we can randomly access any part of it. Our earlier use of an index will help us with the first objection: instead of loading the entire file into memory and sorting it, why not have an index file which says where in the main file each record is stored, and then sort the index?

Of course there is a penalty for random access. We must always use the same length of record, and we must be a little bit more picky in defining our field lengths. But that is a small price to pay.

With the solution to our problems in sight, let's press on and learn about random access files.

A random access file is opened for both reading and writing, using our old friend the OPEN statement:

```
170 OPEN "R",1,"FILENAME.DAT"
```

Now from here on it's not going to be that easy, I'm afraid! To use random access files you must understand a little about how BASIC accesses the disk and how the operating system organises the disk.

Keeping Track Of Floppy

For convenience I will use the IBM standard single-density 20 cm floppy disk as our example, but the basic principles apply to all disks, whatever their size. Each disk has 77 tracks. These are concentric rings where the read/write head actually puts the data. Each track is split up into 26 sectors, each containing 128 bytes of data. Now we can access any block of data, provided we know which track and sector it's in.

A special area of the disk is usually set aside for the directory. This tells the operating system where each file starts and how long it is.

In random access files, each read or write (GET or PUT statement) transfers an entire sector of 128 bytes. (If your machine uses 256-byte sectors, don't worry, the operating system automatically deblocks a 256-byte physical sector into two 128-byte logical sectors.)

The sector is read off the disk into a buffer space maintained by BASIC, and which you should have already set up using a field statement.

All data in a random access file is treated as string data. Thus any numbers in the file have to be converted into numeric data before being used in calculations. BASIC contains special functions to do this. Conversely, numbers must be converted into strings before being written to random files.

When storing strings into an I/O buffer, you must use the special functions LSRT and RSET. This is because the fields are fixed in length and these functions automatically cope with strings that are too short or too long.

How Many Files, Sir?

Most BASICs allow 15 or so files to be open at one time. TRS-80 disk BASIC asks the user, at power-up, how many files he will be using, because each file has to have an associated buffer in memory: if you're not using the buffer, it's just so much wasted space. Not many programs would have as many as 15 files open at once.

The OPEN statement sets up a 128-byte buffer for that particular file. [SYDTRUG News Editor's Note: The size of each buffer depends on the particular version of BASIC. Some versions have buffers which are significantly larger than 128-bytes. This makes it important not to be rash about specifying excessive numbers of files when your program will require a lot of memory.] The next thing you must do is say what information goes where inside that buffer. You should decide this during the early stages of designing your program, by writing a record definition.

Here's a typical record definition for a name/address/telephone number file:

```
Surname 20 bytes (characters)
Given Name 20 bytes
Street address 30 bytes
Town/city 20 bytes
Postcode 4 bytes
Telephone 15 bytes
Comments 19 bytes
-----
```

Total 128 bytes

If you like you can visualise the buffer as a strip of memory containing the various strings which will represent the different fields of the record:

Fields Within A Buffer

Using the same string variable names as the mailing list program, here's a FIELD statement to set up the buffer this way:

```
100 FIELD #1, 20 AS N$, 20 AS C$, 30 AS A$, 20 AS A2$, 4 AS PC$,
15 AS T$, 19 AS CH$
```

This statement 'slices up' the buffer for file 1 so the appropriate number of characters is allowed for each string variable.

Note we have now reserved these string variables for a special usage and we cannot use them in the ordinary ways we use other string variables. For that reason it is generally wise to use special names for disk-buffer variables, so the ubiquitous N\$ is used in the program generally, while NF\$ is the file buffer variable (FN\$ cannot be used, as we will see later).

So it might be better to write:

```
100 FIELD #1, 20 AS NF$, 20 AS CF$, 30 AS AF$, 20 AS BF$, 4 AS PF$, 15
AS TF$, 19 AS DF$
```

Although these string names are not as meaningful as the others, they are less likely to be used accidentally as conventional variables.

Okay, so how do we read from a random file? Having opened the file and FIELDed it, here's how to read the 37th record:

```
330 GET #1, 37
```

That will read the record into the buffer. You can now PRINT NF\$, and the name should appear on the screen. Likewise PRINT TF\$ should print the phone number.

All of this assumes there is a 37th record of course. If you don't have that many friends you may not have a record number 37. In that case, what you get back will either be garbage or possibly an error message.

One of the most convenient features of a random file is not every record need contain any information. In fact, there can be thumping great gaps in your file. Again, if you access a non-existent record, you'll generally get back garbage.

The disadvantage of this arrangement is non-existent records still take up space. If you create a random file, and then insert record number 1 followed by record number 1017, the file will occupy 1017 by 128 bytes - totalling 127 Kbytes - even though the space between records 1 and 1017 is logically empty. Be aware of this problem!

So You're Mismatched, Eh?

How do you know where the end of a random file is? The answer is random files don't really have a length - they just end somewhere after the last record. Consequently, the EOF() function doesn't work on random files; trying to take the EOF() of a random file will usually return a 'File Mismatch Error'.

To help with applications where you want to read right through a file, MBASIC provides a function, LOF(n), which returns the number of records in random file n. So you can write:

```
140 FOR N=1 TO LOF(2)
150 GET #2, N
160 REM DO PROCESSING
..
270 NEXT N
```

This will read through the file and process the contents of every record. Don't be surprised if many of them turn out to be garbage!

Numeric values are not quite as easy to handle as strings, however. In fact in random files numeric values must be stored in a compressed string format. They are converted using the MKI\$, MKS\$ and MKD\$ functions.

When using FIELD to set up a buffer you must be sure to allow for the correct number of bytes (characters) for the data type:

| | |
|-------------------|----------------------|
| Integer: | string MKI\$ 2 bytes |
| Single-precision: | string MKS\$ 4 bytes |
| Double-precision: | string MKD\$ 8 bytes |

When reading numeric variables back from a random file, they must be converted back into numeric form. Once again, MBASIC provides special functions to accomplish this:

| | |
|---------|----------------------|
| String: | integer CVI |
| String: | single-precision CVD |
| String: | double-precision CVD |

Those are the basic principles of handling random files, for simple cases at least. With this information we will proceed to a couple of more realistic examples: a computerised telephone directory and a small database management system.

=====

MOVING FROM 4-BIT TO 8-BIT GRAPHICS

by Allen JACOBS

[Reprinted from "The Interface", newsletter of the San Gabriel Valley Tandy User's Group, P.O. Box 6818, BURBANK CALIFORNIA 91510, November 1989]

Let's be honest. We all bought our high resolution graphics boards with the expectation that we would be doing some or all of the following:

- 1) Playing games
- 2) Importing and exporting high resolution graphics
- 3) Graphing complex scientific, statistical, and financial equations
- 4) Doing all but the most sophisticated of CAD/CAM applications

Although we all intended to program these applications ourselves or to purchase them as soon as they came out on the market, that expected tidal wave of software never materialized. The main reason for this software famine is that Radio Shack never made the high resolution graphics board a standard piece of equipment for any of its TRSDOS machines.

We pictured that our eventual selection of graphics applications would have capabilities that fall just short of those available for mainframes and proprietary dedicated graphics systems. Instead,

our high resolution boards sit almost totally unnoticed in our machines, with us unable to digitize (scan or capture from video) any images with our own systems. We have also been virtually unable to display, copy, manipulate, or interchange graphics with other systems that have the hardware to perform these tasks. In short, our high resolution boards seem to spend all their time in the off state. We hardly use them for anything.

It is gratifying to discover that high resolution applications are still being written for the TRS-80 High Resolution Graphics Boards (both the Radio Shack and the Micro Labs versions). Frank Slinkman has written three applications that would impress any monochrome MS-DOS CGA graphics owner. These three programs consist of two Las Vegas style casino games and a third useful application which I will get to next month.

SLOT4MOD4/CMD

After doing a fair amount of word processing and a tiny amount of programming, I must admit that I have gotten used to expecting character based rather than graphics based images to appear on my Model 4. I must also admit that I am not much of a gambler. Since I am intimidated by the rapid pace of games played in Las Vegas with a live human dealer, I gravitate towards the more impersonal, and therefore more patient, automated games in the casino. The most common of these is the slot machine. Knowing the odds against winning as we all do, I normally consider myself "above" the "wasteful pursuit" of gambling. However, whenever I am at a Las Vegas convention, as with everyone else, I usually make the mistake of saying to myself: "Just a nickel here or a quarter there can't hurt"

When I loaded SLOT4MOD4/CMD onto my green-screen, gate-array Model 4 with a high resolution graphics board and 128K of RAM, suddenly there appeared in front of me an extremely authentic looking "... Mill's Slot Machine of the type built in the late 1930's ...". It boasts an "... 80.25% return ...", which makes it a true one armed bandit in my book. It was not just a low resolution "Dancing Demon" style representation of a slot machine, but a no excuses monochrome machine that is unmistakable.

The caption to the right of the machine said:

Press SPACE to play
"Q" to quit
You have
40
nickels left.

So, just as in Las Vegas, I said to myself: "Just a nickel here or a quarter there can't hurt", as I hit the space bar

I have always expected TRS-80 high resolution graphics to have unacceptably slow animation. This expectation is understandably true because of the unavoidable restrictions imposed on high resolution graphics by the hardware. In spite of these restrictions, they do not appear to be a problem for this game. The wheels of the slot machine move almost seamlessly and give the impression that they are turning. The action displayed by this game renews my faith in the potential of animated TRS-80 high resolution graphics.

Technically, every bit of graphics information must be placed individually onto the screen, one 8 bit horizontal byte at a time, through ports 80-83. Port 80 transfers the actual graphics information while the other ports serve control functions. The process requires a fair amount of housekeeping. For a more complete explanation, read the technical manual. This process should be contrasted to the way we can poke graphics information into the low resolution Model I or III video screens. Now, the Model 4 video screen can even be paged into memory at "block move" rates, which are very fast. See Lance Wolstrup and Tim Sewell's feature article, "Hunting for Buried Treasure" in the November/December 1988 issue, Volume 1, Number 6, of TRSTIMES. Look at LABEL204/BAS to find out how to use this video technique on the Model 4.

... The handle pulls down with a realistic sound and the three symbol emblazoned wheels in the machine begin to turn, with the left, then the middle, and then the right wheel coming to a halt. This action occurs sequentially and in approximately the same amount of time it would take on an actual slot machine. This graphical one armed bandit operates uncannily just like the real thing. It is truly a computer simulation. In fact, it is so much like the real thing that, just as with the real thing, I lose my "electronic" nickel. So naturally, I hit the space bar another time, and then another, just to see how well I would do, as if I was "really" playing. While I get a couple of cherries once in a while, in short order I lose all my simulated money. After being informed by the program that the casino loves players (I think they mean losers) like me, the program

automatically quits and makes a clean return to the "DOS READY" prompt.

On September 14, 1976, Chapter 936, Section 330.7 of the California State Penal Code was enacted here to allow the legal purchase of slot machines made before 1941, to be owned by private persons as long as they were not used for actual gambling purposes. The section was amended in 1985 to allow the private purchase of machines made before 1956. I often thought to myself that it would be interesting to have such a machine of my own. I never got around to buying one. I'm glad I never did, because I've got one now. Conveniently, it only takes up a few cylinders on a floppy disk and it never has to be dusted or oiled.

This game is a great mental cathartic in that I can participate in the ultimate act of "financial masochism" without really financially hurting myself. This game is an ideal way to apply "forced" savings to the purchase of things that I really need, by really depositing my electronic losses into a real piggy bank. The problem with this kind of saving is that I will feel perfectly justified in "blowing the whole wad" on the next program that Frank Slinkman produces. After all, another good program can't hurt

Such as ...

VIDEOPOKER4

If you are a conservative dealer-fearful gambler such as myself (meaning, that you hardly ever gamble), you quickly learn in Las Vegas that you have a better chance of at least losing more slowly or even winning (?!?) a little at video poker. Frank has written a very faithful monochrome rendition of a typical casino video poker machine. Both the game strategy, and the actual "play" of the machine are exactly like "real" video poker. Frank includes an excellent data file essay with the program that outlines good poker game strategy.

It is true that video poker inherently lacks the ability to permit a player to bluff or be bluffed, to raise, to call, or to "see" the hand of another player, or the electronic dealer. However, with this facts are inherent in all video poker games. With the exception of color, VIDEOPOKER4 is absolutely as good a rendition of poker as I have seen anywhere.

Something I have not seen anywhere else is the ability to make a double-or-nothing wager on your winnings, each time you are awarded them. It is the next best thing to bluffing. In my case, it's better since I'm not a very good bluffer anyway. I have never been to Atlantic City, but I have never seen any "real" video poker machine provide this option. I find it very exciting, yes even gripping, even if no money is involved. It is fun to see whether I can double my winnings in a desperate effort to minimize my losses or maybe even make a gain. It is a chance to go for broke.

As is always the best feature of any option, you have the choice of not utilizing it if you don't want to. You can take-your-points-and-run if you need them to stay alive. In short, if you have played Video Poker, you have played VIDEOPOKER4.

A true acid test of any computer game is to find an individual who absolutely hates computers and to see if they will play it. My sister is one such person. VIDEOPOKER4 passed this acid test when my sister not only played an entire game of video poker by herself, but said to me, "With all that software you have for that machine, why didn't you ever show this to me before?". She likes VIDEOPOKER4 although she assures me that she still hates computers. That is the highest possible recommendation that anyone can give to this or any game.

My sister did have one valid criticism. She said that she likes video blackjack. "Why isn't there any video blackjack?" I thought to myself, blackjack would use many of the subroutines that Frank Slinkman has already included in VIDEOPOKER4, such as his card display logic, shuffling and dealing subroutines, etc. It would seem that writing a game of blackjack, another of casino Baccarat, and maybe even Acey-Deucey (also known as Red Dog) would be a "piece-of-cake" (if only for Frank Slinkman). So, Frank, that is the strongest criticism I can muster about these games. Namely, why aren't there more? I hope you're reading this.

Frank can be reached at the following address:

J.F.R. "Frank" Slinkman
4108-C Fairlake Lane
Glen Allen, VA 23060

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PAR3DP/BAS

A Somewhat Puzzling Program

by Edward SIKE (02) 533-3130

Hopefully, this number crunching venture might trigger off some additional contributions, of a similar or even more fascinating category. But, the main purpose of this particular "puzzle" is to awaken widespread interest among the readers of "SYDTRUG News", in the so-called Double Precision Computing (or, simply D.P. Computing). Apparently, this is a much neglected art, although high precision computing seems to be an art with great future potential! - possibly, a truly limitless potential

To those readers, already familiar with the D.P. mode of computation, the program presented here might well be of much interest, as a source of, shall I say largely new, little explored ideas. Anyway, here is the line-by-line listing of a thoroughly tested D.P. Program, written in the familiar Level II BASIC :

```
10 CLS
15 PRINT"DATE : 18.1.1990
16 PRINT"FILE NAME : PAR3DP/BAS
17 PRINT"NO COPYRIGHTS RESERVED MEM";MEM
18 PRINT;PRINT
19 PRINT" 0.57721566490153286...
20 PRINT"WAIT A LITTLE FOR THE OTHER HIGH PRECISION FIGURES
21 DEFDBL A,B,C
22 DEFDBL Z :DEFINT I-N
23 DEFDBL U-Y, F-H
24 A=11.9 : B=12 : C=12.1
25 REM PRINCIPLE LOOP
50 H=H+1 : G=G+1 : F=F+1
60 Y1=Y1+(1/H)
70 Y2=Y2+(1/G)
73 Y3=Y3+(1/F)
80 A=A+24 : B=B+24 : C=C+24
90 Z=(H+.5H)+(1/A)
100 GOSUB 40100 : X1=Y1-22
110 Z=Y1-X1 : GOSUB 40200 : U1=22
130 Z=(H+.5H)+(1/B)
135 GOSUB 40100 : X2=Y2-22
140 Z=Y2-X2 : GOSUB 40200 : U2=22
160 Z=(H+.5H)+(1/C)
165 GOSUB 40100 : X3=Y3-22
170 Z=Y3-X3 : GOSUB 40200 : U3=22
200 PRINT
210 PRINT Y1;X1;U1
220 PRINT Y2;X2;U2
230 PRINT Y3;X3;U3
240 IF H > 1000 THEN 255
250 GOTO 50
255 PRINT
260 PRINT"PROGRAMMED TO S T O P WHEN
270 PRINT" H = 1001 : STOP
500 REM Z=1+(1/H), AS AN EXAMPLE OF ANOTHER USEFUL
D.P.SUBROUTINE
510 GOSUB 40100 : Z=H*Z2
520 GOSUB 40200 : PRINT
530 PRINT Z2 : RETURN
999 END
```

Eventually, after due reflection, a few readers will probably admit, that some of the ideas utilized therein (and working correctly) do require three or four, higher and higher levels of comprehension - To see it all for yourself, you are invited to RUN this short program on your computer and watch carefully the unfolding results.

Do not overlook the fact, that $24 = 1*2*3*4$ is a Factorial Number (which is a remarkable coincidence ?). Also note, that line 19 represents the partly known Euler's Constant (.577...); try to remember this numerical value. It is essential of course, that the appropriate Tandy D.P. Subroutines (for example GOSUB 40100, GOSUB 40200, etc.), which I am not at liberty to specify in detail, must be included in the program; that is to say, properly MERGED at the end of the above listed program (PAR3DP/BAS). Only then will you get the desired high precision Numerical Patterns. For example, on my old, but very reliable computer (TRS-80 Model 1) the initial results look as follows:

```
1 .5761351085792675 1.527855153499329
1 .5761857532236391 1.527777777777778
1 .576236119830929 1.527708830732215

1.5 .5770536694718637 2.516694490924347
1.5 .57706447254071761 2.516666666666666
1.5 .5770757446721761 2.516638935002541
```

```
1.833333333333333 .5771707355071402 3.511918951186494
1.833333333333333 .5771747758368263 3.511904761904765
1.833333333333333 .577178806574349 3.511890606366993

2.083333333333333 .5771985343221574 4.509267804625911
2.083333333333333 .5772004373749631 4.50925925925926
2.083333333333333 .5772023369104544 4.509250693769393

2.283333333333333 .5772077355352728 5.507581581159156
2.283333333333333 .5772087783861841 5.507575757575761
2.283333333333333 .5772098196592947 5.507570022680206

2.45 .5772114838139798 6.506414368200427
2.45 .5772121157736495 6.506410256410252
2.45 .5772127469240284 6.506406149888248

2.592857142857143 .5772132443390582 7.505558643702724
2.592857142857143 .5772136557871537 7.505555555555551
2.592857142857143 .5772140667785859 7.50555247083776

2.717857142857143 .5772141616470327 8.504904364893924
2.717857142857143 .5772144443203992 8.504901960784323
2.717857142857143 .5772147267168495 8.504899559030535
```

Observe that "2.7178 ..." is almost equal to the universally valid Natural Constant "e" (conceived by Euler about three centuries ago). Also observe, that ".57721 ..." is almost equal to the so called Euler's Constant (printed in full in line 19); for further details see "SYDTRUG News", February 1990, Page 54).

As an additional bonus, you will find this particular program useful as a very demanding ENDURANCE TEST of your computer - be it a Model 4, an IBM Compatible PC, or whatever, down to the relatively humble TRS-80, or the almost equally popular Dick Smith System 80. Just leave this program running for a few hours and see what happens (after, let us say, 1001 successive steps).

I have named the present program PAR3DP/BAS, most appropriately it seems. The abbreviation "PAR3" stands to mean "three PARallel" and independent mini-programs, running sort of simultaneously and side-by-side as it were (to detect the slightest misbehaviour of your machine). The remaining abbreviations, "DP" and "BAS", are self-explanatory.

If so inclined, the more enterprising reader is urged to figure out the details of various actions performed by the program, and then to describe them - especially those of a more puzzling nature It is suggested, that this be done in the form of an article suitable for "SYDTRUG News". Have a go at it, the sooner the better, as there is a good deal of ground to cover.

In conclusion then, would it not be nice, if through such commendable activities, and other contributing factors, the SYDTRUG Inc. Group would gradually become known as specializing in D.P. Computing ? - One day, perhaps even taking the lead in this very promising and very challenging area of high precision computing

Finally, grateful acknowledgment is also due to Bruce RAMSAY (our brand new Secretary), for his frequent and generous help - both, in word and deed - during the preparation of this, apparently very meaningful article, concerned with the repeatedly mentioned D.P. Computing.

A little Post-Script :

- If you, the interested reader, care to bring with you a spare 5 1/4" floppy, and come to my place, I shall be glad to provide you with a working copy of the above program.

WANTED

An on-line diary program for Model 4

Frances HARRIS : (062) 230-2341

A copy of Model III Micro Pilot, to enable running Moby Dick, Dracula etc. on the Model 4

Marianne HARRINGTON : (046) 31-1158

QUESTIONS

by Harry Boller & John PHILLIPP

[Reprinted from "The Interface", newsletter of the San Gabriel Valley Tandy User's Group, P.O. Box 6818, BURBANK CALIFORNIA 91510, November 1989]

One of the early memories I have of SAGATUG was "The Interface" question and answer section called "Sweet Sally". It was our version of "Dear Abby", and members could unload their TRS-80 operating problems and get a solution. But then came the bad news. The July 1984 issue printed this appeal:

Poor Sweet Sally

I hate to be the one to tell you, but dear old Sweet Sally is getting more and more lonely. She and Clyde just sit in their room waiting for questions from the members ... but none ever come.

The pleading kept on for several more issues and then silence. Sweet Sally was gone.

BUT THERE IS NEW HOPE. At our October meeting several of our really smart hackers volunteered, in fact guaranteed, to answer future questions sent in to "The Interface". Let's keep them busy.

AND SO, I have a question. With the Model 3 TRSDOS 1.3, using BASIC and working with a matrix array, I would like to combine the data from two columns into a third column, for example:

| Row (N) | Col.1 A\$(N) | Col.2 B\$(N) | Col.3 C\$(N) |
|---------|--------------|--------------|--------------|
| 1 | AAA | 123 | AAA 123 |
| 2 | BLC | 45 | BLC 45 |
| 3 | NCS | 96 | NCS 96 |
| 4 | PQ | 101 | PQ 101 |
| 5 | XL | 45 | XL 45 |

What I need is an expression, in BASIC, to the question posed in line 400 below.

```
100 FOR N=1 TO 5:READ A$(N):NEXT N
200 FOR N=1 TO 5:READ B$(N):NEXT N
300 FOR N=1 TO 5
400 C$(N)=(??Combine A$(N)and B$(N) to make C$(N))
500 NEXT N
600 DATA AAA, BLC, NCS, PQ, XL
700 DATA 123, 45, 96, 101, 45
```

10/23/89 Harry Boller

Well, Harry, I'm not Sweet Sally, but I can take a crack at answering your question.

It appears that what you are trying to do is to combine two strings (A\$(N) and B\$(N)) into a third String (C\$(N)). We know that we are dealing with strings of characters rather than numbers, because each of your variables has the string designator: \$.

This is done with the BASIC "string concatenation operator" ... "concatenation" is just a fancy word for "connection". This operator will "concatenate", that is, connect, two strings together.

The symbol BASIC uses for "string concatenation" is the plus sign: "+".

So, the line 400 you are looking for is:

```
400 C$(N)=A$(N)+B$(N)
```

Note that this is different from the "Number addition operator", for which BASIC also uses the symbol "+".

If BASIC is dealing with numbers like 123 and 456 then:

```
400 C=123+456
```

will add the two number values together and leave the result 579 in the variable C. If BASIC is dealing with two string characters, like "123" and "456" then the line:

```
400 C$="123"+"456"
```

gives C\$="123456".

In your code fragment, Harry, you were dealing with strings of characters, even though there were no quotes around the numbers in the DATA statement in line 700, because you were reading those characters into a string array (B\$(N)). So the concatenation operator will give the results you asked for.

If you had read those numbers into a number array, B(N), rather than a string array, then

```
400 C$(N)=A$(N)+B(N)
```

would have given a "TYPE MISMATCH" error when the line was run because you can't concatenate a string and a number. The solution in that case would be to convert the number to a string using the BASIC STR(number) function before concatenation:

```
400 C$(N)=A$(N)+STR$(B(N))
```

I hope this helps, Harry.

John PHILLIPP

SYDTRUG Inc. gets into the act!

I'm not a Sweet Sally either but you may want to note the following:

The supplied solution will give the result:

| Row (N) | Col 1 A\$(N) | Col 2 B\$(N) | Col 3 C\$(N) |
|---------|--------------|--------------|--------------|
| 1 | AAA123 | NOT | AAA 123 |
| 2 | BLC45 | NOT | BLC 45 |
| 3 | NCS96 | NOT | NCS 96 |
| 4 | PQ101 | NOT | PQ 101 |
| 5 | XL45 | NOT | XL 45 |

Note that the space between the Alpha and Numeric strings gets lost!

To correct this, one of two methods can be used:

1/ Line 700 should be changed to read:

```
700 DATA " 123", " 45", " 96", " 101", " 45"
```

so that the leading spaces in front of the numerics are picked up by the READ in line 200, or

2/ Line 400 should be:

```
400 C$(N)=A$(N)+" "+B$(N)
```

NOTE: Solution 2 will not give EXACTLY the results asked for, because there are two (2) spaces in column 3 of row 5 in the question, however, that may only be a typographical error.

Errol ROSSER

Worth Repeating

No mariner ever enters upon a more uncharted sea than does the average human being born in the 20th century. Our ancestors knew their way from birth through eternity; we are puzzled about the day after tomorrow.

-- Walter Lippmann

SHAME, SHAME

by Bob BOTTOMLEY

[Reprinted from "The Interface", newsletter of the San Gabriel Valley Tandy User's Group, P.O. Box 6818, BURBANK CALIFORNIA 91510, June 1990]

I downloaded a copy of ICLE (Interactive Command Line Editor) for the TRS-80 Model 4 from a bulletin board. I tried out the program, found it to be very useful to me and, since it is shareware, wanted to send in my contribution. The author's address is listed in the documentation along with his GENIE mail I.D. I sent him a message on GENIE telling him how much I liked his program and asked if the published address was still current. The following is the author's reply:

From: Franklin C. Berndt
Sub: ICLE

Thanks for the comments. Yes, ICLE was one of my best programs for the Model 4. Unfortunately, it was a complete failure, economically. After advertising costs, I must have lost around \$1,000. I was very disappointed, especially after Hardin Brothers gave it a good review, and the 80 Micro Magazine gave it a good review too. I believe it was TRSLINK that listed it as one of the top 3 shareware programs available for the Model 4. After all that, plus hundreds of inquiries (through 80 Micro), it didn't produce one dime after I uploaded the shareware. Oh well. My address has changed, it is now:

Computer Futures
4447 Galley Ct.
Boulder, CO 80301

I appreciate your comments. I just sold my Model 4 about three months ago so I'm no longer able to provide any support.

Thanks again.

Frank

Here was someone with something to contribute to the TRS-80 community. We let him down and he has left our community. Are we going to let this happen to all our other shareware authors out there?

How many shareware programs do you use? For how many of them have you sent in the requested contribution (or ANY contribution, for that matter)? I have shareware programs that, after evaluating them, I have not found to be useful. For these, I don't send in any money (but I do distribute them to keep them in circulation).

There are other shareware programs that I couldn't live without and willingly send in the money. I have also found that the authors are receptive to suggestions for enhancements when you register your copy of the program.

I use DEARC by Richard Van Houten. When I first got the program I wrote myself a note to send him a contribution. The note sat on my desk for several months (OK about five months); then, what goaded me into action was reading in TRSLINK that only four people had sent him any contributions. Of all the people using DEARC only FOUR had sent in any money!

Any authors who think they are going to get rich releasing shareware for the TRS-80 are only fooling themselves. On the other hand, they would like a little return for their efforts. Consider this YOUR goading: please don't let other authors abandon the TRS-80 community.

"Interface" Editor's note: Bob is right, of course, and his comments apply equally well to MS-DOS shareware.

Exchange Newsletters

Some of what is included in our library. These newsletters may be borrowed by members. Members attending meetings at Sefton should see our Librarian. Other members may apply to our P.O. Box. Postage will, of course, be charged for those forwarded by mail.

January 1990

"LLIST"

Newsletter of the Calgary Color Computer Club
Box 22 STN."M", CALGARY. ALBERTA. T2P 2G9, CANADA.

Ethics for BBS Users - Some pertinent advice from a sysop:
Glossary for Bulletin Board Users - Four pages of general information:

The Shower, the Mirror, and Your Computer - Some advice for those who live in areas with extra low humidity:
Pete's Pointers - Discussing the future of the CoCo.

"Canberra Micro-80"

Newsletter of the Canberra Micro-80 Users Group
18 Callabonna Street, KALBEN ACT 2617

Tank Tracks - A brief consideration of some changes in the computer scene over recent years.

"Eastern Suburbs 80 Users Group Newsletter"

Newsletter of the Eastern Suburbs 80 Users Group
17 Douglas Avenue, BOX HILL SOUTH VIC 3128

Various bits and pieces.

"Thuggery"

Newsletter of The Hobart Users Group
P.O. Box 420, MOONAH TASMANIA 7009

DOS Technical Manual - Could be the start of a series perhaps:
Understanding the Jargon - A tongue-in-cheek glossary of computer terms:

Drawing Fractal Dragons - A program for MS/PC-DOS users:
Programming Languages - How he learned to love "C" (and hate Cobol), plus comments about a few other languages.

"LPRINT"

Newsletter of The Micro 80 Computer Club of Ottawa
620 Glenhurst Crescent, GLOUCESTER ONTARIO K1J 7B7, CANADA,

Only local material

"NATUG News"

Newsletter of the National Amstrad, Tandy & General User Group
11 Elizabeth Road, SUTTON COLDFIELD ENGLAND B73 5AR

MS-DOS Mysteries Unravalled - First of a series of articles on this popular operating system:

QL/TRS-80 Disk Access Utility - A utility program to read TRS-80 disks and convert the contents to the QL's QDOS format:
Creating ASCII Files - About a program being developed for modifying word processing files, to remove all unwanted codes, and replace the necessary but incorrect ones with the correct ones:

RATFOR & FORTRAN-77 - For TRS-80 DOSes - The author has worked on a CP/M version and come up with something that will work, after a fashion, on his Model 3:

Preparing ASCII Files from WordStar and Scripsit - The title tells it all.

"National Capital Tandy Computer Users Group"

Newsletter of the National Capital Tandy Computer Users Group
P.O. Box 2826, FAIRFAX VIRGINIA. 22031, US of A

The President's Column - Some interesting comments on STANDARDS:

4DOS - About a suggested replacement for COMMAND.COM:
Peeking at the PC/AT's Setup Chip - May be of interest to AT users:
BATChMAN - I - First of a series on PC/MS-DOS BATCh files:
File Fragmentation - While based on hard drive systems under OS-9 also applies in parts to floppies and/or other operating systems:
Windows by the C - An overview of DESQview.

"MICROBITS"

Newsletter of New Zealand TRS-80 Users Group,
P.O. Box 19000, Auckland 7, New Zealand

Newdos Corner - A few comments about Load Format Files:

The Perils of Computer Jargon - Some typographical errors found in classified advertisements:

Chess and Computers - Part 14 - Continuing the series:

TRSLINK - The first installment of the electronic magazine from U.S.

"The Interface"

Newsletter of The San Gabriel Valley Tandy Users Group
P.O. Box 6818, BURBANK CA 91510, US of A

In A "TIFF"? Check Out GIF - About a program, GIF4MOD4, for the TRS-80 Model 4 with a High Resolution Graphics board, which enables the display of GIF files:

Dear Helen - Answering a readers question about ASCII files and the SuperScripsit COMPRESS FILE command:

CP/M on the Model 4 - A very brief overview:

Article Writing - Some pointers as to how to get an article into print in a newsletter.

"Bits & Bytes"

Newsletter of the TRS-80 System 80 Computer Group
41 Montclair Street, Aspley Qld. 4034

Interfacing Chinon 1.2 M Drives to TRS-80 - A discussion of the jumpering requirements of these IBM AT type drives:
Using the Chinon 1.2 M Drive to Write 40 Track Disks - How this was done on a 4P using NewDos86:
PC-Three - Review of a TRS-80 Model 3 emulator for MS/PC-DOS machines:
Wak's Column - Various Patches etc. related to Newdos/80 or NewDos86:
Hacking and Bashing - Part 2 - Modifying the System 80 or Model 1 to enable reverse video:
Doubler For TRS-80 and System 80 - Part 1 - This also appears in "SYDTRUG News" for March 1990.

"WNYTUG News"

Newsletter of Western New York Tandy Users Group
80 Lockwood Ave., Buffalo NY 14220, US of A

Editing the PDF on WS5 - Overcoming a problem in WordStar 5.0 causing extra CR/LFs:
Supercomputers - The Tool of Choice - An interesting article:
WordPerfect Does It Again - An overview of the improvements in WP 5.1:
Scanman Plus Hand Scanner - MS-DOS hardware product review.

February 1990**"Adelaide Micro User News"**

Newsletter of the Adelaide Micro User Group
G.P.O. Box 214, ADELAIDE S.A. 5001

Rod's Ramblings - Some confusion as to whether the new decade starts in 1990 or 1991:
Programming Tech. Ref. Manual - Review of a shareware publication for MS/PC-DOS users:
Input Routines - Carrying on from the article in December 1989:
A 'C' Tutorial? - Hopefully, the start of a series:
Computer Protection - About the need to make regular backups:
What Do You Think? - A potpourri of various subjects:
AIDS VIRUS - A report on what appears to be a professionally produced "Trojan Horse" program:
Shareware or Freeware - Sure? - A brief report on the legalities of withdrawing software from the public domain in order to market it commercially:
What is a Port? - Reprinted from "Bits & Bytes":
Care and Feeding of Disk Drives - Some general advice.

"LLIST"

Newsletter of the Calgary Color Computer Club
Box 22 STN."M", CALGARY. ALBERTA. T2P 2G9, CANADA.

CoCo PEEKs / POKEs / EXECutes - Reprinted from "London CoCo-Nuts":
The Animal System - A CoCo program which learns as it goes.

"Canberra Micro-80"

Newsletter of the Canberra Micro-80 Users Group
18 Callabonna Street, KALEEN ACT 2617

Of Cabbages and Kings - An overview of an MS-DOS program - PC-Globe, a geographical and statistical program highly recommended:
Dive Log - A Dotwriter file to produce pages for a log book to record time accumulated while SCUBA diving.

"Eastern Suburbs 80 Users Group Newsletter"

Newsletter of the Eastern Suburbs 80 Users Group
17 Douglas Avenue, BOX HILL SOUTH VIC 3128

Random reprints etc.

"The Voice of FCUG"

Newsletter of The Fairfield County Computer Users Group
10 Richlee Road, NORWALK CT 06851, US of A

The World of "What If" - Some thoughts on discovering features in software which even the authors may not know about:
Using Spinrite II - Some comments on this highly recommended program which can, among other things, reformat a hard drive without erasing the data:

The Cache Stash - A detailed discussion on the MS/PC-DOS PROMPT command:

Bill's Bumbblings No. 48 - A part of a Pascal program (I think!!!):
WordPerfect Version 5.1 - A rave micro-review of the MS/PC-DOS wordprocessor from Microsoft:

Novice Nook #19 - More tuition for MS/PC-DOS users.

"HAWTUG NEWS"

Newsletter of the Hawaii TRS-80 User Group,
366 Elelupe Road, HONOLULU HAWAII 96821

Hints for the Hacker To Be - Information on the PC/MS-DOS commands COPY, XCOPY, DISKCOPY, ASSIGN and FORMAT:
The Calendar Creator Plus - Very brief mention of an (MS-DOS?) program to produce calendars:
Statgraphics - A brief overview of an \$800 statistics program for MS/PC-DOS users which only (!!!) requires 4 Megabytes of hard disk space.

"Thuggery"

Newsletter of The Hobart Users Group
P.O. Box 420, MOONAH TASMANIA 7009

Functioning in C - Reprinted from "SYDTRUG News":
More Prompting - Further mention of the MS/PC-DOS PROMPT command:
LeScript's Latest - Comments on versions 1.9 and 2.0 of this word processor:
Roy Soltoff Delivers - Based on an article in "SYDTRUG News" by Ivan KENNEDY.

"LPRINT"

Newsletter of The Micro 80 Computer Club of Ottawa
620 Glenhurst Crescent, GLOUCESTER ONTARIO K1J 7B7, CANADA,

Archiving, Dearchiving and Viewing - A few comment on some MS/PC-DOS archiving software.

"NATGUG News"

Newsletter of the National Amstrad, Tandy & General User Group
11 Elizabeth Road, SUTTON COLDFIELD ENGLAND B73 5AR

MS-DOS Mysteries Unravelling - Part 2 - Continuing the series.

"National Capital Tandy Computer Users Group"

Newsletter of the National Capital Tandy Computer Users Group
P.O. Box 2826, FAIRFAX VIRGINIA. 22031, US of A

The President's Column - About what you can do with a personal computer:

BATCHMAN - II - Second of a series on PC/MS-DOS BATCH files:
AT Batteries - About the backup battery in the IBM AT and the consequences of allowing it to run down:
Norton Utilities - Advanced Version - An overview:
A Telecommunications Alternative - TELEMATE - An overview.

"Bits & Bytes"

Newsletter of the TRS-80 System 80 Computer Group
41 Montclair Street, Aspley Qld. 4034

Wak's Column - A 'Quick and Dirty' utility "CAPTURE/CMD".
NEWDOS/80? NewDos86??:

Doubler for TRS-80 and System 80 - Part 2 - Already printed in "SYDTRUG News":

Rural Computing for Models 3, 4 & 4P - Accounting packages:

Games Review 2 - Five VERY brief overviews:

Handling Floppy Drives - Some interesting information.

"WNYTUG News"

Newsletter of Western New York Tandy Users Group
80 Lockwood Ave., Buffalo NY 14220, US of A

The Compubug - Some advice for new owners of MS/PC-DOS machines:
The Complete FAX Board - Review of an MS/PC-DOS add-on which enables the sending of ASCII files to a remote FAX machine.

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Word Processing Basics

by Bill STONFAY

[Reprinted from "BITS & BYTES", newsletter of the TRS-80 SYSTEM 80 Computer Group, 41 Montclair Street, ASPLEY QLD 4034, May 1989]

The majority of members in the club mainly use their computers for word processing but it has been some time since we had a topic or article on the subject, and there have been a lot of new members since then. Wearing my Member's Problems hat, several of these new members have had difficulty in getting up and running with the word processing software available and this is primarily directed towards that group. It also doesn't hurt for some of the more experienced members to review some of the basics -- even if you've been using word processing for some time, you can miss a few things.

Development of Word Processing

In the beginning there was SCRIPSIT. This first generation word processor had very basic facilities; text entry and editing, file loading and saving, limited printer support and/or print enhancement features. The hardware requirements were minimal -- it was possible to run on a single drive system.

Although it was the greatest thing since sliced bread at the time, user requirements soon exceeded the program's capabilities. Initially, this was addressed by providing 'add ons' to provide additional functions (e.g. early versions of SUPERSCRIPSIT). These were horribly slow and not really effective.

The second generation word processors (such as LAZYWRITER, ALLWRITE, and the Model 4 SUPERSCRIPSIT) were completely new programs. They provided advanced word processing facilities and generally required more than one disk drive. They supported a large number of printers and provided advanced formatting features (e.g. mailmerge, footnotes, indexing, and document preview), programmable 'soft keys' (called macros nowadays) and integrated with other third party packages such as DOTWRITER and ELECTRIC WEBSTER.

As with the first generation of word processors, user requirements exceeded capabilities of the second generation systems -- although it took a little while longer. The third generation of word processors (e.g. WordPerfect, Microsoft Word) provided WYSIWYG (What You See Is What You Get) screen displays, with their own spelling checker and print enhancement features. The additional hardware requirements were such that these are only really available on IBM compatibles with a hard disk. These programs also have graphics support and are moving more and more towards desktop publishing, which is great if you've got over \$6,000 to spend on the necessary hardware (an AT with a hard disk, EGA monitor and a laser printer) -- not to mention the \$500 minimum for the software.

Here mortals like ourselves who have limited numbers of dollars are therefore limited to second generation word processors -- but we can get a working configuration for around a thousand dollars (\$500 for a second hand Model 4 and another \$500 for a dot matrix printer). In terms of sheer value for money, it's pretty hard to beat.

The choice of which word processor is best for you depends on your usage and level of knowledge. The more powerful the program, the more difficult it is to learn at first. However, if you pick a simple program, you may well find that it doesn't do everything you need it to do and you either put up with it or go on to something more advanced. I started with SCRIPSIT, then moved on to LAZYWRITER, and then ended up with ALLWRITE. I've tried SUPERSCRIPSIT but I didn't like it -- particularly the non-ASCII format. LAZYWRITER has some good features (particularly in relation to cursor movement), but the ENTRY/EDIT modes sent me around the twist (I don't have a split personality). I was using DOTWRITER quite a bit and I had to alter the carriage return/line feed codes in my LAZYWRITER documents each time (using a LAZYWRITER utility) prior to using DOTWRITER. You don't need to do this with ALLWRITE and the format and printer commands are quite similar to those for DOTWRITER.

The ALLWRITE manual is over 150 A4 pages and I sat down and read it from cover to cover. It probably took a couple of months before I really knew what I was doing with it and I still need to consult the manual periodically. However, I know that it was worth it because I can now get the program to do what I want in a way that I'm comfortable with. I can't say the same for LAZYWRITER and SUPERSCRIPSIT, but there are plenty of other members of the club who swear by them (and a few that swear at them!).

WP Documents and Files

The basic operation of a word processor is that an original document is loaded from a disk file into the computer's memory (or created directly in memory) and then saved to disk and printed. Simple, straightforward in principle -- but in practice there are a few things to watch.

In the case of ALLWRITE and LAZYWRITER, the entire document must reside in memory. This means that THE SIZE OF THE DOCUMENT CANNOT EXCEED THE AVAILABLE MEMORY. In the case of ALLWRITE on the Model 4, this is 34,368 characters (33.5KB or about 12 pages). If you want to work with a larger document, you will need to split it up into parts, each with their own unique file name. However, these parts or files may be "chained" together and treated as a single document.

In the case of SUPERSCRIPSIT, I have been told that it is possible to have a document larger than the memory available. However, the problem with SUPERSCRIPSIT is that it doesn't save the file in normal sequential ASCII format -- if you make a change, it appends the change to the file but doesn't alter the original file contents. Because of this, small documents with a lot of changes can take up more space than a larger document with no changes. This is why you need to COMPRESS your SUPERSCRIPSIT documents or use ASCII format. The other reasons you should always use ASCII is for exchange of documents with other word processors, uploading to the Bulletin Board, and file recovery. If you read in a SUPERSCRIPSIT document with ALLWRITE or LAZYWRITER, what you will see is the jumbled mess that SUPERSCRIPSIT leaves in the file. This will end up on the Bulletin Board if uploaded. Also, if your file is corrupted by a premature end-of-file marker or whatever, it is a lot easier to recover if the file is in sequence -- if the file is too jumbled, it may not be recoverable.

Documents residing in memory are only updated in memory -- changes are NOT automatically saved to disk. IF YOU DON'T SAVE YOUR DOCUMENT BEFORE QUITTING, ALL CHANGES WILL BE LOST. I've lost count of the number of times I've done this myself before I changed to ALLWRITE. This has an autosave option which I have set to save the document to disk after 30 changes. If you exit before changes are saved, you are prompted to save the document or quit anyway. The only way you can come unstuck is if you chain a lot of files together -- it's easy to get mixed up as to which file is which and overwrite one part of the document with another. Therefore, whenever I chain parts of a document, I always put the file name in a comment line at the top of the file -- it prevents confusion and I recommend the practice, regardless of whether you're chaining or not.

Another point about having documents in memory is that these may be corrupted by power spikes and fluctuations. I used to get odd characters (hearts and spades) appearing in my LAZYWRITER documents that I could only ascribe to power supply variations. ALLWRITE seems to be more robust -- the only corruption I ever get is carriage return/line feeds at the end of lines in the middle of a paragraph. If you get corrupted data in memory, DON'T SAVE THE FILE UNDER THE ORIGINAL NAME -- it will overwrite your original file with the corrupted one. Save it under a new name and reload your original document and assess the damage. If the damage is too great, scrap the corrupted one and repeat your amendments on the original. If there were a lot of additions at the end of the corrupt file which are still OK, these should be saved as a block PUTFILE and loaded into the original document. That way you get the additions without the corruption.

If you have more than one disk drive, keep your text files separate from your program files. Three drives are ideal because it allows you to have separate disks for the DOS, the word processing program, and the text files. Two drive systems usually combine the DOS and word processing program on one disk. This usually means that the DOS has to be cut down as much as possible (by deleting the utilities and SYS files for BASIC etc.) and that HELP files won't fit (unless you have a double sided system disk). The problem some members keep coming across with the combined DOS and word processing program disks is that they seem to be prone to corruption which can result in their refusing to boot. It's a lot easier to backup non-booting disks. If your text files are important to you, MAKE SURE THAT YOU BACK THEM UP REGULARLY. The criterion to use is how much time are you prepared to spend retyping your documents. If it's your Master's thesis, I'd have two or three backups -- don't entrust anything critical to a single disk.

Using Printing Commands

To use special printing commands, it is necessary to embed the WP printing commands in the text file (e.g. <CLEAR>U in LAZYWRITER to turn on underlining). When the document is printed,

the WP printer driver (P1/CMD in LAZYWRITER) translates the WP command into printer control codes (e.g. "ESC - 1") which are received by the printer and underlining is then activated.

If this doesn't work, there are a number of possibilities. First, you should know what sort of printer you have. This isn't as easy as it sounds, particularly if you don't have a manual which includes control codes. About 95% of dot matrix printers are compatible with the Epson MX-80, but some are more compatible than others. One way to check this is to write the following BASIC program (from EPSON PRINTERS, TIPS and SECRETS by Darnall & Corner):

```
LPRINT "J";CHR$(27);"JJ";CHR$(8);"K"
```

The Type I Epson will print JJK. Type II will print JK. Grafrax 80 will hang up and print nothing. It will beep if the error beeper is enabled. Grafrax Plus (Type III) will print J, roll up the paper about a third of an inch, and print K below the J.

You should also check that the printer DIP switches are set correctly. This most frequently causes problems with carriage return/line feeds and skips over perforations. Remember that DIP switch settings are only recognised when the printer powers up -- it is always necessary to turn it off and on again after changing the settings.

Once you have established what your printer is (or what it's compatible with), you then need to set up the printer driver for your word processing program. With ALLWRITE a menu of over 40 printers is presented in ALINSTAL/CMD. Up to three may be selected and the installation program creates /DEF and /TAB files for each.

LAZYWRITER uses P1/CMD as the printer driver. This is initially the same as PARDRV/CMD but may be overwritten with the appropriate /DRV file. SUPERSCRIPSIT uses the name specified in the opening menu to locate the appropriate /CTL file.

If you can't get a driver specifically for your printer, but have one which is almost right, it may be possible to modify it. LAZYWRITER has a PRINTGEN utility and SUPERSCRIPSIT also allows the /CTL file to be modified. As a last resort, it may be necessary to send printer control codes directly rather than using the WP command; e.g. instead of turning on underlining in LAZYWRITER with <CLEAR>U, use >e/s-/1 or >27/45/1. These could be set up as programmed soft keys for ease of use.

In summary, word processing on our TRS-80 machines -- like most things -- is easy once you get the hang of it and things are set up correctly. The problem is that the setting up of the program correctly is quite critical but new users are the ones least capable of doing this. There are a few things I have learned the hard way, and these are what I've tried to spell out for the benefit of newcomers. If you keep these things in mind, it could save you a lot of time and trouble later on.

Of Cabbages and Kings

by Terry BIBO

(Reprinted from the Newsletter of the Canberra Micro-80 Users' Group, 18 Callabonna Street, KALBEN ACT 2617, February 1990)

Professional desk top publishing suddenly became affordable. A Sydney discount house sold Publish It! for only \$149, and I was lucky enough to get a copy at that price which didn't last long. No, I am not disenchanted with Fontasy, which works well in tandem with Publish It! and will have more to contribute on the subject in the future.

In the meantime, I have a few pertinent comments on quality programs and a certain computer of name brand.

Good computer programs, like some drugs, become addictive. Having become hooked on PC Tools, I had to have the latest version again. I wrote direct to the U.S. to Central Point Software and received a new set of disks and manuals for only \$US15. And I didn't have to return the old ones. Upgrading was so cheap that airmail on the package cost more than the upgrade. There is a moral there for other software suppliers if they care to take it.

Through the public domain world I have spent a small (very small) fortune on geography and world statistical software. The commercial program PC Globe version 3 is the best antidote to craving for this type of product. At under \$US50 it is also the best value for money in the market. More about that in this article.

At great expense, some months ago, I purchased a Toshiba T510 laptop with plasma screen. It has EGA, which provides 16 out of 64 colours on an external monitor. The plasma screen has a resolution of 640 x 400, which is better than EGA at 640 x 350. The plasma screen resolves colours in four shades of grey (orange), and provides a program that can be used memory-resident or interactively to achieve this. Sounds great? I thought so before I bought it. Since then I have exercised expletives I never knew were in my vocabulary.

Most programmes of any quality these days come in colour. Sixteen colours into four shades means that, on average, four colours have to share one shade and there is no differentiation. Therein lies the cause of my discovery of a significant reserve of expletives. Getting any program to run with acceptable shading can occupy literally hours of computer time, and means that it has then to be run under a batch file to preserve the shading. Frequently I find that having set up a program in one mode, extended use of other areas of the same program produce shading conflicts because new colours are brought into play. It does nothing for computer blood pressure. If you even contemplate buying a four-shade monochrome screen to render colours, think again, and think NO.

Now to business.

PC Globe provides statistics on 177 countries and about 1200 cities. It produces maps of the world and every country listed, with prominent cities, features, elevations, and base maps showing only waterways.

Pull-down menus using the GEM interface get progressively more detailed as they move from world features to country and city, and provide a fascinating array of data on population, languages, culture resources, government and more.

Countries, cities, regions, or groups like ASEAN or the ARAE LEAGUE are selected from a menu or can be picked out by moving the cursor over the map. As the cursor moves, each country it passes over is identified. Selected countries can be given a pertinent colour or hatch pattern. A massive database allows for comparison of data for any number of chosen countries, but is also geared to show the top ten and bottom ten in any comparison, optionally with one other country of user choice. For any country chosen, the database selection provides population, past and projected; age distribution in terms of male, female and total; languages, ethnic groups and religions; health statistics; city information; gross national product with per capita breakdown; resources, agriculture and industry; imports and exports; government, with leaders names and year of appointment; and culture and tourism. Truly a wealth of current information.

Latitude and longitude of any city is readily available, as are currency conversion, bearings and distances to other places - shown as the great circle route on the map as well as in tables, - and time zones.

Screens can be dropped directly to the printer, but this is time consuming on a dot matrix as the picture is produced in high density in landscape format. It may be quicker on a laser. Anyway the quality is worth the time for anyone with genuine need for producing maps or charts. Even better though, is the facility to save screens as files for presentation in compatible programs. Literally reams of statistical comparison can be produced and printed for schoolwork, travel or general interest, and the material is up-to-date at the time of production. Apparently a program feature to be released soon will enable users to update their databases themselves instead of waiting for new releases.

Accommodation has been made for different names for the same country. USSR or Russia; U.K. or Great Britain; Burma or Myanmar all work. There is an on-line help file to supplement the adequate documentation. Installation is simple, and modifications for different printers or monitors is a few minutes work.

The bibliography is interesting. Contributions are taken from obvious sources such as International Trade Statistics Yearbooks, World Development Report, Demographic Yearbook, and Background Notes from the U.S. Department of State.

A less expected source of information is the Central Intelligence Agency through its publication The World Fact Book.

I can still wax enthusiastic about some programmes, and this is certainly one that warrants it.

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Help Wanted Urgently

MS-DOS and CP/M Public Domain Software

The group has a large number of disks of software for MS-DOS and CP/M. These include both Public Domain and Shareware programs. We urgently need someone to go through these disks and identify the contents and prepare catalogues so that members can be advised of what we have in our software libraries.

Eventually, when the disks have been catalogued, there will be a need to maintain the catalogues, adding new details as additional material is received.

If you are prepared to help with this project please contact a committee member and suitable arrangements will be made. To lighten the load, this job could be spread among a number of members if there are sufficient volunteers.

We all know that there is some great public domain and shareware software available, but it's not much use if we don't know what we have or what it does.

Here is an opportunity for you to help the group and help yourself at the same time. The committee will not mind being overwhelmed with volunteers!!

There's A Lot To Learn
With Laser Printers

by Jim KOCIS

[Reprinted from the Newsletter of the National Capital Tandy Computer Users Group, P.O. Box 2826, FAIRFAX VIRGINIA 22031, November 1989, where it was reprinted from "Connecticut Computer Society News", March 1989]

Incompetent? Moi? It's all some terrible misunderstanding.

You see, I owe some large part of my subsistence to proving, time after time, day after day, in the face of technological mumbo-jumbo and humunclean invasions, that I can squeeze clear water out of understanding from a desert of sand, talk and chew gum, pull rabbits from hats and mix a helluva metaphor (stirred not shaken).

The last thing I need on this job is a headache.

I have, of late, been visited upon by the most monstrous concoction of the computer revolution. My fondest hope, dear reader, is for you never to have to encounter it.

My newest nemesis at first was unassuming, fast, quiet and reliable in his day-to-day habits. Showing little sign of activity, he performed amicably and modestly his given task. My first mistake was to ask a favour, a special request:

"Could you perhaps make this print a little smaller?"

And the dark side of the Laser was revealed:

"How much time do you have?" he hissed at me.

"Time? Gee. Well, I kinda wanted to finish this up by five."

"On what day? In what year?"

"In what what? Whadaya mean, what year? Oh, I get it. It's a joke. Oh, yeah. A joke. Very funny."

"What is 'joke'? You would like the print a bit smaller? You have a choice. You can spend the next six months programming in each dot in my 300 dot-per-inch resolution for every character in the point, line weight, style and point size of your choice. Of course, should the power fail during programming, or someone inadvertently turn me off, you have to begin reprogramming me all over again."

What are my other choices?"

"How much money do you have?"

"Money?"

"A thousand dollars will buy a delicate operation on my feeble 512K memory to allow me to remember more than a couple of styles. Or, at two hundred dollars apiece, you can have any current variety of fonts

on a cartridge. I must warn you, however, I do have quite an appetite for cartridges."

I went the cheap route and upgraded my Laser's memory.

"Print small", I commanded.

"Huh?" it replied.

"Print compressed", I commanded.

"Compressed", it printed.

Playing dumb. We'll see about that. I called the factory.

"You've got to send an escape code."

"Right What's an escape code?"

"A series of control characters downloaded to the printer's buffer."

"Right What's a control character?"

And so it went. I became fluent in a language I wish I never had to learn.

Compressed?

\027\027&K2s

Sixty-six lines on a letter size page?

\027\027&17.27c66f

Landscape (long edge horizontal) or Portrait (long edge vertical)
How about One hundred and thirty-six columns, sixty-six lines, landscape mode?

027\027&184p2h1o5.45C

I learned that every character had to be in place and capitalisation counted. I learned to spot the difference between a one and the letter l, a zero and the letter O. But this was only the beginning. For with some software, the page length setting overrides the setting in the setup code and with some not. Your guess.

I learned how to download fonts from disk, and the importance of labeling fonts with a "Font I.D.". I saw that it made a difference whether I had a sample printed of the font and whether or not I made it "permanent". I do not know why. "Permanent" fonts, I learned, are only "permanent" as long as the power is on.

The result? I feel like I've been set up. Set up to believe that the ease with which routine tasks are performed are representative of the norm. What I failed to recognise was that these routine tasks are programmed with great care to be made to appear easy.

The trap: leave the beaten path and you're on your own with half a map, no compass and a guide book written in Yak.

I think I'll power up my trusty old Epson dot matrix printer, the one with the button on top that says "Compressed".

Worth Repeating

Before everything else, getting ready is the secret of success.

-- Henry Ford

We tire of those pleasures we take, but never of those we give.

-- J. Petit-Senn

Our forefathers made one mistake. What they should have fought for was representation without taxation.

-- Fletcher Knebel

To forgive our enemies their virtues - that is a greater miracle.

-- Voltaire

Laws should be like clothes they should be made to fit the people they are meant to serve.

-- Clarence Darrow

To be interested in the changing seasons is a happier state of mind than to be hopelessly in love with spring.

-- George Santayana