



SYDNEY TRS-80 USERS GROUP NEWSLETTER

P.O. BOX 297, PADSTOW 2211.

Volume 8 Issue 8 APRIL 1988

M E E T I N G A R R A N G E M E N T S

The APRIL meetings will be held at:

the **1st Sefton Scout Hall**
2 Waldron Road, SEFTON

on **Saturday 9th of APRIL**, and **Saturday 23th of APRIL**
 Both meetings will commence at **1:00 PM**

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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 Date

- 16th APRIL 1988 -

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EDITOR'S ETCHINGS

By Brian KEEGAN

Just a quick word from me this month, while reading this issue you will see why I feel like I have been typing for the last two weeks.

No momentous news on my front this month, by now Michael will be on holidays in sunnier parts, he was a bit rushed with the BBS so no column from him while he is away.

Masses of you beaut CPM software on the BBS last time I looked, in fact must revitalize my own efforts on the various BBS's as I have a new column planned for the next volume.

A Membership Handbook is well under preparation and should be available for the membership year coming up.

During our move of the library we unearthed some more pieces of beautiful crystal kindly donated by Sepp SCHEMBERA to the Club. At the back of this issue you will find some "GUESSING COMPETITION" forms, fill them in and get them back to us. Winners will be drawn first meeting in JUNE '88.

Also on the back page are two forms for your bids for the MODEM and Hard Drive as mentioned in Jim's column, likewise fill them in and send to us.

This issue is kind of home spun as we had a number of enquiries from members, replies to which in some cases were a bit overdue. I welcome your letters, be they inquiries on Club services, help with your machines or suggestions for articles. They are, when answered in these pages a valuable method of passing on information and obtaining further details from our very wide membership base. A quick note on a problem or suggestion can quite often lead to an interesting article.

On that subject, I am aware that a great many of you are not in the computer/electronics/communications industries. I am sure other members would like to hear of your work/interests particularly where computing assists you in some way. Even those of us who are in the above fields you are usually involved in some fascinating work, so long as you don't give any trade secrets away we would like to here from you too.

Let us put a bit of personality into our Club and not be just be a great amorphous mass that absorbs software.

I would like to see a bit more activity on the hardware front, areas ripe for expansion are :-

High Speed MODEMS

Utilizing EEPROMS in or as alternative banks of memory.

Memory upgrades in all our computers.

Hardware/Software upgrades in the area of extra Parallel or Serial Ports.

to name a few. Lets get working groups going in specific areas. With proper design the above suggestions would be usable on most of our computers.

In the MS-DOS field, have you seen the SCANNERS being advertised just lately. I had the opportunity to experiment with one a couple of weeks ago. Amazing, you call up the appropriate software, use the small almost mouse like scanner to read say a picture, it is displayed on your screen, you crop it and save it in a number of possible formats. Then load it into one of the Desktop Publishing packages around at present with which it can be embedded in your text and printed out in a most professional fashion. Great stuff.

That's all from me this month ..Happy reading..BLK

FIELD ADVICE

By Jim WHITTAKER

Again, there have been NO people coming forward to fill the Secretarial position, so those of you who have sent in letters requiring answers, you will just have to wait a while for a reply.

We have started subscribing to two new newsletters. I would suggest that if you are serious about continuing support for your model I III & IV that you start subscribing to them yourself. The first is called TRSTimes and costs \$20.00 US (to allow for air mail) and is posted every 2nd month. The address is

TRSTimes
20311 Sherman Way #221
Canoga Park, Ca. 91386 U.S.A.

The instigator, Lance Wolstrup has sent me a very nice letter explaining how he suddenly got catapulted into one of he last bastions for TRS-80 support. It started as a word of mouth publication and has blossomed into a huge concern with support from all over the globe. However, it still remains a labour of love for Lance, as the income received is not quite enough to cover the costs involved.

The publication itself is a well balanced look at aspects of all of the TRS-80 lines, from I's to IV's. The first two issues contain a wealth of information and a couple of BASIC programs and a sort of Question and Answer column. The editorial is good reading and has provoked quite a deal of thought from me at least.

The other publication is

COMPUTER NEWS 80
P.O. Box 680
Casper, Wyoming 82602 U.S.A.

This is another in the style of general TRS-80 interest and costs \$30 US which gives you 1 issue per month. If you thought Northern Bytes was too far over your head then these two newsletters are for you. This issue had a very good article on Archive utilities, and how you do NOT have to understand them to be able to use them. These publications will be available at Club meetings for perusal, but I strongly recommend that you subscribe for yourself.

The club has some old bits of hardware and other stuff floating around and we thought that we will give everybody an equal chance to get their hands on it. The rules are as follows :

* Each item has a preset price and that will be the price that the final purchaser will pay.

* NONE of the items have any warranty or guarantee. They are purchased on a strictly AS IS basis.

* Each member who is interested in a particular item must send (ie in writing or via the BBS) an offer to purchase any or all of the items - NO word of mouth is accepted.

* All offers will be put into a hat and drawn at the MAY general meeting. The member drawn will then pay the treasurer and take his goods.

The goods are as follows

* 1 AVTEK MULTI MODEM (ex BBS) - It has 300 & 1200/75 capability and can be used on CCITT or BELL frequencies. This modem has been working on the BBS for the last 3 years and has hardly missed a beat and is currently functioning. PRICE = \$100.00

* 1 5meg Hard Disk Drive. This is the "CLAYTONS" HDD that never really got off the ground. It has had some surgery and has been pronounced dead on arrival. It has a U/S interface board and a U/S 5meg bubble. However, the case and power supply are in excellent condition. It will make some luck purchaser a good set of spares. PRICE = \$100.00 Note:- U/S of course means UNSERVICABLE and does not refer to country of origin.

I have had a number of enquiries about the services that the club offers. I have been holding off replying to these until the new membership handbook has been released. It will contain all the details that you will ever want to know. However, the Ribbon Reinking Service that we provide costs \$1.00 per ribbon. If you cannot drop it to a meeting then post it in along with an extra \$2.00 to allow us to post it back again.

The club has just received a huge listing of Model 100 Public Domain Software from Betty McBride of CLUB 100 in the states. If you are interested then please contact me or Michael Cooper. They also have a BBS running 24 hours a day that will allow us free access.

This brings up two points. Firstly, David Sutton has relieved Bill McDougall of our Public Domain Library. Our thanks go to Bill for his many years of fine work with the PD library. We are endeavouring to get more lists of the PD software made available at meetings.

Secondly, what sort of support do we have for the following idea. The Club can pay my phone bill to allow me to ring some of the BBS's in the USA and to download a whole heap of their software. There are a lot of current things available over there that just never reach our shores. The bill would not be cheap but I think that it would be worthwhile. In fact, we could make a night of it and I could have over about 10 interested people to see what goes on. Are there any comments on this line of thought.

We have received a few extra disks from 80-MICRO. They are the BEST OF MODEL III, BEST OF MODEL III 1986 and the same for model IV. The model III stuff would probably work on the Model I. We also have 5 disks of the MS-DOS 80-MICRO disks. They are all available for copying at the general meeting.

Well, thats all folks -- REGARDS JIMBO

DOS post '88, BASIC WAIT and RENUM

Letter from Graeme GRIFFITHS

Answer by Brian KEEGAN

Firstly Graeme, our apologies for the delay in answering your letter. It seems to have originally gone astray in our system, then Richard's resignation as Secretary further delayed work on it.

Anyway herewith replies to your questions and I sincerely hope the answers can still assist you or any other member with similar problems.

Let's have a look at the text of your letter:-

"I have been a member of SYDTRUG for a little over a year now and have done little more than read the newsletter. I started with a Model I TRS-80 a few years ago and have taught myself through enough BASIC to get myself into trouble periodically. About two years back the local Tandy shop managed to convince me to buy a 4P with which I am very happy. At first I thought I had made a mistake and should have gone IBM compatible but after using the 4P on and off I feel much happier with it.

There are a few things the Group may be able to help me with and I will itemize these to simplify the answers..

1...My DOS only works till December 31st 1987. What are the solutions to continue operating from then ?

2...Could someone into BASIC explain the WAIT command. Can I use it to make the printer wait while I change sheets in my printer ?

3...I miss the block renumbering facility in old DOSPLUS 3. In Tandy BASIC I can only renumber the lot. Is there a solution ?

Until recently I have had very few letters to write and have not bothered to learn to use a wordprocessor. Most I tried to use in the past seemed to be too much trouble to

learn for the amount of use I had for one. Now I have a copy of "DISK SCRIPSIT" and have found it relatively easy to use."

Graeme then goes on to mention his use of the "PFS" range of software and inquires if some member has an original package of "PFS Report" for MOD 4 which they might be willing to part with for a reasonably consideration.

Well Graeme, that's quite an interesting selection, let's start from the top.

Regardless of what you may hear, especially from a few over-enthusiastic salesmen, your Mod I, III and 4 Dos's will not self destruct or corrupt your files if used after Dec'87. Your Dos's simply won't allow you to enter valid dates after this period, but will continue to function long after you have gone to the Great Computer Club in the sky. For serious use of your computer this is quite a nuisance, but if it doesn't bother you then don't worry about it.

There are now two LS-DOS products available for the MOD III and 4/4P user:-

LS-DOS 5.3 for MOD III which amongst other improvements on LDOS 5.1 will allow use and input of dates out to 1999+ (If you are still using it then). In conjunction with the extension of the date facility it also date AND time stamps your files. There is a conversion utility supplied to update your old 5.1 files to the 5.3 format. I'm not aware that this package is available commercially in Australia, however the Club does make bulk purchases of this and other items on behalf of Club members. Cost around \$70.00

LS-DOS 6.3 does the same thing for MOD 4/4P users. It is available also through the Club or through Tandy dealers. While we may be able to save you a few bucks on this item I believe it is a stock item with Tandy at around \$87.50. Your local dealer can order from Tandy warehouse.

With regard to other MOD III Dos's, I don't have information to hand on the multitude of Dos's available, any that have run out of dating will have to be patched. I will, now that the subject has been brought up put some research into this and present it in a further issue. Please let me know if you require help along this line.

With Mod I LDOS, I believe I have seen patches to enable date usage out to the same era as Mod III and 4 software. The other Mod I Dos's would be in the same boat as mentioned above with Mod III.

Moving along to BASIC.

My own study and queries to a few "experts" would seem to indicate that the "WAIT" function in BASIC (Mod 4 anyway) would seem to be a hardware related command not easily utilized from within another package. By the gist of your letter I am presuming your requirement to wait while changing sheets of paper would likely be when you are printing from your wordprocessor "Scripsit".

There is in Scripsit an option while printing a document to pause between pages, it's a bit hard to find in the manual so below I have reproduced the instructions from my "Instruction Summery Card" for this program :-

PRINTING TEXT

The basic command is <BREAK P ENTER>. There are three "switches" available which instruct the computer to do special things with the printout. These switches are appended to the print command using commas :-

To do this	Type
Print to serial printer (through RS232 interface)	<BREAK P,S ENTER>
Pause between pages and wait for paper to be fed.	<BREAK P,P ENTER>
Print unformatted text with comment lines and "invisible" characters showing.	<BREAK P,I ENTER>

Continued.

The summary goes on to explain that these commands can be combined for example:-

<BREAK P,S,P ENTER> would print formatted text to a serial printer with pause between pages. Apparently the "switches" can be appended in any order.

If you want to have the pause between pages in another application you could imbed the application within a BASIC routine which uses the WAIT command to monitor the port which receives the paper out signal. As this signal usually halts printing but does not abort the print out or empty the print buffer, it also (usually) causes the software to intelligently pause within most reasonably well behaved programs.

The block renumbering facility was certainly handy, but the cause of instant heartburn if the lines outside the block contained reference to the lines within the block. It's still a handy routine for tidying up your routines by renumbering either the entire program or from a specific line forward.

Personally I write and edit most Basic software from within my wordprocessor, simply saving and retrieving the programs in ASCII mode, but of course then you miss the AUTO line numbering. But then of course you can generate a dummy file with lines numbered out to 500 or so and simply type the text in.

To be quite honest the best way would be to utilize one of the background programs such as PRONTO or PROWAM as it is now called to edit and move text around within BASIC. I'm going to give this a try within the next few weeks.

Watch these pages to see if it works or falls in a twitching heap.

Hope the above has been of some help to you Graeme, please don't hesitate to drop a line if myself or the other members can be of further assistance. If anyone out there can assist with "PFS Report" and perhaps the Spelling Checker for Scripsit would be handy if available.

Doubler, Database and 256K Memory

Letter from Maurice ABBOTT

Answer by Brian KEEGAN

The main text of Maurice's letter is as follows :-

"I have not had any response to my letter regarding the possibility of replacing the three banks of 16K chips in the TRS-80 Mod I or SYSTEM 80 with 256K chips. I have most of the details resolved but would like to check out the LDOS Supermem driver to ensure complete compatibility with the American software. I draw the conclusion that no one is interested.

I'm glad to hear you have managed to get a couple of the Doublers operational. I have built six and all have worked first up, and have continued to work well. One Doubler user was pleased to find that he could copy the self booting version SU+ 3.2 via Hyperzap on his SYSTEM 80. Other Doublers are sometimes fussy.

Which database program would you use to handle 1500 records of 60 characters of 15 fields? (on a Mod I).

What do you know about the hard disk version of Profile 3+ running under LDOS via fix PRO1PLUS/TXT?."

Well Maurice, that's quite a range of topics, you are obviously very busy. I'll try and do them justice.

Firstly we'll get the newsletters mentioned earlier in your letter away to you as soon as possible, and glad to see you get so much information from them.

You haven't had any response to your mention of memory upgrade in Mod I and SYSTEM 80 because this is the first time it has seen the light of day. I can assure you that there would be a reasonable interest in such a project. There was a former member up here who carried out such a

modification to his SYSTEM 80 but he has since left and unfortunately taken his knowledge with him. Have you acquired a copy of the Supermem drivers yet?, if not let me know and I'll see if I can dig up a copy for you. I use a reasonable portion of my Supermem in the 4P regularly and am sure Mod I users would like the same facility.

On the subject of Supermem, I think that 256K or 512K expansion is quite enough for normal use. Using the full 1024K is great, but if your system hangs and you have to reboot, the loss of information is a catastrophe not to mention the inconvenience of having to reload all the files again. I must admit though that the Supermem card seems to like to hang on to its contents, a reboot will often result in finding the memory intact. This is great for accidental reboot or hang-ups but is a pain in the you know what if you really want to get rid of it. It's a case of dumping the computer and going away for a cup of coffee to give it time to die. I have reasoned that this delay is caused by there being still enough power left in the onboard electrolitics to keep the refresh cycles going, what do you think?

I haven't heard of anyone throwing their hands up in disgust over the doubler boards, would anyone who has built one please drop me a line to let us know how you went. It was certainly a fine series of articles Maurice, hope we see a similar result in memory expansion when you get it off the ground.

DATABASE !! they seem to be such a personal thing, almost a case of one man's meat is another man's poison. You meet a person who swears by a program such as MAXIMANAGER then next you meet a person who swears AT IT. The other problem is that most parameters of a database are interactive for instance :-

"Stores a maximum of 2400 (255 byte) records for a single-segment data base expanded on all drives or approximately 1500 (80 byte) records for a multi-segment data base expanded on all drives."

So says the PROFILE 3+ manual. I must admit due to lack of time I am not heavily into databases but I have put out feelers to get some information for you. Meantime if anyone out there has some expertise in the subject (re Mod I) please drop me a line.

Unfortunately not having a hard drive running in my Tandy environment I can't comment on your PROFILE 3+ question but have sent a letter to someone who might be able to help, I will pass the information along as soon as I get it.

Thanks Maurice and good to hear from you.

The COMM__LINE

By Dick CARRICATO

Reprinted from "Voice of the '80", March 1987

Asynchronous Data Communications

As we left our hero last time, he was rolling black and white balls down an inclined tube in an attempt to simulate the transmission of digital data. The assumption was that he could do this forever, one bit (or baud) after the other, and at a constant rate with no spaces between the bytes. This is analogous to synchronous transmission where long blocks of data are sent as a contiguous bit stream. In synchronous communications it is common to send the clock along, either as a separate signal or within the data, to help synchronize the receiver with the transmitter. This is because the shift of a single bit during the transmission can destroy the entire block.

Synchronous transmission is used when large blocks of data must be moved rapidly from machine to machine. When people are put into the loop something has to change. There is no way a human operator can sit at a keyboard and input data (type) at a constant rate - at least not this one. I spend more time reading what I have written and thinking about what I am going to write than actually typing. Asynchronous communications to the rescue.

In asynchronous communication each byte is surrounded by a start bit and a stop bit. The start bit is the same length as any other bit, but the stop bit can be as long as desired. Each time a terminal keyboard is struck, a start bit is sent, followed by a byte of data, and then a stop bit which lasts until the next key is struck ... even if it doesn't happen for several minutes or hours. Asynchronous is applied to the data bytes, in the sense that they can come at any time. The timing of the bits within each byte must be accurate to a few percent to assure error free reception. These principles were known and applied over a century ago in the early tele-typewriters.

The Asynchronous TTY

The modern teletype system, developed during World War I - also a long time ago, will be our model for looking at the asynchronous data format. Although this is very old technology, the capability to input and output data in this teletype format exists in the communications interface chips in most of the modern microcomputers. It exists in all of the TRS-80 models and in the IBM-PC models.

The Baudot code used in teletype is only five bits long, and surrounded by start and stop bits. The stop bit has a minimum length of 1.4 bit periods, and of course it can be extended to any length we want.

Our alphabet consists of 26 characters, and the numbers and punctuation marks account for about 25 more characters. So we need more than 50 unique codes to define an upper case only printer set. This suggests a six bit code capable of defining 64 characters. But, the Baudot code is only five bits long. To get around this problem, the Baudot code specifies two shift codes; the letters shift (LTRS), and the figures shift (FIGS). All characters sent after a LTRS shift are upper case alphabet, while all characters sent after a FIGS shift are numbers and punctuation. This is shown in Figure 1 below. The code 00011 is interpreted as an 'A' if the last shift code was LTRS, or it is interpreted as a '-' if the last shift code was FIGS.

S	B	S	L	F	S	B	S	L	F
t	i	t	T	I	t	i	t	T	I
o	t	a	R	G	o	t	a	R	G
p	s	r	S	S	p	s	r	S	S
43210	t				43210	t			
1	00011	0	A	-	1	10111	0	Q	1
1	11001	0	B	?	1	01010	0	R	4
1	01110	0	C	:	1	00101	0	S	/
1	10101	0	D	\$	1	10000	0	T	5
1	00001	0	E	3	1	00111	0	U	7
1	01101	0	F	!	1	11110	0	V	;
1	11010	0	G	@	1	10011	0	W	2
1	10100	0	H	#	1	11101	0	X	/
1	00110	0	I	8	1	10101	0	Y	6
1	01011	0	J	Bell	1	10001	0	Z	_
1	01111	0	K	<	1	00000	0	Blank	
1	10010	0	L)	1	00100	0	Space	
1	11100	0	M	.	1	11111	0	Letters	
1	01100	0	N	,	1	11011	0	Figures	
1	11000	0	O	9	1	01000	0	CarRet	
1	10110	0	P	@	1	00010	0	Linefeed	

Figure 1. The Baudot code including start/stop bits
Ones are Marks and zeroes are spaces.

The codes are sent in the order Start bit, least significant bit first ... most significant bit, Stop bit. The codes for blank, space, LTRS, FIGS, Carriage Return and Linefeed have the same meaning whenever they are sent. The blank is sometimes called the NULL character; it causes no response at the printer.

It is interesting to note the influence the teletype had on early computers - no lower case characters!

The teletype interfaces with its users through a pair of wires, or a single wire and a ground (Earth) return. To send a mark, a switch is closed across the two wires. A space is sent by opening the switch. With just a couple of other voltage and current requirements for the lines, the

entire communications system is specified. Figure 2 shows the output of the teletype when sending the word 'CAT'.

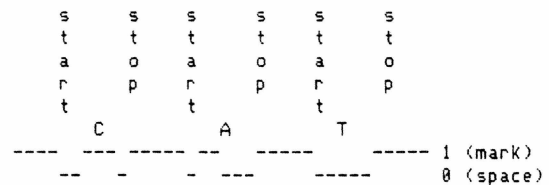


Figure 2. Asynchronous transmission of the word CAT.
Note the arbitrary length of the stop bits.

Notice that there are no gaps between the bits. The only guaranteed change is from the stop bit (up) to the start bit (down). So, to determine the character that was transmitted, the receiver must detect that change and then look at the signal five times, each look spaced one bit interval from the last. One additional look can be made after one more bit interval to assure that a stop bit is present. If a stop bit is not found at that point, then something is wrong and an error can be reported. The receiver must know the precise baud rate of the transmitter, and it must use a precise clock for timing its looks for transmitted bits.

The speed of teletype systems of thirty years ago wasn't specified in bauds but in words per minute. The standard was 60 WPM and the really fast ones went at 100 WPM. A word consists of five characters plus a space, which is actually six characters. So 60 WPM is 360 characters a minute, or six characters a second. There are 7.4 bit times per character, so the baud rate is 7.4 times 6, or about 45 baud. At 100 WPM the baud rate is a whole 75. These can be compared with the 300 to 2400 bps used for personal computer communications today.

The fifties and sixties were hectic times for data communications. Many different standards were tried and abandoned. When the smoke settled (about 1967) we had USASCII, the USA Standard Code for Information Interchange. This seven bit code, known as ASCII, contains 96 printable characters and 32 control characters. It is usually transmitted with an eighth bit, called a parity bit, which is used to detect single bit errors in transmission. We will discuss this further in the section on error detection and correction.

Even the old teletype has gone modern and adopted an eight bit word length. Its speed has increased to 110 baud, and its stop bit has gone from 1.4 to 2 bit periods. With an eight bit word length, one start bit and two stop bits, the transmitted word length is eleven bit periods long. At 110 baud, the teletype sends ten of these eleven bit characters each second for a speed of 100 words a minute. Notice that the baud rate has increased from 75 to 110, but the number of WPM has stayed at 100. This is because there are now more bits per character, eleven compared to 7.4. Although these numbers sound fast, they are quite slow when compared with a slow dot matrix printer which runs at 80 characters a second or a moderate speed printer operating at several hundred characters a second.

Asynchronous transmission of eight bit character is identical to the five bit case we discussed earlier. The only difference is that the number of data bits (those between the start and stop bits) increases from five to eight. In the case of the teletype, the length of the stop bit also increased from about 1.5 to 2. In the interest of saving space, we will not include a table of ASCII codes here.

Where are we, and where are we going?

So far we have taken a quick look at the ancestry of data communications, and discovered a strong link between the teletype and the computer. We have reviewed the concepts of number systems with particular emphasis on the binary and hexadecimal systems. We have learned the difference between bit rate and baud rate, and we have attempted to tie these all together in our discussion of asynchronous communication.

We are finally ready to take a look at how the computer handles the problem of asynchronous data communication. We will start by considering the alternative methods for sending data, look at their pros and cons, and try to see the logic in the solutions adopted by the experts. This will get us into discussions about things that are only known by acronyms like USART, UART, RS-232 and MODEM. This will be the section called "3 The Hardware", promised in the first COMM-LINE.

DEDICATION

A Tale by Paul SPILLER

Once upon a time there was this
Tandy 1000 sitting idly by just
waiting for some one to use it
It was a very happy little computer
it had just had a hard drive and
a ramcard fitted. It also had all
the programs it could
possibly need, W/P, databases
and utilities. With it's modem
it could talk to other computers
and even call VIATEL. Then a new
day dawned and it found that it
was practically obsolete as
there was a faster model on
the market. It was a very sad
day for this little computer
who thought it had every
thing it was ever likely to
need. The owner had the foresight
to purchase all the PUBLIC DOMAIN
SOFTWARE he thought he would need
and he was happy. Locked away
in his special little room set
aside for the TANDY 1000. And
with a continuous supply of liquid
gold namely that great brew called,
FOSTERS!!!
he contented himself at tapping away at
the keys, learning and learning and
learning. Sending messages and
contributing to magazines and bulletin
boards and the like and was never
heard of again.....
He was at last a.....
T A N D Y FANATIC!!!!!!
Now I know why the ol' MODEL I'S are
still in existence also the SYSTEM 80'S
and other antique bits and pieces it's
a word thats not used or found very often
anymore.....

IT' CALLED DEDICATION !!!!!!!!!!!!!

THE END

PAUL SPILLER.

Communications using SYSTEM 80 and a Mod III.

Letter from David SUTTON

Answered by Brian KEEGAN

UUPS !! your letter really got lost in our system (?) I notice it is dated 17/9/87. You attend meetings fairly regularly so I suspect you have probably managed to obtain answers to your questions by now. However your queries are still pertinent so let's have a look at them :-

"I have a 64K SYSTEM 80 (Black Label) with two drives and a 64K Model III also with two drives. I have often thought about purchasing a modem and RS232 to expand on of these machines.

1..What do I need to purchase and where and how much would it cost ?.

2..Is any soldering required ?.

3..What software would I use and the source ?.

Regarding baud rates which speed is better and what would you advise with regards to a suitable modem ?.

Can a SYSTEM 80 or Mod III successfully call up Viatel or is it beyond the limitations of these machines ?.

Lastly I have read that the RS232 is somewhat different between the SYSTEM 80 and the Mod III is this so ?."

David, your questions are still amongst the most perplexing to personal computer users. Most users have heard of the massive databases available by phone and most have also heard of sometimes quite exorbitant costs involved.

In personal computing we don't usually access such systems, our communications is usually limited to :-

1..Communication with other users. ie Computer to computer over the telephone line.

2..Communication with Bulletin Boards (BBS's) run either by individuals or Clubs such as ours .

3..Communication with VIATEL or other personal information/message bases (FIDO etc)

At present No's 1 and 2 only cost you the appropriate local,STD or ISD phone call charges. Such communicating seems to be more reliable outside of normal peak periods.

Using Viatel, even though it is Melbourne based, at present only costs a local call charge to call up. There is of course a membership required (about \$11 a quarter) plus access and frame charges. Although a lot of the frames are free the access charges during off peak periods is about 6 cents a minute. So a browse around for half an hour will cost you around \$2. There is a considerable amount of information available including some User Groups (mostly APPLE and IBM at present). Further information can be obtained from TELECOM.

Rather than trying to compare your two machines I'll take them separately, that way people with one unit or the other can easily decipher the information pertinent to their system.

SYSTEM 80

The bottom line here is that to the best of my knowledge this system is no longer a retail stock item. Any NEW parts or software would most likely only be found in a individual DICK SMITH or their agents stocks. There is a possibility that spare parts would be available by special order from Head Office through your local DICK SMITH store. With any luck an RS232 card may be a spare part (may, being the operative word). I might just give them a ring over the next few days and find out.

Back to square one, in order to communicate over the phone line you need:-

1..Your SYSTEM 80 preferably with at least one disk drive.

2..RS232 card fitted into your SYSTEM 80.

3..Suitable TELECOM approved MODEM

4..Cable (usually 25 pin plugs) to connect your RS232 card and MODEM together

5..Nice quiet and reasonably reliable telephone line

6..Suitable software for your computer AND your RS232 card.

7..Optionally you should also have a printer for use while on line

Let's take them from the top.

While there are Communications Packages which are Cassette based, without some viable means of off-line data storage you will most likely be limited to perusing menus and generally having a look around. Still if that's what you have, don't let me stop you having a go. I find working the

BBS's one of the most enjoyable aspects of computing. At least one disk drive is usually essential if you plan to download information or files (make sure you have enough space on your disk BEFORE you download). This is not only to reduce your time on the telephone but because most BBS's now monitor your operation, if there is no input from you in a specific period (really long disk or even cassette access) you get tossed off.

The RS232 card for SYSTEM 80's may cause a problem, if you can't get one from DICK SMITH then the best way is to either :-

A..Try say the TRADING POST for a second hand card or you might even pick up a complete system with RS232 for a good price if you look around a bit

B..I believe a few Club members have fitted MOD I cards to their machines, try through the Committee or at a Club meeting.

The card requires mods to run 1200/75, fairly straight forward though.

MODEMS !! There are dozens of different types on the market. You could rip out and spend \$400 to \$1000 on the latest auto everything modem, but unless you have a very definite requirement you are better advised to look at something a little down market especially for your first modem. If your communicating does take off in great style at least you will then appreciate the functions of one of the better ones.

The first question is I guess WHAT kind of modem ?.

There are two basic kinds, the ACOUSTIC and the DIRECT CONNECT. Both descriptions refer to the method by which the modem interfaces with the telephone line.

The ACOUSTIC modem as the name would suggest is acoustically coupled to the phone line. That is you dial your BBS number on an ordinary phone, then when you hear the BBS answer with a tone you place the handset of your phone into a specially designed cradle on the modem. The modem has transmitter and receiver elements built into the cradle so as to pick up and receive the tones from the handset. This kind of modem is especially handy if you do a lot of traveling and perhaps use public or hotel phones where access to the telephone wall outlet is not accessible. Also handy with the new tone access to bank accounts as it would allow you to log on then lift the handset and send the required tones with the little hand-held module supplied by the bank then place the handset back into the modem.

The only one of these I've come across is the CICADA which I think is limited to 300 baud. There were a lot of these sold for I think COMMODORE computers, but which should be easily adapted to our computers. I have seen these in the TRADING POST for around \$100-\$150.

The main limitation with this kind of modem is the fact that you are relying on the quality of the transmitter and receiver in the modem AND the telephone handset. This interface can be electrically quite noisy, upsetting your communications.

You are really better with a DIRECT CONNECT modem which as the name suggests actually plugs directly into the telephone outlet, thus providing much more reliable communications. You can then fully utilise the phone connection.

The BIG DIFFERENCE is that a direct connect modem MUST be TELECOM APPROVED because you are plugging it into the phone system. It should have a notice attached mentioning that it is, at least, type approved for connection to the phone service here in Australia.

For your initial purchase, especially if you are watching the price consider the following :-

1..There are a number of DICK SMITH's DATAPHONE Modems around at present usually complete with telephone. You can expect to pay \$80-\$100 for one in working condition. They support 300 baud duplex only and are good value for your money. The unit is contains standard components (555 timers, CMOS IC, OP amps and R's and C's). Quite within the capability of the ordinary electronics enthusiast to repair.

If you can pick up a DATAPHONE II all the better as this later model utilizes higher stability components.

2..A CICADA 300 modem is also a good buy at around the same price, usually don't have a phone included. These are a good reliable modem utilizing one of the first readily available modem chips the 14412 which although this modem is configured for 300 baud duplex, actually can work 600 baud. Handy for speed (with rework in the filter stages) up between yourself and another similar configured modem, but unfortunately there aren't any 600 baud BBS's in Australia.

3..The original AVTEC MULTI MODEM units are starting to appear on the second-hand market, in it's day it was and in fact still is a really good modem supporting most of the then local and overseas standards. The ones of interest to us are 300 and 1200 baud answer and originate. It utilized what was then the state of the art 7910 World Modem Chip and could be configured for auto answer/auto dial with the appropriate software to control it. An interesting feature was the control bus available internally to control the communication modes from say the host computer. While this modem wasn't originally designed for 1200/75 (VIA TEL etc) a few simple hardware mods with appropriate switching would put it on the air in this mode.

This is in fact the same model which was used on our own BBS until just recently. The 7910 chip formed the basis of most of the upper market modems of a few years ago so is tried and tested. Priced at between \$100 and \$150 for a basic unit perhaps a little extra for one which has been modified for 1200/75 operation. Initially they were available in kit form so if you think it is home brew I suggest you lift the lid and make sure it has been put together in a workmanship like manner and not utilizing a plumbers soldering as have some of the units I have repaired.

4..The 7910 chip was usually the basis of most of the "MINI MODEMS" which appeared on the market and are still selling, among these are the AVTEC MINI MODEM, THUNDERER MODEM and a similar unit put out by MICROBEE along the same lines. These were essentially cut down AVTEC's with perhaps 300 answer/originate, 1200 duplex and often 1200/75 thrown in. As these are newer models you might expect to pay around \$150 usually with a phone.

There are numerous other ex commercial and ex Govt units to be picked up, in fact a couple of years ago one of the big utilities (OTC or someone) carried out an update of their communications equipment and suddenly there appeared on the market large quantities of what must have been fairly advanced in their day, I think up to 1200 or 2400 baud, rack mounted modems. Constructed from discreet components. I know, I bought a couple and actually got the two to talk together before they got striped for their components.

If you don't want to chase a second-hand modem there are of course the newer generation of AVTECs, there are BITZERS and there are NICE modems, not forgetting of course the wide range of NETCOMM modems running from \$350 up to whatever your wallet or credit card can stand.

The cable is obviously whatever is required to connect your computer to your modem. It is usually a set of 25 pin "D" connectors, careful as some modems have male and some female connections as do the computers. The RS232 standard allows cables of a fair length but I would limit it to a couple of meters. Unless you absolutely hopeless hardware-wise just go along to your friendly electronics store and purchase the appropriate male/female "IDC" connectors with a suitable length of 25 core IDC cable. With the aid of a small vice to clamp the cable into the connectors you can usually roll your own for a fraction the price of ready made ones. Unless you are very, very keen don't consider making one with solder connections, it is fiddly and dud or shorted joints will give you nightmares in you attempts to communicate. DO IT THE EASY WAY and load things in your favor.

If you have a COCO or perhaps a laptop you will usually find that the computer end is a "DIN" plug, which makes it even easier to make your own, and cheaper too as solder connectors are usually only half the price of IDC ones.

TELEPHONES !! as I have been advised by TELECOM technicians on numerous occasions, their responsibility is to provide a VOICE CHANNEL. If you want a deathly quiet line

that doesn't sound like a add for your favorite breakfast food then you should acquire a DEDICATED LINE, which is of course out of the question for most of us. In actual practice if you have a reasonably reliable line, that is you don't have to dial three times to get your call through AND the person the other end can hold a reasonable conversation with you without having to abort the call and ring you back, YOU SHOULD BE OK ???????????.

SOFTWARE !! the usual standard is MODEM 80 which I believe was originally written for the MOD I. If you have a genuine SYSTEM 80 RS232 card you will usually require a patched version which is available through the Club. This package supports transfer both ways of ordinary text (chats and menus) and also error checked transmission and reception of important files. You could start off with just the COMMS facility in your DOS or one of the cassette based packages. There are a large number of other protocols available for communications (YAM, KERMIT etc etc) which you can explore in all good time.

A WORD OF CAUTION !! when on line be wary of using MEMDISKS, RAMDISKS etc as a noisy line or weird info from the BBS can hang your system. Of course when you reboot you loose all information in memory. If possible set your system to write incoming data to disk fairly regularly, because apart from noise some systems will time out on you. VERY BAD MANNERED..

I was made rudely aware of this one night while down loading a rather large file. On my MOD 4 I had allowed MODEM 804 (MOD 4 version of MODEM 80) to assign my extra 64K as buffer space, it was happily filling something like 90K of buffer space, no problem. Then it came to writing it to disk which took so long the BBS timed out on me, leaving me with only half the file received. So now I always set up printer spooler if for no other reason than to deprive MODEM 804 of the space.

All the above presumes you are transferring information utilizing ASCII standard, however if you wish to communicate with VIATEL your software must support the PRESTEL standard. This code differs mainly in that it is optimized to transfer graphics and colour. So for VIATEL and a few other BBS's utilizing this standard you will require specialized software, and I honestly don't know of a SYSTEM 80 package. Anybody know of one ???.

PRINTER !! I think is a must when on line. Most communication packages allow you to have a parallel printer on line (System 80's have only ONE SERIAL port) while you are actually communicating. It is very handy for lists of menus (who can remember that menu from six screens ago) and on-line catalogs not to mention listing messages received OR left for other people. IT's not much use saving them to disk on receipt, then when you answer them you can't remember the guy's surname.

Minor problem here, as most ordinary dot matrix parallel printers will only just follow 300 baud, a faster one with a decent buffer will follow 1200 baud reception for menus and such but may overflow the buffer on lengthy receptions. If you are running over 300 baud I suggest the use of either spooling in memory or a hardware buffer.

Last but certainly not least let's have a look at baud rates. There are two basic systems or protocols, BELL and CCITT. Basically Bell is used in the US and CCITT is used in Europe and Australia.

Following are the protocols in general use:-

BELL 100	300	baud full duplex	
212	1200	" " "	
2400	2400	" " "	
CCITT V21	300	baud full duplex	
V23	1200/75	" Half "	with back channel
V22	1200	" Full "	
V22bis	2400	" " "	

Usage for the various speeds.

300 baud full duplex - low cost terminals, most BBS's have this speed available. This speed is easy to read as it writes across your screen.

1200 baud full duplex - medium cost terminals, some BBS's have this protocol available. Good for transfer of files, in general the highest speed for reliable communications over ordinary telephone lines and with ordinary software.

2400 baud full duplex - with reasonable phone line, good software and good modem this is really magic.

1200/75 or 75/1200 - good clean communications. 1200 being the speed at which files are transmitted to you. 75 being the back or command channel for chit chat and instructions. VIATEL, some BBS's and personal databases.

Dedicated equipment and telephones are usually needed for 4800 and 9600 baud communications. Try transferring files between a couple of computers via a null modem cable at 9600 .WHOOPEE !!!!!.

MODEL III

Most of the above applies to the Mod III, excepting that software and parts are more readily available. Definitely recommend a Disk based system.

The RS232 card is fairly easily fitted, just remove the top cover of the computer, loosen mother-board, move it back, fix RS232 card to proper locations, connect PSU cable, reposition and refix mother-board, fit supplied flexible (flat) cable between card and mother-board, put top back on and away you go. The hole should be available in the bottom of the case for the external connector if not make it so.

If you are purchasing a card from new, try Tandy Spare Parts, any problems a MOD 4 card is the same thing. It even comes with a modem cable. Price on special at present around \$50 so get in for the chop while they are available.

SOFTWARE !! Again MODEM 80 is a good place to start, it's a bit slicker than Mod I version as the RS232 card is more versatile. VIATEL/PRESTEL software available in the PUBLIC DOMAIN (free).

MODEL I

Just for information most of that said for the SYSTEM 80 applies to the Mod I, except that standard Mod I MODEM 80 works fine with Standard Tandy RS232 card. Might be a bit of trouble getting a card now, best source old machine, possible mod to Mod III board or I'm sure I saw an add in an American magazine for Mod I cards (possibly 80 MICRO)

Quite honestly I have only touched the surface of the more practical side of communications using a personal computer, if you would like more information on a specific subject please write in.

There is a excellent series of articles running in this Newsletter by Dick CARRICATO on communications also in the near future I intend to present a series of hardware related articles around modems, stay tuned.

TANDY 1000 KEYBOARD

By Phil THIRD

If you are like me you are always on the lookout for articles which enable you to learn more about and make better use of your computer.

Whilst I do not get any royalties from a magazine called "PC RESOURCE" (more's the pity), I thoroughly recommend it to members.

The magazine only started in April '87 but it generally contains numerous articles suitable for the novice, which both explain and enhance a computers capabilities.

One such article of interest to Tandy 1000 owners appeared in September '87 and relates to problems on computers with non IBM-standard keyboards. (While I don't have a Tandy 1000 I thought this article interesting enough to pass on).

Apparently, on the Tandy 1000 the <PRINT> and <HOLD> keys can hang the machine if pressed together.

If other keys and/or key combinations cause you problems, PC RESOURCE presented two BASIC programs which allow you to identify the keycodes of up to three keys and cause the computer to ignore them.

The program SCANCODE.BAS creates a .COM file that displays the decimal keycode for any key that you press, including <ALT>, <CTRL> and <SHIFT>.

ie. on the TANDY 1000 <PRINT> = 55 and <HOLD> = 70

When you run the program KEYKILL.BAS it prompts you for the keycodes that you want to disable and creates a .COM file which when loaded becomes memory-resident and monitors keyboard input. When the key or key combinations that you have nominated to be ignored are detected the computer bypasses them.

NOTE. It should be loaded before programs such as SIDEKICK.

ED. I actually subscribe to the PC Resource and agree with Phil it is always interesting and informative (much like 80 Micro was). Unfortunately they like most other magazines have definite thoughts on reproducing it's content. I will be writing to them in a few weeks concerning reproduction in our Newsletter, in the meantime if you are interested in the above give me a call and I will bring my copy in for your perusal at a meeting.

MOD I Keyboard Extension

Letter from Mal ELLIOTT

Answered by Brian KEEGAN

The main text of Mal's's letter is as follows :-

" I have a Mod I (Jap) and a MICROTEK MT32 Printer/Memory module, 48K RAM in total. My main use is wordprocessing, for which the computer is most satisfactory. The shortcoming is that the ribbon between the keyboard and the MT32 is a wee bit short. I tried to extend it but ran into heaps of trouble because I unsynchronised the window timing.

I would like to install the Mod I board into the same box as the MT32 and then attach a low profile keyboard with a longer umbilical cord. Can any member advise me on the feasibility or problems associated with such a modification."

Thanks for your letter Mal, you seem to have got to the nub of the problem.

"Unsynchronised the window timing!!". Ahh !! I like that, real techo for it became unreliable. Many moons ago I tried extending my Mod I keyboard to interface cable only to come unstuck in the same way. One of the problems is that by extending the cable you are forcing high speed parallel signals to and from your memory expansion along a most unreliable signal path. No way were such signals intended to go along such a tortuous path.

A number of people got around the problem by expanding the memory inside the keyboard unit, thereby only requiring the printer, serial and disk drive signals to wander between the keyboard and interface.

Your idea of putting the CPU board in the MT32 is sound as it puts the CPU near the memory.

The actual keyboard could be left in it's case. There are about nineteen connections to the keyboard itself so a 25 way cable and connectors between the mother-board and keyboard could be the way to go (ribbon cable and IDC connectors would do). In fact you could probably utilize the existing cable connections.

I have actually done this with a Mod III, and no obscure problems arose. The alternative is a fair bit of electronics involving one of the keyboard encoder ICs sets (ie parallel to serial conversion) giving you a simple serial connection between mother board and keyboard. This could be jazzed up by utilizing one of the IBM style keyboards and it's associated receiver unit.

A few years ago I did a fair bit of research along these lines, I'll see if I can dig out the paperwork on it and get back to you.

Meanwhile if anyone out there has worked on this idea I would like to here from you.

Configuring LS-DOS 6.3 using FED II

By Brian KEEGAN

Way back when I upgraded to TRS-DOS 6.2 there was the problem of configuring DOS for the actual hardware fitted to my 4P. Some time ago we ran an article using I think SU4, along with the appropriate information to patch/modify your DOS. I utilized this article and ran for many moons on 6.2.

I have only belatedly got around to using the 6.3 purchased through the Club and of course ran into the same problem, that of the DOS not recognizing my hardware on boot-up. The result that the operating system would waffle around for ages before finally deciding that the disk it was trying to read was in fact double sided and not single sided.

So being real clever I gathered together the various patches from TMQ, most of which have been well presented by Gary in his TRS-DOS/LDOS Corner. Using an ASCII file through my wordprocessor I built up a patch file.

Then came the big moment when with the patches embedded in a JCL, I applied the patches. (ON A BACKUP OF MY SYSTEM DISK OF COURSE).

Well !! you wouldn't want to know, it fell in a twitching heap, aborting halfway through.

I then proceeded to have a quiet chat with my 4P, during the process of which I cast nasturtiums on the legitimacy of its birth. HO HUM trash the disk and put up with it, at least it will eventually sort itself out.

So for the past couple of months I have booted up the machine with the appropriate floppies in the appropriate drives, issued a command of FREE and gone away to make a cup of coffee while it goes GEDUR GEDUR and the DOS configures itself to the disks. Fortunately my machine doesn't hang up very often so nice fast access to disks.

However the time came when I decided to bite the bullet and configure it properly. I'll have to admit although I like the 4P to earn it's keep my automating anything I can, I do draw the line at patches.

My preference is to, at least with single line patches do them with a disk utility. As mentioned I used SU4 on my previous system.

Since then I "invested" in a complete "MARK IV Collection" from Misosys which included FED II amongst it's gems. So out with the doco, load up the program, call BOOT/SYS !!!!!!!!!!!!!!! UUPS back a square.. First make a backup of your system disk using the DISKCOPY utility, and make sure that FED II is on it also.

Now boot up from this copy, call up FED II, load up BOOT/SYS. Dred it "ILLEGAL ACCESS ATTEMPTED TO PROTECTED FILE". Try putting the DOS password in, a la "BOOT/SYS.LSIDOS". Great that lets us in.

As DOS has already configured the boot drive, an 80 trk D/S in my case I am only interested in drives 1, 2 and 3. My system has 80+40 on board with 80+40 out board in that order. I have incidentally completed the necessary mods and added the selector switch to access the external drives and switch either an 80 or 40 for boot-up.

The patches we are interested in are as follows:-

- 1..ENABLE drive 1, set it to 40 trk double sided with directory on track 20
- 2..ENABLE drive 2, set it to 80 TRK, double sided with directory on track 40.

3..ENABLE drive 3, set it to 40trk, double sided with directory on track 20.

So with the trusty Mod 4/4P technical Manual opened out to DRIVE CODE TABLES we find that with a little bit of calculation the following information emerges, can you think in HEX :-

```
DCT+0.....C9 = DISABLE
              C3 = ENABLE
DCT+4.....C1 42 44 48 Single sided (for drives 0,1,2,3
              E1 62 64 68 Double sided  respectively)
DCT+6.....27 = 40 trk drive
              4F = 80 trk drive
DCT+9.....14 = DIR on trk 20
              28 = dir on trk 40
```

As DCT's for drives 0,1,2,3 start at HEX 70,7A,84 and 8E respectively, we end up with the information required in the following locations :-

```
HEX 70 = C3 This is DR 0 ENABLED utilizing an
74 = E1 80 trk D/S drive, DIR on trk 40
76 = 4F
79 = 28

7A = C3 This is DR 1 ENABLED utilizing an
7E = 62 40 trk D/S drive, DIR on trk 20
80 = 27
83 = 14

84 = C3 This is DR 2 ENABLED utilizing an
88 = 64 80 trk D/S drive, DIR on trk 40
8A = 4F
8D = 28

8E = C3 This is DR 3 ENABLED utilizing an
92 = 68 40 trk D/S drive, DIR on trk 20
94 = 27
97 = 14
```

The DCT's are stored in sector 2 of BOOT/SYS so if you have just gone into BOOT/SYS use the "+" key to step to sector 2, then put yourself in "HEX Modify" mode by hitting key H. Using arrow keys step to location 70 and just overwrite with the new information at the correct locations. If you don't trust yourself there is a very nice counter lower on the screen actually tells you your sector, location and the information present there.

You should end up with the following, which is a dump from FED II with the ASCII portion removed for clarity.

BOOT/SYS Drive 0 Record X'0002'

```
BYTE 00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F
=====
00> 63 C9 1F 1C 1F 1E 1F 1E 1F 1F 1E 1F 1E 00 00
10> 45 44 49 54 36 33 57 48 4C 65 76 65 6C 2D 4A 20
20> 0D 00 00 00 00 00 00 00 00 00 00 00 00 00 00
30> 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
40> 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
50> 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
60> 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
70> C3 3D 0E 44 E1 00 4F 11 45 28 C3 3D 0E 44 62 FF
80> 27 11 45 14 C3 3D 0E 44 64 FF 4F 11 45 28 C3 3D
90> 0E 44 68 FF 27 11 45 14 C9 2A 0F 00 00 00 27 00
A0> 00 00 C9 2A 0F 00 00 00 27 00 00 00 C9 2A 0F 00
B0> 00 00 27 00 00 00 C9 2A 0F 00 00 00 27 00 00 00
C0> FF 00 FF FF 00 00 00 53 75 6E 4D 6F 6E 54 75 65
D0> 57 65 64 54 68 75 46 72 69 53 61 74 4A 61 6E 46
E0> 65 62 4D 61 72 41 70 72 4D 61 79 4A 75 6E 4A 75
F0> 6C 41 75 67 53 65 70 4F 63 74 4E 6F 76 44 65 63
```

If there are any other mods you wish to do, work them out carefully and fit them in now.

Finished ?? well just hit "S" and <ENTER> to save the buffer then "X" exits FED II. Boot your machine with this disk in the DR 0 and see how it works with the disks in the other drives. NO GEDUR GEDUR !! , You have probably modified your BOOT/SYS ok.

I suggest you make another copy and label it as a MODIFIED SYSTEM disk.

The information used here was correlated and/or researched from the following sources :-

MISOSYS JOURNAL, Tandy Mod 4/4P Technical Reference Manual and the various articles appearing in our magazine on patches to TRS-DOS 6.2 and LS-DOS 6.3, in particular Gary BRYCE's TRS-DOS/LDOS Corner.

FED II is a very handy utility for use within the Mod 4 environment.

DOUBLE CHECK any modifications and make sure you are in the right file before you trample all over your system.

Oh ! a thought just came to mind, I usually do a dump to my printer of a sector BEFORE I modify it and then another afterwards just for the record, OR in case it goes wrong you can always put it back to original again.

Happy MODS.....BLK

SHOOT THE SALESMAN

By John PEARCE

So well do I remember the day when I walked into the local Dick Smith store and told the salesman I wanted to buy a computer. Not knowing a damn thing about the state of the art, I had looked at some of them, sitting on shelves, and then had taken some time to attract the salesman's attention.

I was looking at my watch, thinking of an upcoming luncheon appointment (and, in the days prior to the banning of the fringe benefits' tax, nothing stopped a damn good business lunch!), when the salesman finally popped along.

I stopped short of saying, "One computer, please"; though not all that much short. To his query of "what do you want one for?" and my raised eyebrow, he went on: "Make a list of the things you want it to do that your present billiard ball typewriter won't do." I promised to, and to return on the morrow. By that time I'd met Cliff Richards, who'd offered not only to be my honorary instructor, but my honorary purchasing agent; so I never returned. Pity, for the honest salesman deserved to be rewarded.

I remember (as do you) the first advertising for computers and the like. "Give one to your wife, and she will not only keep her recipes, but also the household accounts." Garbage!! Short of Margaret Fulton, who needs their recipes on computer? Recipes are written in a Woolworths' exercise book, with submitted ones stuffed between the pages. Household accounts are kept on a bulldog clip on a nail on the side of a cupboard.

But, go back a bit further. Well I remember meeting with a bloke who once worked with us. He'd transferred to the Hanimex mob. Having seen one of their commercials, I asked him for their computer game. It came, some \$70 later, with two joysticks. We plugged it into the TV set, and played baseball, tennis and the like. A couple of months later, with one of the joysticks a bit suspect, it found its way into the back of a cupboard, where it reclines to this day.

The early computer salesmen told us parents that our kids would be left behind if we didn't buy them a home computer immediately. This was far less than the truth. In Japan, they put kids aged five onto a keyboard. But we have nothing like that in home computing. Maybe a fun course in keyboard operation, with a game or two and you'd wet the appetite. But you'd have to be careful not to saturate it!

When my first TSR-80 Model 3 came home, my #4 son, then about 13 (going on 29!) took to it like crazy, as did his schoolmates with their home units. In no time he had his own box of floppies, his own DOS and disks with some 300 pirated games. He then took the manual and taught himself to program in Basic.

But then WHAT ??.

Today he uses the home computer to write and edit essays. But he goes further. He sends the finished product back to school, via the modem. There, the next day, he recovers the work and prints it out on the school's laser printer (something his father cannot justify, costwise). The

school, unlike some, not only has computers, but teachers who are computer people and can not only operate the equipment, but the minds of the kids.

In my small, one man business. I would use my computer at least 40 hours a week. I do all my writing, mail, letterheads, keep the accounts and send them out. The only printing I contract out are envelopes and business cards. Everything else is done on Dotwriter. I have saved the services of at least one employee.

But, where are the computers that every household must have? I guess some are in the background; but most were never bought because their need was never really demonstrated.

All this thinking came from an overheard statement the other day. I heard someone say: "The curate at our church has bought a computer." When asked why, the answer was: "For his sermons and all that". He should have met the Dick Smith salesman who would have told him to make a list of what a billiard ball typewriter wouldn't do.

Meantimes, I stick with the thought that this industry has been badly served. The home computer is for little kids to play games upon. And they can do it cheaper in the local arcade. Mum has no use for one. Neither does dad.

The small business cannot survive without one. Big business IS a computer.

But, as for the rest of mankind SHOOT THE SALESMAN!

Maritime Database

Letter from G. HERBERTSON

Answered by Brian KEEGAN

Thanks for your letter Gordon, it's great when you can tie your interest in computing to another avenue of endeavour. Gordon is the President of the Maritime Archaeological Association F.N.Q and writes :-

" At present, we are working hard to establish a Maritime Museum here in Cairns. The work is slow but steady, and we are now at a point where we need some assistance from a computer. We are looking for a suitable program that could be used to store information on artifacts that we receive from time to time. Most large Museums use some form of data base program and we believe this type of program would suit us admirably. Any ideas ??.

We have access to my Mod I Level 2 and we also have access to an IBM compatible from time to time. We would prefer a program for the TRS-80 but any suggestions would be helpful."

Gordon, to answer your query objectively we really need to know a bit more about the information you wish to store AND retrieve. Also how you wish to present this information ie printouts or simple screen access.

The amount of information on each item and the depth you wish to go in cross referencing this information are important points in selecting a suitable program.

In the Mod I field there is very little new software available even from the US. A member may wish to part with his copy of say MAXI MANAGER which is quite well thought of, this is a fairly extensive program. I have it for Mod III but don't have Mod I specs to hand. If your requirements are not so extensive you might consider some of our Public Domain programs, a quick browse shows a BASIC database in No 7 Business Collection, this may suit your needs or could be modified/ expanded if you have some expertise in BASIC.

If you can access the IBM compatible there are numerous programs available for these machines commercially but they tend to be expensive. Although, there are a number of more reasonable packages like HOMEBASE becoming available (around \$100). the other alternative is the vast Public Domain collection available for the IBM computers from people like PCSIG. These programs are available for hardly more than the

cost of disk and postage. Check out the Australian computer magazines for various PD software distributors.

Anyway if there is no rush, how about sending me some more information, perhaps even a written fictitious record so that I can see what you actually want to do, and how you wish to retrieve it.

Note:- Perhaps we are too late Gordon as I see you have put your Mod I up for sale.

Ribbon Re-inking and Superscript Dictionary

Letter from Alexander WILON

Answered by Brian KEEGAN

Alexander is attached to the Ministry of God Mission Inc working out of OBERON NSW and writes :-

"I understand you are able to re-ink computer fabric ribbons. Please post me a price list of all the services a products the club markets. The printer used at the ministry is the Tandy DWP230.

I am also writing to see if the club's library has a copy of the Superscript Dictionary program.

I am currently using the 1982 version of SUPERSCRIPIT which was purchased with the Tandy Mod III. I am told the dictionary program can be run to check for spelling errors and typing mistakes. Unfortunately the program is no longer available commercially ".

Thanks for your letter Alexander, it's always interesting to hear from members and appreciate that they don't all work in the computer industry but lead interesting and varied lives within which the humble computer is often helpful.

Just before we get to your requests I would like to touch on a point. Please don't take offence as none is intended, but I draw readers attention to your phrase "PRODUCTS THE CLUB MARKETS". In your letter this is most likely a turn of phrase and not ment literally, BUT many of our members are under the impression that we do in fact "MARKET PRODUCTS". WE DO NOT !! as we are a self help organization who's purpose is to assist our members educationally and technically in the operation of their Tandy and compatible computers.

As a service to our members, and members only, we provide certain SERVICES usually originally financed from members contributions.

These SERVICES include such things as ribbon re-inking at \$1 plus postage (I guess if you post it to us in a reasonable package that we can post it back in just the return postage will suffice) and packing of \$2 per ribbon

We also purchase on behalf of members such things as software and disks usually bulk deals. On software it may not save you a great deal on the actual purchase but does minimize the dispatch cost incurred on single items. At present we have 5.25 DDS disks at \$1 each in lots of ten plus postage. This is very good value, I have been using these disks for about 18 months with no problems.

For a more comprehensive list of the Club's services please be patient, there will be a Members Handbook out shortly with all the good oil.

Anyway back to your letter Alexander, you see we can help you with ribbons, turn around is usually a couple of weeks. I am sure you appreciate that the job is done in one of our members spare time.

Unfortunately we do not have SUPERSCRIPIT Dictionary in our library, I will canvas members at the next meeting and see if I can come up with a member who will part with his copy of this program. A spelling checker is magic as it allows you to concentrate on getting your ideas down on disk without continually interrupting the creative juices with :-

"now how doooo I spell SUPERCALIFRAGALISTICEXPEEALIDOUSUS"

FOR SALE

PRE-LOVED MODEL I (yes, an original)

48K Double Disk Drives etc
GOOD CONDITION - BEST OFFER.
RING GORDON HERBERTSON (070) 516655 (h) (070) 537440 (w)
or write to him at 191 SPENCE Street, CAIRNS. 4870

I understand he is not expecting a very large cash price,
so suggest you give him a ring and make him an offer that he
can't refuse.)

PRINTER COVER to suit CP80 or MX80

Made from perspex and laminated pineboard also has desk
height floor stand.

Price \$40.00
Phil THIRD 02 543 6867

FREE

TERMET 1200 Serial Printer

FREE to a good home

This type of printer was used during WWII for encoding
and decoding messages. Has 120, 300 and 1200 baud settings.

Phil THIRD 02 543 6867

Crystal Ornament Guessing Competition

We are holding a guessing competition for a couple of lovely Glass Crystal Ornaments kindly donated to the Club by Sepp SCHEMBERA some time ago. These are ornaments of small animals and would make a perfect gift for someone near to you (your better half perhaps).

There is no cost, it is open to all financial and honorary members of SYDTRUG simply complete the guessing line, fill in your name and address and mail the forms to us at :-

SYDTRUG P.O Box 297 PADSTOW 2211 N.S.W

The lucky winners will be drawn on Saturday 11th June'88 during our first meeting of June at Sefton Scout Hall. Fill out both tickets and double your chances. You've got to be in it to win !!

SYDTRUG

Crystal Guessing Competition

Name _____

Address _____

Phone _____

Ticket No. **A**

SYDNEY TRS-80 USERS GROUP

Crystal Guessing Competition

__AS_ C_YS__L

PRIZE : Piece of Glass Crystal

VALUE : Not known

DRAWN : Saturday, 11th JUNE 1988

VENUE : Club Meeting SEFTON SCOUT HALL

PRICE : FREE

Ticket No. **A**

SYDTRUG

Crystal Guessing Competition

Name _____

Address _____

Phone _____

Ticket No. **A**

SYDNEY TRS-80 USERS GROUP

Crystal Guessing Competition

__AS_ C_YS__L

PRIZE : Piece of Glass Crystal

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PRICE : FREE

Ticket No. **A**

Following are forms for bids on the Hard Drive and the AVTEC MODEM. See details in Jim WHITTAKER's column prior to filling them out. Remember the bids are open to FINANCIAL and honorary members only.

SYDTRUG

Hard Drive Bid

Name _____

Address _____

Phone _____

COST \$100.00+freight

SYDNEY TRS-80 USERS GROUP

Hard Drive Bid

To the Sydtrug Committee

I wish to bid for the Tandy Hard Drive which has become surplus to the Club's requirements. I understand it is not functional and will be purchased as is.

PRICE : \$100.00 plus any freight or postage costs.

SYDTRUG

AVTEC MODEM Bid

Name _____

Address _____

Phone _____

Cost \$100.00+freight

SYDNEY TRS-80 USERS GROUP

AVTEC MODEM Bid

To the SYDTRUG Committee

I wish to bid for the AVTEC modem which has become surplus to the Club's requirements. The Club believe it to be in working order BUT it is being sold as is Cost \$100.00 + freight
