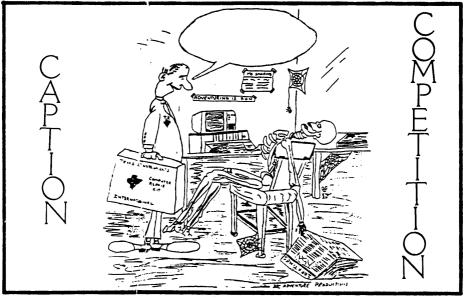
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Formerly OXON TI USERS

R PUBLICATION
OF THE
INTERNATIONAL
TI USER CROUP



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OXFORD 510822

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#### BALDIE'S BURBLE

#### International TI User Group Project 001

#### DOUBLE SIDED STANDALONE DISK CONTROLLER CONVERSION

The best laid plans of mice, men, and Ol' Baldie oft come to naught.

Now where have I heard that opening gambit before? Perhaps in quite a few issues of TI-LINES? All right, I'll come clean. Despite my best efforts, and the efforts of others, I still managed to cock up the article accompanying last month's stand-alone drive modification!

I had been sent updated instructions, but a combination of circumstances meant that I ended up having the wrong files checked out by MARTIN ROSS after COLIN HINSON had supplied new instructions. The results are not devastatingly 'orrible, but the mistakes were quickly picked up by RICHARD BLANDEN who set off the alarm bells.

Accordingly, here are the details of the offending lines, and my sincere apologies to all concerned. The A4 masters for the full-size set of instructions for the project will be updated so that they contain no errors (famous last words...).

Page 20. OPERATIONS ON BOTTOM BOARD:

"Pin 11 - Bend towards Pin 12 to overlap"

SHOULD READ:

"Pin 11 - Bend out at right angles and shorten the leg as shown in the diagram"

Page 21:

"Pin 11 + 12 (74LS30) to Pin 17 U2 (74LS244)"

SHOULD READ:

"Pin 12 (74LS30) to Pin 17 U2 (74LS244)"

Also on page 21:

BETWEEN:

"Pin 8 (74LS30) to Pin 4 U9 (74LS138) : IMPORTANT: See NOTE"

AND:

"Pin 14 (74LS30) to Pin 20 U2 (74LS244)"

INSERT THE FOLLOWING:

Those are the corrections to be made, and in fact as Colin pointed out to me, anyone who tries to modify their standalone controller cannot do so without the special RDMs available from me, so there is no danger of any damage to the system as a result. In fact, if you worked by the diagrams you would soon see that the instructions did not correspond.

Once again, Murphy's Law is upheld (or was it Moriarty's ?): if anything CAN go wrong, it WILL.

Lots of things happening (as usual) only this time the effects are far more tangible.

The CEEFAX editors decided that as so many groups were applying to have their details placed on page 703, they would restrict the list to national groups only. After having been provided with the address and other details by GORDON PITT of the West Midlands TI User Group, I wrote off to CEEFAX and the result is that ITUG now appears on block 29 (or thereabouts) on page 703.

The Bloxwich Workshop (see elsewhere for photos, I sincerely hope!) was also going to be advertised, but at the time of writing this editorial (1.25 am on 10th March) the details had still not been featured in the What's On section, which seems somewhat inefficient.

Secondly, also as a result of information provided by Gordon, ITUG will now advertise for the next 26 issues of MicroComputer Mart, the sales/wants fortnightly magazine which may feature more on the TI in the future — the editors have appealed for articles, and I have no doubt that something will be sent to them...

The West Midlands TI User Group have also received favourable mention, and the Bloxwich Workshop also had an airing in MicroComputer Mart.

PCW's ACC page ran similar information, and I am hopeful that PCW will see fit to publish a letter from me urging all those who know of poor, depressed, isolated colleagues who own 99/4As, to point them in our direction.

We already have new members as a result of both the CEEFAX entry and of the MicroComputer Mart advertising, so unless anything drastic happens (like maybe the 99/4A was largely built in San Francisco and is thus a carrier of you-know-what!) we should look forward to a bright 87-88 subscription.

DON'T FORGET: the UK annual subscription will GO UP AS FROM JUNE 1ST to £11. The OVERSEAS subscription (applicable also to IRELAND — sorry lads, but the GPO sees fit to regard you as far enough away to count as Europe!) will go up to £12. (Delivery by surface mail only, to keep the price reasonable).

On MAY 16th there will be a TI-EXCHANGE meeting in DERBY (full details from CLIVE & AUDREY SCALLY on 0273 503968) to thrash out the future of TI-EXCHANGE.

The location will be the CENTRAL SUITE, EXCHANGE STREET, DERBY, and the itinerary splits the day into two parts. From 10 am until lunchtime, a meeting will discuss all proposals and attempt to define the future of TI-EXCHANGE.

The afternoon, until 5.30 pm, will be given over to an auction, and Clive says he has invited "dealer support", but at the time of writing I do not know which of the retailers will be attending.

After much discussion with several interested parties (including my esteemed financial adviser!), I have sent a formal written proposal to Clive which he will publish in the next issue of TI\*MES.

Basically it invites the entire TI-EXCHANGE membership to maintain their interest in the 4A by joining ITUG, and thus form the basis for what could become a "supergroup" of the size that the first UK group, TIHOME, achieved back in the early 80s (when it grew to 2,500 members before handing over to what looked like being an even greater group, but which alas, turned out to be a pig in a poke).

I gather from talking to Clive that a sizeable proportion of his subscribers are willing to attempt self-government, so the whole-hearted acceptance of my proposal is not a foregone conclusion.

As they say, watch this space...

Clive kindly passed two recent enquiries on to ITUG as TI-EXCHANGE is taking on no new members until the future is settled, and he also sent a list of about 100 names and addresses of folks who had not renewed their subscriptions in the hope that I might manage to persuade them to join ITUG's ranks. At the time of writing I haven't been able to send off an information circular to them (the photocopier signed off sick as soon as it heard I was coming!) but I am hopeful that a handful may be persuaded to renew their interest in the 4A.

#### A MESSAGE FOR ALL OVERSEAS TI USER GROUPS WHO RECEIVE TI-LINES:

I have received quite a few requests from User groups for exchanges of either software or newsletters. As far as software goes, few (if any) UK writers are producing anything of the calibre of FWEB (as I believe it is now known), so the "trade" would be likely to be all one way.

However, the cost of mailing TI-LINES is phenomenal (you overseas chaps ought to thank your lucky stars that you don't have our GPO!), and of course we are not modern enough to allow a special rate for floppy disks (that would be asking too much) so I cannot send parts of TI-LINES on disk cheaply (as some have suggested) either.

Some of the individuals who have asked for newsletter exchange appear to

have postal addresses near groups with established ITUG contact, so a small thought occurs to me: if it would be possible for YOU to photocopy TI-LINES and provide other groups/individuals in your area with copies, you would be helping me, the recipients, and perhaps even yourselves - if you charged copying cost plus a margin of profit (and put the proceeds towards your group funds). As far as I can tell, there are reciprocal copyright agreements between the UK and most countries with regard to TECHNICAL information, which is what TI-LINES could be classified as containing, and I would be happy to permit BONA FIDE contacts to use TI-LINES as a source of income provided that common sense was used with regard to pricing.

If you, as an overseas User group contact who receives TI-LINES, would be prepared to shoulder the responsibility of acting as licensed holder of the right to copy TI-LINES, then please let me know so that I may refer any future contacts in your area direct to you.

If you have any comments/suggestions I would be happy to receive them.

I think I ought to point out to some ITUGers that (a) this is the April issue and (b) it pays to read the Burble...

Here's a very handy tip, published in the newsletter of the CIN-DAY USER GROUP, and taken from the HOCUS - publication of the MILWAUKEE AREA 99/4 USER GROUP:

If you have a program which needs to check whether it is being run in either TI BASIC or EXTENDED BASIC, there is a simple, elegant, and possibly universal solution (as long as all TICOS' are the same!).

The use of RANDOMIZE O followed by RND always seems to produce two distinctly different pseudo-random numbers depending on the BASIC environment. In TI BASIC, RND produces a fraction which begins .82xxx, while Extended BASIC produces .21xxx (where xxx stands for the rest of the respective fraction).

Therefore, a simple environment test is:

RANDOMIZE O V=INT(RND\*10)

IF V=8 then you're in BASIC ELSE you're in Extended BASIC (or you can test explicitly for 2 for XB)

Now that's what I call smart...

IMPORTANT NOTICE FOR ALL DISK SYSTEM USERS:

HUMOUR

#### \*\*\* JOKE \*\*\*

Sales of double-sided disks have apparently been hit by consumers buying only single-sided disks but using them as double-sided.

Some manufacturers are hitting back by coating the "unusable" other side

of single-sided disks with carborundum, an abrasive substance used in grinding. The coating is very thin and not visible to the naked eye. The best way of telling if your single-sided disk has been treated is to tap it gently, edge on, on a firm surface (e.g. table) and look for the appearance of fine brown dust.

This dust is a mixture of dislodged carborundum (usually black), ferric oxide (the normal magnetic coating, which is brown) and if you have used the disk in a double-sided drive already, there may be some particles from the second read/write head, which will be a mixture of metal and the resin used to hold the head in place.

There may also be some fine white fluff from the matrix of webbing inside the disk envelope, used to extract and retain dust and other particles.

This measure only affects single-sided disks used in double-sided drives so if you have double-sided drives beware of any single-sided disks that you may receive.

#### **JOKE**

**HUMOUR** 

In 1986, the TV programme MICROLIVE highlighted a facet of computers about which not much thought had been given: the fact that ALL computers are radio transmitters, and with the use of simple equipment a snooper can tune in and pick up ANY data being sent to a monitor or TV.

The purpose of the TV programme was to show a product from a company specialising in "cloaking" devices, to scramble the data so that a snooper would not prevail.

However, the public exposure of the lack of data security has backfired. The Home Office has apparently been looking for a way to license ALL UK COMPUTERS, and Microlive have now provided them with the means!

As soon as negotiations with the various unions over rates of pay are concluded, the Post Office will be enlarging its fleet of TV Detector Vans, and updating its detection equipment to cover micros.

The proposed license fee will be an ANNUAL payment of £200 to cover up to FIVE computers per household. Any more than five, and a special license will be required, in much the same way as currently applies to Citizens Band Radios, and, to a lesser extent, TV sets.

The expected additional charge for over five micros will be £50 per micro, unless you are registered as a company with Companies House, when a smaller fee will be payable. Terminals accessing a larger computer complex will be exempt. Some confusion exists over the licensing of "smart" terminals which are micros in their own right, and there is a suggestion that domestic users who access PRESTEL could legitimately claim that they own smart terminals accessing a main computer complex and are thus totally exempt.

It is expected that some 350,000 Users who failed to register with the Data Protection Registrar will be caught on the hop, and the Home Office anticipates license revenue in excess of £4,000 million a year.

The expected penalties for Users who failed to register under the Act

will total some £300 million in the first year.

This new source of revenue is slated to pay for tax cuts at the top end of the scale, but the SDP Shadow Chancellor has insisted that the money should be spent on building a network of wind and water-powered electricity generators to reduce the energy cost to the average household. Labour's Shadow Chancellor has promised that if the next election (perhaps June) returns a Socialist Government, the money will be spent on a national housing programme and the license fee will be increased each year by the current percentage rate of inflation (as with the TV license) in order to maintain standards and services.

It is not known when the license will come into force, but already AMSTRAD are said to be considering withdrawing from the computer market, in view of the damage likely to be caused to sales, and their very low profit margins.

Watch this space...

This issue brings a caption competition, courtesy of SCOTT and JO ANN COPELAND. If you're an Adventure buff, the prize will appeal to you, and if you're thinking of beginning a career in Adventuring this could be a good way to start.

My own caption for the cartoon (see elsewhere) is too obscene to be printed...

I am slowly but surely building up the catalogue of PUBLIC DOMAIN disks which I hold, but it is not an overnight task. I cannot simply list each program by name and expect readers to psychically deduce what each does, so I have been writing a brief note with each describing what it does. Not something that can be done in 12 words or less, especially since some items are so rarely used by me that I have only a passing familiarity with their operation.

It'll all come out in the wash.

I have encountered a machine code routine which seems capable of transferring cassette-based Adventure files to disk (thus shortening the interminable waiting) and I am willing to provide the Object code for the usual copying fee (£1 if you send your own disk plus return postage, or £2 if you want me to supply the disk as well).

Incidentally, the cost of purchasing Public Domain items is coming down, from £2.50 per disk (if supplied by me) to £2.00, and postage will be inclusive for orders totalling £5 or more. If you send in your own disks, uninitialised (I initialise 'em anyway!), the copying cost is 21 per item, and again the postage cost is included if the total order is £5 or above.

#### DAVE HEWITT 53 Kennet Close BERINSFIELD Oxon



#### D.I.Y. EXPANSION SYSTEM: A DIFFERENT APPROACH

The purpose of this article is to describe a different approach to expanding the TI-99/4A without the expense of the PEB: building the hardware yourself. This article is written to promote expansion and dispel the often-heard theory that expansion for the TI-99 is too expensive or too difficult to build.

Initially my system consisted of the basic console, Extended Basic, the Matchbox 32K RAM inside the console and my home built printer interface as a stand-alone unit. My desire was to add a pair of disk drives to the system without ending up with a tangle of wires or lots of units all plugged into each other.

Firstly, I had decided that building a disk controller card was beyond me, so my expansion system would be based around a commercial card. I started looking for a controller, either stand-alone or a card for the PEB as either would do. Eventually, I was offered a TI stand-alone controller for £55. I already had a pair of Shugart SA200 single sided 40 track 2/3 height drives.

I digress here slightly to mention one important point, namely: which drives will work with the TI-99. It seems to me that many people will only buy the same make and type of drives that TI used to use. However, disk drives are very standard things and as long as you get drives to suit the format you wish to use, any make should work. The TI stand-alone controller will only support (at the moment) single sided drives up to 40 track. The disk controller for the PEB will cope with double sided drives up to 40 track. In short any 40 track drive should, therefore, work with the TI controllers bearing in mind that a stand-alone controller will need modifying to cope with double sided drives.

(See the previous issue of IT. PB)

From this point on, as I have a stand-alone controller I designed my expansion system around this. All references will, therefore, apply to the stand-alone controller but a similar system could be put together using a disk controller intended for the PEB. A separate circuit diagram is included for whichever controller you have. Note that I have not tested the circuit shown for the PEB card so I can't guarantee that it will work.

WARNING. The following text describes how I built my expansion which works with no problems (I am writing this using Funnelwriter on my newly expanded system) but in doing so I have used the stand-alone controller in a way never intended. I can't guarantee that the results I got will be repeatable and I accept NO responsibility for ANY damage which might occur as a result of somebody implementing a similar expansion system.

Firstly, I decided on the enclosure. I have not given concise details of the case as how you house the various components is probably a matter

of personal preference. My case is 380mm wide (the same width as the console), 225mm deep (just deep enough to house the drives) and 130mm tall (the minimum height of my drives). As you can see I have used the smallest box that everything will fit into. You may wish to make yours larger in case you want to develop things further.

The next operation was the mounting of the drives in the case. I chose to mount them to the far left of the case, one above the other, mounted conventionally — i.e., horizontally, not like the drives in the PEB. However, if you prefer or are used to it then mount them on their sides as in the PEB.

Next problem, a power supply. You can, if you wish, build your own. However, I came by a power supply from an old Winchester drive that gave +12 and +5 volts with more than enough power to supply the two drives plus cards so I used this. Because I did not build my own I cannot give details but the power supply circuit in the TI PEB is a good starting point if you are going to build your own.

Next came the difficult bit, the disk controller. The first job was to remove the guts of the stand-alone controller. Removing the case was simply a question of removing the 6 self-tap screws in the bottom, when the top lifted off. The part that concerns us is the rectangular tin box that occupies the rear half of the case. This is removed by undoing the 3 self-tap screws that are visible.

Next lift off the top cover of the tin box and inside you will find 3 boards sandwiched together. There are 4 more self-tap screws passing through the lower two boards which hold the whole assembly into the case. Remove these and withdraw the tin box from the main case. You now have a collection of boards with the bottom one no longer fixed to the rest apart from by its wires. To tidy things up we must bolt this board back to the other two using some small nuts and bolts.

Once this is done put the 3 cards back into the tin box and put the lid on. I then positioned this unit at the right hand end plate of my box, mounting it with 3 bolts and spacers to the 3 mounting flanges. It should be mounted so that the 'input' end that normally plugs into the console is facing towards the front of the expansion box. Then connect the power supply and disk drive ribbon cable.

A short note here – the disk controller requires –5 volts as well as  $\pm 12$  and  $\pm 5$ . Since my power supply does not have –5V and the current drawn on this supply is negligible I devised the circuit shown to generate –5V from the  $\pm 5$ V rail.

That takes care of the physical aspect. Now the problem of wiring it up. It is not necessary to connect all 44 wires on the I/O bus to the expansion box. I traced out which pins were used by the disk controller and have tabulated this along with pins used by the 32K and printer interface later. I also determined that there is a direct connection on most pins on the controller from input to output i.e. the socket for the next peripheral.

My first approach was to use a relatively long cable and connect into the 'output' connector (since they are connected together this should work). However I had no end of problems with disk errors when I tried to load programs. I traced the main problem to a very slow rising edge

to the pulse on the READY line (pin 12). Fitting a pull-up resistor improved things but it was not a complete cure. The conclusion I drew was that timing is critical with the disk controller and the slow rising edge upset this.

There seemed two methods of curing this problem: either fit buffers to the cable (as in the TI PEB) or drastically shorten the cable. I opted for the second alternative and instead of connecting into the 'output' as mentioned I connected to the 'input'. As this connector is positioned at the front right of my expansion box then a cable emerging through the right hand end of the box to connect to the TI-99 I/O bus can be very short indeed (in my case no more than 150 mm). This completely cured the problems of unreliable loading.

Now that I had the disks working the next step was to remove the 32K matchbox RAM from my console and modify it to fit into my expansion box. The original circuit used the decoding logic within the console and hence required the 5 connections to the main board in the console. You could, if you wish, connect these from the console via a separate cable but a far neater arrangement is to modify the circuit to have its own address decoding. This is achieved with a 74LS138 IC readily available for a few tens of pence. Also an inverter is needed to invert the sense of the DBIN signal. Here I used a 74LS04, again readily available.

I have included a circuit diagram of the modified memory expansion. The main pin numbers refer to the I/O bus connections and are of relevance to this article or to anybody making a completely stand-alone memory expansion and the pin numbers in brackets refer to the connections which would be used if you were building a version of this for the TI PEB. I connected the memory expansion to the 'output' of the disk controller connecting across only the used pins.

Now all that is left is to add a printer interface. Here I used my own device for connection of a parallel printer. This was originally developed as a stand-alone unit and surprisingly few people have shown interest in it. I suspect this may be due to the fact that before I built my expansion box I did not know if my interface was compatible with the disk controller. I now know it is and have included it. The circuit diagram is included for those wishing to build it themselves. You will need the DSR ROM which is available from me in the form of a pre-programmed EPROM for £10.

The rest of the components are readily available. I can also supply ready made printed circuit boards. I have two layouts, one for a stand-alone unit and the other layout more suited for inclusion in this expansion system. The printer interface is mounted alongside the 32K RAM board and again wired to the 'output' of the disk controller. Both the printer interface and the memory expansion require only +5V supply which are directly connected to the power supply.

That about concludes the work I have done. I have ended up with an expanded system that would suit most requirements and is all housed in one relatively small box which sits neatly behind the console.

One more point to mention is cooling. I found that it was not necessary to fit a fan as merely punching some large holes in the bottom and a row of holes along the top of the back panel gave enough convection cooling and things only get slightly warm to the touch. If you find that you

have heat problems try larger ventilation holes before resorting to fitting a fan.

I hope this article will stir some people into expanding their systems. The benefits of adding disk drives are enormous. Not only is it much faster but you also open up new possibilities with the large amount of excellent Public Domain software in the User group libraries including Funnelwriter and other languages such as Forth and the small C compiler. The cost need not be too high; if you can find a disk controller for the sort of price I paid and only fit a single drive you will be able to expand your system for well under £200. You can always add a second (or third) drive at a later date.

If anybody has any queries on this article then you may address your queries in a letter but please enclose an ssae for a reply.

Нарру	expanding	Dave	Hewitt

This article was first published in the Autumn issue (No. 14) of TI\*MES, the quarterly newsletter produced by TI-EXCHANGE

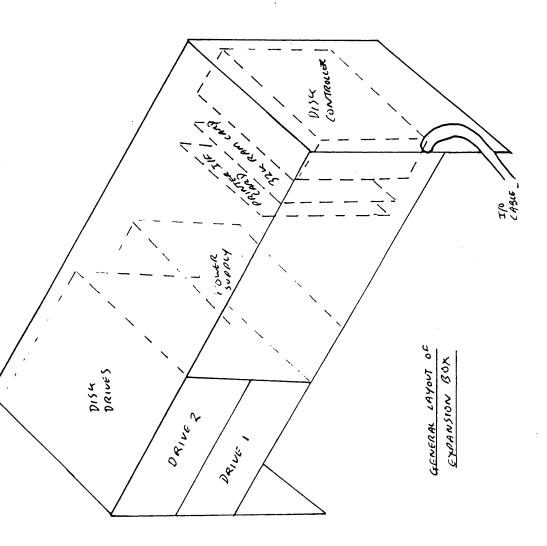
#### TI-99/4A EXPANSION BOX WIRING TABLE

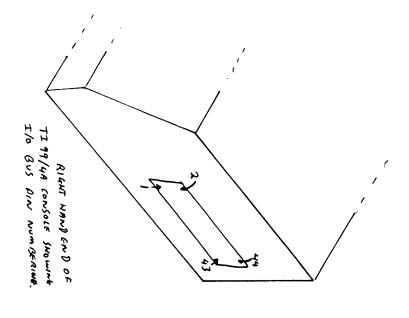
DAVE HEWITT 1987

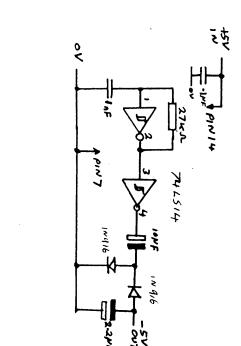
I/O BUS	TI PEB	USE I	COLOUR	DISK	32K RAM	PRINTER
PIN No	I PIN No I			1		 
3	6	RESET	BROWN	I YES	NO NO	YES
4	17	EXTINT		1 NO	NO NO	YES
5			DRANGE	1 YES	I YES	I YES
6		A 10	YELLOW	I YES	YES	i YES
	39				I YES	I YES
8	34	A 11	BLUE	I YES	YES	YES
	52	DBIN	PURPLE	i YES	I YES	l NO
10	42	A 3	GREY	I YES	YES	I YES
	31	A 12	WHITE	1 YES	I YES	I YES
12	4	READY	BLACK	I YES	NO NO	I NO
	35			I YES	YES	I YES
15	32	A 13	RED	I YES	YES	1 YES
	29		ORANGE	I YES	I YES	I YES
	38	A 7	YELLOW	I YES	I YES	I YES
	36	A 9	GREEN	I YES	I YES	I YES
	30	A 15	BLUE	I YES	I YES	I YES
	41	I A 2	PURPLE	I NO	I YES	I NO
22	51	CRUCLK	GREY	I YES	l NO	I YES
24	1 50	PH3CLK	WHITE	I YES	I NO	I YES
26	54	W.E	BLACK	I YES	I YES	l NO
28	I NOT USED	I MBE	I BROWN	I YES	l NO	I YES
29	ı <b>3</b> 7	1 A 6	I RED	I YES	I YES	I YES
30	44	1 A 1	I ORANGE	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	, , , , , , , , , , , , , , , , , , , ,	I NO
31	43	1 A O	YELLOW		I YES	I NO
32	ı 56	I MEMEN	I GREEN			1 NO
33	55	CRUIN	BLUE			I YES
34	1 19	1 D 7	PURPLE		I YES	I YES
35	1 24	1 D 4	GREY		I YES	1 YES
36	1 22	1 D 6			i YES	l YES
37	1 28		I BLACK		I YES	YES
38	l 21 <sub>.</sub>		! BROWN	1 YES	YES	I YES
39	1 26		RED		I YES	I YES
40	ı 25	, -	I ORANGE		I YES	I YES
42	1 23			1 YES	1 YES	I YES
	1 3,5,7,20,	•	l .	1	1	1
23, 25	1 27, 47, 49,	I GND	I BLACK	I YES	I YES	l YES
	1 53	i	•	i	1	1 -
	+	+	+	+	+	+

NOTE: I/O BUS PINS 1, 2, 13, 41, 43, 44 NOT USED

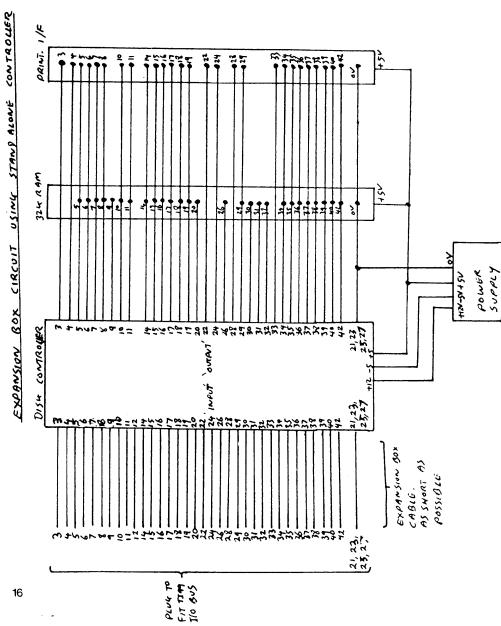
USE SCREENED MULTICORE CABLE, AS SHORT AS POSSIBLE



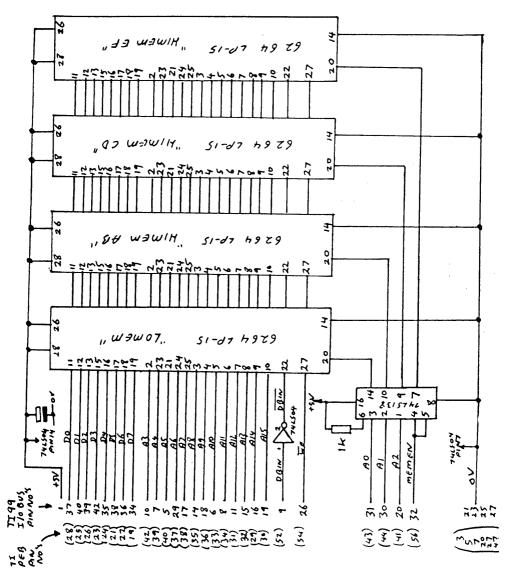




+5V 6-5V CONVERTER CIRCUIT.



	(x)	0.000	××××××××××××××××××××××××××××××××××××××	7 1 1 4 4 1 7 7 7 7 7 7 7 7 7 7 7 7 7 7	<b>3</b>
16 47 47 47 47 47 47 47 47 47 47 47 47 47		26 26 26 26 26	37	40 33 34 34 42 42 35 36 36 36 50 50	EXPANSION BOX
			2	14 14 14 14 14 14 14 14 14 14 14 14 14 1	USING P. E. B. DISG CONTROLIER  32 KRAM  PRINT. I/F
	1,4	2424x	33 24 25		PRINT. 1/F



. DATA



## ADVENTURE HELP



WATCH WATER WEST WIRE

by: Scott and Jo Ann Copeland

SAVAGE ISLAND - PART I (and a savage adventure it is!)

What was, will be, so send this note we To tell you a words free.

Here are some 'free' words for those adventurers having a 'fun' time with Savage Island Part I -- 600D LUCK!

VERBS - (Length of Nouns/Verbs - 4):

ASK	ENTEr	LOOK	RUN	TREAd
AUTO	EXAMine	MAKE	SAIL	TURN
BREAthe	FEEL	MOVE	SAVE	USE
BUILd	FILL	OPEN	SAY	WAIT
CATCh	FIX	PADD1e	SCORe	WALK
CLIMb	GET	PET	SCREam	WITH
CRAW1	GIVE	PICK	SEE	YELL
CUT	60	PRESs	SLEEp	YES
DESCribe	GRAB	PULL	SMASh	YOHO
DESTroy	HELP	PUT	SPIL1	
DIG	HOLD	PUSH	SWIM	
DRINK	INVEntory	QUIT	TAKE	
DROP	JUMP	READ	TASTe	
EAT	KILL	RELEase	TELL	
EMPTy	LEAVe	REPAir	TOUCh	

#### NOUNS -:

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AROUnd	COCOnuts	HAND	NOTE	SOUTh
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ATOL1	CREVice	HELLo	OPENing	STORm
BANDanna	DIAL	HOLE	DUT	SWEAt
BASIn	DISPlay	HURRicane	PALM	TIDEpool
BAT	DOWN	INVEntory	PIRAte	TREE
BEACh	DRAWings	JUNG1 e	PLAIn	TUNNel
BEAR	EAST	KNIFe	PUDD1e	UP
BLOCk	EDGE	LAKE	RAFT	VINEs
BONEs	FEET	LEDGe	ROCK	VOLCano
BOTT1e	FIELd	LEVEr	ROOF	
BREAthe	FORCe	L06	RUM	

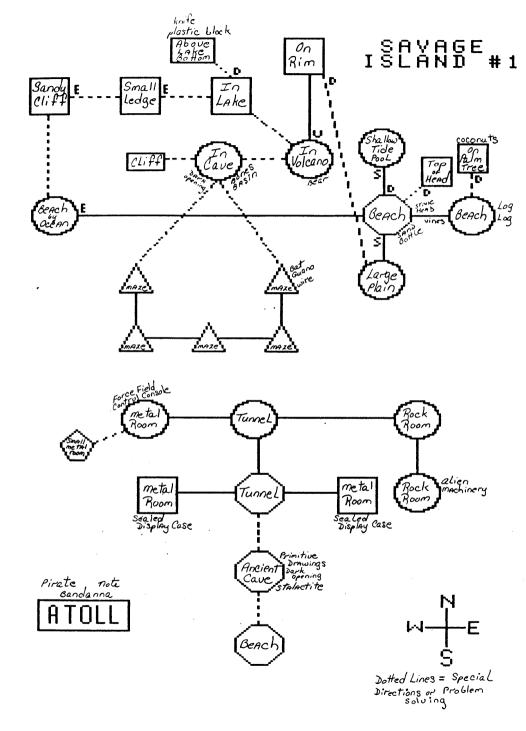
MACHine

If you complete this adventure the correct way you will receive the correct password to Savage Island Part II, otherwise - you receive an incorrect password and won't get anywhere in Part II! Have fun! (A roughly drawn map is included for your assistance in getting lost!) And if you think this one is rough - wait for Part II!

SALT

BUTTon

FREE



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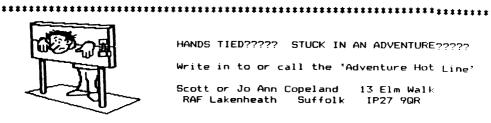
#### Adventure Word Search # 1

Dungeon Master Jewels Passageway Ulysses Adventure Raft Bamboo Electro Kevs Unicorn Fianna Knife Rainbow Vain Bat Formula Laser Ridge Vogon Beach Bomb Gazebo Limestone Ruby Zaphod Beeblebrox Gems Maze Zoo Butler Sensa Goggles Menhir Spell Zorkmid Canyon Gun Microbe Surmin Waldo Cavenan Chasm Gurthank-tun-Besnap Sword Wand Hat Count Nummilitic Tomb Woods Crocodiles Hieroglyphics Oyster Torch Wizard Treasure Cryolink Inspectors Palisade Dragon Jet Car Parapet Trophy

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#### Clues on next page---->

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HANDS TIED????? STUCK IN AN ADVENTURE?????

Write in to or call the 'Adventure Hot Line'

Scott or Jo Ann Copeland 13 Elm Walk RAF Lakenheath Suffolk IP27 90R

#### Adventure Crossword Puzzle # 1

- # ACROSS
- This spell writes a magic spell into a spell book.
- You needed this to start Adventure # 11, Savage Island Part II
- 6. This being holds Princess Mary captive!
- The breast plate belonged to this robot in Planetfall.
- You can sing, dance and play in Adventure # 9, Ghost-\_\_\_\_.
- 11. Mr. Linder was killed by one.
- If you don't find the antidote in Planetfall, you become this.
- 13. This spell will create gratuitous fireworks.
- 14. You lower this to exit
- Claymorgue Castle.

  18. He loves to play "Hidey-and-Seeky".
- 19. You must do this to the Troll.
- 20. A totally depressed robot.
- 21. This spell makes a hostile
- creature your friend.
  22. You sound rather penative.
- You sound rather negative.
   This island starts your funin Cut Throats.
- They suspected he committed suicide - you proved he was murdered.
- You do this to chemicals in Spider-Man and Voodoo Castle.
- Spider-Man and Voodoo Castle.
  31. Zork III's cliff base and barren area lead to this
- Hairpin \_\_\_\_\_.

  32. You use the Lycanthrope spell to get past these in Adventure # 13.
- 33. The interior is lined with gold, inset with jewels, and glistens in the torchlight.
- 37. You met the Troll, Cyclops and Thief in this Adventure.
- 41. The Thief does this to you.
- 43. Cries "Pieces of eight" and "Check the chest, matey".
- 45. You give this to the Pirate.
- 46. Deadline, Witness, Infidel,
  Mystery Fun-House, Return to
  Pirate's Island are all
  classed as an \_\_\_\_\_\_.
- 47. Your sword should do this when it comes near an evil presence or evil source.

#### DOWN

- You sail in this on the Frigid River.
- You wore this in HitchHiker's Guide to the Galaxy.
- You fill this with swamp gas to blow up a brick wall.
- 4. If you are in this, you are
- likely to be eaten by a grue.5. You find a jewel-encrusted egg in this.
- 7. You try to conquer the
- of Frobozz in Zork II. 8. You collect four in Hitch-
- Hiker's Guide to the Galaxy.
- 12. This is a flying spell.
- A force to reckon with in Enchanter and Sorcerer.
- 15. You do this to a treasure to make the rainbow 'solid'.16. Walk, don't \_\_\_.
- 17. Bring this back to save the King in Golden Voyage.
- Emits an odor to make the Neanderthal fall asleep.
- The evil presence to defeat in Enchanter.
- 21. This is scenic in Zork III.
- 23. This room in Strange Odyssey has 6 angles and 6 sides.
- 24. There is a red one in the Rat-Ant nest.
- 25. You put wax in your ears to stop these creatures in Spider Man, Adventure # 17.
- 26. The Head of the Circle of Enchanters.
- 28. You drink this in the pub with Ford Prefect.
- 29. To leave a room, find this.
- 30. You look in this to see if you are healthy today...
- 33. A nemesis in Spider-Man.
- 34. \_\_\_\_ of Mirrors 1.
- 35. You won't need to squint if you wear these.
- 36. Bizarre!!!!!
- 38. You climb this from the cliff in Zork III.
- 39. Grues were kept in this in Starcross.
- 40. Their favorite snack is an unwary enchanter.
- 42. This shady place supplies you with water in Enchanter.
- 44. You climb this to get to the Drive Bubble.



#### \*\*\*\* CONTEST \*\*\*\*

#### NAME THE CAPTION !!



AIRLINE

from Adventure International and Scott Adams

FREE to the person who enters the NAME THE CAPTION contest and has their entry chosen as the 'most appropriate caption'!!

Enter our contest and see if you can come up with the most original and most appropriate caption...to be published in the next issue of TI-Lines!

Prize: AIRLINE - Enter the intriguing world of high finance where even the sturdiest of corporate empires can dissolve as quickly as they're built. AIRLINE is a no-holds-barred strategy game. The object is to construct a sizable empire while competing against human and/or computerized opponents. Players purchase landing rights from any one of 36 major U.S. cities, buy planes then station them on routes that will maximize their revenue from fares. And unlike many strategy games, the outcome of AIRLINE is solely determined by your playing skills.

AIRLINE is on Disk - requires Extended Basic Module to run...

So, post your entries either via letter or 3 X 5 card and have them in before the deadline date!! Send to: Scott and JoAnn Copeland
13 Elm Walk - RAFL
Lakenheath
Suffolk IP27 9GR

Be sure to include your Name and Mailing Address!

DEADLINE: Entries to be received NLT 27 April 1987

#### MULTI-BASE NUMBER CONVERTER

This small routine, which may be of use to some, was put together after having read several sources (including magazines, a Bulletin Board, and the comments of one former member of TIHOME). It cannot therefore be attributed to any one individual since the ideas of many are involved, but if it can be said that one person contributed more than others, then BARRY TRAVER, writing in COMPUSERVE in May 1985, provided the basic structure of the routine below and therefore qualifies as the major source of information.

This version is geared for TI BASIC, but of course it could easily be converted to Extended BASIC and make use of the superior commands available.

It will convert from any base to any other base, within the restriction that no base above 16 is used. It can therefore convert binary to hex, or to decimal, and vice versa, as well as dealing with octal to any of those three and vice versa.

The number to be converted is assigned to N\$, so that numbers which normally cause scientific notation to be invoked may also be converted.

The base of the number is assigned to F, and the required new base is assigned to T. The routine will then convert from base F to base T, and supply the result in N\$. As it stands it will loop round to the start again, but of course if you have several numbers which you wish to convert you can always alter the logical flow to suit.

For the intrepid, the routine could be altered easily to cope with converting bases up to 36 or greater, provided that suitable symbols are available - and provided you remember what they stand for!

```
100 INPUT N$
110 INPUT F
120 INPUT T
130 H$="0123456789ABCDEF"
140 D=0
150 L=LEN(N$)
160 FOR I=1 TO L
170 P=POS(H$, SEG$(N$, I, 1), 1)-1
180 D=D+P*F^(L-I)
190 NEXT I
200 N$=""
210 Q=INT(D/T)
220 R=D-T+Q
230 N$=SEG$ (H$, R+1, 1) &N$
240 IF Q=0 THEN 270
250 D=Q
260 GOTO 210
270 PRINT NS
280 GDTD 100
```





by JO ANN COPELAND

I trust everyone enjoyed (or at least tried) the Mail Merge we discussed last issue. If not, you're in trouble because this issue deals with what follows - Define Prompt command. This is another way of assigning values to variables - only this time it is done from the keyboard and we answer screen prompts. In this Define Prompt command case, the Formatter will ask you what you want typed by prompts: (ie) "ENTER DATA FOR VARIABLE \*n\*:" - What you type in replaces \*n\*.

Now, if you are going to have more than one variable you will probably get lost when the prompts start coming at you, so we will use Define Prompt command to remind us what we need to type in. Remember in the Mail Merge we could use character length up to 77 - however, in DP command we can only use up to 28... So here goes...

To start, go to the Text Editor to create a File.

The lines of text we'll be putting in should look something like the following:

1 space	Colon	
\	/	•
	1:(Mr., Mrs., Miss, Ms.)	PRESS ENTER
0002 .DP	2:Recipient's first name	PRESS ENTER
QQ. DP	3:Recipient's last_name	PRESS ENTER
0004 .DP	4:Recipient's street address	PRESS ENTER
0005 .DP	5:Recipient's city, state, post code	PRESS ENTER
0006 .DP	6: (Aunt, Uncle, Cousin, etc.)	PRESS ENTER
0007 .DP	7:and (Family members' names)	PRESS ENTER

Then on line 9, type in the current date. For lines 11-14 put in your street address, city, state, post code, etc. Lines 18-20 will have your variables placed. Okay, including the above lines our file should now look like this:

0008 ENTER
0009 Current Date
0010 ENTER
0011 Your street address
0012 Your Town
0013 Your City, State
0014 Your Post Code
0015 ENTER

```
0016 ENTER
0017 ENTER
0018 *1* *2* *3*
                  ---> BE SURE YOU HAVE A CARRIAGE RETURN
0019 #4#
                   --->
                                 SYMBOL PLACED
0020 *5*
                   ---> AFTER THESE LINES - IMPORTANT!
0021 ENTER
0022 Dear *6* *2*. (Press Enter)
0023 ENTER
0024 Type in a text for your letter, however many lines you wish
    to put in.
0030 Sincerely,
0031 .SP 4 (will space down 4 lines)
0032 Your Full Name
```

Save this file under DSK?.FORMLETTER.

Okay, now we have a letter typed, and we want to send it to several people, without having to individually address each letter, and keep saving it over to print it out. What we have done so far is to tell the Formatter, via the Define Prompt commands (.DP) that we are going to individually type in information for each letter. We save the letter under DSK?.FORMLETTER, and go to the Formatter. Input DSK?.FORMLETTER, your printer devicename, enter "N" for "USE MAILING LIST?" and when you get to "NUMBER OF COPIES?" type in the number of letters you wish to type out. In this case typing 1 would get 1 letter, 5 would get 5, 10 = 10, etc. The Formatter will type out your date, your address, city, state, post code, etc., and when it gets to where our variables are (\*1\* \*2\* \*3\* etc) it will pause for a second and you should see on screen your first prompt:

Mr., Mrs., Miss, Ms.

You see that Prompt 1 = Variable 1. It is reminding us of what we need to type in  $\sim$  so we type in Mr. then press ENTER. Another prompt comes up  $\sim$ 

Recipient's first name

Prompt 2 = Variable 2. Now it is reminding us of what we need - the first name. Type it in and press ENTER. Next prompt will ask you -

Recipient's last name

Prompt 3 = Variable 3. Type it in, and continue answering the prompts. If you have no entry for the prompt, simply press ENTER.

If you continue in this way, answering each prompt, you should be able to type out each letter, individually, typing in to whom it is going, where it is going, and typing in the Salutation as you wish -

Dear Babbling Peter, Dear Cousin Bill, etc. Easy, huh?

Now, Just to confuse you even more, we can also address envelopes while in the same file! You have your file as typed under DSK?.FORMLETTER. Go to the last line of text (underneath Sincerely and Your Name) and place your cursor at the left margin. So, on line 0033 we type: .BP (Begin Page command) (Enter). Then we put in an Indent command (remember that?) so the address typed on the envelope will indent towards the middle of the envelope. Example:

```
0033 .BP ---> Be sure to have a carriage return symbol 0034 .FI:IN +25 ---> Be sure to have a carriage return symbol
```

Now, use your Copy command (Command Mode, L, C) to insert a copy of the lines containing the address we need (Lines 18 to 20). We want to copy lines 18-20 and place them on line 35. Example:

Our file should now look like this:

```
0033 .BP
0034 .FI;IN +25
0035 *1* *2* *3* BE SURE TO HAVE A CARRIAGE RETURN SYMBOL
0036 *4* BE SURE TO HAVE A CARRIAGE RETURN SYMBOL
0037 *5* BE SURE TO HAVE A CARRIAGE RETURN SYMBOL
```

Save this to disk under the same name, or another name (in case we mess up). Go to the Formatter once again. Select "Y" for "PAUSE AT END OF PAGE?". We have to do this in order to put in a sheet of paper for our letter, then put in an envelope for the address to get typed.

Continue with instructions from the Formatter. Okay, we should have typed out a letter (answering the appropriate prompts). Now, pull out the paper and insert an envelope. Put the envelope in and roll it up approximately to within 1/2 inch of the point where you want the typing to start on it. Press Enter. You should now have a typed envelope (with the same address as the letter). Continue on, alternating between single sheets of paper, and changing to an envelope when required, until you are finished. Piece of cake!

Whew! A note to keep somewhere in the backs of our minds for future reference. We found that we could assign a value to a variable (thus the (\*1\*). It allowed us to enter information either from a data set or from the keyboard via a prompt from the Formatter. However, there are other uses for this. Any time you were to place this (\*1\*) in text, say in the middle of a paragraph, the Formatter, when typing out, will pause and prompt you for a value. If you had pages of charts to

print out, and wanted each chart individually named, say by Month, you could put in the variable (\*1\*), save under a filename, and go to the Formatter. The first page of your chart should print out and the variable can be JANUARY. Page two goes to type out - Input FEBRUARY. Third page - input MARCH, Fourth Page - input APRIL, etc. Each chart would be appropriately named, but you only made up one chart and saved it under a filename. Then you can copy out at least 12 of them, labelling them with each Month of the year. Better than typing out 12 of them and saving a whole file, isn't it? You can probably think of all sorts of use for this...so give it a try!

#### ADDRESS LISTS/MAILING LABELS

Just what you've all been waiting for, huh? Well, it's here...Only ONE "YIPPEE" out there?

TI Writer/Funlwriter now gives you the opportunity (not that it didn't before - we just didn't know how to do it) to print mailing labels. Rounds of applause please...

If you want to type out labels through the Formatter, you may want to properly line them up. A ruler can be helpful, or you can make your own, through the PrintFile command. Create a file in Text Editor as:

1 space 1 spac

Press Enter until your cursor places itself on Line 67. Command Mode, PF (PrintFile), Enter, and have your paper positioned so the top line prints as close as possible to the top edge of the paper and the line numbers print as close as possible to the left edge of the paper. Use this paper as a line and column ruler to see what line and column you'll need to type your addresses. You will be able to "hit" each label at just the right place.

To type your addresses - enter the Text Editor where you made your ruler in FIXED MODE (Control 0). Show where you want each label by placing an asterisk (\*) to position your cursor. Save this under a filename. Type your address list, to fill the page. Save under another filename. Go to the Formatter, with your labels in your printer, enter the appropriate filename, and you should be able to print out typed labels through TI Writer/Funlwriter! Wow, didn't that make your day???

Well guys and gals...we're almost through. More applause? In future articles, we'll cover little 'bits' we left out, including Printing and Cancelling parts of files, Stripping commands, (.CO t) Comment command, Printing a file to disk, and the never ending Error Messages, Problems, and Quick Reference listings. Just can't wait, can you? See you next time.... Anybody have any aspirin?

#### BULLETIN BOARD

WANTED / 4 SALE / WANTED / 4 SALE / WANTED / 4 SALE / WANTED / 4 SALE /

RICHARD SIERAKOWSKI has boxes of disks for sale. These are DSDD80, and are  $\pounds12$  per box of ten, with  $\pounds1.50$  post and packing.

Contact Richard on 0672 54975

I have a few odd items selling on behalf of others. They are:

Peripheral Expansion Box alone, in excellent condition - £90 inc p+p 32K card, hardly used - £65 inc p+p Extended BASIC module, again hardly used - £35 inc p+p Terminal Emulator II, hardly used - £25 inc p+p

I am looking for an RS232 card (TI or Myarc) to fit a PEB, on behalf of someone else. Ring or write with the details of age, condition, and asking price (include post, packing, and insurance costs in your value).

JIM BALLINGER is selling a standalone 32K (£45) and an ALPHACOM 42 printer with TI interface, RS232-compatible interface, and five rolls of paper (£65).

Prices are inclusive of post, packing, and insurance, or alternatively the buyer may collect.

Contact me on Oxford (0865) 510822 in the first instance.

GERRY AUSTIN has some items for sale, all prices being inclusive of post and packing:

HOME FINANCIAL DECISIONS £8.50
MUSIC MAKER £7
TOUCH TYPING TUTOR £12.50
BEGINNERS BASIC TUTOR £2

CONNECT FOUR £4.50 EARLY LEARNING FUN £3 DISK MANAGER 2 £12.50

Telephone CRADLEY HEATH (0384) 637154

JIM BOUDIER has a couple of rare items for sale. The TI THERMAL PRINTER is available at £50 or nearest offer, and the STANDALONE DISK CONTROLLER is available at £45 or nearest offer (remember the project to upgrade it

to handle double-sided drives!).

Contact Jim on 0734 793318 at a reasonable hour.

I have managed to scrounge a few more full height disk drives. double-sided, 40 track, and there are FIVE of them available at £85 each excluding post, packing, and insurance. There are also TWO which are 80 track (and which can be used by appropriate controllers) for the same price and conditions.

Let me know as soon as you can, so that I can reserve one for you. This is an opportunity which does not arise frequently these days, so make your mind up soon!

I am about to open another order for NEW HORIZONS RAMDISK BOARDS, only this time I hope the order will not take several months to complete!

The board is supplied with full manual and disk-based operating system. and all future amendments to manual and disks are INCLUDED in the price of \$50 each.

However, this time I will only accept FIRM ORDERS WITHOUT MONEY FIRST, so that you don't have to tie your money up for half the year!

It will mean though that when the fifth order is received, ALL buyers will have to provide their funds very promptly, and sudden withdrawal will not be smiled upon!

I have two orders already, so I am looking for another THREE. make your commitment as soon as you can, and please do be sure that you definitely want a RAMDISK board - you don't want to let the others down at the last minute.

NIGEL CLEMONS has provided me with a lengthy list of items which he has for sale. The list is too great to publish in this issue, so this is by way of advance notice. The full list will appear in the MAY issue.

I now have an answering machine tacked onto my phone so that if anyone rings while I'm unavailable, they can always leave a message. recently had complaints from some ITUGers that they have been unable to pin me down for two weeks or more, so hopefully the machine will counter some of those problems.

It will probably result in an increase in MY phone bill, though...

I have a few items of firmware (cartridges!) which will be up for sale in the next issue, and a fresh list of new cartridges should be posted in either May or June. Watch this space!

### REPORT on BLOXWICH

The BLOXWICH Workshop - a brief report from JO ANN COPELAND, who was herself an exhibitor but managed to grab a few minutes to tour some of the sights. (Her own photos should be ready for publication by May, but in the meantime at the end of this report there is a shot of the open air exhibition staged by Letraset).

First of all, I think everyone who attended would like to say a big 'Thank You' to GORDON PITT for arranging such an educational and purely fun day... My personal thanks to Pauline for taking care of my children while I attended the meeting!

All sorts of equipment and set-ups were on display where you were able to ask questions and admire the set-up. RICHARD SIERAKOWSKI had the Geneve available for examination with available literature to read through. This console offers Advanced Video Display Processor, Time Clock Chip, Sound Chip, 640K RAM expandable to 2 megabytes with the Myarc 512K Card, Built-In Mouse Interface, Joystick Interface, and on and on... An impressive machine and likely to be a household word in the near future...

PHILLIP MARSDEN was set up with a Z80-based machine which showed a Pascal Transfer...A nice presentation and very interesting for those in the Pascal department...

The CORTEX USER GROUP was in attendance, and from what I saw, had people surrounding their table throughout the day. The 'Whiz Kid', TED SERWA, had an impressive display of a Video System to "grab images" and pass them to the computer (alas too technical for my brain!...) A computer-minded person's wonderland...

JOHN RICE made an extremely big hit when he offered software and books for sale at extremely reasonable prices (cheap, in fact) and many people went home with an expanded library...

Other systems not to be forgotten were those of TREVOR DAVIES and COLIN HINSON...and last but not least, PETER BROOKS...(Sorry I couldn't visit you all!)...impressive set-ups all around... Fortunately, I was busy enough with Word Processing/Adventurer questions and so couldn't get around to visit everyone...Thanks to everyone for your interest and support...and I trust you are well on your way in your current Adventure...

There were too many people to keep track of throughout the day, with some leaving early and new arrivals coming in the afternoon... I was fortunate enough to meet ALBERT VISSER from the Netherlands (Legio Computer Centre), who had an early non-distributional copy of the Geneve board and the TI-Mouse. Belgium was also represented, by RENE LAUWERS, and I'm glad I had the opportunity to meet him also...

Some new software was shown, including JoyPaint (available through Tenex for \$34.95 with 3 disks to add clipboards each at \$9.95). New games also available through Tenex have been written in Forth and C99 languages and will make a big hit. Current catalogues were available to look through so everyone could keep dreaming of expanding their libraries. TexComp has a Print Shop Package Desktop Publishing System. For \$47.95 you should be able to create Newsletters, Advertisements, Signs and Cards plus much more...Hopefully this will be available for showing at the next meeting.

For everyone I've forgotten I apologize beforehand...we were all extremely busy and it was a totally good day for all those that attended. Thank you for setting up and helping with the show! Aren't computer users the nicest people in the world???

\*\*\*\*\*Look forward to the next Bloxwich Meeting on July 5th. \*\*\*\*

{This is a tentative date which will coincide with a vast gathering of some 3000 visitors to a Faire on the same site; the fixture has not yet been definitely decided upon. PB}

If you missed anything on March 28th you can make it up then and have great fun at the same time!!!!!

Thanks again Gordon....Keep up the good work!