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**MICROTAN IS ALIVE AND WELL!**

PUBLISHERS

**MICROTANIC COMPUTER SYSTEMS LIMITED**  
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\* \* \* \* \* CONTENTS \* \* \* \* \*

Frontispiece.....Page 1.

Advertisements.....Page 2.

Contents.....Page 3.

Who's Who & What's What.....Page 4.

Inside Story.....Page 5.

Ed's Page.....Page 6.

The Future by Dr Gaunt.....Page 7.

Comment, Humour & Specialities. ....Page 8.

Basic.....Page 9.

Price List.....Page 11.

Order Form.....Page 13.

User Groups & Advert.....Page 14.

Microtutor. The magazine.....Page 15

Coming Soon, Small Ads & Help.. ....Page 16

Asimov.....Page 17.

Shop Window.....Page 21.

Adverts & Feedback.....Page 22.

Stop Press & Repair Bench.....Page 23.

Rear Page.....Page 24.

WHO'S WHO AND WHAT'S WHAT.

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Technical )..... Clive Reynolds.

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\*\*\*\*\*

THE INSIDE STORY.

=====

By

David Northway.

=====

Most of you reading this Magazine will have already read the mail shot I sent out recently.

Microtanic Software Ltd supported the Tangerine Computer from its early days and went on from there to sell other items of Hardware & Software. This brought about the change of our name to Microtanic Computer Systems Ltd.

When we found out that the computer was effectively being "run down" we negotiated for, and finally purchased, the licence for the complete system Worldwide.

It is now our firm intention to actively promote the system and expand it. Obviously we face enormous problems. We have to get production of hardware into full swing so that we can meet the orders that are coming in and I am pleased to tell you that orders for the full range of Circuit Boards have been placed with two very reliable manufacturers and suppliers are now assured for the future. We have already faced up to the many problems that were left over from the takeover, particularly those to do with faults in hardware, and hopefully by now these are all clear.

Then we had to face the problem of getting a magazine going to keep continuity. Despite all this things are going well and with your continued help and co operation we can make the Microtan computer go from strength to strength.

Also in this issue we tell you of some of our future ideas and we print a list of Companies who are supporting us with the sale of systems and ancillary items.

We are already receiving lots of your letters and I look forward to hearing your views. So until Issue No 2. Happy Computing.

\* \* \* \* \*

"ED's PAGE"

By

DERYCK M. SUTTON

Welcome to Microtan World, the magazine for all users of the Microtan Computer System. For the time being, at least, I will be your editor. Elsewhere you will have read about the plans we have for Microtan. As far as this magazine is concerned, we will make IT fit YOUR needs, so pick up those pens and let us know what is happening out there in computer land.

We will print as many letters as possible in our "Viewpoint" page and welcome all points of view, complimentary or otherwise!

We also want articles, programs, circuits, hints, tips, etc., etc, and will be happy to pay for good articles - so here's a chance to get some return from your hobby.

The Microtan 65 system computer has been around now a couple of years. Despite this, it is still, in my opinion, the best computer around based on a versatile Motherboard System. It is designed to be adaptable and for those of us who like to be able to get at the "inside" and "do things" it is ideal. I believe that with the fresh outlook of its new owners it could well become a true leader in its own field.

Microtan World will be issued every two months and in order to keep it bright and relevant your comments and opinions of this issue need to be reflected in the next copy. In order to achieve this you have to be quick and let us have those letters by return because by the time this reaches you we will already be well into the production of Issue No.2. so please don't hesitate - write now!

Now for some personal notes. I started like so many others several years ago with a 65 Board. I knew nothing about computers and learning was difficult. Slowly I added to the system and began to learn. In the meantime many of my friends also bought the 65 system. Soon we had a small, but enthusiastic group, who by a natural coincidence were also Radio Amateurs! We also made contact with other computer owners in our area and this contact has been invaluable in expanding our knowledge and clearing up queries.

I am delighted that the nucleus of our little group has been able to assist in some ways to make the changeover as smooth as possible.

In the next issue we shall look at the future in more detail and try and answer some of the inevitable questions which are being asked.

\* \* \* \* \* PAGE 6 \* \* \*

## MICROTAN - the future of the system?

Dr. P.N.Gaunt

Now that the Microtan system has been transferred from Tangerine to Microtan we can be assured of a regular supply of all the existing boards for this versatile micro-computer. The most recent addition to the range was the long awaited disc controller card that adds the speed and large memory capacity of discs as well as the option of an IEEE-488 interface. However, Microtan is determined to continue development of new boards to further enhance Microtan and provide all the facilities expected on today's powerful microcomputers.

So, what lies in store for the Microtan owner? Essential for any micro-user wishing to 'keep up with the times' will be the Real Time Clock/Calendar Card (TANTIME). This uses one of the latest CMOS battery-backed clock chips that not only provides comprehensive clock and calendar facilities with programmable alarm features, but also has 50 bytes of battery-backed RAM. This can be used to save vital information while the rest of the computer is switched off and with its own rechargeable battery both RAM and clock will run for several months without the computer being switched on! The alarm can be programmed to interrupt the processor from once-a-second to once-a-day or continuous interrupts from 30.5 micro-seconds to 500 milli-seconds may be generated for real-time applications.

For those unable to afford TANDOS with disc drives, an alternative would be the mini-cassette drive and operating system. This will use a digital mini-cassette recorder with fully automatic motor controls - just insert a cassette and the operating system does the rest! Data is transferred at a stunning 6000 baud without errors and files are readily accessible over the entire length of the tape, which stores over 35K bytes per side. While access time is not as fast as a floppy disc, this unit is cheaper, can even run with a 'disc operating system' and supports one or two tape drives. It is very much faster than the existing audio cassette interface, which can however still be used.

Looking further into the future there are plans for a new PROM programmer card capable of programming all popular 2, 4 and 8K EPROMs without need for an external power supply. It will also be able to program fusible link PROMs as used in the new System Controller card (more about that in a later issue!). The programmer will be controlled by comprehensive menu-driven software providing all the usual facilities for reading, testing and programming ROMs. A new dynamic RAM card containing between 64K and 256K bytes of memory on the one board is also planned along with a range of interface cards for monitoring and controlling the 'real world'. Plans do not stop here - several new cards are being considered but details of these must wait for future issues of the magazine. In the next issue I will discuss recent developments using the Motorola 6809 microprocessor on the Microtan system.

COMMENT

PHONE CALLS! With all that has happened, and is happening, everybody connected with the "Rebirth" of the Microtan system is, without doubt, very busy indeed. So, if at all possible, try and write to us with your queries rather than phone. You can be sure your letters will be dealt with promptly. Phone messages, on the other hand, can so easily be forgotten in all the rush. A telephone answering machine is also available during normal working hours on 01 693 7659 and by using this to leave messages you will also be helping greatly.

COMPUTER HUMOUR

I say, I say, I say, or IC, IC, IC,....  
Did you hear the one about.....

The "BIT" that went out for a "BYTE" with a friend and ordered "CHIPS" with her "RAM" steak, had a "NIBBLE", got "BOARD" and ended up in a "DOS" house "ROM"?

The "BIT" that was found on the "PROM" by a "PC". Although she "RESISTED" arrest she was taken in for "RANDOM" questioning and then "CHARGED" by a "DC"?

Sherlock "OHMS" and Dr. "WATTS"on!!

Is a "DIODE" a poem about the Princess of Wales?

If you know any more drop us a line.

CLASSIFIED ADS.

4p per word. Minimum charge 52p. Maximum number of words 40.

SPECIALITIES

In this issue's editorial there is a reference to Radio Amateurs owning Microtan systems. If you are a Radio Amateur drop us a line with your call sign and details of any way you use your computer for your hobby or, alternatively, what you would like to see available in either hardware or software.

Radio Amateurs using computers, however, is only one of many such specialist areas. If you use your computer in some special way and you think there are others who may do the same, let us know and maybe we can arrange special articles under the "specialities" heading.

We hope that in this way we can bring like interests together and perhaps be a link for all special users.

# BASIC

By

## SIMPLE SIMON

This article is aimed at the complete beginner and tries to offer a different approach to learn how to use some of the Basic commands.

The computer is switched on, you press RESET and you should now have -

TANBUG Somewhere near the bottom left of the screen. Press RESET again and you will see that you get another -

TANBUG You are now in machine code mode so type BAS (the keyword for BASic) and the RETURN (RET) and you will now see -

BAS  
MEMORY SIZE? Underneath TANBUG. Ignore the questionmark and press (RET) again and you will get -

TERMINAL WIDTH? Ignore the question again and press (RET). We need not worry about these questions for the moment. You now have -

XXXXX BYTES FREE  
MICROTAN BASIC  
(C) 1980 MICROSOFT

You are now in BASic mode and the OK and the prompt tells you that the computer is ready and waiting. The number on your screen in place of the XXXXX's is the size of your free memory but again this need not concern us just yet.

NOW is the time to remind you to leave RESET alone from now on because if you press it at any time during BASic mode you will drop out of BASic into machine code.

If you do hit it accidentally, type WAR (RET) and you should get back into BASic with everything intact.

Now then, what about all the rubbish on the screen? Let's get rid of it with a one line Basic program, type -

10?CHR\$(12)(RET) This now shows on the bottom line with the prompt underneath it. Type RUN (RET) and you will see the screen is now clear except for OK in the top left hand corner.

So, what did we do? For simplicity at this stage accept that CHR\$(12) is a clear screen. What we did was to type in a line No."10" then a ? which is a key command for PRINT then CHR\$(12) the clear screen command. Then we pressed return which closed the line. The command RUN (RET) told the computer to execute this one line program and then wait for further commands. Remember, the one line program is still in the computer. Prove it by typing LIST (RET) and you will see your program on the screen again.

## BASIC (Cont)

10 PRINT CHR\$(12) The OK means that the computer is again waiting your command.  
OK So let's add to the program; type 20 POKE 750,65 (RET) then RUN(RET). YOU will now find you have a letter A in the middle of the screen and OK in the top left hand corner again. Now type another line 30 POKE 782,66 (RET) then RUN (RET) You now have A in the middle with B underneath it and the prompt back at the top. Now type another line 40 GOTO 20 (RET) RUN (RET). You will now see the same two letters but now there is NO prompt in the top corner. You will also find that if you press any letters or numbers, nothing happens! Leave it like that for now and let's analyse our program. We typed -

```
10?CHR$(12) Then we typed RUN (RET) and the computer went
through the program line by line.
20 POKE 750,65
30 POKE 782,66
40 GOTO 20
```

First, as we have seen, it looked at line 10 and cleared the screen. Then it looked at line 20 POKE 750,65. this is simpler than some would have you believe, it means POKE or PUT into position 750 the value of 65. Now position means memory location and if you check your manuals you will see that memory locations 512 TO 1023 are screen locations and if you put a value into a screen location the computer will automatically convert the value to its ASCII equivalent. 750 is near the middle of the screen and 65 is ASCII "A" so POKE 750,65 means put A in the middle of the screen. Line 30 is, of course, very similar. PUT B under A. Now then, what about line 40? You will remember that before we added this line a RUN (RET) put the A and the B on the screen and then left us with the prompt OK on the screen. This was because having run out of program the computer assumes it is the end and goes back into command mode and awaits you to tell it what to do. After looking at line 40, however, it did as it was told and went back to line 20, then line 30, then line 40, then back to 20 again, and so on. This is to say, the program is in a continuous loop and will go round and round until told to stop. How? Press BREAK and you will now see -

BREAK IN LINE XX The number xx will be in this case 20, 30 or 40 depending on where the computer was when you pressed BREAK.

The program has now stopped and you are ready to carry on. Finally, for this issue, type LIST (RET) and you will see your program back on the screen!

Right - pick up your pen and write now and tell us if this was of any interest to you, or if it raised any queries. Don't wait, do it now!!!

USER GROUPS.

-----

We would like to support and assist User Groups.

If you already have a group in being or would like to form one let us have all the details and we will print them in an early issue of the Magazine.

Even if you do not want to form a group but would like to try and find out if there are other Microtan owners in you area, we will print your name and address.

---

## REMEMBER ?

OR DOES YOUR MICROTAN FORGET BITS & BYTES OF YOUR VALUABLE PROGRAM WHEN YOU USE AUDIO CASSETTES ? PERHAPS IT TAKES SO LONG THAT YOU FORGET WHAT YOU ARE LOADING BY THE TIME THE MICRO SAYS "OK". MICRON HAVE THE ALTERNATIVES TO AUDIO TAPE & EXPENSIVE FLOPPIES.

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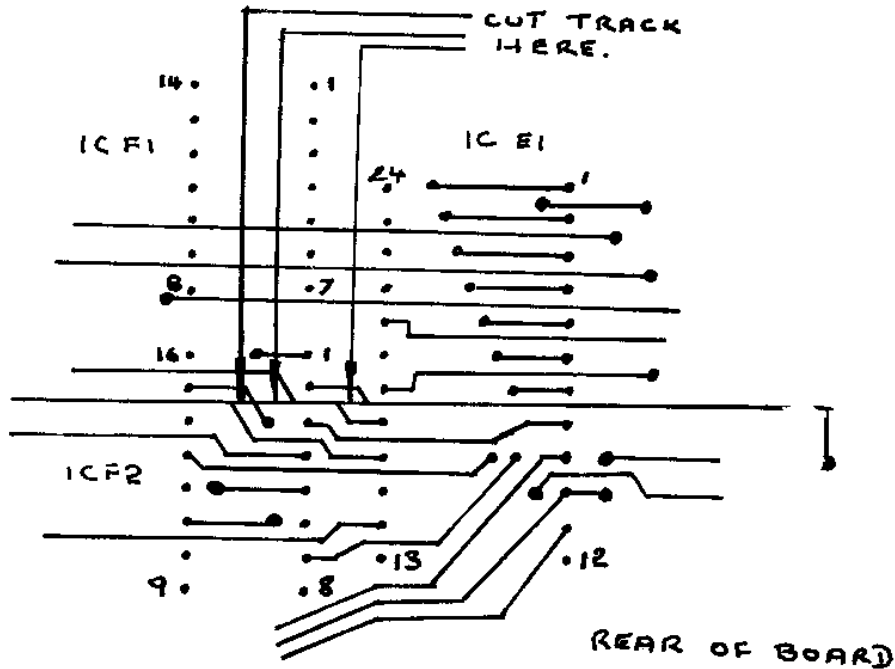
MICROTUTOR.

-----

Despite the recent report in E.T.I. Magazine the Microtutor is still with us. We will continue to supply this item and of course support it with software etc. etc.

If you have a Microtutor why not write to us and let us know how you are using it and any programs you may have written. If we get enough items we can devote a section of the magazine to it.

Most of you will have now found out that there was a serious track fault on the P.C.B.s sent out by Tangerine. This requires several cuts to be made in one of the tracks:



The MAGAZINE.

-----

This Magazine has, in the main been produced using a fully expanded Microtan fitted with the ASIMOV word processor package (See this issue) and with a Smith Corona TP1 daisy wheel printer. The pages produced in this way have then been submitted directly for offset litho printing.

The front page was produced by standard printing methods and in view of the time problem two or three pages were printed from copy submitted from copy taken from a dot matrix printer. No prizes for guessing which these pages are.

Summing up, I can safely say that without my Microtan computer producing this magazine would be a mammoth task. Ed.

\* \* \* \* \*

COMING SOON.  
-----

Many of you, we know, are eager to expand the facilities of your computer but are not able to afford disc based systems or even alternative tape methods.

In many cases the real root of the problem lies in the ROM on Tanex and we know that there are lots of people who have alternative ROM based languages, E800 chips and other ROM such as ASIMOV which have to be swapped over in the Tanex Board every time you want to use them.

Many possible methods of overcoming this problem have been devised, including our own header board but these available methods leave something to be desired in flexibility.

In the next issue of Microtan World we are hoping to review a new Board specially designed to plug into system motherboard which may overcome this difficulty.

Watch this space!.

Other items being considered are a Real Time Clock and a 6 voice music Board.

On the software side we hear of a possible program to control all your Bank Accounts etc

We will keep you in touch.

SMALL ADS.  
-----

For Sale: MICRON.. Full 8k.. Basic.. X.Bug.. Toolkit.. Keyboard.. Manuals.. & a range of software.... 200.00. Phone Andy Parnell (See above)

HELP!  
-----

Would Mr A Blockway of Somerset who had a query over the recording level routine in the X Bug manual please contact Andy Parnell (See above) as we can not find your address.

## **ASIMOV and using ASIMOV**

ASIMOV is finely engineered to be unobtrusive in use. People who write for a living don't want equipment that sits up and says "Hey, look at me, I'm smart".

People who write want tools to do a job. Precise, dependable, ASIMOV is easy to use and, at the same time, very powerful. ASIMOV will help a writer or businessman working against deadlines or under pressure, to produce the goods.

Make no mistake - ASIMOV is a professional's word processor - flexible, versatile and friendly.

ASIMOV respects the way you write. For example, when you want to erase something it will be a single character, a word or sentence, or a whole paragraph. Using the Delete function this is simple; place the cursor at the start of the word, press the Delete key and then the space bar. ASIMOV will remove the word, closing up the text automatically. Press the space bar again and ASIMOV will delete the next word, press the full stop key and the rest of the sentence is removed. Simple, consistent, reliable and so easy to use you'll never notice it after the first couple of hours. ASIMOV helps you to concentrate on writing rather than computer operating.

### **FEATURES OF ASIMOV**

The program has an excellent dialogue design and plain English messages are displayed at the top of the screen. For example when you want to write a text ASIMOV asks you first:

DESTROY old text? <Y>

Because the decision is important you must press Y or y - it makes no difference - rather than the reflex action of pressing the Return key and then you can write a new text by just typing on to the screen. Whenever ASIMOV needs an unusual response from you to do something you are shown the correct key entry.

ASIMOV automatically wraps words round on to the start of the next line to avoid broken words at the end of the line of text you are entering. You keep on typing as fast as you wish and let ASIMOV do the work. Escape and control codes can be embedded into the text to control any printer.

When you have finished you press the Break key to leave the Write function.

The EDIT commands include:

FIND a word or phrase and replace (CHANGE) with another word or phrase up to 20 characters long. Comparison starts at the beginning of each word and a full stop will match with any other character to allow the automatic correction of sections of words.

For example: .....tion will match with "automation" and "correction". Dates can be changed automatically by finding ../../79 and changing that date to 01/11/83 or 15th March 1984 - it's your choice and it's easy.

DELETE character, word, sentence or paragraph. INSERT text anywhere in your original document. OVERWRITE the existing text. MOVE paragraph to a "text buffer" and bring the paragraph back TO the cursor position, once or as many times as you wish. SEARCH (.) for page marker and display next page of text. KILL the remainder of the text. PRINT from the cursor position. CONTINUE writing from the end of the text.

All of these are single keystroke commands for fast and accurate working except the KILL command which must be confirmed with the universal danger sign <!>.

The cursor can be moved and positioned over the whole screen with these commands:

Left - Right - Down one line - Up one line - Scroll display up one line - Scroll display up 15 lines - Cursor to start of next line - Cursor to top left corner of screen - Return cursor to start of document.

The Tape functions allow you to:

STORE text on tape. Documents are stored with the printer LAYOUT codes to format the text when it is retrieved. RETRIEVE text from tape. Text name on tape may be up to 25 characters long and all the the characters are significant when ASIMOV is searching a tape for a document. APPEND a text from tape to a document already in the computer. Each document on the tape is stored with a comment section so that you can record the stage that a draft document has reached or the date something was completed without the information forming part of the text itself. The tape speed can be altered simply by typing "T". The data transfer rate - Fast or Slow - is always displayed at the main command level. At the Fast rate ASIMOV will transfer 1000 words of text in less than one minute.

The PRINT commands include:

Page LAYOUT which can be controlled by settings:

- Right Margin
- Left margin
- Line spacing
- Page length
- Form length
- Single sheet or continuous stationery.

Automatic page numbering is available starting from page 1, or another number that you set. Alternatively, ASIMOV will leave the first page for your main title and will then number the subsequent pages.

Up to 20 tab stops can be set and these are displayed graphically on the layout screen.

Condensed or emphasised typestyles can be set for the whole document and these can be varied by embedded commands inside the text.

The printer commands are designed to be just like the process that a typist goes through using a familiar electric typewriter - BUT you can alter the format and layout of the document to your heart's content with ASIMOV, either between print runs or in the course of printing the document.

Other instructions allow you to centre a line of text.

**See, it's easy!**

Indent the text by variable amounts to improve the presentation of a document.

This paragraph is now doubly indented - a useful feature for the production of book indexes. At the flick of the wrist you can put marginal notes into the left hand margin and number paragraphs.

LIKE

THIS By setting ESCAPE and CONTROL codes in the the text it is possible to alter not only the typestyle of a document but also the line spacing and even the tab stop settings in the middle of a text.

ASIMOV will count the number of words in a document - not the characters, which is an inaccurate estimate, but the words you have written. A small addition to the program but a great labour saving feature for journalists and critics.

Problems such as attempting to set a tab stop greater than

\*\*\*\*\* PAGE 19 \*\*\*\*\*

the right hand margin or an overflow in the computer memory are identified by ASIMOV and the program stops, displaying one of ten messages, for example:

#### PROBLEM No. 6

The operating manual describes the error and the steps that can be taken to correct it.

#### DOCUMENTATION

Writing for journals and magazines, ASIMOV's author, Dr John Dawson has said "Operating manuals are a vital part of any system. If the handbook isn't clearly written and if it doesn't have good examples of how the program works, then a person using a system will be frustrated and unable to exploit a program to the fullest extent."

The Operating Instructions for ASIMOV are clearly written and live up to this high standard.

ASIMOV, named after biochemist and phenomenally successful author Isaac Asimov, is 7,000 bytes of Information Technology power.

Available from Microtanic Software as two 4K EPROMS with a superb handbook.

ASIMOV - the professional's word processor

#### QUESTION.

When using the serial port to output data in a loop, similar to the output routine on page 6.5 of the Tanex Manual, (see below) it would not run unless bit 3 or 4 of BFD2, the command register, was made high! Can anyone explain why?

```
0400 A9 82 LDA ) Set Command
0402 8D D2 BF STA ) And Control
0405 A9 F8 LDA ) Registers
0407 8D D3 BF STA )
```

```
040A AD D1 BF LDA ) Loop Until
040D 29 10 AND ) Buffer
040F F0 09 BEQ ) Empty
```

```
0411 A9 15 LDA ) Write To
0413 8D D0 BF STA ) UART
```

```
0416 4C 0A 04 JMP Repeat
```

This does not run, but if we change the top line to: 0400 A9 8A It does! Why!

This item refers to letter from Peter Chamberlain Folkestone.

\*\*\*\*\* PAGE 20 \*\*\*\*\*

SHOP WINDOW.

As well as our headquarters in Dulwich we are pleased to announce a number of new outlets:

Main Microtan Dealers. (Hardware & Software).

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061 428 8562.

Micron Computer Equipment Ltd.  
Devonshire House,  
Devonshire Square,  
Loughborough,  
Leicester. LE11 3DW

Suppliers selling Ancillary Products for Microtan.

F Woodcock.  
32 Langley Close,  
Redditch,  
Worcs. B98 0ET.

Crunch Computer Systems Ltd.  
76 Victoria Road,  
Swindon,  
Wilts.

Micro Concepts.  
8 Skillicorne Mews,  
Queens Road,  
Cheltenham,  
Gloucestershire. GL50 2NJ.  
TEL: 0242 510525.

Mousepacket Designs Ltd.  
7 Cedar Close,  
Grafham,  
Huntingdon,  
Cams.  
PE18 0DZ.

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### HI-RES CHARACTER GENERATOR

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Use your Hi-Res board to display 25 lines of 42 characters with my EPROM for socket E2. Interfaces with TANBUG vectored output routines or free standing. Full Ascii 9 x 5 format, scroll, reverse video, clear screen, delete cursor, two operating modes. Can be used from Basic and Forth. £12.95 inclusive from: Microstruct, 16 Kingsfield Road, Bradford on Avon, Wilts.

### MOUSEPACKET DESIGNS

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COLOUR VDU card: Version 2 now available - compatible with Tandos, 25 lines of 64 characters, 6 colour + white. Compatability retained with existing software. Optional PAL encoder and modulator. Supplied with 2 Eproms to replace Tanbug and basic EO chip. VDU card + EPROMS + Manual @ £74.95. PAL modulator option £10.00. Please add £1.50 post and packing.

Compatible software: Toolkit, renumber, autonumber, short form BASIC commands, graph plotting routines etc. £14.95 + 50p p&p. Assembler - comprehensive facilities for the serious programmer, in 2 4K EPROMS. £29.95 + 50p p&p.

Adventure Game (traditional style) very devious and interesting (23K Cassette) £7.95 + 50p p&p.

Coming soon - Word perfect - A full feature word processor for the Mousepacket VDU card. Also Eprom switching board, 4 banks of 2x4K + 2x2K (C000-EFFF) Full details available from: Mousepacket Designs, 7 Cedar Close, Grafham, Huntingdon, Cambs. PE18 0DZ.

### FEEDBACK

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Throughout this magazine numerous references have been made to you the reader letting us know what you think, asking you to let us know what you want and requesting articles etc.

We would like you to write to us but if you have any urgent comments or queries which affect the magazine only you can phone me on tuesdays or thursdays between 6.30 and 7.30 but again we would ask you to write rather than phone unless it is very urgent. My phone number is 0233 74441.

Ed

\*\*\*\*\* PAGE 22 \*\*\*\*\*

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STOP PRESS

Have you seen the March copy of Electronics TODAY? It has an article on a "plug in" printed circuit board giving 6 D-A channels, plus sound, designed for Microtan!

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REPAIR BENCH

By

CLIVE REYNOLDS AND ANDY PARNELL

INFO COMMENTS ETC ON REPAIRS

Repair work is already coming in and we are doing our best to turn all repairs round very quickly. We are also dealing with the last of the repairs taken over from Tangerine so by the time you read this, all those old problems will have been dealt with.

Don't forget System Motherboard issue 6 will not work with Tanex issue 1 and 2 without a small modification to the Tanex Board. So if you have recently changed from a Mini to a System Motherboard and things don't seem to be working, check the issue number on your Tanex.

Now a note for Single Board owners. We have had some Microtan 65 Boards returned to us because they will not work from new. The effect is that you cannot get a reset. The cause is that a single board system will not work with the V3.1 Tanbug chip! So if you are in this situation check with us as you may only have to return the Tanbug chip.

Finally for this issue a note about telephone calls. If you have a really urgent technical problem and honestly believe we can help you on the phone then we will answer your query if we can. However, please note that this can only be on Mondays, Wednesdays and Fridays between 7.30 pm and 8.30 pm. Please help us by keeping to these times or regrettably we may have to withdraw the facility. The phone No's are:-

Andy Parnell....0795 522488.  
Clive Reynolds..0795 75445.

\*\*\*\*\* PAGE 23 \*\*\*\*\*

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SUBSCRIPTION.

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Please send me the next 6 copies of Microtan World.

Name.....

Address.....

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I enclose £10.00. in full payment.

Cheques should be made payable to Microtan Computer Systems Ltd.

NEXT ISSUE.

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A lot of the content of the next issue will depend on you the readers.

We are particularly interested in articles for single board owners, useful routines, hints and tips you might have found, etc. etc.

Don't forget to let us have your letters telling us what you think about this issue and of course any comments on the system or any matter of general interest.

If you know anyone with a Microtan Computer who is not yet subscribing to Microtan World why not let him have the subscription form and see if you can persuade him to join us. The more subscribers we can get the better we can make the magazine.

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