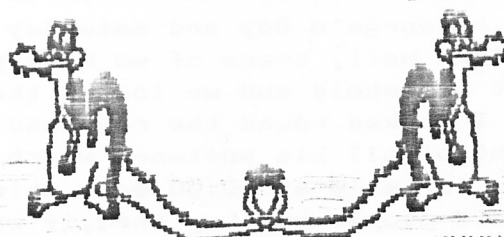


DRAGON

UPDATE



 * ISSUE 89. JUNE 1993. *

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 #####

THE GAFFER'S BIT

Not a lot to say at the moment Ossett came and went, and 53 of you did likewise and bought some remarkable bargains there, but whatever happened to the rest? Bob Preston has (reluctantly) decided to give it one last try next year, possibly including other "antique" machines this time in the hope of at least covering the cost of renting the hall, but if things don't improve don't expect him to try again. Detour has been selling reasonably well, but a couple of hundred of you still haven't bought a copy yet, so you'd better get a move on if you want a chance of winning that tenner!. Sorry about the lateness of the last issue but the copier threw a fit and still hasn't quite recovered, so if anyone knows where we can get a new/secondhand drum for it (Toshiba BD608) please let me know soonest ... the eyesight you save may be your own!. Yes, you're quite correct, only twelve pages this month ... NOT the fault of the copier, just that we haven't enough material to make up the usual number of pages. Many thanks to Bob Preston for the Group stand at Ossett, and to Clan Stott for running it for us!. Masochists all!!!. And as there's nowt more worth saying I'll refrain from saying it and leave you in peace until the next issue. Have fun. Paul.

The Editor's Bit...

I think I ought to feel marked this month, on account of a bad case of double standards. To wit: firstly, I [allegedly] got up a few noses by my all-in-good-fun spell of Batmania - now some four years ago, please note - and was forced by the powers that be to drop my role as plugger for Warner Bros.; and now suddenly (secondly) Batman turns up in Dragon Detour masquerading as Update Editor. A lamentably weak coincidence!, or am I just being paranoid? You lot are damned lucky that I didn't treat you to Alien 3-itis last summer, so watch out. Any further unsanctioned guest appearances will result in future issues of Update carrying full page ads for The Last Action Hero or Jurassic Park, or if you're really lucky, Teenage Mutant Ninja Turtles 3. You have been warned!, - I have my agent's fees to think about, you know. And if you don't leave it out, these hallowed pages may slowly mutate into a new Blake's 7 appreciation rag...and even His Mightiness wouldn't come to your rescue then, would you? (Who knows, he might even write the odd article or two. Stranger things have happened). So, enjoy the summer while you can. I hear the EC are going to ban it next year for being the wrong shape. Or something. Stephen.

Of COURSE you're paranoid, me old Batty, it goes with the job, and it started when Robin deserted, remember?, though perhaps we'd better not go into all the sordid details or MI5 and 6 will be calling round to bug the dump for the Mirror!. His Mightiness.

PEEKING THE DRAGON (45) BY MIKE STOTT

Friday April 23rd was St. George's Day and Saturday April 24th was to be the Dragon's Day at Ossett Town Hall, scene of so many previous shows. At 6.30am the alarm woke the Stott household and we loaded the car and set off. Once I had set up the stand I looked round the room and saw Bob Preston's stand groaning under the weight of all his software which included John Penn's old stock. He had three 32s for sale at 10.00 each which were still there at the end. At that price why did people not buy them, if only for spares? David, my younger son, even managed to find some software there that we had not got already. The next table was Ian Jones showing his Phoenix Midi Interface. Despite early problems he had got it running later and I was very impressed with his set up. If he can get more interfaces made he hopes to be selling them and, hopefully, David Linsley or somebody else will be able to help him out with some machine code routines to make it even better. Across the front of the stage were PSE selling a wide assortment of hardware and software. They were even selling items for computers other than Dragons. The Dragon User binders appeared to be selling like hot-cakes, at a 'special price' like many of the other items on the stand. The Knights were next with KCS, having arrived very late, due to very bad roadworks on the northbound M6. Sorry, I did not get time to get a close look to see if they had new items for sale. Dragonfire came next with Keiran Anscomb who presented me with a disk full of some really exciting looking utilities. He is working on a package like PCTOOLS, only for the Dragon. I presented him with a completely knackered disk which would not format with any utility I have got, and not even on my PC or BBC. This was quickly given back to me showing just under 170,000 free bytes. There are a stack of other useful looking items on the disk which I have not really had time to look at yet, including a RAMDISK for D64s. I look forward to this suite of programs being released.

Finally came the Group's own stand with David Linsley showing what had been achieved by the North East Dragon Owners Group and Stuart Beardwood with the PD library. The thorn between these two roses was yours truly, ably assisted by my family and Geoff Smith. As usual Ossett was as much a social gathering as a computer show and I know that those who go enjoy the marvellous atmosphere generated there. Everybody mixes in and many problems are sorted out over a cup of tea and a buttie. Unfortunately only 53 people bothered to attend and Bob Preston needs to cover the hire of the hall, advertising and travelling. The companies need to sell a lot to even cover the cost of stands and expenses. It was no surprise when Bob told me at lunchtime that this show was to be the last. Brian O'Connor told me that he was very disappointed with his takings. However, just before the end Bob told me he was running a show at Ossett on 23rd April 1994 - St George and the Dragon meet head on again? To be financially viable other 'extinct' computers will need to be involved but hopefully it will be as good for Dragon owners as usual with the unique flavour of Ossett. I for one intend to be there and I hope to see as many of you that can make it.

HELP WANTED - (1) Anybody written 'hand-shaking' software for the cassette port? (2) Can anyone machine code programme for midi interface (serial comms basically)? (3) Any hard disk connection for DragonDos or OS9, Joe Pilz is interested in making one or finishing one that has been started. (4) "Disk full" error with Telewriter under SuperDos E5 with only 5 files and problems with more than one copy of a file. (5) Can Scart Socket on TV work from Dragon? Steve Knight says Maplins and Tandy sell Scart to Phono plugs and these should work, Bill. (6) Has anybody got a Co-Co Dos cartridge for sale?

I apologise to anybody that I did not get round to talk to at Ossett but, as usual, things were rather hectic round our stand even with the reduced numbers. Sorry to the chap who wanted all 10 back copies of UP2DATE but, even using Graham Kinn's FASTBACK (available on DISK UTILITIES 2 from NDUG) it would have taken me a long time to make copies especially as two issues are double sized.

Series Impedance Circuit. Chris Jolly.

This program performs a set of simple but useful calculations relating to a series impedance circuit - a serial combination of a resistor, capacitor, and inductor. It arose from an article that was sent to me by Eddie Stainer, containing a similar program for another machine. Eddie asked for my help in converting it for the Dragon, but I decided to rewrite it from scratch because: It wasn't particularly well written or user-friendly. Most of the program concerned screen handling which didn't apply to the Dragon. It's almost always easier to throw away someone else's program and start again. I have put a menu on the front end to make life a little easier, and limited help is available from this screen. The program should be self-explanatory, but briefly: There are two sets of input parameters -

set one		set two	
symbol	parameter	symbol	parameter
I	Current	L	Inductance
E	Voltage	C	Capacitance
R	Resistance	X	Reactance

Two values from each set must be supplied before the calculations can be performed. Then the frequency at which to calculate the values is requested, and the calculated parameters (listed in the table below) are printed. After this, press any key to proceed to the next screen, which is a very rudimentary impedance diagram (improving this is left as an exercise). Note that it doesn't work very well when the phase angle is close to +/- 90degrees. Another key press takes you back to the main menu. The program is rather simple-minded, like its author, and does not react too well to being given physically impossible information, something which is only too easy to do with certain combinations of input parameters. If you see ?/0 or ?FC errors, this is almost certainly what has happened.

```

10 FI=FE=FR=FI*FC=FX=0
20 CLS
30 PRINT#104,"SERIES IMPEDANCE";
40 PRINT#137,"BY CHRIS JOLLY";
50 PRINT#195,"1 ENTER I      4 ENTER L";
60 PRINT#227,"2 ENTER E      5 ENTER C";
70 PRINT#259,"3 ENTER R      6 ENTER X";
80 PRINT#331,"7 CALCULATE";
90 PRINT#363,"8 HELP";
100 PRINT#395,"9 QUIT";
110 AS=INKEY$;IF AS="" THEN 110
120 ON INSTR(1,"123456789",AS) GOSUB 140,160,180,200,220,240,260,510,660
130 GOTO 20
140 CLS:PRINT#256,"CURRENT(AMPERES)";
150 INPUT I:FI=-I:RETURN
160 CLS:PRINT#256,"VOLTAGE";
170 INPUT E:FE=-E:RETURN
180 CLS:PRINT#256,"RESISTANCE(OHMS)";
190 INPUT R:FR=-R:RETURN
200 CLS:PRINT#256,"INDUCTANCE(HENRYS)";
210 INPUT L:FL=-L:RETURN
220 CLS:PRINT#256,"CAPACITANCE(FARADS)";
230 INPUT C:FC=-C:RETURN
240 CLS:PRINT#256,"REACTANCE(OHMS)";
250 INPUT X:FX=-X:RETURN
260 CLS:PRINT#256,"FREQUENCY(HERTZ)";INPUT F
270 W=2*3.14159265*F

```

Symbol	Program Variable	Parameter	Units
E	E	Voltage	V
R	R	Resistance	Ω
I	I	Current (magnitude)	A
L	L	Inductance	H
C	C	Capacitance	F
X	X	Reactance	Ω
Z	Z	Impedance (magnitude)	Ω
θ	T	Phase angle (of impedance)	Degrees
Q	Q	Power factor	(ratio)
P	P	Power	W
X_L	G	Inductive reactance	Ω
X_C	J	Capacitive reactance	Ω
V_L	VL	Inductor voltage	V
V_C	VC	Capacitor voltage	V
V_R	VR	Resistor voltage	V
f_s	M	Resonant frequency	Hz

Looking At DASM parts 7 & 8 RAD

ORG is available with Dasm but not recommended for general use. The danger is that this might override BASIC, or even Dasm itself. Dasm will normally place the machine code immediately above the BASIC, indicated by the CLEAR 400,404000 or whatever address you choose. If your program is relocatable then it can be saved and reloaded with an offset to any address, making ORG unnecessary. DSP is the directive for making Dasm display the results on screen, and is the default setting. The display can be slowed down with an operand on the DSP line, i.e. 35 DSP \$FFFF gives a delay of about 1 second for each line. The PAG command will limit the number of lines shown on the screen, until any key but BREAK is pressed, i.e. PAG 4, which I usually put on line 30. The default is PAG 15 but if using a printer dump this can be amended to suit your printer page. PRT is the command to print the results to your printer, and you are allowed to specify two control characters to be sent to your printer at the end of each page. These controls will depend on what your printer needs, i.e. if it requires \$OC to skip to the top of the next sheet, then PRT \$OC will do this, and so on, the number of lines per page being preset with the PAG directive. OFF will prevent Dasm from printing any errors to screen or printer, and should not be used until you have eliminated all the bugs in your assembly, or you will not be advised of any errors by the Dasm error routines. It is not compulsory. ERR will restrict the printout to those lines which have errors, while ALL will print all lines, to screen or printer. FMS means short format for printing and will give only the BASIC assembly listing, while FML means long format and will give the address in memory and the first 8 bytes in Hex, plus the BASIC lines. Due to the 32cpl of the Dragon screen, you get wrap around with this in most cases. Using it with PRT, ALL, and FML will give you a complete printer listing. PPO will make Dasm print during the first pass through the assembly as well as (normally) it's second pass. The utility caters for Immediate, Direct, Indexed, and Extended methods of addressing. An Immediate operand commences with the # character, i.e. LDA #100. In the case of EXG and TFR a different form is needed, e.g. TFR A,B. The PUSH and PULL will handle a list of Registers, e.g. PUSH A,B,X,Y,PC. The Direct operand starts with a > character and is followed by the address e.g. STA >\$9C. This type is normally used with the Direct Page type of addressing where the D.P. forms the most significant byte of the address. When the DP register is set using EXG, TFR or PUL operators, care should be taken to restore it before returning to BASIC, and so avoid a dismal crash. The Indexed addressing modes include Constant Offset, Accumulator Offset, Auto Increment/Decrement and Indirect. For further information on these, see a machine language manual. The constant offset would be LDA ,Y or LDB 6,Y. The accumulator offset would be LDY #@DATA LDA @DATAGET LDA A,Y, to access a Data table. The A register is the offset used to read the Y register's data. The auto increment/decrement is obtained with a + or - AFTER the register to increment e.g. LDA ,Y+, or BEFORE it for decrement: LDA ,-Y. This can be doubled with ++ or -- when needed. The increment takes place before the instruction is executed, while the decrement takes place before the instruction is carried out. The extended addressing mode uses either the () or the [] bracket which should contain the address of the pointer to the data needed, i.e. LDA [@POINT]. Program Counter Relative will make the routine relocatable. It requires the format operand,PCR for an 8 or 16 bit offset, or operand,PCRB for an 8 bit offset to save memory, e.g. LDY #@DATA,PCR or LEAY @DATA+20,PCR. The difference is that instead of branching to the specifically defined address in the original assembly, the program counter will instead be used to calculate the number of bytes forwards or backwards to where the data etc has been placed.

A summary of some of the more common Dragon hardware failures and their symptoms and cures. This information is intended for use by those who have some experience of electronics. 1) MODULATOR ALIGNMENT. Due to vibration or itchy fingers, the UHF carrier and sound subcarrier oscillator coils in the modulator go off-tune. Symptom is good monitor output but distorted or absent sound or picture on TV. Connect Dragon to TV pretuned to ch.36 and adjust UHF carrier for best picture. Using an audio tape and MOTORON:AUDIOON adjust for best sound. Not that the modulator may produce a distorted picture if tweaked for another channel. If the core has dropped out of the bottom of the coil, desolder the modulator and remove the bottom cover to retrieve it. If the core slot is damaged, desolder the modulator. The slot below should be OK and the core can be turned round. Lock the core with melted wax or similar. Other adjustments on the main board: Capacitor (if fitted) sets colour oscillator. Misalignment may have no effect or the colour may disappear, possibly when hot, or over part of the screen. Set for best colour. Resistor - sets bias on video amplifier transistor. Misalignment causes loss of TV sync, distorted video, or no video at all. Set for best picture.

2) SOME KEYS NOT WORKING OR INTERMITTENT. Don't condemn your keyboard yet. Careful inspection of the ribbon cable may locate a broken wire where it is soldered to the keyboard. Remove the ribbon and reterminate with care. The joints on the rear of the keyswitches are also liable to fail - a small light-shaded ring in the solder indicates that it needs resoldering. Constant keyboard bashing induces fatigue in these joints. Don't forget to check for a faulty joystick which can inhibit keyboard operation.

3) INTERMITTENT POWER CONNECTION. Wiggling the DC plug causes the machine to click and go on and off. It could be the wires in the plug, but it is as likely to be the joints on the socket inside the computer. Remove the PSU board to check.

4) DIRTY I.C. SOCKETS. Can manifest itself in many ways, including crashing, not recognising DOS, etc. Take out the ICs and clean the oxides off the legs. Just wiggling them in their sockets often helps. If problem is alleviated but returns, replace with a better standard of socket or solder the IC in. Use turned-pin sockets - even the cheapest ones have long service life - 'bent tin' ones are generally naff.

5) DISPLAY FULL OF RANDOM CHARACTERS. A display full of orange @ symbols but no evidence of initialisation and a CPU which runs hot may indicate a loss of the E or @ system clocks. Check these with an oscilloscope or logic probe. These are generated by high-current buffers in the SAM chip. If these outputs get shorted, the buffer goes pop! This is often the result when a cartridge is inserted or removed with power on. If the clocks are gone, empty your piggy bank and buy a new SAM chip.

6) DISK DRIVE WON'T READ ON HIGH TRACK NUMBERS. Disk drive too close to monitor (or that super switch-mode PSU you've fitted into your Dragon!). A similar problem happens with cassette recorders. Signal levels at the disk drive head are lower on the inner (high-number) tracks due to the lower speed of the disk surface. This makes the drive more susceptible to interference.

<<Continues next issue. PLEASE only try home-made repairs if you know what you're doing - we do not accept responsibility for dead Dragons. Got it kids? If you think 'IC' means 'ice-cream', then get an adult to help you/take the blame!...If you ARE an adult, give up, PLEASE. S.W>>

DESKTOP FORMATTER - TONY SHELLARD

This amazing DTP utility is designed to input, format and print six Pmode4 graphics screens produced by a DTP system or a general purpose graphics program, as a single page. A two-line Basic loader installs and executes the main machine-code program which is available for Epson or Tandy printers. I tested the Epson version with a Panasonic KX-P1081, using DragonDOS 1.0. Since it handles 36K of graphics it will only run on a D64, and does not support tape. The initial display is a Pmode4 screen depicting a blank page with a rectangular outline cursor, representing a scaled-down screen. The colour set is selectable, like most functions, from a single-key command. There is enough room for two columns of three screens to a page but they can be made to overlap, allowing mixed text and graphics or centred headings, enabling more to be overlaid.

Once loaded, screens may be moved about or duplicated and combined with each other by Boolean (logical) operators. The display can be magnified to inspect the results in fine detail and expanded back to the full page. Mistakes can be erased by screen or page full. The drive number may be changed from within the program and a directory obtained for a specified file extension. A text window is opened to give prompts, request confirmations and type in filenames. Individual screens can be loaded to the cursor position or a whole page loaded at once. Only whole pages may be saved. The format function allows the setting of left, right and centre margins. These affect the way data is sent to the printer, not how it is stored. They must be re-created prior to printing each time the page is loaded and do not show up in the zoom modes. The printing takes it's time but you can go and make tea while it is busy instead of having to keep re-aligning the paper between each pair of screens. In order to keep you in touch with all this there are several help screens available by pressing the break key. Other features include invert screen and blank screen or page. Apart from the obvious function of assembling a page from pieces of text and graphics it also allows graphic 'special effects'; screens can be merged into each other, masked, shaded or overlaid with text. There are only two drawbacks to all this. Firstly six screens only cover 3/4 of an A4 sheet, so provision must be made for the remainder. This is an inevitable result of the memory size: if the print routine stretched the area any larger the resolution would suffer and distortion would be introduced. Secondly the merged screens cannot be retrieved easily. There are methods but both involve going outside the program. I dislike the way it reverts to screen 1,0 after giving a directory but this is only a minor irritation. After quitting part of the program continues execution which could interfere with subsequent programs so a coldstart is advisable. All in all an essential add-on to a DTP system with additional use for psychedelic artists.

I would heartily recommend it at commercial prices but for the ludicrous cost of 3.50 it is unmissable. Available from Ray Smith, 5 Glen Road, Parkstone, Poole, Dorset, BH14 HF.

If All Else Fails, Get Nasty...

Warning! Warning! Warning! No, not repeats of "Lost In Space", but something far more serious. As the title suggests, this will not be a pleasant experience, but it has to be said.

UNLESS SOMEONE SOMEWHERE WRITES SOME ARTICLES SHARPISH THERE WILL NOT BE ENOUGH MATERIAL FOR A COMPLETE UPDATE NEXT TIME.

I mean it, I simply do not have enough stock to make up a complete Update for August, so unless you want to save Paul some time by having blank pages for issue 90, please write something for me to put on them! It gives me no pleasure at all to sit here and moan, I'd rather be able to give you a complete issue every time, but that is now becoming increasingly impossible. Do something about it before it all goes down the tubes. Thank you.

[That was a mind-bogglingly obvious public service announcement.]

S.W.

CLIPART - REVIEWED BY RAYMOND ROACH

Dave Riley and Ray Smith have combined to give a further addition to one's library of discs dealing with the use of graphics. CLIPART is a disc which enables you to use your own graphic designs or one of those that they have prepared for your use and stored on the disc. Altogether there are 104 designs for you to choose from - so you should be able to find something to meet most of your needs. All the information about use of the material is on the disc and is easily read from screen. If I have any complaint at all it is that, unfortunately, a set of very useful discs have been produced over the years (DRAWEEZE, DRAGDRAW, MIRRORIM, DESKTOP et al) that are not initially compatible. This is because different EXTENSIONS have been used in the different programmes. I have found it worthwhile to spend time modifying my discs so that they all accept stored data originated from the other programmes. You might like to consider doing the same and extending the use of these programmes, including CLIPART.

This disc is available from NDUG Graphics Library, 5 Glen Road, Parkstone, Poole, Dorset, BH14 0HF for 3.50 - a small sum for such a useful addition to your library, but it also helps to keep the Dragon Service alive for all Dragon users.

DESKTOP ORGANISER - TONY SHELLARD

DESKTOP ORGANISER is a disk of software which, along with the accompanying Fonts disk, can generate any or all of the Group Desk-top Publishing (DTP) systems. It employs two disk drives running under DragonDOS 1.0 and, presumably, compatibles. After initiating with a RUN command all the user need do is reply to a few concise, clearly laid-out prompts with single keystrokes, insert the Fonts disk on request and in the space of a couple of minutes one of the eight versions is produced. There is not much to be said for actually using it: you run it and it works. If it does not sound like much for a program that you only need use eight times it is partly the utilitarian nature of such installation programs and partly because a lot of programming effort has gone into taking all the effort out of using it. It is supplied on single-sided 40 track disks for wide acceptability and I have used it to produce versions onto double-sided disks with no problems. You can generate more than one version onto a disk (each takes 75-80K) but have to cull the resulting .BAK files manually. CAVEAT: version 6 and one of its support files will need a slight modification for amicable co-residence. I believe it is available from the Dragonart Graphics Library for the former price of one of the versions. A low-cost exchange may be arranged for owners of existing owners of single versions DESKTOP ORGANISER is a compact way of supplying the full range of Group DTP systems with their diverse features whilst minimising postage and packing costs. For both existing users wishing to try out other versions and prospective dabblers in DTP it represents a lot of software for a bargain price. DESKTOP ORGANISER available on two disks for 10.00 or 2.00 for an upgrade if you return your original disk, from Ray Smith, 5 Glen Road, Parkstone, Poole, Dorset, BH14 0HF.

DRAGON DETOUR

It has come to my attention that not all of you have purchased your copy of the above program ... this gross dereliction of duty must cease forthwith!. Some 200 of you STILL haven't sent me your cheque and order, and unless these are received immediately I shall get exceeding peevish and do nasty things like printing bugged listings guaranteed to crash your machine, etc. Paul.

LETTER FROM JOHNNY BROWN

Having just read Issue 88 of Update I have to comment on the review of Amateur Radio Utilities.

Re WEFAX, SLOW SCAN, and PACKET, I have never had any trouble with any of these either on cassette or disc. Wefax may need a small change to part of the program to keep the lines straight, but it works on screen or printer first class. Maybe David had no instructions?. (No, he didn't. P.G.). Slowsan has and never will be TRUE slow scan, and was never claimed to be. It is simply a method (clever) of sending prepared pics over the air to another Dragoner. I feel it is a first class effort. As to Packet, why NOT contact only other Dragon users?! They all have something in common, and there are plenty of Dragons still being used in/on Amateur bands. There are various forms of Packet anyway, mainly incompatible, as this seems to be changing every week!. Now we have PACTOR, a cross between Packet and Amtor!. However, the main point is that the programs come cheaply not at the stupid prices charged for some. Some of the remaining programs on the disc are handy indeed for anyone interested in radio, and anyway, the Amateur licence is granted originally for experimental communication, NOT for some of the clap trap we see hear (or even see) on Fast Scan or Slow Scan TV.

How do I know?. Having held a full licence for many years I can work any band, any mode, and some years back I became disillusioned with the way so called Amateur radio was progressing into SHAMateur Radio.

I became hooked n computers a long time ago, and most of my time is spent in rebuilding "old" computers like the Vic 20, Spectrum, Ti99, Sharp, MSX etc., and I have quite a collection. It all started with a D32 in bits from another Amateur, which was rebuilt and still works, and I now have a D64 with twin drives as well. I may upgrade the old D32 to 64K next winter!. I have to admit that we also have a PC 348 too, a very 'andsome beast, plus a TRS80/3. We do however use the Dragon a great deal, especially on Amateur bands. Mind you, I also have home-built dedicated gear for RTTY, AMTOR, SSTV, and PACKET, but not enough space for all of it, so things have to take their turn in use!.

I have most of the programs on the Amateur Radio discs, and appreciate all the work someone, somewhere must have put into them, as my own software knowledge is nil. Finally, I wish David success when he takes his Amateur RAE, it was and still is a fascinating hobby, spoiled perhaps by the far east, "free" money, Thatcher, etc., but still we all have our main interests. If David reads this and thinks I may be able to assist, Paul Grade can tell him where to write. 73 to all. G3LPB.

The Late, Late Bit

The more observant amongst you will have noticed that there seems to be a couple of pages less than usual in this issue, and no doubt you'll be wondering whether to write / telephone me to point out that you've been sent an incomplete copy. Much as I dislike having to admit it, this IS the complete copy, all TWELVE pages of it, the reason being that there simply hasn't been enough material sent in this time around to make up the usual fourteen pages, and I do NOT feel like inventing two complete pages of waffle in addition to this and my usual front page bit, in order to pad out the issue to the normal size. I know that Group numbers aren't what they were, and I know that you're all terribly modest about your knowledge of matters related to computing, but you probably know as much about it as I do, in many cases a lot more, and if I am expected to find something to write about EVERY issue, surely it isn't too much to ask for YOU to write us the occasional half page or so?, just a couple of short pieces a year from each of you would give us all the material we could use, so why not give it a try?. It's entirely up to you ... if you want an interesting newsletter to read, write us something for it, otherwise, no newsletter at all!. OK?. Well, no point in nagging you further if you want to read, write. Paul Grade.

MATERIAL FOR PUBLICATION.

ALL ADVERTISING TO PAUL GRADE,
ARTICLES ETC TO STEPHEN WOOD (EDITOR),
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