

Document Production Column by Gerald Fitton

My December 1994 Archive arrived only a few days ago and yet I've already received many letters relating to it. You reinforce the views you expressed last month namely that you approve of the broader base of topics for this column.

Knowing that you like the new column I must risk causing some of you a measure of disappointment by postponing the article I drafted for this month in order to give coverage to some of the other topics which you've written to me about.

This month I shall explain how saving your sprites in unusual modes might cause you problems in the future when you upgrade your operating system. The subject of cross checks in spreadsheets has arisen in many letters and I have a further point to make on this topic.

The Acorn World Show

First my personal experiences of the Acorn World Show and the thoughts I have had as a result.

The Wembley Show was interesting. I detected a renewed faith (I use the word rather than interest) by you, the average user, in Acorn products. In the discussions I had with those of you who came and chatted to Jill and I on the Colton Software stand, this renewal of faith came across most strongly.

The message I received from many of you at Harrogate was that you were wondering if Acorn was on the way out and you were seriously thinking of defecting to the PC world! At Harrogate, because of those doubts, you didn't spend much. However, at Wembley, those doubts and fears were gone. Nearly all the stand holders that I spoke to reported substantially increased takings.

One possible reason for your increased faith is that Acorn priced the Risc PC lower than I (and many others) thought that they would. Even if you are one of those not interested or not able to buy a Risc PC yet, the combination of the specification and price encourages you to believe that Acorn will survive and maybe become an important force in the world of computers. For my own part I see the Set Top Box as an interesting development which will create volume for Acorn's Risc PC components and hence guarantee the future of this type of computer.

Software

I found that, on the stands, in contrast to your optimism, many suppliers of software (and hardware) were most pessimistic (in spite of the increase in their takings)! The strongest position expressed to me personally (and I must make clear that this was not from anyone at Colton Software) was that their company would build up a PC market for its products and, when that becomes sufficiently viable, they would get out of the Acorn market all together. I can see sense in separating the two operations (Acorn and PC markets) and then, maybe later, selling off the Acorn part of the business as a going concern.

Expressing a wish to drop out completely from the Acorn market sounds to me more like disenchantment than a sound business strategy.

As an aside let me say that, although it is early days yet, Jill and I have not sold a single subscription to FireLine. FireLine is our user group for users of Fireworkz for Windows (ie on a PC). We have put FireLine on hold until sometime next year.

In the Archive DTP column, Vol 8 Iss 3 p58, Mark Howe says "I have observed a change in CC's approach to customer service . . .". He goes on to say "Impression 2.19 was far from bug free . . . yet no upgrade or bug fix was made available . . . (until) several months later". Let me tell Mark (and all of you) that Computer Concepts are not the only software company who have hardened their hearts towards issuing a multiplicity of free upgrades. Previously in this column I have said that V 1.07 is the most recent version of Fireworkz; it is dated 11th November 1993 and, like V 2.19 of Impression II, far from bug free. I know that many of you don't like that because you've told me so in no uncertain way. I don't think I'd go as far as one of my correspondents who says that "Software containing bugs contravene the Trade Descriptions Act and must be upgraded free of charge at the earliest opportunity"; but I do sympathise.

Although it's difficult to count a lack of something I'm sure you'll follow me if I say that free upgrades are a cost which many software suppliers are avoiding with increasing frequency. As Mark Howe says, the situation is far from satisfactory and (at least in the Acorn market is concerned) it is not going to go away. I do not want Acorn software suppliers to take the PC route (ie to make a (substantial) charge for upgrades which are often no more than bug fixes). I prefer the four suggestions which Mark makes for improving the current situation.

By the way, like Mark, I don't like the CC dongle; if I 'downgrade' from Publisher to Style then can I get rid of it?

The customised Risc PC

Now to hardware. At the Show I found that many of the better hardware suppliers were concerned enough about margins to want to drop out of the Acorn hardware market altogether. Although this is understandable (I believe that Acorn offer minimal margins to retailers) I wonder about this strategy too. Let me share some of my thoughts with you.

An advantage of the Risc PC over the Archimedes is that it will allow users to upgrade piecemeal in the same way as PC users do now by buying sound blaster cards, CD ROM, video cards, hard disks, monitors, etc. My son has made me a PC from component parts this way.

In the Risc PC I see the possibility of buying similar mix-and-match combinations which will allow the purchaser to buy a set of hardware customised to their own requirements. Up to now Acorn has deliberately locked out this potentially lucrative market for hardware suppliers by insisting that you can't buy part systems. I expect that, sooner or later, Acorn will realise that their current policy will leave only the 'box shifters' who compete only on price and not on service. I believe that they will relent and allow registered Enthusiasts to buy tailor made hardware systems from those agents (such as Norwich Computer Services) with the necessary expertise to supply a hardware support service.

At present only registered Enthusiasts can buy a box without a monitor but, at least that's a step in the right direction.

Other letters

Some of the letters I've received ask me for advice or questions which I feel incompetent to answer.

Here is a small sample: (a) Whether to buy a proper cheap PC or a Risc PC (b) Whether to sell an A310 and buy a secondhand A3000 which is going cheap (c) Whether I agree that a 5.25" drive is an "essential" that is missing from the current Risc PC specification (d) Whether I believe that the price of the Canon BJC-600 printer will fall further in the next few months (e) Will Interdicator 2 run on a Risc PC (f) Will Chicago, NT, Windows 95 run as well on a Risc PC as it will on a (yet to be upgraded) PC.

If you have any comment then please write to the appropriate column of Archive—I don't know the answers!

One of the questions that has come up in about a dozen of my letters but in slightly different forms is: "Will the Risc PC with upgrades manage keep up with a 'true' PC which (referring to the PC) has got all the avenues for upgrading built in?". My answer to that is that the Risc PC is ahead of the PC at present and, I believe it will remain ahead.

The implication of the question is that you've bought a Risc PC to run PC software (or to add PC hardware)! If you want PC hardware and software then the best way to do that is to buy (or get your son to make—see above) a PC and keep buying the hardware and software upgrades.

I believe that the Acorn machines are better in many ways. I find that the Desktop is far more friendly than Windows; I find that the packages I use on the Archimedes are faster than the packages I use on the PC; on the Archimedes I can link Draw to Publisher, Fireworkz and PipeDream and all of them use the same printer driver and fonts; I like the OLE feature of Publisher and I expect OLE to be included in many more packages.

Cross checks

The interest shown in this this topic, which I explained in the November 1994 issue of Archive, has been much greater than I expected. It would seem that many of you are now successfully using the custom function which I gave, namely:

```
...function("same_number", "first:number", "second: number")
```

```
...result(if(abs(@first-@second)/(@first+@second)<(1e-16),"OK","Error"))
```

to determine whether your Spreadsheet is working correctly or whether it has failed in some way. The only criticism I have received is a suggestion that maybe the value of (1e-16) is too small.

All but one of those expressing this view do not use PipeDream 4 or Fireworkz. Naturally, before I suggested this value I ran extensive checks on many PipeDream and Fireworkz spreadsheets and, in nearly all cases, the value of $(1e-16)$ does its stuff! When it doesn't work properly I have found that $(1e-15)$ overcomes the problem.

Colin Singleton points out to me that this low value, $(1e-16)$, corresponds to double-precision floating point arithmetic. The conclusion is that both PipeDream 4 and Fireworkz do use double-precision floating point arithmetic! Colton Software confirm that this is the case. Colin and others who have written to me are quite right that, if you use standard Acorn BASIC (not the BASIC64), the precision is such that you need the rather larger number, $(1e-9)$, instead of $(1e-16)$ in the check function.

A puzzle

Colin has also proposed a puzzle which relates to integer arithmetic and rounding. I've discovered that many of you who read this column do like numerical puzzles so here it is.

My day job is as a (currently much overworked, stressed, harassed and recently inspected) lecturer at Swindon College where I teach almost anything which is Mathematical! One topic I teach is Applications of Statistics. Many tables of statistics (particularly those published by the Central Statistics Office) include a footnote which reads "Components may not add up to totals because they have been rounded independently". Let me explain. Consider the sum $12.4 + 8.4 = 20.8$. If you round the components (the two 12.4 and 8.4) to get 12 and 8 and then add them you get 20. If you round the total, 20.8, you get 21. There is a temptation amongst those who have not been taught properly (eg by me!) to cheat and change some of the rounded values so that the rounded values do add to the total. You should never do this with a statistical table; include the footnote I've quoted from the CSO publications instead.

However, accountants do it all the time! They teach the subject of rounding differently—just to confuse the students!

Colin Singleton (are you an accountant?) wants an algorithm which will round the total correctly but will then go through the components adjusting one (or more if necessary) so that the components do add to the total.

The rules for this puzzle are: (a) That the component which is chosen for adjustment must be the one most suitable. By this I mean that you should round up a value such as 12.4 to 13 before you round up a 12.3. Similarly, you should round down a 12.6 to 12 before you round down a 12.7. (b) The minimum number of components should be adjusted this way. (c) You must round by less than one unit.

If you do come up with an algorithm (ie a solution) then please send it to me on a disc rather than in printed form so that I can more easily make it available to others.

New modes

Another topic which seems to be very popular with you and has led to much correspondence appeared in this column under the heading TaskX.

If you create sprites in one of the Risc PC new modes and import them into Fireworkz then you may find the area which should be occupied by the sprite is blank! The solution is to update your TaskX module. Send me a blank formatted disc and I'll send you a copy of the new TaskX; it has the name [TaskX!09a]. Please note that if you use this new TaskX with RISC OS 3.1 then, not only will it do nothing extra for you but it will stop Fireworkz working properly. So, don't fit the new TaskX unless you have RISC OS 3.5 (or later).

Non standard modes

In my best desk-side manner let me be nice and thank all of you who send me discs before being nasty and telling you of something you do which causes me problems. I guess that it's not only me that has the problem but also the Archive editor and many authors of columns in Archive. Before I start let me thank Jim Nottingham for raising my awareness of this problem from which many Archive authors must suffer.

The utility VIDCModes, to which I referred in the November 1994 Archive, defines a new mode, mode 102, which, in characters, allows me (just under) twice the width and twice the height of a mode 12 screen. I like to use it with my 17" Eizo 9070S monitor because I can get more windows on the screen in that mode than in any other. Once upon a time, shortly after I got my 17" monitor, I sent my PipeLine column to Archive (on disc) containing sprites (screenshots) I had created in mode 102. I got a 'phone call from Paul saying that he couldn't read my sprites. They gave an error message which I think was something like "Bad Mode". After a little discussion Paul loaded the mode defining module (which is on one of his Shareware discs) and then his Impression accepted the screenshots which I'd created in mode 102.

In the past I've had many similar problems with contributions to PipeLine; these problems were nearly always with files sent to me by users of Impression II. It took me quite a while before I found out why. One day, instead of using the A540, I used the A440 machine on which I had Impression II installed (I've got only one dongle) and, to my surprise, the sprite which wouldn't load into PipeDream on the A540 did so on the A440. What was the cause? A utility called !NewModes is packaged with Impression II which allows those with a standard non multisync monitor to increase the area (in pixels) used by their desktop. It would seem that mode 66 is the most popular mode for non multisync use. I hadn't got the NewModes utility loaded on the A540 and couldn't read the sprites. The solution was simple. Load the CC NewModes module into the A540 machine and all the sprites from my correspondents (remember that the sprites are hidden in a PipeDream or Fireworkz document) could be read even though Impression II wasn't loaded.

When you upgrade to a Risc PC

Part of the most recent letter I received from Jim Nottingham refers to loading sprites he's received from others. He says: "I still haven't had much joy with the Risc PC as this doesn't seem to want to recognise 'non-standard' modes, even if the extra (mode defining) modules are loaded". Does this imply that the Risc PC can't make use of the NewModes or VIDCModes modules? Does this mean that all my mode 102 sprites (which use the VIDCModes module) won't be accepted by my Risc PC when I get it?

This feature of the Risc PC (if true) is important to many of you now since, at some time or other, you may consider buying a Risc PC (or you may want to send documents containing sprites to someone who has only a Risc PC). When you do, you will want all the old documents you created on the earlier platform to work with your new machine.

Sending me sprites

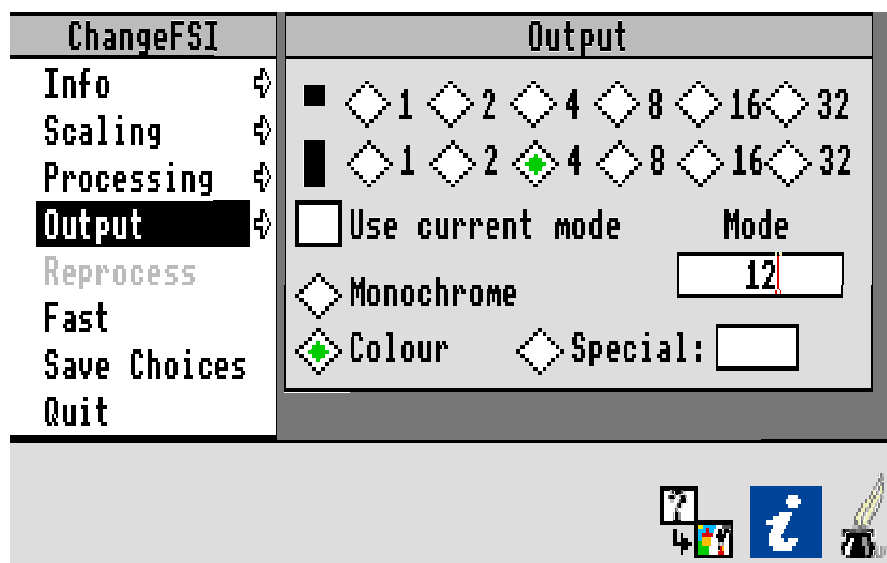
So, there we are. When you send me (or any of the Archive authors) a disc please make sure that they are going to be able to read your sprites! As a general rule you should apply the principle "Use the least sophisticated mode which contains all the attributes you need to make your point". For example, don't send an Archive author a 16M colour mode sprite if a 256 (or 16) colour mode will make your point equally effectively.

Let me be specific. If you have a Risc PC and you send me a disc containing a sprite then remember that I don't have a Risc PC and so I can read only numbered modes such as 12, 15, 27 and 28. I can't read 16M colour modes. If your screenshot has been taken in some unnumbered mode on a Risc PC then I won't be able to read it (yet).

ChangeFSI

So what can you do about ensuring that authors can read your sprites? There is no need to change the mode you're working in. By all means save your screenshot in a 16M colour mode but then use the utility program !ChangeFSI (supplied by Acorn and on the Archive monthly disc) to convert your sprite to one of the numbered modes which I (Paul, Jim and others) can read more easily.

The screenshot below shows you how to set up ChangeFSI so that your sprites will be converted into mode 12 sprites. Mode 12 is a 16 colour mode so, if you want 256 colours then you will find it beneficial to convert to mode 15 rather than 12. What I suggest that you don't do is to convert to mode 27 or 28 since these modes can not be read by machines having the RISC OS 2 operating system.



Finally

In this issue I had intended to include a brief note explaining the differences in the nature of Styles in Impression and Fireworkz. That, together with my draft for the next part of my series on future proofing will have to wait for another day.

It must be time again to remind you that my address is that of Abacus Training which you will find on the inside back cover of this magazine. Writing to me via the Archive office causes delay and extra expense. Please send me your comments, examples, questions and problems in the form of a disc file. It makes things much easier for me if I decide to publish them or to make your comments available to others.