Gerald's Column
by Gerald Fitton

My article last month was the second part of a two part article about Object Linking and Embedding (OLE). This month's article contains the third part of this two part article! This third part arises because some of my correspondents have asked for help with unpacking Draw+Data formats using a drawing package rather than the original 'Editor'.

However, before that, in response to other correspondence, I must reprise a subject which I introduced in Archive Volume 13 No 8, a hot link facility between PipeDream and Basic.

Wish Lists

Before I describe the PipeDream/Basic Hot Link I must make a comment about Wish Lists. In general Wish Lists are good things because they provide feedback from users to programmers. Often they lead to improvements in the program. Wish Lists become counter productive when they create dissatisfaction amongst otherwise contented users. Users can become disenchanted by an imagined lack of features unnecessary to them!

Furthermore, all too often a good package is denigrated unfairly; the facility wished for does exist within the package. The following is my paraphrase of a wish expressed by Thomas Milus on the comp.sys.acorn.apps newsgroup during November 2000. He asks:

"Can I access/manipulate data inside a Eureka spreadsheet using BASIC or C? There seems to be no facility to insert rows/columns."

Thomas' Wish is for some sort of link between Eureka and Basic. His perceived need for this facility is based on his incorrect belief that rows/columns can not be inserted into a Eureka spreadsheet. You *can* insert rows or columns into a Eureka spreadsheet using the Edit – Insert cell submenu. Indeed, to insert a blank row all you need to do is to mark the whole row with a double click on the row number and then tap the <Insert> key; you'll find <Insert> just to the left of the <Home> key.

Schema is a good spreadsheet package which, from time to time, is unfairly criticised for the absence of features which I know exist within the package. I know they exist because I have used them when I have been asked to help correspondents with their Schema problems. Dave Clare (who owns Clares Micro Supplies) is one of the 'good guys' in the RISC OS Business and deserves support, not unfair criticism of Schema. Schema continues to be developed. I keep meaning to upgrade to the latest version (I have Version 1.04) but I haven't got around to it yet. It won't be long before someone writes to me with a problem which requires the latest version and then I shall have to 'jump to it'!

PipeDream/Basic Hot Link

Over the ten years I have been running the PipeLine (now GoldLine) User Group I have noticed requests in wish lists for 'new' facilities in PipeDream which I know to exist but which are are lightly hidden or only briefly documented. The PipeDream/Basic hot link which is regularly asked for did exist in PipeDream 3 and it continues to exist as one of the many undocumented features of PipeDream 4.5.

Unlike PipeDream 4, PipeDream 3 did not have its own graphics package. By this I mean that you couldn't create charts from data. The programmers' solution was to hot link PipeDream 3 to an existing graphics package, Minerva's GraphBox. This hot link facility still exists within PipeDream 4.5 and, even now, you can use Minerva's GraphBox as an alternative graphics package if you find the one contained within PipeDream 4.5 lacking!

PipeDream's hot link is not limited to using Minerva's graphics package. Derek McCulloch has written a Basic program which uses this PipeDream/Basic hot link. You'll find his example on the Archive monthly disc in the subdirectory called Basic. Derek's Basic program can be used as a template for your own Basic code.
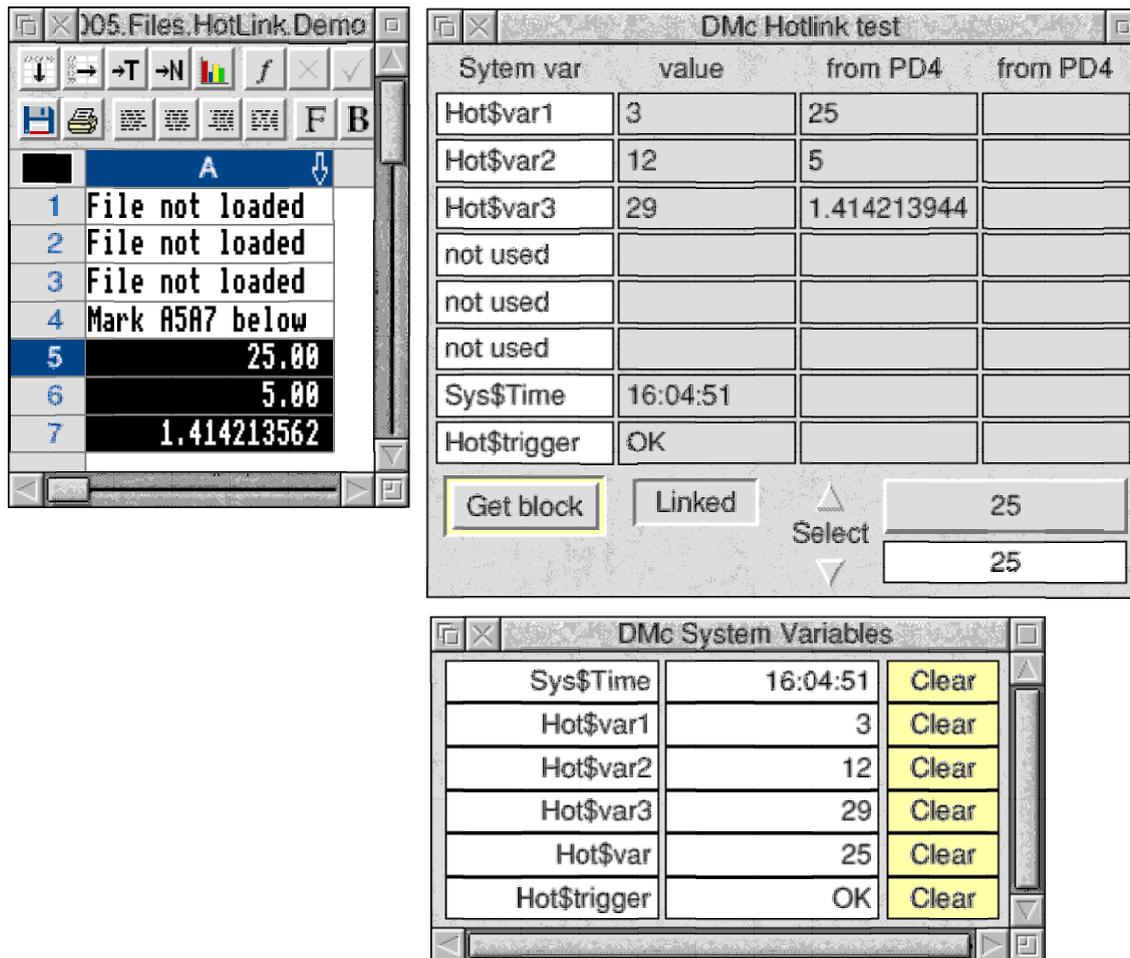
Look at the screenshot above. The [HotLink.Demo] file is a PipeDream file; the other two windows are displayed through Basic programs written by Derek.

To use Derek's sample program you mark a block in the PipeDream document (the block [Demo]A5A7 is marked) and then activate the hot link by clicking on the 'Get block' button in the 'DMc Hotlink test' window. The cells in the marked block of the PipeDream document can contain numbers or strings.

The PipeDream data from the marked block appears automatically in the third column of the window 'DMc Hotlink test'. From then on, whenever you change the content of any cell within the previously marked block, the Basic program will 'grab' the PipeDream data and insert the new data in 'DMc Hotlink test'.

Derek's demo Basic program only displays the PipeDream data but there is no reason why you can not develop his Basic program to do much more. A hot linked Basic program I would like and for which there is a (limited) demand is one which will hot link a cell within a PipeDream document which contains the textual form of an OSCLI command. I would like the Basic program to extract the OSCLI command and execute it. Volunteers?

In 1990 Francis Aries wrote a Basic program which 'pushed' data into a PipeDream document. Since then many other writers have done similar things. One of the simpler techniques is to use Basic to create a PipeDream command file and then Run the command file to modify the PipeDream document. Derek has used this command file approach to push data from his Basic program back into his [Demo] PipeDream document.

Draw+Data Format

First a short recapitulation.

The Draw+Data format consists of two sections. The first section is a DrawFile representation of the Editor file. The second section of the file contains data in the format used by the Editor. For example the second part of a Eureka Draw+Data file is in standard Eureka format. This second part is contained within something called 'draw tags'.

Loading

Many packages are able to import and display DrawFiles. Most but not all packages which are able to display DrawFiles will display the DrawFile part of a Draw+Data format file. In the directory DrawFiles you will find the three DrawFiles, [DrawEU], [DrawTC] and [DrawTM] which I have used for testing which packages will Load these DrawFiles.

DrawFiles will Load into: Impression, Ovation, PipeDream, Fireworkz, TableMate, Schema, Eureka, Draw, DrawPlus and Vector. Of course there are many more packages into which you can Load DrawFiles but I don't have them and can't test them.

The three Draw+Data files corresponding to [DrawEU], [DrawTC] and [DrawTM] are [PicEU], [PicTC] and [PicTM] which you will find in the Fireworkz directory. These three Draw+Data format files have a DrawFile filetype.

With the exceptions listed below Draw+Data format files will Load into: Impression, Ovation, PipeDream (but not [PicEU]), Fireworkz, TableMate, Schema, Eureka (but not [PicTM]), Draw, DrawPlus (but not [PicEU]), Vector (but not [PicEU]).
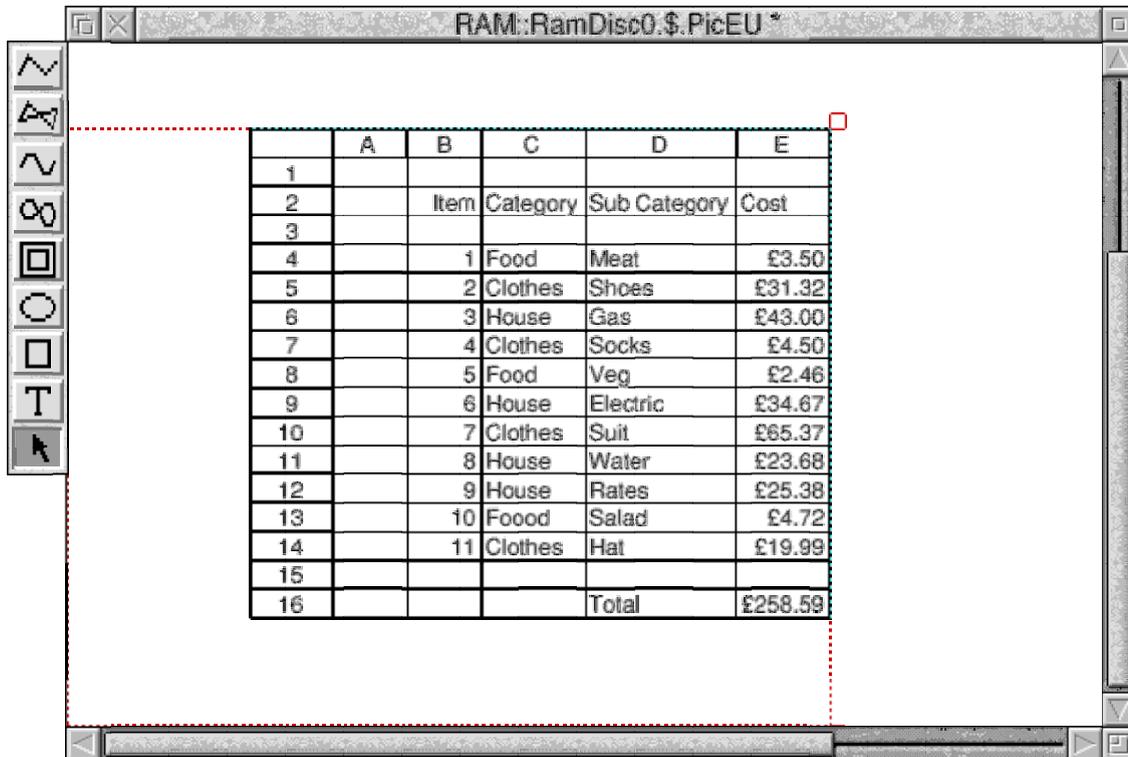

Editing

It is surprising to me that all three Draw+Data files will Load into, say, Ovation Pro and Fireworkz but the Eureka Draw+Data file [PicEU] will not Load into DrawPlus and Vector! After all DrawPlus and Vector are drawing packages!

The problem has to be the way in which 'tags' are used in Eureka.

All of you will have Acorn's Draw so you will be able to try to extract the DrawFile component from the Draw+Data files in the way I describe below.

Load the Eureka Draw+Data file [PicEU] into Draw. The command <Ctrl A> will 'Select all'. Follow this with <Ctrl G> to convert the whole selection into one 'Group'. Now drag the group away from the origin and the result will be similar to that of the screenshot below. What I want you to notice about this screen shot is that the group extends to the origin. The 'Data' part of the Draw+Data part would seem to be 'locked' to the origin.
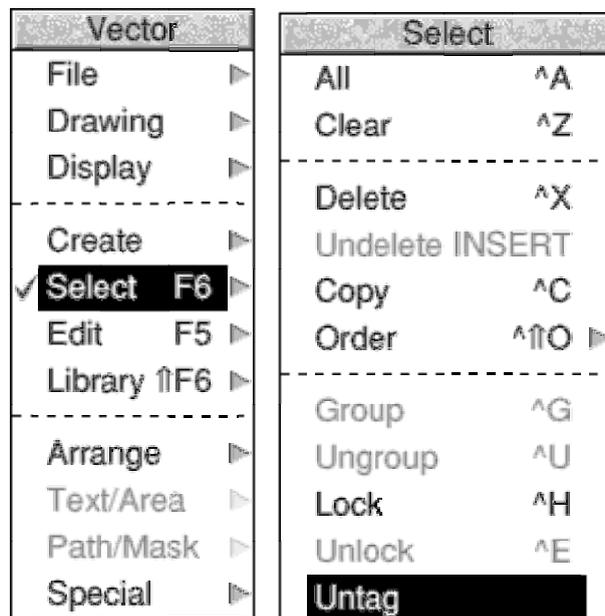

Execute <Ctrl U> to 'Ungroup' the selection. Now the 'tricky bit'; place the pointer just to the top left of the table, press and hold down the mouse <select> button and drag the pointer to a position just below and to the right of the table. Release the <select> button. You will have selected the table and you will have **not** selected the 'Data' part of the file.

Save the Selection (I have done so as [Draw_EU] in the DrawFiles directory) and you will find that you Saved the DrawFile part of the Draw+Data format file. Note that the DrawFile is 7240 bytes whereas the Draw+Data file is 9972 bytes. You will be able to edit [Draw_EU] in any drawing package including DrawPlus and Vector.

Extracting the DrawFile from the TableCalc Draw+Data file is much easier. Load [PicTC] into Draw, Select all and then Save the Selection as [Draw_TC]. Once again there is a reduction in size as the Data part of the file is discarded. The Data part of the Draw+Data file has been 'lost' by the process of 'Select all'.

Although the TableMate Draw+Data file will Load into Draw you will find that it is impossible to drag the selection or Group it or even Ungroup it! If you use DrawPlus you will have similar difficulties. However, there is an 'Untag' facility in Vector which will extract the DrawFile from the Draw+Data file.

Load the file [PicTM] into Vector, Select all and then call up the Select menu seen in the screenshot below. You will see that Untag is highlighted. Click on Untag and then Save the file as [Draw_TM]. [Draw_TM] is 12952 bytes whereas [PicTM] is 18564 bytes. The 'Untag' feature of Vector has achieved what is impossible in Draw and DrawPlus.

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┌─────────────────┐  ┌─────────────────────┐
│     Vector      │  │       Select        │
├─────────────────┤  ├─────────────────────┤
│  File        ▶  │  │  All          ^A    │
│  Drawing     ▶  │  │  Clear        ^Z    │
│  Display     ▶  │  │ - - - - - - - - - - │
│ - - - - - - - - │  │  Delete       ^X    │
│  Create      ▶  │  │  Undelete INSERT    │
│✓ Select   F6 ▶  │  │  Copy         ^C    │
│  Edit     F5 ▶  │  │  Order      ^⇧O ▶   │
│  Library ⇧F6 ▶  │  │ - - - - - - - - - - │
│ - - - - - - - - │  │  Group        ^G    │
│  Arrange     ▶  │  │  Ungroup      ^U    │
│  Text/Area   ▶  │  │  Lock         ^H    │
│  Path/Mask   ▶  │  │  Unlock       ^E    │
│  Special     ▶  │  │  Untag              │
└─────────────────┘  └─────────────────────┘
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Summary

The Draw+Data files for Eureka, TableCalc and TableMate behave differently in drawing packages such as Draw, DrawPlus and Vector. The reason for the different behaviour must be due to differences in the tagging protocols for these three packages. Certainly TableCalc files behave the most flexibly; the file [PicTC] will Load into all three drawing packages and the DrawFile part of the file can be extracted most easily. There are problems with [PicEU]. It will not Load into DrawPlus nor into Vector. There are problems with [PicTM] in that neither Draw nor DrawPlus can extract the DrawFile component—but Vector has an Untag facility which will remove the 'tagged' Data.

I would like to see the Draw+Data format standardised and I would prefer the way in which the Draw+Data files of TableCalc can be 'split' to the difficulties which I have outlined above for the Draw+Data files of Eureka and TableMate.

Finally

Thanks for your many emails and letters. My address is that of Abacus Training which you will find in the Fact File at the back of Archive. I have had to take the fax machine permanently off line because of the volume of anonymous junk faxes I am receiving.