

DRAG'N'DROP

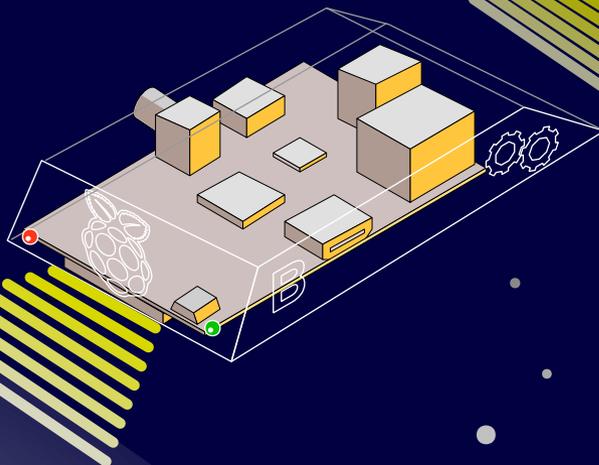
Autumn 2012

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**Launching
RISC OS
Raspberry Pi!**

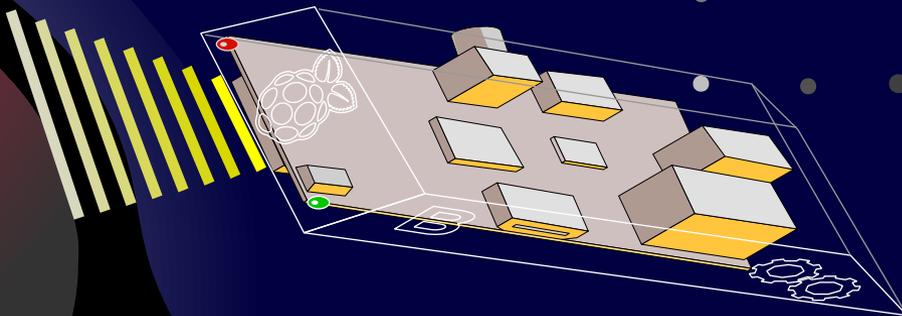
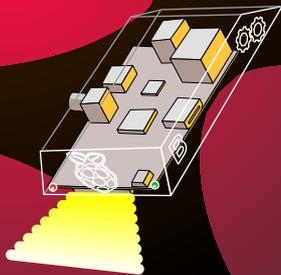


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PDFs**

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Sprites

**PLAY
Manic Mole**



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Beginner's Programming Tips



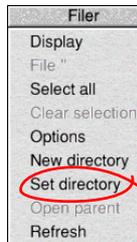
Programs listed in *Drag 'N Drop* are assumed to work on all machines with RISC OS 5 (Raspberry Pi, Beagleboard, Armini) unless otherwise stated.



To get the BBC Basic > prompt press F12 and type ***BASIC** and press Return. To return to the desktop type ***QUIT** and press Return. You can also program in a task window by pressing Ctrl+F12 but you can't use the cursor editing facility or change MODE.



You can also program and run Basic programs from the desktop. Double-clicking on the filer icon runs it, holding down Shift and double clicking loads it into your text editor (click "OK" if you get the message "This program contains a line reference...").



To set the current directory, click the filer menu and select "Set directory". Anything you save from the BBC Basic goes into this directory so you know where to find it later on. This is useful if you are going to press F12 and program outside the desktop.

Do you have a question? Don't be afraid to ask! Write to editor@dragdrop.co.uk



RISC OS Octoberfest

The highlight of this year's London RISC OS show was the official release of RISC OS for the Raspberry Pi by [ROOL](#) (RISC OS Open Ltd).

For the first time in the history of our platform you can have a fully working computer from just £100.

RISC OS 5 can be downloaded for free but plug 'n go SD cards were on sale to ease the pain of partitioning and getting the OS onto the card.

A bundle of software which in the past retailed at over £600 is now available at just £35 from ROOL: the "Nut Pi Pack" features 20 apps including Luafox PhotoDesk, DataPower2 and Writer+.

Eben Upton, the man behind the Raspberry Pi foundation, was at the show. Having spent seven years on the project he told me it was wonderful to see RISC OS and BBC Basic again on new ARM hardware.

Due to recent management changes at Drag 'N Drop we did not have time to organise a stand this time but expect to be there next year.

Not being content with just *one* new machine [R-Comp](#) unveiled their



• *All go at the show*

ArminiX (pronounced "Armini EGGS" and not "AR minics" we understand – has Easter come early?). Not only that, they released Messenger 7 and if you didn't like having to load two apps to do your emails have no fear because Netfetch and Messenger are now one and the same – as you would expect on a modern system.

R-Comp has also been developing an 'app store' for RISC OS called PlingStore. It aims to be a central repository for developers and a one-stop shop for punters to get software.

[CJE Micro's](#) were offering a range of metal cases and accessories for the Raspberry Pi to suit those preferring the traditional boxy computer look for their latest baby.

Speaking of babies [MW Software](#) was present but no updates to Artworks 2.X2 or the Writers due to Martin's newly-born daughter. Drag 'N Drop sends its congratulations – and we trust you are starting her early on RISC OS programming Martin...?

In this instalment of our sprites series we'll be formalising the sprite set up process, putting more than one sprite on the screen at a time, and using X and Y coordinates instead of screen addresses.

Recall from last time that the sprite data in the DATA statements is in the form of strings of Ascii digits. One digit represents one pixel. The exact way in which the pixel information is stored in memory differs between the Beeb/Elk and Arc due to how pixel information is encoded. In Mode 1 there are four colours and four pixels per byte, in Mode 13 one pixel per byte and 256 colours.

For example, a sprite eight pixels wide by eight pixels deep is stored as eight Basic lines of strings eight characters long. More strictly, each digit in the string is a digit (0, 1, 2, 3, 4, 5, 6, 7, 8, 9) which acts as an index into a colour table. This table is given as the first line of data - for example a sprite of four colours has a colour table of four entries.

PROCsetupsprite(line%,store%,width%,depth%) in Program 1 puts sprite data into memory given the Basic *line%* number where the Ascii digits are, the address *store%* in memory at which the data is to be stored and the dimensions of the sprite in pixels (*width%,depth%*). I've included two example sprites, a

SPRITES PART 3



dragon (16 by 16 pixels) and a Mario style character (12 by 16 pixels).

The DATA strings are the same regardless of what machine you have but they are shown in full in both listings for convenience.

Note that the data is laid out as one sprite line per data line for clarity and

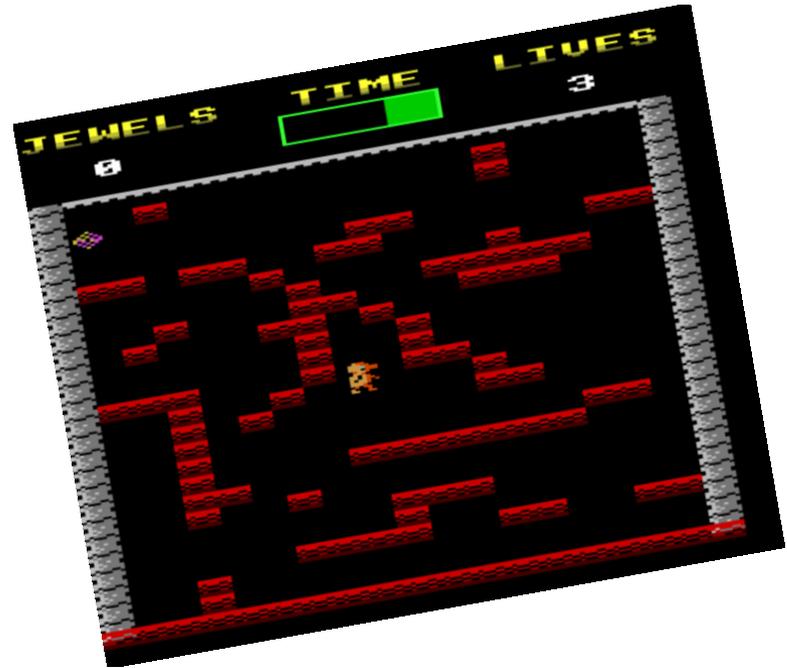
ease of editing. If memory is short (as it is likely to be on the BBC/Elk) you could put some or all of them on one line separated by commas, for example DATA 00000001,000000111,000111122222,000011222222 as the first four lines of the first sprite.

MAVIS mole, Martin the manic mole's girlfriend, has been wrongly arrested for leaking documents to the newspapers.

Help Martin collect the 11 jewels needed for her bail by buiding him through a maze of melting platforms, ice, holes, conveyor belts and invisible platforms.

In each room is a single jewel. When you have collected this a door to the next will open. You'd better be quick though. There's not much time, so get cracking!

First published in Electron User July 1985. Enhanced and updated for the Arc and published in Drag 'n Drop 2012.

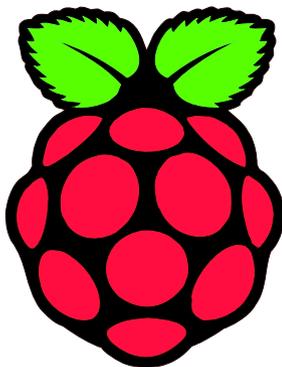


Manic Mole Listing

```
10 REM ** MANIC MOLE **
20 REM By M.P.O'Donnell
30 REM Enhanced for Arc by Czod
Y
40 ONERROR VDU4,30:REPORT:PRINT
" at line ";ERL:END
50 DIM mole$(4),col%(7):v%=1
60 DATA 0,3,12,15,48,51,60,63
70 FOR x%=0 TO 7:READ col%(x%):
NEXT
80 PROCchars
90 MODE4:OFF:PROCinstruct
100 REPEAT
110 room%=8:jewels%=0:lives%=3:g
otone%=FALSE
120 MODE10:OFF
130 PROCinit
150 VDU 5
```

MANIC MOLE!

Coming up in the next issue...



RISC OS Raspberry Pi Special
We take it through its paces.

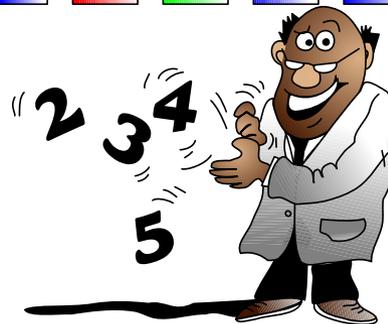
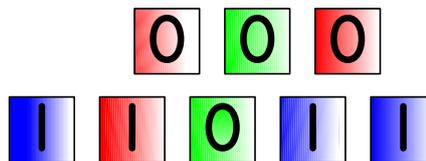


Acorn Electron World
The latest from Dave Edwards' 8-bit land



Series

- Starting Philip's Music Scribe
- Part 4 of our Sprites writing series
- All Sorted part 13



256 Colour Mode theory
Understanding those screens

...out January 2013