DRAG'N DROP

RISC OS **Pi** and all RISC OS 5 machines

Type 'em all in!

Games
Cake Hog
Buggies
Pebbles

Apps
File typing made easy

Reviews
New Basic Manual
Protector
Scanning wands

Wakefield

Acorn & RISC OS Computer Show

Saturday 21st April 2018

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Now in its 23rd year

The Cedar Court Hotel
Denby Dale Road, Calder Grove, Wakefield
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(Adjacent to J39 of the M1)

- **Big Names and Small Developers**
- **Raspberry Pi**
- **Show Theatre**
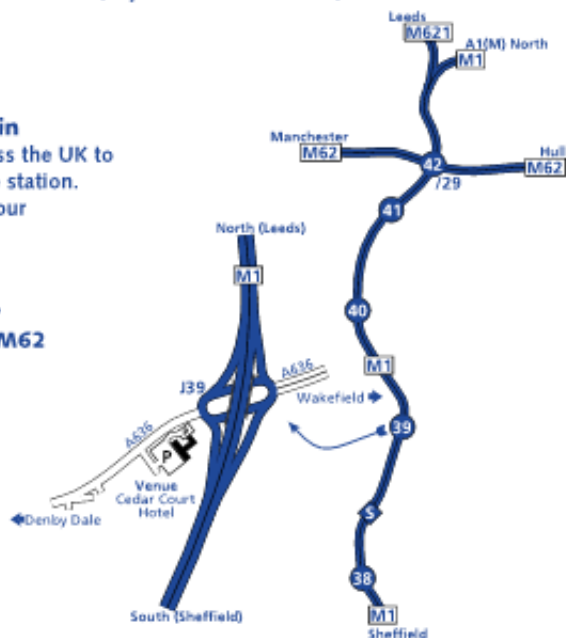- **On-site Catering**
- **Charity Stall**
  raising funds for Wakefield Hospice

Getting there by train
- Connections from across the UK to **Wakefield Westgate** station.
- Local buses twice an hour to the venue

Getting there by car
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- *Date*   Saturday, 21st April 2018
- *Opening time* 10.30am to 4.30pm
- *Ticket price* £5 on the door
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- *Access*   Disabled access to the show venue is via a lift
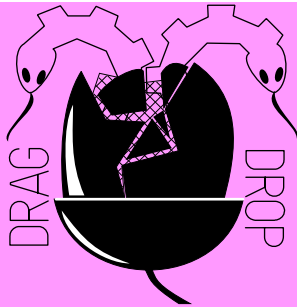
- *Enquiries*   Wakefield Show 2018, c/o 3 Riverdale Avenue, Stanley, Wakefield, WF3 4LF
- *Email*   show2018@wakefieldshow.org.uk

For further information, visit

www.wakefieldshow.org.uk

EDITORIAL

Hello and welcome to the Winter 2018 edition of *Drag 'N Drop*.

There are three great games in this issue, Cake Hog comes complete with type-in sound samples, Buggies uses the RISC Digital Sound Processor (DSP) for its sounds but if you fancy a quiet board game then why not type in Pebbles.

Plus all the regular news and reviews, it's great to see so many people developing products for RISC OS.

If you have any suggestions for what you'd like to see in the magazine, please email them to the address in the panel.

Chris.

Christopher Dewhurst

Beginner's Page

How do I get the BBC Basic prompt?

Press F12 and type *BASIC and press Return. You can change the screen mode with MODE n where n is a number e.g. MODE 7 or MODE 0.

Type AUTO for automatic line numbering. Press Escape to stop and type *SAVE "myprog"* followed by Return to store *myprog* on hard disc.

To return to the desktop type *QUIT.

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

How do I open a Task window?

Menu click over the Raspberry icon on the right side of the iconbar and select click on Task window. Or press Ctrl + F12.

Next   1440K
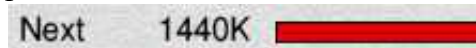
You may need to reserve more memory for the task in which case adjust-click on the Raspberry icon and under Application tasks click and drag the Next slide bar out to the right.

You can also type programs in a task window, hold down Ctrl and press F12. You can't use the cursor editing facility or change MODE, however.

```
Task window
*BASIC
ARM BBC BASIC V
version 1.54
Starting with 651516
bytes free
>
```
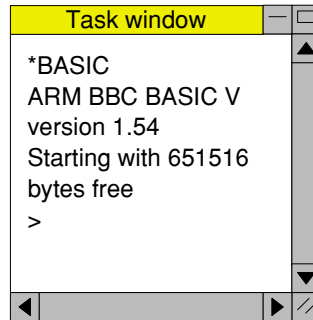
You can also program and run Basic programs from the desktop. Double-clicking on the filer icon runs it, holding down Shift and double clicking loads it into your text editor.

How do I select the currently selected directory?

Articles may tell you to set the CSD (currently selected directory). Just click menu over filer window and choose Set directory ^W.
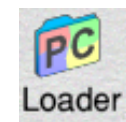
How do I open an Applcation Directory?

Application directories begin with a ! called 'pling'. Hold down shift and double click select to open the directory.

I get blank a screen when trying to run games listings

Check you have the Anymode module installed. You can download it from www.pi-star.co.uk/anymode. It goes in *!Boot.Choices.Boot. Predesk*.

Open the !Boot application directory, in the root directory of the SD Card, that is *SDFS::RISCOSPi. $.!Boot*. Locate the *Loader* which is a multi-coloured directory with PC written on it. With Shift held down double click it to open it. Create a text file in Edit with the following line (press Return at the end):

```
disable_mode_changes
```

Save it inside *Loader* as *CMDLINE/ TXT* and restart your machine.

Introducing the Ident Compact Edition

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News and App Updates

Wakefield Shows 2018

The north of England's 23rd RISC OS show takes place on Saturday 21st April 2018 at the Cedar Court Hotel just outside Wakefield. Doors open at 10.30 and tickets cost £5.00. For those coming by train there is no minibus from Wakefield Westgate station this time. Instead catch the regular service buses which goe past the hotel. Further details can be found at www.wakefieldshow.org.uk.

CloneDisc and SystemDisc

The two utilities costing £15.00 each formerly sold by Piccolo systems are now available for purchase again in the Elesar shop found at shop.elesar.co.uk/index.php?route=product/product&product_id=72 (substitute the =72 for =73 for SystemDisc). CloneDisc is designed for copying entire discs and disc images. SystemDisc is designed for creating dual-format media, e.g. the SD card in the Raspberry Pi which has to have a Boot partition containing the firmware and an ADFS partition containing your RISC OS files.

Impression-X 5.78

Work is continuing to update Impression, the iconic RISC OS desktop publishing application. About 45% of the code is reported to be '32-bit safe' (can run on modern machines without emulation). Development is being funded on a subscription basis. One subscription costs £60 from PlingStore and buys the current release plus three further updates when as they become available.

MakeDir 2.02

This application which allows you to change the standard blue directory icon for individual icons has been
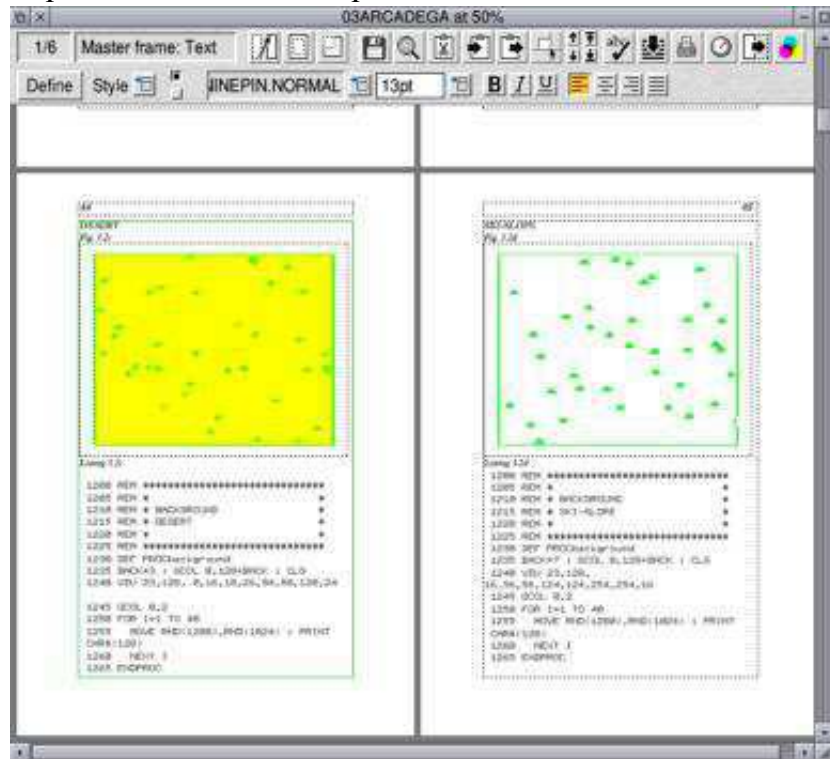
updated to version 2.02 for compatibility with newer machines and can be downloaded free from www.jpeachey.co.uk/computing/software/

FamTree

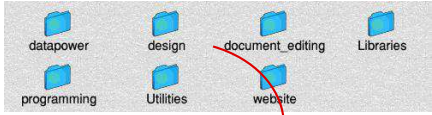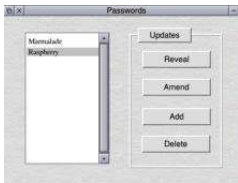This is a new commercial application being released at the South West show for displaying family trees. It will take GEDCOM data (the standard format for exchanging genealogical data) and produce a Draw file. Cost is expected to be about £15.00. Visit www.svrsig.org/SW2018.htm for further details.

Password 1.54k

This is a simple password database. It has a minor update to run on newer machines like the Titanium. Download from www.jpeachey.co.uk/computing/software/
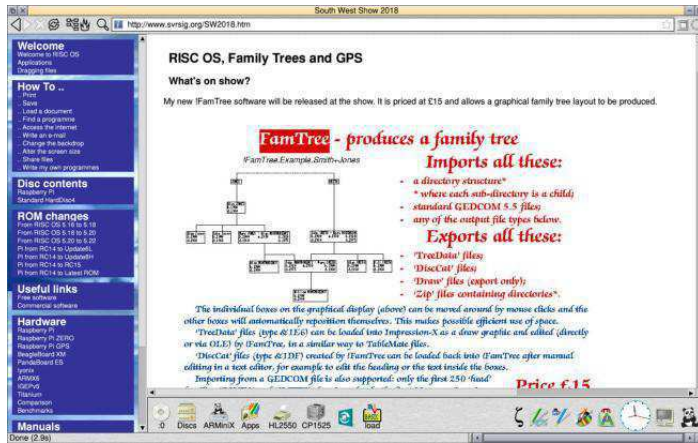
FamTree is to be released at the South West show.

RDSP 0.40

One of the problems with RISC OS is that no simple interface was ever provided to play sound samples or synethesize sounds, except voice generators which are complicated to write. This shortfall is being addressed with RDSP and, whilst very much still under development, version 0.40 is now available having had chorus and sound queuing added. A full '1.0' release is expected soon. Download RDSP from www.amcog-games.co.uk/rdsp.htm. Our series on using RDSP will be back in the Spring edition of *Drag 'N Drop*.

Manga

Manga comics originated in Japan and have distinctive artwork (oversized eyes, unusual hair colour etc.) There is a website dedicated to Manga (mangareader.net) and thanks to a RISC OS app you can browse them all. The app, very much under development still, is available at heyrick.ddns.net/files/manga20170715.zip
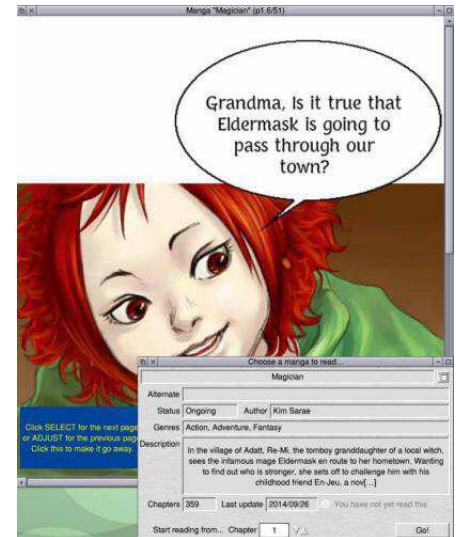
Cake Hog
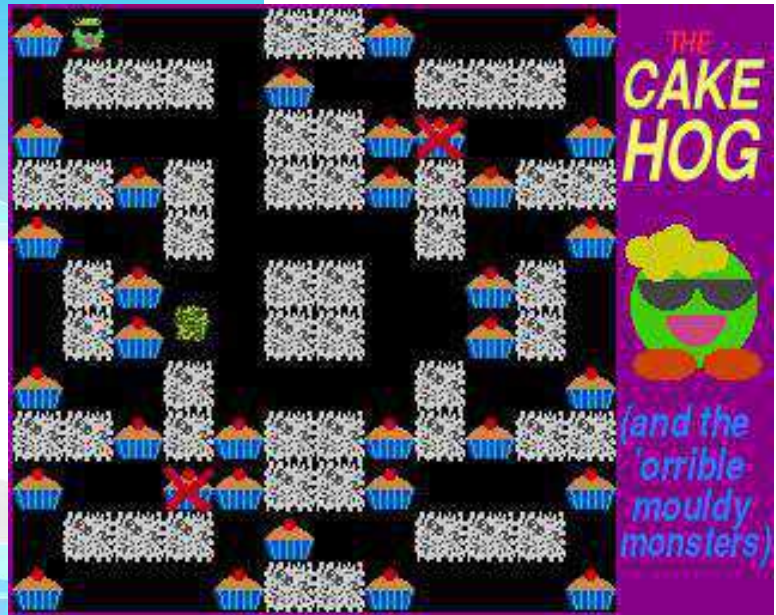
It's just after midnight and you can't resist a snack of cream cakes but lurking inside the fridge are globs of horrible green mould. Can you eat all of the cakes before being captured by the evil stuff?

Use Z and X for left and right and K and M for up and down. Dont't eat the wrong cakes which cause the mould to divide into more pieces!

If you want the sound effects to this game, enter and run Listing 2 which saves three sound samples. They must be made into voice modules using the Generator given in last issue (or any program which

takes 8-bit unsigned sounds samples and converts them into a voice module).

Set the CSD to the directory where the sound samples and game listing is by clicking menu over the filer window and choosing **Set directory**.

If you don't have time or don't want to type in the sounds the game will run perfectly well in silence but you must REMark out line 80:

```
80REMPROCsoundinit
```

Cake Hog listing

```
 10REM CAKE HOG
 20REM (C) DRAG N DROP FEB 2018
 30MODE13:OFF
 40ON ERROR GOTO10000
 50TINT 2,0
 60PROCsprites
 70PROCinit
 80PROCsoundinit
 90REPEAT
100 PROCscreen
110 PROCgame
120 IF lives%=0 PROCgameover ELSE
PROCwin
130UNTIL0
140END
150
160DEFPROCgame
170lives%=3
180REPEAT
190 PROCscreen
200 move%=0
210 REPEAT
220  T%=TIME:REPEATUNTILTIME>T%+2
230  CASE move% OF
240   WHEN 1:PROCleft:PROCd
250   WHEN 2:PROCright:PROCd
260   WHEN 3:PROCup:PROCd
270   WHEN 4:PROCdown:PROCd
280   OTHERWISE
290   IF maze%(scr%,x%,y%)=2 THEN P
ROCeat
300   IF maze%(scr%,x%,y%)=3 THEN P
ROCnewmonster
310   PROCkeys
320  ENDCASE
330  *FX15,1
340  PROCmonsters
350 UNTIL FNdead OR cakes%=0
360 IF cakes%=0 THEN
370  scr%+=1
380  FORX%=0TO8 STEP8:PROCfont(90+
X%,512+X%,"Level "+STR$scr%+" comple
ted.",50,&40FF40*(X%>0)):NEXT
390  IF scr% MOD3=0 AND lives%<3 T
HEN PROCfont(300,400,"Extra life!",5
0,&FF80FF)
400  t=TIME+100:REPEATUNTILTIME>t
410  monsters%=0
420 ELSE
430  PROCsplatter
440  lives%-=1
450 ENDIF
460UNTIL lives%=0 OR scr%>19
470ENDPROC
480
490DEFPROCscreen
500GCOL 34:RECTANGLE FILL 0,0,2000
,2000
510GCOL 0:RECTANGLE FILL 8,8,1007,
1007
520PROCfont(1100,940,"THE",20,&004
5FF)
530PROCfont(1020,850,"CAKE",45,&80
FFFF)
540PROCfont(1020,730,"HOG",55,&80F
FFF)
550GCOL13:CIRCLE FILL 1144,522,104
560GCOL7:FOR X%=0 TO 110 STEP 110
570ELLIPSE FILL 1098+X%,420,50,30:
NEXT
580GCOL39:MOVE1150,500:MOVE1100,50
0:PLOT181,1230,500
590GCOL21:FOR X%=0 TO 100 STEP 100
600MOVE1100+X%,560:MOVE1055+X%,560
:PLOT181,1145+X%,560
610NEXT
620GCOL15:FOR X%=1 TO 12
630CIRCLE FILL 1050+RND(50)*3,580+
RND(25)*2,24
640NEXT:GCOL0
650PROCfont(1020,300,"(and the",30
,&E06841)
660PROCfont(1040,230,"'orrible",30
,&E06841)
670PROCfont(1040,160,"mouldy",30,&
E06841)
680PROCfont(1020,100,"monsters)",2
8,&E06841)
690cakes%=0
700RESTORE (4420+scr%*10):READ lev
el$
710FOR start%=0 TO 3:READ starts%(
scr%,start%):NEXT
720FOR byte%=0 TO 35
730 block%=EVAL("&"+MID$(level$,by
te%*2+1,2))
740 FOR bit%=0 TO 3
750  chr%=block% AND 3
760  sx%=(byte% MOD3)*4  + bit%
770  sy%=byte% DIV 3
780  maze%(scr%,sx%,sy%)=chr%
790  CASE maze%(scr%,sx%,sy%) OF
800   WHEN 3:PROCsprite(2,8+sx%*84,
8+sy%*84):cakes%+=1
810   WHEN 2:PROCsprite(1,8+sx%*84,
8+sy%*84):cakes%+=1
820   WHEN 1:PROCsprite(0,8+sx%*84,
8+sy%*84)
830  ENDCASE
840  block%=block% DIV 4
850 NEXT bit%
```

Product: Equatech Wireless Keyboard and Mouse
Supplier: Home Bargains
Price: £9.99

Home Bargains is chain of budget shops which has expanded in recent years and stocks a variety of electronic products. The first one reviewed here is the Equatech wireless keyboard/mouse bundle compatible with RISC OS.

There is a tiny USB plug which acts as the receiver for both keyboard and mouse. This is a boon if (as I do) you use a Raspberry Pi B with only two USB sockets: simply plug the receiver into one USB outlet and the second socket is free for other devices.

The keyboard takes one AAA battery and the mouse a slightly larger AA battery. Unlike the wireless mouse (reviewed next) there is no on/off switch but both devices appear to 'sleep' after a few minutes of inactivity and to 'wake' them up you press a mouse button or tap a key on the keyboard.

Initially I found that other devices plugged into my USB hub suddenly disappeared from the iconbar. This problem seemed to go away after a time and things have behaved perfectly since.

The mouse is comfortable to hold in either hand but the keyboard has a flimsy feel: the keys are like 'Scrabble' tiles.

Keyboard and mouse have an 8 metre range so I could type things sitting in a separate room! I suppose this aspect is handy if you were sitting some distance from your Pi, giving a presentation in a large hall perhaps.

Summing up it's a tenner well spent getting rid of tangled cables.

Product: Equatech Wirless Mouse
Supplier: Home Bargains
Price: £3.99

This wireless mouse takes two AAA batteries and has an on/off switch to conserve power.

It is especially useful if you are running RISC OS on a Pi-Top laptop computer because the USB sockets on the Pi are tricky to reach through the hole on the side of the machine.

The receiver is a tiny USB plug and it can be concealed inside the bottom of the mouse but actually once you've plugged it into the Pi you can leave it there.

I found the battery compartment a bit difficult to open and whilst you will have to spend about 50p occasionally on new batteries this product is well worth £3.99 and definitely recommended.
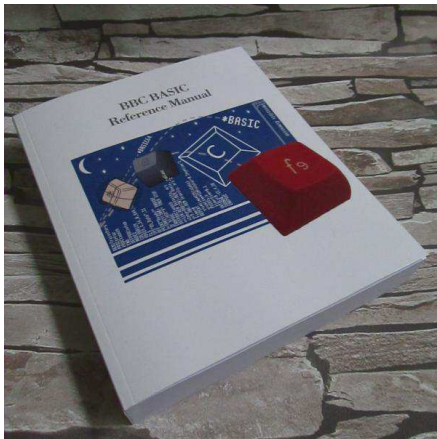
The only printed copy of an official BBC Basic guide for RISC OS that I have ever been able to get hold of is an ancient Archimedes *BBC Basic Guide*.

A newer issue appeared in the 1992 and an online version is available at www.riscos.com/support/developers/index.htm but otherwise it's been out of print for over 20 years. Thanks to the efforts of RISC OS Open Ltd (ROOL) a fresh 520-page volume can be bought directly from the their website at www.riscosopen.org/

content/sales where postage is £4.50, or Amazon where postage is only £2.80 (in Britain).

I only have the online manual at riscos.com to draw comparisons with. This was last updated in 2015 and I apologise if I have missed anything from the printed 1992 edition.

The 2017 manual has four divisions which are slightly different: Overview, Programming Techniques, Reference, and Appendices (as compared to the Overview, Programming Techniques, Keywords and Appendices).

Don't expect anything completely new in the 2017 edition: the standard version of BBC Basic supplied free with every RISC OS machine is still BASIC V.

The Overview has some additional text under BASIC VI, an alterntive BASIC V of interest to mathematical programmers wanting higher accuracy in calculations.

One observation I've made over the years is that, compared to the BBC Micro user guide, Basic programming examples in any RISC OS manuals are few and far between. The 2017 manual sticks to the same old examples which is a little disappointing. I guess more space would be taken up with extra demonstration listings, though.

I was interested to see what had been updated in the Programming section regarding screen modes. As you probably know, the hardware used on the the Raspberry Pi can't display *less* than 256 colours so previous editions of the manual describing how to use screen modes with less than 256 colours had become redundant with the advent of RISC OS on the Pi.

However the version of RISC OS which the Pi uses (RISC OS 5) can also run on legacy hardware which *can* display screen modes of less than 256 colours. So the manual now has to try and please all of the people all of the time!

Mention of traditional, numbered screen modes has been consigned to a short paragraph and only the section on 'Modes with 256 colours or more' is relevant to RISC OS on the Pi.

Demonstation listings still appear to use the Mode 'string' method of changing mode e.g. **MODE X640**

Y256 C4. Owing to the 'behind the scenes' calls that RISC OS uses it interferes with desktop Wimp mode and in my view it would have been better to encourage the reader to use the 'extended Mode statement', for instance MODE 640,512,8.

Screen modes are a complicated business compared to the old days and thankfully Appendix E has been overhauled to describe the diverse ways of getting the required display.

ARM assembler was relegated to Appendix J in the 2015 edition; it's now been given a chapter in its own right in the Reference section of the 2017. It is somewhat abridged, alas. There's no summary of the instruction set as in the 2015 version; instead it refers you to a separate manual, the *Acorn Assembler* (and as far as I'm aware the last edition of that was way back in the 90s) plus a general reading list of books on ARM programming.

Overall it's good to see the *BBC Basic Reference Manual* refreshed. It's not cheap at £25 but if like me you find paper manuals easier than staring at information on the internet all day then it's money well spent.

'Magic Wand' scanners have been on the market for several years now. They're a hand held device about 10 inches long by an inch square which and you slide over the document to be scanned. The image is saved in JPEG format (some even now scan to PDF) to the on-board memory or micro-SD card.
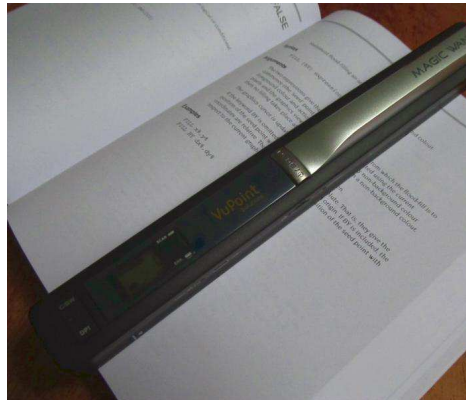
The particular make and model I bought was a VuPoint PDS-ST415-VPS Magic Wand offering colour/black and white, 300 or 900 DPI resolution.

Plugged into my Pi (using the USB to mini-USB cable) it identifies itself as a mass storage device on the RISC OS iconbar making transfer of scan files straightforward. I can't say whether all makes and models are as flexible as this but even if they don't show up when you connect it to your computer's USB sockets you only need to remove the micro-SD card from the wand, put it into a memory card reader (with a micro to regular SD card adaptor), plug into your Pi and transfer your files that way.

Magic wand schematic (viewed on side)
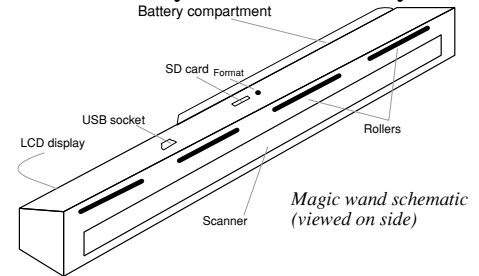
I had expected it to be quite tricky to guide the wand over the document steadily enough to make a decent image but the tiny rollers on the underside of the wand help and the results are surprisingly good.

Pages up to A4 page can be scanned from top to bottom. One advantage over a fixed scanning unit is that, besides being portable, you can scan larger documents in strips and join them together later using an application like Draw.

Protector is a 'Defender' clone. For those who weren't around in the 1980s, Defender is a sideways-scrolling game where aliens descend to kidnap the life-forms on the planet surface. If they all reach the top before you can shoot them, action switches to higher up in orbit where the mutated aliens zip around at lightning speed.

Graphics are nothing to write home about but action is solid and the colourful aliens and life forms contrast nicely gainst the oxidized rocks of the planet surface.

Gameplay is enriched with tracks of atmospheric synthesizer music plus opulent sound effects, this is

something which the game's author Tony Bartram excels at in all AMCOG releases.

As I recall you could rescue the life forms dropping back to the surface in the original version, this doesn't seem to be possible in Protector.

The title screen displays the controls, there are several choices of key combinations which is useful.

Oddly you can't press a key to start, it has to be a mouse click even though the mouse isn't otherwise used in the game.

The scanner at the top of the screen shows a long-range view of the planet with objects represented by pixels, which are tiny.

Bombers, bots, pods and missiles abound in this action-packed game making it worth every penny!

Buggies

**Buggies is a challenging game in which you must guide two vehicles out of a maze.**

There are plenty of obstacles to negotiate including killer floors, disappearing girders and guns.

Different coloured pads on the girders have effects such as teleporting or activating an object elsewhere on the screen.

Use Z and X to guide the buggies left and right, space bar swaps between the buggies and the / key teleports if the pad doesn't transport automatic-ally.

There are three levels, the second two have a time limit so don't hang

You have control of the Blue Buggy
Blue Buggy has teleported.
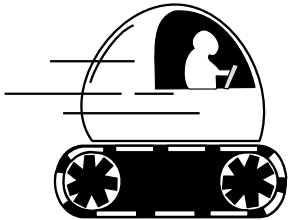
around too long to think! Buggies uses sound effects generated by the RDSP module. If you don't have it on your machine visit www.amcog-games.co.uk/rdsp.htm and follow the installation instructions.
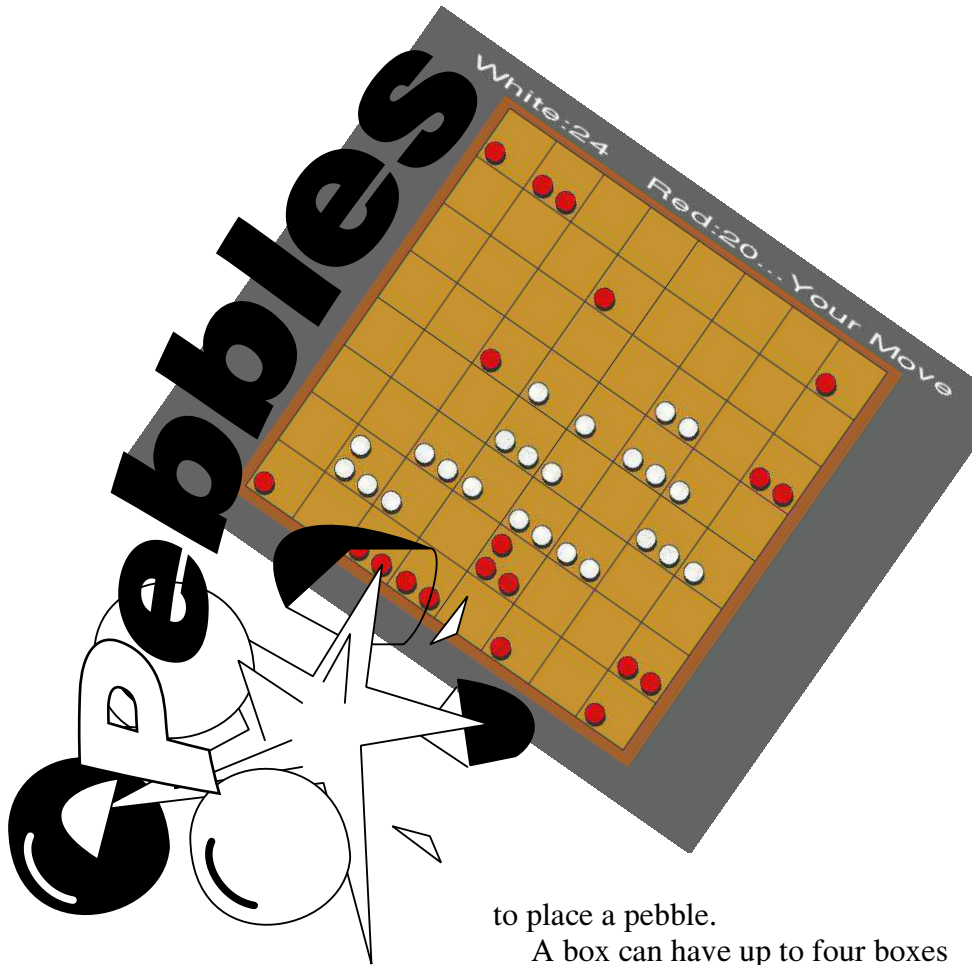
Full listing begins on p22
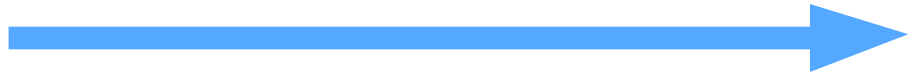
```
   10REM ***BUGGIES***
   20REM DRAG N DROP 2018
   30ON ERROR GOTO 10000
   40MODE 13:OFF
   50*CON.FontMax3 0
   60PROCsprites
   70DIM desc$(2),sw%(50,7),tp%(50,4
),s%(24,11),xc%(2),yc%(2),sp%(2),spr
%(2),q%(14)
   80level%=1:PROCenvelopes
   90q%()=9,1,2,4,8,3,13,13,14,15,4,
25,9,16,4
  100desc$()="","Blue Buggy","Red Bu
ggy"
  110sp%()=0,9,16
  120REPEAT
  130 end=FALSE
  140 xc%()=0,3,2:yc%()=0,10,10
  150 IF level%=4 THEN PROCmessage("
You've completed it!",&FF):PROCwait(
1000):RUN
  160 PROCsetscreen(level%)
  170 PROCdrawscreen
  180 *FX 15,1
  190 PROCmessage("Press a key to st
art",&FFFFFF):A=GET
  200 trn%=1
  210 TIME=0
  220  REPEAT
  230   out=FALSE:dead=FALSE
  240   REPEAT UNTIL NOT INKEY-99
  250   a$="You have control of the "
+desc$(trn%)
  260   IF trn%=1 PROCmessage(a$,&FFA
A55) ELSE PROCmessage(a$,&5555FF):SO
UND&13,&380,&7ED0+trn%*10,10
  270   PROCmove
  280   trn%=3-trn%
  290   IF xc%(1)=0 AND xc%(2)=0 AND
yc%(1)=0 AND yc%(2)=0 THEN end=TRUE
  300 UNTIL end
  310 level%+=1
  320UNTIL FALSE
  330
  340DEFPROCdrawscreen
  350FOR Y%=11 TO 1 STEP -1
  360FOR X%=1 TO 24
  370PROCsprite2(X%,Y%,q%(s%(X%,Y%))
)
  380NEXT,
  390VDU 28,0,3,39,0
  400ENDPROC
  410:
  420DEFPROCmove
  430tx%=xc%(trn%)
  440ty%=yc%(trn%)
  450IF tx%=0 AND ty%=0 THEN PROCmes
sage(desc$(trn%)+" is out.",&FFFF00)
:ENDPROC
  460PROCprintbuggies
  470REPEAT
  480IF INKEY(-17) THEN level%=level
%-1:xc%(1)=0:xc%(2)=0:yc%(1)=0:yc%(2
)=0:out=TRUE:GOTO 580
  490IF s%(tx%,ty%)=12 THEN spr%(trn
%)=1:GOTO 510
  500IF s%(tx%,ty%-1)=0 OR s%(tx%,ty
%-1)=11 THEN PROCfall:GOTO 550 ELSE
spr%(trn%)=0
  510IF spr%(trn%)=1 AND ty%<10 THEN
 PROCup:GOTO 550 ELSE IF spr%(trn%)=
1 AND ty%=10 THEN spr%(trn%)=0
  520IF INKEY-98 PROCleft
  530IF INKEY-67 PROCright
  540IF INKEY-105 PROCteleport:tx%=x
c%(trn%):ty%=yc%(trn%):GOTO 580
  550xc%(trn%)=tx%
  560yc%(trn%)=ty%
  570PROCcheck:tx%=xc%(trn%):ty%=yc%
(trn%)
  580trn%=3-trn%
  590IF xc%(trn%)=0 AND yc%(trn%)=0
THEN GOTO 610
  600PROCcheck
  610trn%=3-trn%:tx%=xc%(trn%):ty%=y
c%(trn%)
  620UNTIL INKEY-99 OR dead OR out
  630ENDPROC
  640:
  650DEFPROCprintbuggies
  660PROCsprite2(xc%(1),yc%(1),10)
  670PROCsprite2(xc%(2),yc%(2),17)
  680ENDPROC
  690:
  700DEFPROCleft
  710IF s%(tx%-1,ty%)<>0 AND s%(tx%-
1,ty%)<>11 THEN ENDPROC
  720IF xc%(trn%)=xc%(3-trn%)+1 AND
xc%(trn%)>3 AND yc%(trn%)=yc%(3-trn%
) THEN IF s%(xc%(trn%)-3,yc%(trn%))=
0 OR s%(xc%(trn%)-3,yc%(trn%))=11 TH
EN PROCteleportto(trn%,xc%(trn%)-3,y
c%(trn%)):ENDPROC
  730IF xc%(trn%)=xc%(3-trn%)+1 AND
yc%(trn%)=yc%(3-trn%) THEN ENDPROC
  740FOR I%=1 TO 12
  750PROCsprite( tx%*48-48-I%*4,ty%*
80-80,sp%(trn%)+3-(I% MOD3) ):PROCwa
it(3)
  760NEXT
  770PROCpos(tx%,ty%,0)
  780tx%=tx%-1:xc%(trn%)=tx%
  790PROCprintbuggies
  800ENDPROC
  810:
  820DEFPROCright
  830IF s%(tx%+1,ty%)<>0 AND s%(tx%+
1,ty%)<>11 THEN ENDPROC
  840IF xc%(trn%)=xc%(3-trn%)-1 AND
xc%(trn%)<21 AND yc%(trn%)=yc%(3-trn
%) THEN IF s%(xc%(trn%)+3,yc%(trn%))
=0 OR s%(xc%(trn%)+3,yc%(trn%))=11 T
HEN PROCteleportto(trn%,xc%(trn%)+3,
yc%(trn%)):ENDPROC
  850IF xc%(trn%)=xc%(3-trn%)-1 AND
yc%(trn%)=yc%(3-trn%) THEN ENDPROC
  860FOR I%=1 TO 12
  870PROCsprite(tx%*48-48+I%*4,ty%*8
0-80,sp%(trn%)+3-(I% MOD3)):PROCwait
(3)
  880NEXT
  890PROCpos(tx%,ty%,0)
  900tx%=tx%+1:xc%(trn%)=tx%
  910PROCprintbuggies
```

of the surrounding boxes.

A chain reaction can be set off if the boxes surrounding the boxes contain the same pebbles as their surrounding boxes and so on.

If a pebble explodes into a box containing the opponent's pebbles then these are taken over.

Pebbles listing

```
10REM Pebbles
20REM Updated for Raspberry Pi
30REM (C) DRAG N DROP 2018
40MODE 640,512,8
50ON ERROR PROCerr
60PROCsetup
70PROCinit
80REPEAT
90PROCinit
100IF RND(10)>5:PROCwhite
110REPEAT
120T%=TIME
130PROCred
140IF whi%>0 OR red%=1 THEN PROCwh
ite
150UNTIL red%*whi%=0
160IF red%=0:PROCmessage("YOU WIN!
!!",&FFFFFF)
170IF whi%=0:PROCmessage("***I WIN
***",&FF)
180A=INKEY1000
190UNTIL0
200END
210
220DEFPROCsetup
230OFF
240*CON.FontMax3 0
250sz%=8
260COLOUR ON 100,100,100 : CLS
270DIM B%(sz%,sz%),M%(sz%,sz%),C%(
sz%,sz%)
280w%=860 DIV sz%
290ww%=w% DIV 4
```

The object of this game is to wipe out the computer's red pebbles.

You are white and play takes place on a board of 8 × 8 boxes. Move and click the mouse pointer to place a pebble.

A box can have up to four boxes surrounding it (above, below, left and right). When the box contains the same number of pebbles as there are surrounding empty boxes, it explodes and adds a pebble to each

SetTyper

Unlike other computer operating systems, which use file 'extensions' to identify what the file does, RISC OS uses file 'types'.

The file type of a file can be amended in the filer window by clicking on the file with the Menu button and choosing File 'xyz' > Set Type and typing the three-digit hexadecimal file type, or entering the equivalent name. For example FFF or Text for a text file, ff9 or Sprite for a sprite file and so on.

It isn't very easy to remember all of these numbers and names and they're inconsistent: a sprite is filetyped Sprite not Spritefile but a Draw file is Drawfile!

The program presented here is a short desktop application which makes life easier by allowing you to set filetypes pictorially.

You set the filetype from a graphical display of all the filetypes your Raspberry Pi knows about, then drag a file (or selection of files) to the iconbar and the computer changes the files for you.

Firstly type in and run Listing 1 which sets up the application directory !SetTyper with a suitable application sprite, !Boot and !Run files inside.

Then type in Listing 2 and save it inside !SetTyper as !RunImage. Check that there are no errors and double click the application to install on the iconbar. It's traditional for RISC OS applications to position themselves on the left of the icon bar if they work on files and the right of the iconbar for other operations.

Since !SetTyper manages files it lodges itself on the left hand side of the iconbar – adjacent to the Apps directory, or Ram disc if you've set one up.

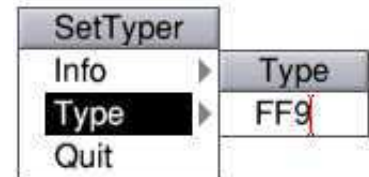The text file and FFF underneath shows that the application defaults to setting any file types dragged to it to text.

To choose another file type, click the select button on the text icon and a window opens showing known file types as a list of miniature icons with the textual filetype next to them.

Because of the way RISC OS works, sometimes files have a textual type but not an icon, in which case the icon is shown as a question mark.

Simply click on the desired file type (with any mouse button) and the icon in the icon bar will change accordingly. Now drag a file or files to the icon and the file types will be set.

Note that there is the option of