



DRAG'NDROP

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

Autumn 2019
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£3.75

GAMES

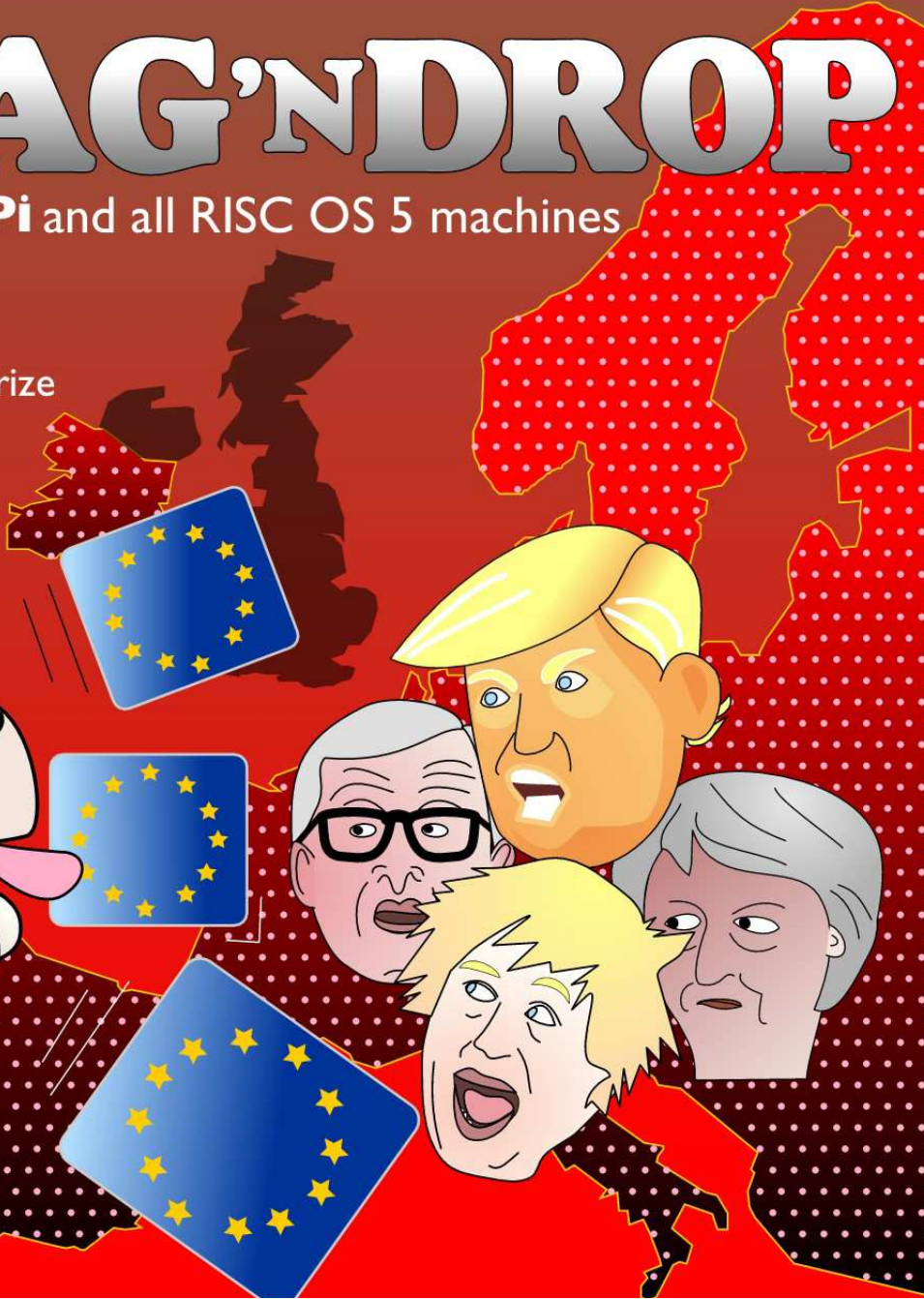
Brexit Hirize

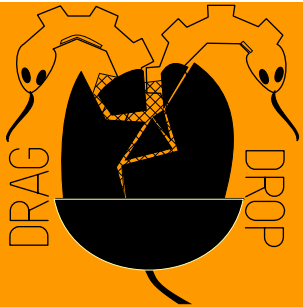
VIDEO

FFmpeg commands

GRAPHICS

Lichtline





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Produced on RISC OS computers

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EDITORIAL

Welcome back to *Drag 'N Drop!*
The cover theme doesn't reflect our political stance on Brexit (we don't actually have one) but rather to illustrate how easy it is to write fun games for your RISC OS computer.

We've been asked to feature shorter listings in the magazine so the *Brexit* game shows just what can be done with a few lines of code.

Drag 'N Drop isn't just about games programming, though. It's all about learning to program your machine to do useful things, and the user-friendliness of RISC OS makes this easy. In this issue we have an article on using FFmpeg to manipulate videos.

The article headings were all produced with the help of Lichtline, a type-in art program listed in this issue, which fills Draw shapes with dotted patterns.

If you have any ideas for future issues of the magazine please write in. Even better, if you would like to contribute an article then do get in touch!

Chris.

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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.

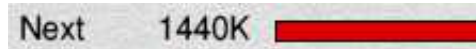
Type AUTO for automatic line numbering. Press Escape to stop and type *SAVE "myprog"* followed by Return to store myprog on hard disc.

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?

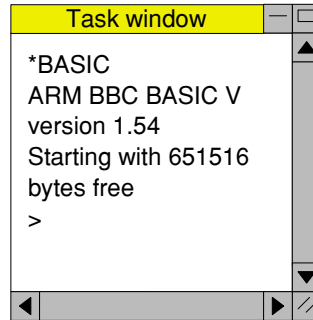
Menu click over the Raspberry icon on the right side of the iconbar and select click on Task window. Or press Ctrl + F12.



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.



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.



⚙️ What does 'currently selected directory' mean?

Articles may tell you to set the CSD (currently selected directory). Just click menu over filer window and choose Set directory ^W. It's where the computer stores the file when you type *SAVE "myprog"*.

⚙️ How do I open an Application Directory?

Application directories begin with a

! called 'pling'. Hold down the shift key and double click select to open the directory.

⚙️ I get funny graphics or a blank screen when running 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.

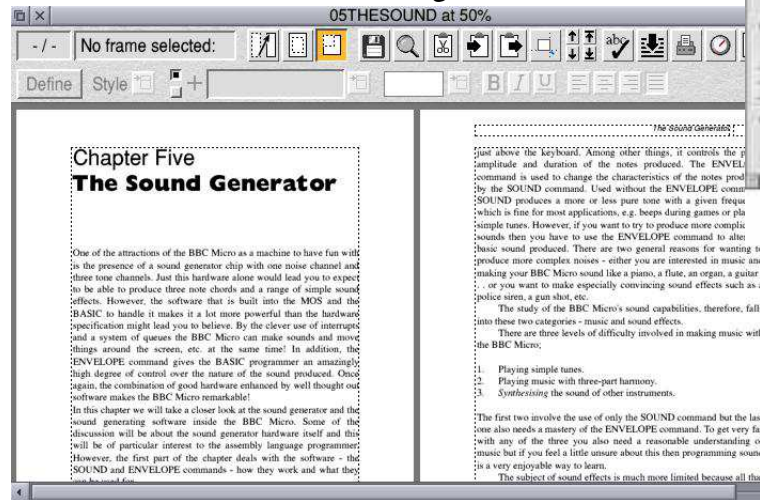
⚙️ Sounds are strange

Some listings need the RDSP module installed. Download it from www.amcog-games.co.uk/rdsp.htm where you'll find instructions on how to install it.

News and App Updates

Impression Style 3.13

Impression is the de-facto standard of desktop publishing in the RISC OS world. Development of Impression-X has been steadily progressing and during the summer of 2019 Impression Style (the last version released way back in 1996) was acquired and released by R-Comp for free. Several modules have been '32-bitted' but users still need to install Aemulor (also now free) to run the main application. Version 3.13 (2019) can be downloaded from the Plingstore.



Prophet 4.02

Prophet is a business management package for RISC OS. It boasts a customer database, sales and purchase ledgers, bank account and stock management and more, all under one roof. Version 4.03 has been released with

a new user price of £94.80 or £148.80 with the 'Making Tax Digital' module for submitting tax returns electronically to HMRC. Upgrades cost £69.60. Visit shop.elesar.co.uk and go to Software to order.



Pi Wifi

Elesar have released a Wifi expansion card for the Raspberry Pi. It plugs straight into the Pi's 40-pin user port and comes with software to manage your connections from the desktop plus printed instruction manual. Cost is £52.80 from shop.elesar.co.uk and go

to Software to order.



London RISC OS Show

The RISC OS Show for the south and east of England takes place at its usual venue on Saturday 26th October. Tickets for the event at the St Giles Hotel in Feltham cost £5 and doors open at 11am. Come along to hear about several exciting new releases in the RISC OS world and pick up your *Drag 'N Drop* on our stand for a special price and other bargains besides! For further details of the show and directions visit www.riscoslondonshow.co.uk/

Star Mine



AMCOG are releasing a new game at the London called Star Mine, a three-dimensional space adventure game. AMCOG have written several high quality games for RISC OS so this promises to be a big hit. www.amcog-games.co.uk/news.htm

RISC OS Armbook

R-Comp announced they were developing a new RISC OS laptop at the London 2018 show. The Armbook is to be officially launched and priced from £399, running RISC OS 5.27, a bundled suite of 1GB of comprehensive custom software, two external USB sockets, WiFi, 14 hours of battery life. It represents the first 'off-the-shelf' laptop running RISC OS natively, and pricing is competitive with the various Pi-Top computers.



CJE Micro's move shop

After 36 years trading in Worthing, the mecca of RISC OS products and expertise has moved down the road to Littlehampton. Telephone number remains the same on 01903 523222 as does the website at cjemicros.co.uk

BREXIT

In this game you are a bulldog which must avoid collision with various politicians who are wondering aimlessly around the screen.

There are a number of Euro blocks which can be pushed into the characters to squash them. But you must only target the one currently shown in the red box at the bottom of the playing area – depose the wrong guy and you lose a life!

Use the A, S, L and P keys to move around the screen. The game ends when you have lost all of your lives.



BREXIT listing

```

10REM *** THE BREXIT GAME ***
20REM (c) Drag 'N Drop Autumn 201
9
30ON ERROR REPORT:PRINT " at ";ER
L:END
40MODE 13
50VDU23;10,32;0;0;0;
60PROCchars
70TINT 2,0
80REPEAT
90M=0: SC=0: LI=4: T=100: B=RND(2
)+3
100PROCset
110PROCchange
120REPEAT D=FALSE: K=0

```

```

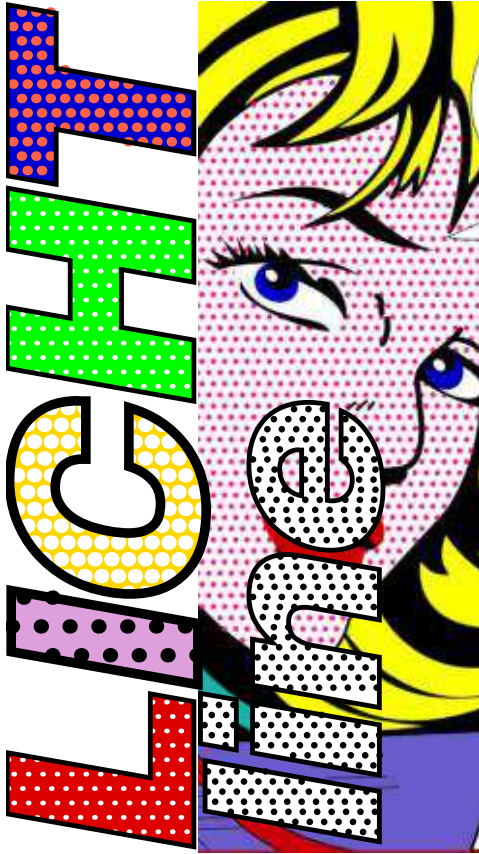
130PROCscore(0):PROClife(0)
140REPEAT EX=RND(14)+1: EY=RND(10)
+1: UNTIL SCREEN(EX,EY)=0: PROCsprit
e(EX,EY,1)
150REPEAT T=T-1:IF T=0 PROCscore(5
):T=RND(30)*2+40:PROCchange
160A$=INKEY$0
170IF A$("<")"" PROCsprite(EX,EY,0)
180EX=EX+(A$="A")-(A$="S"): EX=EX-
(EX=0)+(EX=15)
190EY=EY+(A$="P")-(A$="L"): EY=EY-
(EY=0)+(EY=11)
200IF SCREEN(EX,EY)>2 SOUND1,-15,1
00,5:D=1
210IF SCREEN(EX,EY)=2 PROCpush

```

```

220IF A$("<")"" PROCsprite(EX,EY,1):S
OUND 1,&IF40,EY*10+EX*5+100,1
230FOR I=0 TO M: IF BS(I) AND (T M
0D5)=0 PROCmove
240NEXT: PROCwait(5)
250UNTIL D
260IF D=1 PROClife(-1): PROCwait(5
0)
270IF D=2 M=M-(M<3): PROClife(T1$
): PROCwait(200): PROCset
280UNTIL LI=0
290PRINT TAB(12,15)"G A M E O V E
R"
300PROClife(T2$): PROCwait(600)
310UNTIL FALSE

```



LICHTLINE is a clever program which takes shapes from a Draw file and applies dotted fills in the style of American pop artist Roy Lichtenstein.

Such fill effects are normally only to be found in expensive graphics packages like Artworks.

For the cover price of your favourite magazine you can create equally stunning effects.

Readers with a long memory will remember we first presented this application in the Autumn 2017 edition of *Drag 'N Drop*. The version listed here is more efficient because instead of storing the position of every dot, dashed lines are used with alternating dash patterns worked out to be the same as the spacing of the dots.

Licht isn't multi-tasking as such but thanks to ease of RISC OS it can be used on the desktop, requiring just a few drags and clicks between Draw and filer windows.

We'll explain how to use LichtLine and then delve into its works for those interested.

Before typing in the main listing, enter and run Listing 1 and save it as MkDraw. Set the currently-selected directory to where you've saved MkDraw by clicking menu over the filer display and choosing Set Directory. Double click MkDraw.

A Draw file called DrawFile is saved containing a rectangle approx 18 x 14 cm in size. Any shapes you want to fill need to appear inside this rectangle. You can of course export

the filled shapes to a separate, larger drawing.

Listing 1

```

10REM Create Drawfile
20REM (c) Drag N Drop Autumn 2019
30DIM M 1000
40D=640:REM Draw Units Per Point
50P=0
60REPEAT
70 READ A$
80 IF A$(">")END" PROC
90UNTIL A$="END"
100SYS "OS_File",10,"DrawFile",&AF
F,,M,M+P
110END
120
130DEF PROC
140IF LEFT$(A$,1)="" $(M+P)=MID$(
A$,2,LENA$-1):P=P+LENA$-1:ENDPROC
150IF LEFT$(A$,1)="" P!M=EVALMID$(
A$,2,LENA$-1):P=P+4:ENDPROC
160P?M=EVAL("&"+A$)
170P=P+1
180ENDPROC
190
200DATA 'Draw,!201,!0,'Drag 'N Dro
P
210DATA !0,!0,!0,!0
220DATA !2,!96,!0,!0,!0,!0
230DATA !-1,!0,!0,42,00,!0,20,!2
08,!0,!0,!0,!D*408,!0,!D*511,!D*4
08,!8,!D*511,!0,!5
240DATA !0
250DATA END

```

Type in the second listing and save it as LichtLin. Ensuring it's fully debugged, double click DrawFile and design a shape within the rectangle, setting line colours as

16 FFmpeg commands for all needs

FFmpeg is a multiplatform, open-source library to record, convert and stream video and audio files. Created in 2000, it is a powerful command-line tool that runs on RISC OS, Linux, Windows and Mac operating systems.

FFmpeg is currently used by many websites and programs, including YouTube and VLC Media Player, and is published under the GNU Lesser General Public License 2.1+.

This article is based on '19 FFmpeg commands for all needs' repeated across the internet but with corrections and modifications for commands to work successfully on the RISC OS port of FFmpeg, which can be downloaded from

www.users.on.net/~belles/software/ffmpeg/

Please refer to the documentation if you need any help to install FFmpeg.

The commands contained in this article describe how to perform various tasks as such as video files conversion, audio file sound extraction, encoding files for iPod or PSP, converting a video to a gif file, and more.

In the example commands the

centaur_1/mpg video is used, just one of a number of clips available free for non-commercial use from the Space Telescope Science Institute at:

hubblesource.stsci.edu/sources/video/clips/

and saved in the Videos directory on my SD hard drive 16GbPi. Press Ctrl and F12 to open a command line window.

The location of the video file must be specified in full, i.e. the full pathname put into the FFmpeg command, in this case SDFS:::16GbPi.\$.Video.centaur_1/mpg.

1. Get file information from a video file

You can easily obtain a lot of information on a given video file with the following command line instruction.

```
ffmpeg:ffmpeg -i SDFS:::16GbPi.$.Video.centaur_1/mpg
```

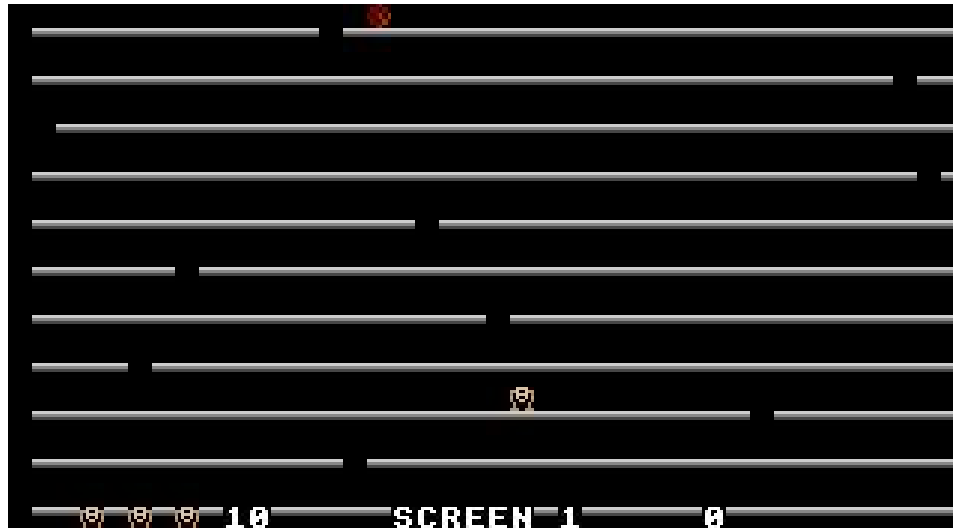
and the computer responds with

HIRIZE

Hirize is a conversion of the exciting ZX Spectrum arcade game of the same name.

It involves jumping through many screens of lines with moving gaps.

There are five screen variations to be played through. Use is made of the RISC OS sprite system and full instructions are included in the game.



```
100 REPEAT ,Y)=149 THEN E=1
110 R=(R+1) AND 3: IF R=0 PROCscr 240 IF G>3 THEN H=Y/2+(Y/2=0)
120 PROCwait(5) 250 PROCat(X,Y,CHR#C)
130 PROCat(X,Y," "); IF SCREEN(X,Y 260 PROCat(BX,BY," "); BX=BX+D; BX
+1)=32 PROCsc(-20*G); Y=Y+2; C=146; =BX-(BX=-1)*Q+(BX=0)*Q; A=SCREEN(BX,
T=0; IF L<10 THEN L=L+1; IF G>2 E=2: BY+1): IF SCREEN(BX-D,BY+1)=32 OR A=3
GOTO 300 2 THEN BY=BY+2; D=-H(BY/2+1,2); IF B
140 T=T+1; IF T=UN THEN C=145: SOU Y>11 OR BY>Y THEN BY=0; BX=16; D=-H(
ND1,-15,120,1 1,2)
150 IF C=146 THEN GOTO 220 270 IF BY=Y AND BX=X THEN E=1
160 I$=INKEY$ 0: IF I$<>" " THEN G 280 PROCat(BX,BY,CHR#147)
OTO200 290 IF G=2 AND Y<20 PROCat(0,20,N$
170 IF SCREEN(X,Y-1)<>32 THEN C=14 )
6: T=0: GOTO240 300 UNTIL Y=0 OR E
180 IF Y<20 THEN L=L-1: IF L<10 AN 310 IF Y=0 G=G+1: RESTORE 1150: FO
D G>2 THEN PROCat(0,Y+1,B$) R I=1 TO 13: READ N: SOUND 1,-15,N*4
190 PROCsc(10*G); Y=Y-2; X=X-H(Y/2 +52,2,I*10: NEXT: PROCset
+1,2) 320 IF E=2 THEN FOR I=L*2 TO 20:PR
200 X=X+(I$="")-(I$="."): X=X-(X= OCat(X,I,CHR#146): PROCat(X,I-1," ")
-1)*32+(X=32)*32 : SOUND 1,-15,132-I*4,2: PROCwait(5)
210 IF SCREEN(X,Y+1)=32 THEN GOTO : NEXT
130 330 SOUND 1,-15,132,40: M=M-1: E=0
220 IF SCREEN(X,Y)=148 PROCsc(10*G 340 PROCwait(100)
) 350 UNTIL M=0
230 IF SCREEN(X,Y)=147 OR SCREEN(X 360 INPUT"Try again?":A$=GET$
```

HIRIZE listing

```
10 REM *** HI-RIZE ***
20 REM Original ZX Spectrum game b
y P.Toland
30 REM Drag 'N Drop RISC OS conve
rsion by Czody
50 MODE 13: VDU23;10,32;0;0;0;
60 PROCspr
70 PROCini: PRINTTAB(0,10)"Do you
want instructions?":P$=GET$:CLS
80 REPEAT PROCset:REPEAT PROCbot
90 TTL=TTL+1: UN=UN+2
```