Two Head Demo Technical Note

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Introduction

This note describes how to make changes to your setup to allow it to display the desktop using both of the DVI outputs, rather than one (plus a test card) as is the default. It should be considered a functional prototype at this stage with some known limitations due to RISC OS not being aware of two monitor setups. When these limitations are addressed the video driver will be integrated into a ROM and this technical note will become redundant.

Preparation

A disc loading video driver, sample MDF, and obey file is provided with this note.

The sample MDF has a new mode where the `x_res` is twice what each monitor would see, and has the active region doubled by changing the `h_timings` to match. See how this looks side by side with 1024×768:

```
startmode
mode_name:1024 x 768
x_res:1024
y_res:768
pixel_rate:56000
h_timings:32,80,0,1024,0,48
v_timings:4,15,0,768,0,3
sync_pol:3
endmode
```

```
startmode
mode_name:2 head 1024 x 768
x_res:2048
y_res:768
pixel_rate:56000
h_timings:32,80,0,2048,0,48
v_timings:4,15,0,768,0,3
sync_pol:3
endmode
```

Load the prototype two head driver and MDF by double clicking on the obey file. The chosen mode must have `EX1 EY1` in its mode specifier so RISC OS doesn't thinking it's a rectangular pixel mode. The screen will then go blank because there's a message saying

Press SPACE or click mouse to continue

do this and the desktop will redraw, now on two monitors, each at 1024×768.

Limitations

This video driver works by halving the values given in the MDF and using those to split the screen in two. Until RISC OS is aware it has two monitors a few limitations are expected:

- Both heads must be in the same resolution & colour depth
- The Wimp doesn't know it's two heads so maximising windows or opening centred dialogue boxes will straddle the join between the two monitors rather than being centred on the designated primary head
- The screens are assumed to be arranged left/right side-by-side
- The Display Manager will report half the frame rate in its dialogue box

Feedback

We're interested to hear your ideas on how RISC OS can be extended to integrate multiple monitor support better, but in the meantime enjoy using this demo for your own purposes.