FROBNICATE

 # Hi Honey, I'm home! #

Hissing Spinach
Summer 2004 Issue 21 €0

Index:

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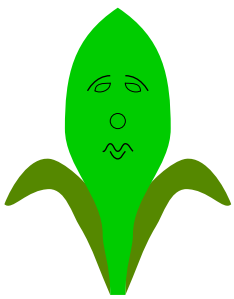
http://www.heyrick.co.uk/frobnicate/



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Editor's Notes

Well,

as they might say, in for twenty issues...might as well me in for twenty one! Now that *Frobnicate* is twenty one, it can vote/drive/drink/have sex legally in all of the various American states, unless they've messed with the age limits again.

This issue of *Frobnicate* is much smaller than issue twenty. For one thing, I don't have five years to catch up on (!). Perhaps if I make a larger number of smaller issues...? Who knows? One thing's *fer sher* and that's that the file size will be smaller. :-)

DESKLIB 2.30 [RM/32] has been withdrawn. It appears, at a cursory glance, that Peter Naulls' version of DeskLib is sufficiently similar to mine to be a suitable replacement. This whole thing came about, basically, because I got Desk and DeskLib versions mixed up. I'm an ass. Okay, next... Anyway, I will keep my DeskLib available for those who want a more-or-less exact copy of v2.30. For people who'd like more, visit `http://www.chocky.org/` and download the 'official' 32bit version of DeskLib.

I am *sure* to get some email regarding the first article in this issue, so if you are planning to ask "why?", then I'll save you the bother. Recent studies show that the most searched for things on-line are pornographic content, and the on-line sexy image sites are apparently doing quite-well-thank-you-ma'am. Couple this with the most recent *Frobnicate* survey (now about six years old!) that shows the readership to be mostly males aged between 16 and 40... So maybe the article is like a public service? :-) As for the question of showing how to access content for which you are expected to pay, come on people. They *really* can do much better than the pathetically lame implementation that is on the CD-ROM in question. Anyway, if you called up "credit hard handy" (doesn't that lend itself to being a sleazy character in a cheap porno?) then no doubt your purchase of this would be registered on some sort of "this guy is a perv" database, so public service #2.

As for the content itself... Oh *my* God! How a nice-looking girl would want to have... *that*... done to her, and somebody photographing it, is beyond my comprehension. Maybe these pictures should be shown to schoolgirls to put them off the idea of ever wanting to have sex, public service #3?

Hidden" on a 3D games CD-ROM.

On the left is one of the less potentially offensive pictures. For one thing, she is still wearing her underwear (I've seen people wear less to the beach) and for another she looks like she is having a bad reaction to a last night's curry. I wonder if she has any concept of how daft she looks, kneeling and waggling her non-naked butt in the air!?!

The promised article about setting up a Digibox in France is shorter than planned. If you are interested in using a digibox to receive channels from 19.2°E (the home of the old analogue service) then you may find *http://www.heyrick.co.uk/ricksworld/digibox/* interesting. This is ***not*** SkyDigital, you'll need to turn your dish towards 28.2°E for that. The principles are pretty much the same a those given for SkyDigital... Here you can see a bizarre game show on *Rai Uno*, the only Italian channel available on the 19.2°E service... The other reason, sadly, is my box appears to be inflicted with some sort of fault (or Bad Attitude) where the box either works, or refuses to acknowledge the existence of the Astra bird(s) at 28.2°E! :-(

RAI1 at 21h CET on 2004/03/22.

So, if anybody has a spare (*any* type, *any* condition, but working (!)) Digibox kicking around, I'd be *very* grateful for it.

My thanks to Drobe (`http://www.drobe.co.uk/`) for a nice and objective review. They found faults in issue #20, which is good as I believe we can improve by recognising our past screw-ups (but not too many please, there's a fragile ego at stake here too!). Two of their main comments are answered on page #12 so I'll say no more about *that* here, 'cept to say "thanks guys".

Actually, Drobe, I think your review failed to mention *Ovation*. It's a very good desktop publishing package... :-)

I must also put out a special mention to the Drobe subscriber that wrote the comment:

What utter diatribe. Somone buy this boy a set of sanity pants.

Hehe... That must surely rate as my best review yet. It is short, to the point, and contains exactly one spelling mistake for twelve words. Ah well, I'm a Metric kinda guy. Those pounds, shillings, and bushels never made any sense to me...

I'm not exactly sure what "sanity pants" are supposed to be. I don't remember seeing them in M&S, however if they can make the world all better than please send me some right away!

I'd just like to take a moment to say "Hello" to Ewen C. **Hello!**

Some have asked me why Frobnicate includes code for a PC? Well, the answer is two-fold. Firstly, there is no real point (except academic exercise) to bother making I²C for a RISC OS machine – RISC OS supports the protocol itself and in hardware. It doesn't hurt to implement the code for a PC as it is pretty simple to change the actual interface calls to, say, Parallel_Op calls. The C stays the pretty much same. It may also be useful to those of you with teletext hardware and a PC...

Also, I think that we in the RISC OS scene must duly acknowledge the "opposition". I'm not going to jump up and down and say RISC OS is the best operating system *ever*. I like it a lot, it is simple and to the point. The Filer knocks the spots off of the lame Windows "Save" dialogues. I think RISC OS has developed in a totally different direction to Windows. This, Frobnicate, file is *IDEFS::Anya.$.Apps.DTP.Documents.f_21.Frob_21* but I can also call it *IDEFS::0.$.Apps.DTP.Doc...etc...* or *DTPdocs:f_21.Frob_21* as well as various other even more contrived things such as *<OvationPro$Dir>.^.^.Documents.f_21.Frob_21*.

Windows, on the other hand, is reducing things to "*My Documents*" within "*My Computer*". This may be useful for people like my mother, who I doubt would ever understand nuances of the RISC OS filer. For me? I prefer the RISC OS way. I *like* RISC OS.

We do, once in a while, need to see the rest of the world to see why RISC OS works. Shall I criticise XP? The scroll bars are *better* but not quite right yet. The drag'n'drop is still a little iffy though thankfully it works okay with Nero. The standard XP on-screen font is *still* not anti-aliased. I don't think you can ever really make Arial look good, but seeing it on XP looking like the old VDU font... it tickles me.

The library computer is a seriously zippy machine, yet MSIE takes noticeable *seconds* to respond to my mouse clicks. Also the stupid thing when you "Open target in new window" doesn't blank the window when it opens it, it blanks it when data arrives.

Now a slag-off on our side of the fence. Acorn had the good sense to go the PS/2 route for keyboards. Why, though, did they persist with the quadrature mouse instead of the PS/2 protocol? Those wheel-scrolly mice are dead cool. I *so* wish RISC OS did that!

On the other hand – you know how you can click `Select` on the scroll-bar and scroll the document up and down (or left and right if the bottom bar)? Well something you might not know is if you hold `Adjust`, you can scroll in both dimensions at the same time. Very useful.

Finally, an emailed comment that was so nice to receive.

> *Hi Rick,*
>
> *Just wanted to say thanks so much for bringing back one of the great things about the RISC OS scene, something I thought had died an unfortunate death. I downloaded all the previous Frobnicate issues years ago, so I could have a permanent archive when the inevitable www.heyrick.co.uk/ not found error occurred. But it never happened! Heyrick remained live, the website updated every so often. AND THEN! Check the news on Iconbar and a quick double take.. surely I didn't see the word "frobnicate"?! YES!*
>
> *Anyway, thanks again. Just wanted to let you know that I'm another member of your loyal readership, so pleased to see frob return.*

That is the sort of message that makes it all seem worthwhile. When I asked permission to reproduce this message, Stephen (the author) asked if I could refer to him by his `#riscos` pseudonym "`Ginger1`". He says that it is more meaningful to people in the RISC OS world.

I presume he means IRC – that little slice of on-life life more-or-less passed me by. When I tried in 2002, all the IRC servers were 'closed'. Maybe somebody could write an article on accessing IRC?

Thank you Stephen, and thank you to *all* of my readers, wherever you are. 2004/05/11

More on ‘decoding’

In the last issue I discussed several encoding methods in the article “*Software protection*”. Now, we shall look at simple data encodings.

I was browsing a selection of CD-ROMs from the cover of a French magazine, mainly by dragging stuff into *Edit* and looking at it. I came across...

From the CD-ROM in question...

So on this ‘cédérom” were a collection of images which would be somehow ‘scrambled’. The phone and access numbers are fake, by the way.

Here is an exercise in pitifully weak scrambling systems. The images are JPEG, the file extension says so. So let’s find one and view the first 32 bytes.

```
Z}ZE¥µïãìã¥¤§¥¥¥¥¥¥¥Ze¥´-§¥¦¥¦¤ ~
```

Can you see it?
JPEG images begin with ‘ÿoya” (actually “ ÿØÿà”), then there are two bytes, and then ‘JFIF”. In the snippet about, we have Z}ZE and the Z would match the umlauted ‘y’ in the ‘ÿoya” word, and then the ‘îaia” which would match to ‘JFIF”.
It appears therefore that these files are encoded with a simple EOR method. To find the key, we’d use:

```
PRINT ASC("ÿ") - ASC("Z")
```

The result of this is 165.
We can test our concept by picking a random image and writing up some code to turn it into what we should see as a regular JPEG...

```
in$ = <input filename goes here>
out$ = <output filename goes here>

i% = OPENIN(in$)
o% = OPENOUT(out$)

REPEAT
  BPUT#o%, (BGET#i% EOR 165)
UNTIL EOF#i%

CLOSE#i%
CLOSE#o%

SYS "OS_File", 18, out$, &C85
```

I think the most *depressing* thing is that this actually works! How *lame* can they get? Having said that, PC users won’t be used to simply dropping to BASIC to do little things like this...

She’s quite cute, and looks a little bit like that weather forecaster; trust me, what I cut out is *extremely* gross.

From the CD-ROM in question...

It does prove, however, that the principle works, and from this we can construct a very simple program to run in a Taskwindow to descramble (if, indeed, this pathetic simplicity can even be called ‘scrambling’) the images.

Here’s the code...

```
ON ERROR PRINT REPORT$+" at "+STR$(ERL): END

DIM b% 256
from$ = "CDFS::CD3.$.CD3.IDCODE"
dest$ = "IDEFS::Anya.$.frob21example"

PROCscan(from$)
END
```

```
DEFPROCscan(d$)
  LOCAL c%, r%, o%, f%
  REPEAT
    SYS "OS_GBPB", 10, d$, b%, 1, c%, 256, 0 TO ,,, r%, c%
    IF r%<>0 THEN
      o% = b%!16
      n$ = FNstr(b%+20)
      IF o% = 1 THEN
        PRINT "Decoding file      : "+n$

        f%=OPENIN(d$+"."+n$)
        PROCprocess(d$, n$)
        CLOSE#f%
        f% = 0
      ENDIF
      IF o% = 2 THEN
        PRINT '"Scanning directory: "+n$
        PRINT STRING$(LEN(n$)+20, "=")'
        SYS "XOS_CLI", "%CDir "+dest$+"."+n$
        PROCscan(d$+"."+n$)
      ENDIF
    ENDIF
  UNTIL c%=-1
ENDPROC


DEFFNstr(pointer%)
  LOCAL out$
  out$=""
  WHILE ?pointer% >= 32
    out$ += CHR$(?pointer%)
    pointer% += 1
  ENDWHILE
=out$


DEFPROCprocess(di$, ni$)
  LOCAL op%

  op% = OPENOUT(dest$+(MID$(di$, LEN(from$)+1))+"."+ni$)
  REPEAT
    BPUT#op%, (BGET#f% EOR 165)
  UNTIL EOF#f%
  CLOSE#op%

  SYS "OS_File", 18, dest$+(MID$(di$, LEN(from$)+1))+"."+ni$, &C85
ENDPROC
```

That is the program! Basically we scan the directory structure and convert every file we encounter. This means that the Windows executable will be 'descrambled' and typed as a JPEG; but we didn't need it anyway...

There are a number of possible improvements to the program. The main one for speed would be to allocate a variable buffer, and then chunk-load the file. Step through it byte by byte doing the decode, then chunk-save it to disc.

Obviously, BASIC does not have the luxuries of *free()* and *malloc()* so an alternative could be a two-pass system. We scan the entire directory structure one time *first* to to see what the largest size file is, and we can safely allocate 'so' much, then re-scan and process.

Another speed-saving idea would be to round the necessary buffer size *up* to the next word boundary, and then write a small piece of assembler to perform the decode. From the top of my head, this could be:

```
; R0 (A%) is start of buffer
; R1 (B%) is extent of buffer
; R2 is used internally to hold the data
; R3 is used internally to hold the EOR key

  LDR    R3, eor_key
.eor_loop
  LDR    R2, [R0]
  EOR    R2, R2, R3
  STR    R2, [R0], #4
  CMP    R0, R1
  BLT    eor_loop
  MOV    PC, R14

.eor_key
  DCD    &A5A5A5A5
```

Again, I wish to re-iterate that the assembler above has just been written off of the top of my head and it *may* be buggy. I hope not, I'd like to think I can write at least eight statements without screwing something up... :-)

How could we better that system? Well, given that JPEG does not contain large chunks of identical bytes, we could use a simple EOR system that is harder to 'see' by observing the file. To do this, we simply EOR each byte by the value of the *previous* byte – and we can use the 165 as a starting value. I'll leave it up to you to write some code for this.

Finally, I'm off to delete those pictures. Some of the stuff in them is enough to remind me why I'm still single... Trust *me* to turn this into a coding challenge! :-)

Bye!

Life in France

Something that I find is an enjoyable way to pass a summer afternoon is to sit on the platform of a nowhere station and watch the trains go by. Now I wouldn't call myself a "trainspotter" as I don't carry a notepad with engine numbers written within. I might make a note of specific engine names, such as the "Montbatten" that did the London-Southampton route (via Fleet station), but if you were to excitedly say "did you see that en-ee-five-five-six-slash-four", I'd do a quick whizz though the IC part numbers that I remember, then look at you blankly. You might be thinking a diesel-electric made in '84 and I'd be thinking of a dual timer chip...

Anyway, I wanted to tape a TGV because, frankly, they are *way* cooler than the British InterCity trains. They look faster, go faster, and I've not yet been in one... Unfortunately, the trains are driven with the same general crazy-speed-demon attitude that the Europeans take to cars with, so below is my TGV picture.

My video camera was in standby mode, all it took to set it off was a press of the red button. You don't get much forewarning of the train coming, as the rails didn't clank and rumble proceeding the train (as they tend to in England), but it's no big deal – the TGV is about ten cars long. As soon as I hear it I press the red button and aim the camera. No good, the thing is moving *so* damned fast that I just catch the back of it. By the time I lower my camera, it has probably pulled up in *Nantes*.

The station in which I sit is a little place along the *Loire*, called *Varades*. It is thirty miles east of *Nantes* at a guess, you'll need to consult a map...if you care.

The station house is lived in, but I don't think it's been an actual station since the early eighties – the clock is permanently stuck at half-eight.

You can purchase a ticket at an automatic machine that'll swallow money or plastic. I don't know how much it'd cost to get to *Nantes*, because there was a baffling array of tariffs. Well, I'm not in receipt of state benefit, I'm not a student, I'm not a farmer, and I'm not French so I decided to press all the buttons and make note of the most expensive tariff. That'd probably be mine. Seven and a half euro. Not bad. But not good. That is one way. Unlike England, with SNCF (*Syndicate Nationale de Chemin de Fer* – the national syndicate of the iron road) you pay the same amount for both directions, rather than having a return for a pound or so over the single-way. And that's multiplied by two as it would be my mother and I, so 28 euros to travel a fairly short distance down the line...

The train rumbled into the station, *Varades / St. Florent le Viel*, and stopped. Nothing happened. And still nothing happened. More nothing happened. A few moments later, the guard stepped down from the back of the train.

She looked up, and she looked down (and the thought "who's that twerp with the damn video camera?" probably passed her mind once or twice). There was nobody except us, and a bunch of crickets enjoying the summer eve sun. The guard stepped back into the train and waved her arm. The driver did likewise, and the train departed.

And with that thought, I too shall depart.

Look out for another slice of French life in the next issue!

Playing with I²C

Part 2

In the previous issue, we discussed how I²C works, at a bit level. Now it has come time to implement some software...

First, though, I must point out that my list of how to send a byte *should* have looked like this:

repeat this eight times (once per bit):
- set SCL low
- set SDA high or low, as necessary
- set SCL high
  the bit is now clocked in, we hold this for 4.7µS

- set SCL low
- set SDA high
- set SCL high and wait 4.7µS
- read state of SDA

The software shown is for a DOS PC, and it is written in Borland's TurboC (version 2). You can download this from Borland's web site (along with Turbo Pascal); and the software will work on the RiscPC co-processor. I have had it working here under !PC using the original 80486 co-pro hardware. Additionally I have had it running on a slow 486 machine using both DOS and DOS-in-a-window. The Windows version is 3.11 (for Workgroups). You may experience odd crashes if you try the DOS-in-a-window method under !PC... just so you know.

```
#define LPT_READ  0x379
#define LPT_WRITE 0x37A

void iic_initialise(void)
{
   /* Sets the initial state, and checks it... */
   outp( LPT_WRITE, 0 );

   if ( (inp(LPT_READ) & 0xC0) != 0x40 )
   {
      printf("IIC bus hardware error!\n\n");
      exit(EXIT_FAILURE);
   }
   return;
}
```

In this function, the `&C0` is a mask for bits 6 and 7 (`Busy` and `Ack`). We want to ensure that bit 6 *is* set (because it is inverted) and bit 7 is *not* set. This would mean that both SCL and SDA are floating high, the correct 'inactive' state, which should be the current state given that we wrote '0' to the parallel control register. If SCL and/or SDA are not high, something externally is pulling them low, and if not that then we have a wiring fault.
If you wish to include more diagnostics, you could sent the pattern to pull SCL and SDA low, and test that, however a 'short' to 0v is a lot more common than a short to +ve on a parallel port...

Anyway. it should be pointed out *clearly* that there is no software delay built into these routines. The C libraries supplied by Borland offer you two clocks. The first, `sleep()` will tick away 'n' seconds, while `delay()` ticks away milliseconds. The BIOS timer is no good as it ticks at a bizarre 18.2 ticks per second. What we want is a timer that can offer us a delay of 5µs (*micro*seconds), and given that nothing available can do that, we march on without a delay. This *may* mean that it'll fail to work on a fast computer. You take your chances...

Please be aware, however, that the delay routine should be called *twice* per bit, plus the ack bit, for 2048 bytes. This means the 5µs delay should be called about thirty six *thousand* times. By all means use `delay(1)` if there is *no* other option, though note you'll be waiting for over thirty seconds for one page to transfer due to the resolution of the delay. Still, it is better than nothing, right?
This code does not include any delay code. To add this, simply pop in a call to your chosen delay routine when a state should be held – for example when you set SCL high to clock in a bit, and again when you release the state.

According to the I²C bus specification section 4.2, a start condition is a high to low transition of `SDA` while `SCL` is high.

The code presented next has one critical flaw, it *assumes* that we are the *only* master. For our

purposes, given we'll be linking between the parallel port and our I²C device, this is correct. It is worth pointing out that if you expand your system then you will need to consider that if multiple master devices are connected, then you'll need to check the condition of SCL before you do anything – so as not to interfere with any transfer that may otherwise be occurring.

```
void iic_start(void)
{
   /* Sets up a start condition. */

   if ( ( inp(LPT_READ) & 0x40 ) == 0 )
   {
      /* Clock is already low; so set it high.  */
      outp(LPT_WRITE, 2); /* SDA high, SCL low  */
      outp(LPT_WRITE, 0); /* SDA high, SCL high */
   }

   outp(LPT_WRITE, 1);    /* SDA low, SCL high  */
   outp(LPT_WRITE, 3);    /* SDA low, SCL low   */

   return;
}
```

And, accordingly, the stop condition is the inverse...

```
void iic_stop(void)
{
   /* Send a stop condition. */

   outp(LPT_WRITE, 3);    /* SDA low, SCL low   */
   outp(LPT_WRITE, 1);    /* SDA low, SCL high  */
   outp(LPT_WRITE, 0);    /* SDA high, SCL high */

   return;
}
```

Now we come to the work of writing a byte to the I²C bus. This assumes we have already sent a start condition.

The way we do this is to simply mask and shift the bits until we have the desired bit. This is directly reflected in the value of SDA. Around it, we use SCL to clock the bit in.

For our acknowledge, we let SDA float high and then we clock in a fake ninth bit. If the receiving device has received the complete byte, it will pull SDA low.

Note that a slave device with interrupts (such as a small microprocessor) is entitled to defer the transmission for a while by holding SCL low. As we are talking to simple devices, this clock-stretching is not supported in our implementation.

```
void iic_write(int value)
{
   /* Writes a byte to the IIC bus...
      ASSUMES WE'VE STARTED.          */

   int  bit_count = 0;
   int  bit  = 0;
   int  ack = 0;

   for (bit_count = 7; bit_count >= 0; bit_count--)
   {
      this_bit = ((value & 128) >> 7);
      outp(LPT_WRITE, ((1 - this_bit) + 2) );
                          /* SDA = bit, SCL low  */
      outp(LPT_WRITE, (1 - this_bit));
                          /* SDA = bit, SCL high */
      value = ((value & 127) * 2);
                          /* Set up for next bit */
      outp(LPT_WRITE, ((1 - this_bit) + 2) );
                          /* SDA = bit, SCL low  */
   }

   /* Fake ninth bit, for Ack */
   outp(LPT_WRITE, 2);    /* SDA high, SCL low   */
   outp(LPT_WRITE, 0);    /* SDA high, SCL low   */
   ack = 1-((inp(LPT_READ) & 128) >> 7);
   /* Tidy up, but we don't clock it */
   outp(LPT_WRITE, 2);    /* SDA high, SCL low   */
   outp(LPT_WRITE, 3);    /* SDA low, SCL low    */

   if (ack != 0)
   {
      printf("No acknowledge from IIC device.\n");
      /* Clear IIC bus */
      outp(LPT_WRITE, 0);
      exit(EXIT_FAILURE);
   }
   return;
}
```

If the bit logic isn't clear to you, please take a moment to read it through.

In order to read a byte, we essentially perform the inverse of the above. The protocol specifies that *all bytes except the final byte* have an acknowledge. The final byte is not acknowledged. This signals to the transmitter "no more data".

```
int  iic_read(int doack)
{
   /* Reads a byte off the IIC bus...
      ASSUMES WE'VE STARTED.

      WE, THE 'MASTER', CLOCK THE DATA IN, SO WE
      KNOW THE 'SLAVE' IS RUNNING TO OUR SPEED.
   */
```

```
   int  bit_count = 0;
   int  this_byte = 0;

   for (bit_count = 7; bit_count >= 0; bit_count--)
   {
      outp(LPT_WRITE, 2);
            /* SCL low, SDA high;
               allows slave to pull SDA */
      outp(LPT_WRITE, 0);
            /* SCL high, SDA now = bit from slave */

      /* clocked it in, so read it... */
      this_byte = this_byte * 2;
      this_byte = this_byte + \
                  (1 -((inp(LPT_READ) & 128) >> 7));

      outp(LPT_WRITE, 2);
            /* SCL low, SDA = bit from slave */
   }

   /* Ack it (remember the signal inversions) */
   outp(LPT_WRITE, (2 + doack));
            /* SCL low, SDA = (not)DoAck */
   outp(LPT_WRITE, doack);
            /* SCL high, SDA = (not)DoAck */
   outp(LPT_WRITE, (2 + doack));
            /* SCL low, SDA = (not)DoAck */
   outp(LPT_WRITE, 3);
            /* SCL low, SDA low */

   return this_byte;
}
```

Well, there you have the basics of an I²C implementation written in TurboC. It should not be much trouble to convert it to RISC OS by replacing *inp()* and *outp()* with calls to the Parallel_Op SWI (it won't work on older machines as it is – use D0 for the data output?).

The story is not yet over. We must tidy this up into some example code that will retrieve a chapter of data from the teletext receiver. I'll skip the formalities of tuning the box, selecting the page, and all the *#include* type stuff required in a C program – that can be your 'homework'.

You'll find a datasheet for the *SAA524x* very useful. From the *Philips* website, you can download the current I²C specification.

Actually, to be nice, I'll show you how to tune your teletext receiver to channel UHF 21...

```
iic_start();
iic_write(192); /* tuner device, write */
iic_write( 0xC0 );
iic_write( 0x00 );
iic_stop();
delay(20); /* The tuner NEEDS a short delay */
iic_start();
iic_write(192); /* tuner device, write */
iic_write( 0xE61F & 0xFF );
iic_write( 0xE61F >> 8) & 0xFF );
iic_stop();
```

To read chapter zero (which is where the 'page' data lives, the extended data is in chapter four), we would:

```
void read_frame(int ghost)
{
   /* Reads a frame from the receiver's memory */
   int  row = 0;
   int  col = 0;

   iic_start();
   iic_write(EUROCCT_WRITE);
   iic_write(8); /* Start at register 8 */
   iic_write(0); /* R8 : Chapter - A12 inactive */
   iic_write(0); /* R9 : Row */
   iic_write(0); /* R10: Column */
   iic_stop();

   /* Read the data */
   iic_start();
   iic_write(EUROCCT_READ);

   for (row = 0; row < 24; row++)
   {
      for (col = 0; col < 40; col++)
      {
         if ( (row == 23) && (col == 39) )
         {
            /* Last byte, don't ack it */
            data[col][row] = iic_read(FALSE);
         }
         else
         {
            /* First or middle byte(s), ack it */
            data[col][row] = iic_read(TRUE);
         }
      }
   }
   iic_stop();

   return;
}
```

In the next issue, we'll work on some ARM code to do this exact same thing...

Rick, 2004/04/30

Qu'est-ce que c'est, ça?

Microsoft Security

What's the alternative?

So the latest onslaught to the Microsoft Corporation has been the "Sasser" worm. This is easy to fix – you just need to download a patch of 2,710,296 bytes.

What, I feel, depresses me the most is not that people don't learn, but that there are no viable alternatives.

Okay, I'm sure all the Linux weenies are foaming at the mouth. Well, I have a book with a Linux CD in it and it begins with something akin to "first, compile your kernel". ***NO!*** Normal people don't want to compile a kernel. Hell, normal people don't even want to know what the kernel is FOR.

[in case you are reading and don't know, it is the lowest-level part of the operating system, consider it like the President (or Prime Minister) if the OS is a country... okay, its a crappy analogy but you get the idea of its importance]

Given the veritable success of Linux and the likes of netbsd, how come we don't have a Windows-style installer? Something that won't bother to ask you what "disk sets" you want – presenting you with loads of confusing options like "emacs" and "dev"? Something that will simply ask you if you are:

- Hacker
- Housewife
- Suit

And tailor the configuration to suit. Something that will set up the system so it'll auto-run X windows with a Windows-style GUI already set up.

Oh, and something that'll work on *most* computers without asking you fifty million questions (unless you choose the "I'm a hacker" option, that is).

If we see that, and if it auto-installs some useful business tools and internet stuff, maybe people will be more inclined to leave Microsoft and its collection of security patches and turn to something else.

Instead, we hear about people who *never* install X windows because "true" users use the command line. Maybe it works for them, fair enough. It won't, and the case-sensitive file system won't, work for Joe Sixpack who is fed up with the *latest* problem to affect Windows machines...

In defence of the virus writer?

My mother and I have had long and heated debates about *this* one.

The question, obviously, is:

> Is it right for companies to offer huge rewards for catching the person that wrote the worm that causes so much damage?

I say "no".

At the risk of offending some people, I will point out that you might expect security bugs and problems if *I* wrote Windows *single-handedly*. But no, a cast of thousands participated in it. It looks nice (or in the case of XP it looks "colorful" if not exactly "nice") and it mostly behaves itself.

Maybe the reward money should have been better spent up front hiring a team of dedicated pizza-eating hackers to lay waste to the latest version of Windows. Then, with each new hack blocked, the system will be that much more secure. If they did this in the first place, maybe Sasser wouldn't be the problem it became?

Sure, Microsoft is an easy target. Everybody hates Microsoft and anybody will try to hack it, right?

Yeah, whatever.

An awful lot of background stuff is run on non-Microsoft systems, from the Cisco stuff that plugs all the bits into each other to the web servers themselves that run apache on a Unix clone. When is the last time you turned on CNN or BBC News 24 to hear that there is a horrible troublesome worm leaping around Unix? The CNBC presenter summed it up when he used the words "yet another embarrassment for Microsoft". The Microserf (?) tried to deflect it by saying "Apple computers have vulnerabilities" but either they aren't being reported to the media or people aren't bothering to exploit them. Just like people aren't really bothering to exploit Unixen flaws – which must surely be an easy target, what with the entire source code available...

Where do we go from here?

This isn't an article telling you how to fix anything, it is an article intended to make you think differently about the situation. There are a number of thoughts, but these are not for non-geeks.

Let me know what *you* think, email address on page #2.

Rick, 2004/05/06

Politics (in Frobnicate)

The Drobe team (http://www.drobe.co.uk/) wrote quite a good subjective review of issue #20 and they raised two points which I shall answer in this article.

The first was about the pollution of articles with political commentary.
Rest assured, however, that there will be far fewer comments of this sort in the future, because:

a. You know my stance, I don't need to keep repeating it!
b. The Horrible Dating Problem.

The "Horrible Dating Problem" isn't the girlfriend from hell, it is how quickly stuff can date.
As I write this, the Americans are apparently trying to spin control their way out of a mess in Fallujah. They say one unit made a tactical repositioning. The other side says the cowards ran like hell.
When *you* come to read this, will you know what I'm referring to? Or have the more-recent abuse videos overshadowed Fallujah?

CNN May 2004

However, as taboo as the subject of politics might seem to some people; it is something that *does* affect each and every one of us. If the World Trade Center attack was to occur now, would it seem so horrific or would it seem to be a retaliation to Iraq? We elect people we think we can trust to represent our country and lead it. This has a *far* wider scope than simply keeping interest rates low, petrol prices within reason, and the street lights working. Whether we like it or not, America and Britain – under the leadership we elected – have seriously annoyed certain factions of the Muslim world. You might be one of those people who thinks "*don't vote – it only encourages them!*". Well, it is complacency like that that knocked Lionel Jospin out of the French elections a few years back ... to be replaced by an left-extremist. It was "an action" that shocked France, and a number of European countries. People screamed and called for reform of the electoral system. Why? This wasn't a problem with the electoral system – this was a problem with the fact that sensible and rational people couldn't be bothered to cast their vote. So the country heard from those who would prefer France to be taken out of the EU and all the foreigners kicked out.

Do *you* ***personally*** agree with the conflict in Iraq? Do *you* ***personally*** think the EU is a good idea? Whatever your answers, be sure to vote for the person that represents your feelings the next time an election comes around. *It **does** matter*.

The second comment made by The Drobe Team is how I can accuse Bush of "*all but killing the idea of democracy*" with a straight face, since I am apparently pro-anarchy.

Well, I am *sort-of* pro-anarchy. I think people should be allowed to go picket and protest and strike if they think they're being given a raw deal – they're probably right. And, to be honest, gliding on the wrong side of "the establishment" is a hell of a lot more interesting than "the establishment". This is because, in my opinion, those in power live to abuse the rules as much as to use them, the "feather their nest" syndrome. Only, they make the rules so...

One thing for certain is the concept of all-out anarchy is dead in the water.
Let's assume the government is overthrown and anarchy reigns.
Well, there's a falsehood before we've gone beyond the first sentence. Unless the *entire* country rises up and tosses the politicians out on their heinies; the chance is that it'll be an organised group of people.
A "coup".
Will these people then back down and hand England to the people? Probably not. Somebody will think they can run it. Or if they don't, somebody else will think they can run it. And we leave anarchy and enter what is most likely to be a dictatorship.

I think the only *true* anarchy is in the middle of a warzone (military, civil, or otherwise) when the chain of command has broken down and it is every man for himself.
Of all of my friends who like to think of themselves as anarchists, I don't think there's one single person who would actually want their world to be like that. I sure-as-hell wouldn't.

Anarchy is an interesting concept and an idea to consider when you feel everything else has failed; but it itself is a concept doomed to failure.

Hell, most of the anarchists I used to know only did protests and mostly-ignored acts of minor civil disobedience in order to make the world aware of their desire to openly smoke dope and not get arrested for it. Dope, they say, is no different to tobacco...

Well, I'm not going to enter into that debate, I've neither smoked dope nor tobacco, nor do I have any desire to.

As far as I'm concerned, the "anarchic outlook" is more a *rebellious* outlook. Pure anarchy? No thanks!

Back to the politics, something I do have to question is the six month presidency of the EU. I think the common currency is a very good idea but I have grave reservations over the idea of a common political structure. No way you cut it will issues of importance to an Estonian be important to the French. Likewise, the Swedes need things like car headlights on all through the day in the winter, not an issue likely to be of relevance to a Maltese person. There are a number of things where pan-European standards can be useful (and I don't mean rubbish like how straight cucumbers should be), but this is more for compliance and compatibility than politics and law.
Can it work? Well, let's just say that in the '70s the English (an 'imperial' measurement country) and the French (a Metric measurement country) built the Concorde.

To be honest, the various countries of Europe are too disparate for the political idea to work, at least within this decade.

I reserve judgement on whether or not the introduction of the new countries to the EU is a good idea. It is interesting that most of the countries have, to some degree, put in place forms of immigration restriction while Ireland is opening its borders and pretty saying "hey, come visit".
We, as the people of the EU, can either discuss and argue the point or we can make it happen and see how it all goes on. *Time will tell.*

My prediction? The Euro will dive like a Kingfisher and the British politicians will gloat. There will be a period of economic crisis and the EU itself will get a mighty kick in the ass. But it will reorganise and emerge, along with a more integrated and powerful Europe. It'll come back as a force to be reckoned with, and no longer will America dominate so many things. Now, this won't happen next year. I'm thinking long term, like ten to fifteen years.

One thing that *is* likely to transpire, along the way, is that the EU countries get fed up with the position of Britain, and they'll effectively say 'take part or bugger off, don't sit on the fence and think you're important".
Will Britain join in more? I think possibly not because they'll put out to referendum issues that will be answered by people who seriously believe that if England adopts the Euro, it'll bring the demise of the Royal Family and no more Queen. I can name two people I know *personally* who hold that opinion. I don't know what cheap tabloid rubbish they've been reading, but I'll point out that Spain is part of the Eurozone, part of the EU, and they have a respected royal family... as does Sweden, and... get the point?

So we're back to the six month deal. Recently Italy was in charge of the EU, as I write this it is Ireland. I don't know who is next, I'm sitting at the kitchen table eating pasta and typing this into my old Craptop and I can't be bothered to find a map and work out who is next in order.

How much can you hope to achieve in six months? Mr. Berlusconi had Mr. Sharron trying to convince him that Israel was not a place that Europeans should feel is a serious threat to world peace. But, now, even if those two are "very bestest buddies", Mr. Sharron has to go and find somebody else to talk to. The person in charge *now* and not the person that was in charge *then*.

What the EU needs is an elected "president". Somebody who is voted in to place, say for a nominal four year term, and who can be re-voted if they do well. But, conversely, they need to *ensure* that getting a bad person out is not difficult. If, for example, 40% of the countries of the EU vote the guy out, then he is out and a new election takes place. No complicated issues, no "impeachment" proceedings (they're long and complex, which is why the majority of naughty US presidents are left to run their four year term and are not re-elected instead of being impeached). If the EU countries were given an easy way to remove ineffective or bad leaders, then maybe more would be happy to have a non-rotating presidency.

Consider NATO. When we heard of statements from NATO, we usually hear them from Kofi Annan. He's a good man, and people listen to him.
If it was a new face every six months, would that person really fully understand all of the issues within his allocated time? Would we care to listen to a single thing that person said?
It is the same with the EU. The rotating presidency probably started off as a "fair" way to do things, but I feel it is holding them back these days.

And that, friends, is the "political article" and pretty much *it* for politics in this issue.

Do you agree with me? Do you disagree? Maybe you have a better way? Write to me. Air your views in the politics column!

One thing I must make *very* clear before I go is that I don't reckon I have all of the answers.

I think I'm right (obviously, else I wouldn't be writing this) but *just because I think it doesn't mean it is so*.

What I write is *largely* a matter of opinion and not a matter of fact. Listen to Radio Four and you will quickly discover how perverse the 'facts' can really be, and in each interview as each 'expert' talks, be sure to listen for the prefix "I think..." in so many sentences. They too are stating their thoughts and opinions rather than undenied facts, only there's a glossier spin put on to it so you get tricked into thinking it is actual fact and not just (yet another) opinion.

Some people got a bit mixed up with this, especially with my little piece about "*reading all those programming books by people who think they know best*"; some of you said "*they probably **do** know best, who are you to argue?*".
Who I am is a self-taught programmer that reads things like "every function should have one clearly defined entry point and one clearly defined exit point" and realises what a load of rubbish that is. Possibly *more* of my functions have multiple exit points, than those that don't. My brain copes. My compiler copes.
People have read my code and not said "look, this twerp has six exits here!".
Maybe I'm totally wrong on this? The important thing is that you read what I have to say, and what they have to say, and then you do something amazing... something magical...

YOU MAKE YOUR OWN MIND UP!

We all, in our Western society, have this privilege, and I think it is high time more of us started to exercise this ability; instead of being told what films to watch, what clothes to wear, what things are "cool" and what aren't, what labels to have in your possession, and what role you should play.

The truth, sadly, is so much easier.

Watch what the hell you want to watch, wear whatever makes you think you look nice/hard/sexy/cute/etc, "cool" and "uncool" are marketing concepts so buy/use what appeals to you, labels are entirely up to you – I have no need for them but you might; and finally, unless you're an actor/actress, the only role you should play in the world is YOU.

End of story, end of article.
Good fight, goodnight!

Rick, 2004/05/09

The Frobnicate Quiz

No attribution, it'd make it too easy!

Who is this, and what is she doing?

Sorry, you don't win anything, but you will see your name in the next issue if you have correctly answered the question!

heyrick -at- bushinternet -dot- com

Her name badge and the embedded URL have been blanked out (in order to make this a worthy challenge), the details will be given in the next issue.

Reader Survey

It has been quite a while since the last survey, so here is a chance to see how things have changed. As is usual with my surveys – you do *not* need to answer the questions as set. If writing an essay based upon the questions is more your style, or if you feel you have your own thoughts to share, questions I should have asked, etc... send them in!
Here goes...

1. *Describe yourself.*
I'll leave the format up you you. Say as much or as little as you want, but preferably your name, age, and an email address.

2. *Describe your computers.*
This, again, is best left up to you. Some of you might have only the one computer. Others might have ten or eleven. Say what you feel is relevant.

3. *Describe your capabilities*
Are you a hacker? If so, what have you done recently? Or are you a suit who uses computers only to work out the payroll and send faxes... tell me what you can do and how you use your computer(s).

4. *Setup*
Do you have/use:

A LAN? What type – 10baseT, 100baseT, 1000baseT, 10base2, Econet, something else
Notes: ##baseTX is counted the same as ##baseT
If your computer connects with a 'fat phone plug", it is baseT. The other ethernet system in common use is base2 using a BNC plug (like on old video recorders). Many network cards have an indicator on the panel for 100kbit use, if it isn't lit up then assume 10kbit. 1000kbit is much less common, even today.

A modem? What speed – 28800bps to 56400bps

A router? What protocol, ASDL or ISBN. If ADSL, what bandwidth do you have (64kbps – 4mbps)

How much on-line storage do you have? Add up the sizes of your harddiscs,#

Do you use a UPS? If so, is it primarily for power cuts or for lightening protection?

Would you purchase an Iyonix? If so, why; or if not, why not?

How would you compare Windows to RISC OS?

If you have experience of Unix (any type), how would you compare that to RISC OS?

What do you think is RISC OS's best feature?

What do you think needs to be improved?

5. *For Acorn/RISC OS users only:*
Vote for:

Your favourite *commercial* software package (and why?)

The software *commercial* package you hate the most (and why?)

Your favourite *shareware (or other registration-scheme)* software package (and why?)

The software *shareware (etc)* package you hate the most (and why?)

Your favourite *FREE** software package (and why?)

The software *FREE** package you hate the most (and why?)

Your favourite (not a computer) hardware (and why?)

The hardware that sucks the most (and why?)

What has been your *best* purchase (and why)?

What did you *most* regret spending money on (and why)?

What do you vote as the *best* RISC OS computer (and why)?

* This means something that can be downloaded and used for free; not a special giveaway or a competition win, etc. If it is especially good, tell us the URL!

Finally, who would *you* vote as the top Acorn/RISC OS personality? Who do you feel has contributed *most* to the Acorn/RISC OS scene?

6. *Anything else*
Include here anything else you want to say.

Thank you, in advance, for sending in your answers to the Frobnicate Reader's Survey.

These answers will be kept confi dential and will be used to generate a 'results' article. The information is *not* sold or used for any form of sales research.

For what it is worth, some selected answers of mine are on the following page...

I'm going to write my answers quite small, so you can see them but not waste lots of space on them...

1. *Describe yourself.*
I'm not going to bother. I think you know who I am by now. :-)

2. *Describe your computers.*

Main	RiscPC 710, 32+1Mb, RISC OS 3.70 & Wimp 3.98. Heavily modified.
Secondary	Presario P75 (clocked at 90MHz today), 16Mb, Win95 OSR 1½ (!). Lightly modified.
And...	Laptop, 25MHz 80486, 8Mb, DOS/Win3.11. ¼ display not working. It's a piece of crap really. A5000, A3000, A3000, A310, BBC 32K, Oric-1, blah, blah, blah...

3. *Describe your capabilities*
Insatiable geek.

4. *Setup*
LAN - 10baseT between RiscPC and PC, sometimes with A5000 in the loop. Using Maxihub 5031 hub.
Modem - 33kbps, but no phone line so pretty useless really!
Router? I wish... Too far away to ever get ADSL and ISDN is kinda ancient tech.
On-line storage for the RiscPC is about 3.5Gb. Not enough. Either that or I need a dramatic tidy-up.

I'd like a UPS for lightening protection. Until then, I unplug. Safest way.

Iyonix? Oh boy... Is that ever a tough question. I work it out as being about 2000 euros in cost, and they would get some pretty drool-worthy PC hardware. So, well... It's something that'll haunt me if I ever have 2000 euros to spend on a computer.
What do you guys think?
I cannot compare RISC OS to Windows. I only have RISC OS 3.70 (for what it is worth, I still think 3.70 looks and behaves in a nicer way than Windows XP, but then XP does a lot of incidental stuff that RISC OS doesn't do)...

Don't have sufficient Unix experience.

The best feature(s) of RISC OS must surely be the font rendering, true drag'n'drop (not that I can make it work properly in code!) and the Filer.
It needs improvement on the printing side of things. It should be a more 'background' thing than it is (on RISC OS 3.70, again).

5. *For Acorn/RISC OS users only:*
My favourite *commercial* software package is OvationPro. I said why at the end of issue #20.
The software *commercial* package you hate the most? I've not had enough experience to have an opinion, but if pushed I'd pick certain games that are, essentially, boring.
I don't tend to use much "shareware", but if I had to choose, I'd say Jon Kortink's Creator/Translator looks quite useful... I still use ChangeFSI and a bunch of other tools to do what Jon's software does all-in-one.
Favourite freeware? I can't vote for my own OvHTML sadly (my ego isn't *that* big) so I'll send a nod in the direction of the bloody amazing !Zap. Wow.

The free package I hate the most? I could have named hundreds, but the beauty of free software is you can toss it aside and forget about it. No gain, no loss.
Actually there is one. EL-something-or-other. Its a PCB design program supplied with one of the electronics magazines a few years back. The thing resolutely *will not* work on my PC (any of 'em).

My favourite hardware is, right now, my 11 euro CD burner. At least I can pretend to make regular backups. *Thanks John – you know what for.*

The hardware I have that sucks the most is probably the Acorn Teletext Adapter. This, however, is a personal thing 'cos I can't figure out how the heck it works so I'm gonna sulk and throw my toys around my cot...

My best purchase? At this exact moment in time, the 8% beer I've just finished. 500ml, 8% alc. Brauperle, 0.62 euro. Mmm...

I *most* regret spending money on CC's "Compression". I don't think I *ever* used it, and if I realised the app squasher supplied with the DDE pretty much did the same thing, I wouldn't have bothered buying it...

I can't answer the "best computer" as I've not yet laid mitts on an Iyonix nor an Omega to compare them to the older tech. So I'll be philosophical and say "any new RISC OS computer is a good computer".

The top Acorn/RISC OS personality? Without a doubt it is David Pilling. He's a damn nice guy, and can you imagine the 'scene' without him? Even if Ovation(Pro) hasn't been to your taste, where would you be without Spark[PlugIFS], ArcFax, and all of his other creations?
He deserves a whole lot of respect, and hopefully the results of the survey will echo this.

6. *Anything else*
Anything else I want to say... As editor and most-writer-of-this-issue, I think I'd actually better shut up.

And let you
listen
to
the sound
of
silence.

Bye.

Sky Digibox

FOR YOUR INFORMATION

Stuff happened...

This is aimed at receiving the BBC channels while you are living in (northern) France. It applies equally if you're living in the UK. For other places, it depends entirely upon the satellite's footprint, please refer to the details available on the Astra website at `http://www.ses-astra.com/` to find out more...

First things first, you'll need a few things:

- A Digibox
- A dish
- An LNB
- Some satellite grade co-ax

The first, the Digibox, is not difficult to come by these days. Perhaps, if you know somebody who has gone for SkyPlus, you could grovel for the old box?
The dish... A lot of people around here are getting on okay with a "minidish", however those with more difficult conditions or further south may need a larger dish. In France, *M@tronic* sell a complete analogue system with 80cm dish for about £35.
The LNB... If you have a minidish or more modern receiver, you'll be okay. If you have the older Sky analogue setup, things are probably not so rosy. You'll need a "Universal" LNB. As you can see from the picture, a universal LNB has two local oscillator frequencies, these are usually 9.75GHz and 10.6GHz. You *cannot* do much with an older (single osc.) LNB.

Finally, the wire.
Let's put it like this. My watching of *BBC 1* is interrupted by signal corruption because my box is only getting 50% on the quality meter. Why? Most likely because my cable is old. You *must* get out of thinking that if something works on analogue, it'll be okay on digital – heck, with the satellites at 19.2°E, a reception that gave a perfect analogue picture was too "noisy" for digital to even get a picture!
Get good quality cable for satellite interconnections. Don't waste time with cable for off-air television reception as the frequencies are different, thus the cable won't be much good!

What you might have noticed is not on the list is a satellite finder. If you can arrange for the digibox and television to be near the dish (or close enough that you can read the screen) then you have the very best meter you can get.

Picture of Digibox screen

Point your dish to 28.2°E and 30° inclination. Don't measure it *exactly* as there's no chance you'll get it dead-right. Simply put it 'that way'. Now move the dish around in careful sweeps, going up or down a little with each sweep. Watch the *Signal Strength* and be aware that it is typically a second behind what you are doing! If you get a good signal strength with no lock, you have probably hit Astra 1 at 19.2°E so go to the left a little bit. When you are on target, the lock will say OK and the network ID will read `0002`. You may notice that the signal quality *could* be improved. This, you see, is the problem with satellite meters. It'll tell you a strong signal (as in the upper meter) but not how 'good' the signal is. Move the dish around by *tiny* increments and *only* pay attention to the quality meter. You see, the quality meter directly relates to the signal decoding. With digital satellite, many extra bits of information are broadcast so that the receiver can perform astounding feats of error correction so, generally, your picture will look like it should. The quality meter inversely reflects how many errors have to be corrected – the higher the reading, the better.

When your signal quality is as good as you can get it, clamp the dish in place and enjoy the four BBC channels...

It may have seemed simpler than you might have expected. Rigging up a digital satellite receiver isn't as difficult as it might seem. I'd say the most difficult part of the job is drilling a bunch of holes and putting the dish in place. Of course, if you are the type that believes dishes need to be attached to chimneys, seeing the television could be an interesting challenge!

For what it is worth, the dish only needs to *see* the satellite in the sky. For many years I have run Sky (analogue) with the dish at ground level. The only reason I have problems with the digital reception is the old cable and not enough of it to give it a clear view away from trees (I'll need to buy about 30 meters of decent cable). I have heard it said that putting the dish higher improves reception. Provided that your dish *has* clear sight, sticking it up high can't do that much given that the satellite is about thirty six *thousand* kilometres away!

The first thing that took my breath away was the EPG. For pretty much *every* programme on the channels worth watching, a full schedule is provided for a week in advance. Not only that, but most programmes also have a synopsis. On Tuesday, I'm looking to see what Friday night's *Buffy* episode is about. You can then add this to your personal planner...

Picture of Digibox screen

As you can see from this picture, I have a bit of a 'thing' for low budget horror movies, so I was delighted to find out that *The Horror Channel* broadcasts in the clear so I can get my fix of screaming girls acting badly! (more at `http://www.thehorrorchannel.tv/`).

Picture of Digibox screen

Perhaps the most enjoyable thing, however, was that everything was in *ENGLISH!* I mean, no offence to Nora, Mirjam, and the team at MTV but I don't understand a single thing they say – I don't speak German, so I watched it basically for the songs. Oh, and let me tell you that I get the UK charts on the World Service (and now TV) and I used to get the German charts on TV... I think the Germans have better taste in music. Also, while I'm here, I think it is a *real* shame that Jeanette (Biedermann (but don't quote my spelling)) is not more widely known. Did you know she did a duet with Ronan Keating around the beginning of last year? If you are German, you probably did. If you're English, you might be thinking 'Jeanette who?" and that's a tragic shame...

MTV Germany 2003/09/25

On the right is a clip from a Necafé advert shown (lots) on the Horror channel. Now, why can't *I* meet a girl like that? `<sigh>`

Necafé advert on Horror Channel, May 2004

Anyway, while the Digibox system has a number of faults (maybe I'll talk about them another time), I absolutely have to give a hand of friendship to the BBC. Not only are they 'free to air" so you can receive without a card, but they really pull out all the stops to deal with people with various difficulties. The main one is support for deaf people. In this picture we can see a good example of the limitations of phonetic subtitling, but it is being transcribed live as this episode of newsnight is taking place. I'm quite sure the deaf community is aware that odd things ('list ton" instead of 'listen") may appear.

BBC 2, May 2004

Additionally, the BBC picks some of its more generally interesting programmes and has somebody sign them for the deaf viewers to watch. Here is a girl with a very expressive face watching the ending of a BBC nature programme. On my time watching German TV, and the small amount of French TV that I have seen, I've come across very little subtitling and I've yet to see anything being signed.

Picture of Digibox screen

BBC 1, May 2004

So, there you go. Setting up a digibox!

If you are more adventurous (and Euro-aware), you can get a lot from 19.2°E – more details on my website at `http://www.heyrick.co.uk/ricksworld/digibox/`

Sadly my Digibox has "times of eccentricity". After tempting me with The Horror Channel for nearly a week, and showing TOTP with only one *glitch, it decided when Buffy was on to show me a very glitchy title sequence and then refuse to acknowledge the 2A/2B satellite even exists. Stupid thing! Grrrr-argh! So now, obviously, I'm back on analogue and back to looking at Mirjam and thinking "Whuh?"...*

*If anybody has an unwanted Digibox (*any condition whatsoever so long as it works!*), please please get in touch at the usual email address. Thanks.*

Et pourquoi pas?

For those that don't speak French, the subject says "And why not?".

The title of this reflects this article. *I am writing it for opinion.* Basically if/when I buy a *new* computer (not for a while, mind you...) I'll be buying a PC and not an Iyonix.

Before you all run screaming and cursing my name, allow me to explain. Those that know me well will know that I write television and movie scripts. Not for a living, as a hobby. I added a bit to my *OvHTML* software to make it much easier to do this, and even have a DOS (as in MS-DOS) version of 'Scripter". I would like a computer that I can feed video into, play around with, and output. Back in the nineties such hardware was amazingly costly. These days, you can *buy* a PC with DVD writer that can turn home movies into DVDs for less than the cost of a new Iyonix. It is sad, but it is true. I've asked a couple of Iyonix owners and I've been told the machine cannot *read* DVDs (yet?), never mind write them.

Where does that leave me? I would like to add to my RISC OS collection – god knows I think you need a many-gigahertz computer to get any sort of performance from Windows XP, however if the machine can do what I've waited nearly *two decades* to be able to do....?

You know what would really do it for me? Have you ever watched the Mission to Mars DVD and looked at the extras? In some shots, you can see that pretty much the entire movie was worked out in a computer, every shot, every angle. All rendered from descriptions. When they were happy with this CG version, they went and filmed the movie with real people. What would make my life complete (besides a lot of English tea, baked beans, and a nice girlfriend (p20, top right, for example...!)) would be an easy-to-use program that can do *that* and dump the results to DVD as a movie you can watch in a normal DVD player. Wouldn't it be *so* great to not only write scripts, but to make up characters and locations and have them actually *do* the things in the script? I want something a lot more realistic than wire-frame, but it certainly doesn't need to be Toy Story or Shrek quality, that would take forever to draw anyway...

"Mission to Mars" DVD, in 'bonus footage'.

You see, I can talk about my dreams because I know somewhere such software exists. I don't know exactly where, but it does. Sadly, I can tell you that such software does *not* exist in the RISC OS world.

What went wrong, huh? At one time we were proud owners of the fastest desktop computer (which by today's standard is rather pathetic, refer to Moore's law for an explanation). Now the Iyonix has brought RISC OS to 32bit but all I hear about it is one mailing from Castle and stuff my RISC OS friends tell me. I switch on TV and I see adverts for Apples, and even one well known company advertising two different versions of Unix that you can choose from to run on your laptop. Enter the Iyonix with RISC OS... or not.

Why not? Is it because the Iyonix doesn't measure up? Is this a real problem or simply a perception, a case of "my clock speed is higher than your clock speed", for you have only to compare two machines of similar spec (let's take the BBC Micro and the Oric-1 for the sake of argument) to show that the differences between computers are hard to judge (both used a 6502 but one certainly was a lot more productive and useful than the other). Clock speed *isn't* everything.

I invite *any* response to this article. What do *you* think? Am I right in looking to the world of the PC and the Evil Empire, or would I be better served by purchasing a machine that doesn't do what I have always thought would be fun...
...or does it?

By the way, don't bother writing to me if you are only going to ask 'why the hell do you want to make a computer generated movie?". I could equally reply 'why the hell so I sit here and write this magazine?", okay?

:-) *I do it because I feel like it!*

The RISC OS wars

Petty bickering and How do *you* feel?

I was reading csa on a friend's computer recently and I saw a *very* long thread about RISC OS 4 (Select) and RISC OS 5.
First thought? Oh my God!
Second thought? How pointless!

No, not Castle vs RISC OS Ltd, but the general tone of the argument itself. In an *ideal* world, Select (or RISC OS 5) would be available for all machine (yes, even an A5000) and things would be rosy.

But no. This is very much *not* an ideal world – and I don't just mean my (so-called) 'politics'. Apparently one of the early decisions of RISC OS Ltd was to *not* take RISC OS 32bit. Actually, that is fair enough. The 'older' generation, that Select supports, copes with 26 or 32bit so to go 32bit would take a lot of time, investment, and subscriber subs and what would you get in return? Nothing.
Actually you would get something – a RISC OS that looks just like the one you had been using, except a bunch of stuff doesn't work any more.
In all honesty, Acorn should have gone 32bit with the RiscPC, but maybe the ARM6 wasn't up to doing what Aemulor does at any sort of acceptable speed?
I digress. Since there were no 32bit-only machines, there was no impetus. Anyway, it is easier to design prettier icons. Okay, that was a bit below the belt. Never mind, I think the same thing about *those* adverts. You know the ones I mean.

Is *this* what we've come to? Really? Squabbling on a newsgroup (which you kinda get to accept and ignore) and squabbling in real life? Is *this* what we are happy for outsiders to percieve as our 'community'?

> A pointless bunch of losers arguing a pointless case for a pointless computer that should have died gracefully a decade ago?

Oh my God, are we becoming <shock!> <horror!> Amiga advocates? Well, I don't know about you that isn't how I care to be thought of as. We – the RISC OS community (probably *most* of you reading) – are already fighting a hell of a battle against those Windows users that think ROM-based operating systems are a load of crap because that's not how Windows does it. That think our 200MHz StrongARMs and 600MHz XScales are rubbish because their processor is clocking over 2GHz. That think it is impossible to do anything in 64Mb because "decent" PCs come with half a gigabyte of memory. That think the ARM is a piece of crap because it doesn't have Level 1 and Level 2 caches – despite not understanding what that actually means...
Do we need to add to this negativity and stupidity with our own negativity and stupidity?

There are two *different* versions of RISC OS. Deal with it! RISC OS Ltd went for the increased functionality while Castle couldn't make any use whatsoever of Select as their new system didn't do the old 26bit stuff natively. They would have to roll their own.

While two versions of RISC OS is not exactly ideal, that sort of thing is not unusual. Count the free unices: netbsd, freebsd, linux, and a bunch of others. The first two are interesting because the same thing split off in different ways (rather like RISC OS then!).
To put this in terms the weenies can understand:

XP is not NT.

In fact, there are even subtle differences between "XP Home" and "XP Professional".
Perhaps if we can persuade *both* RISC OS Ltd and Castle to adopt a fully open policy on their API (not just the bits they feel can be 'public' but ALL of it, for we shouldn't be too quick to forget the "internal undocumented stuff" was one of the crucial points of the Microsoft antitrust case), this *especially* includes changes from earlier releases, then any half-decent coder ought to be able to support both versions of RISC OS without needing to buy them both to test the software on...

Now if you were to complain that the Castle version of RISC OS was lacking all of those cute bells'n'whistles that make Select what it is, you're probably right. All Castle bothered to do was make it 32bit, right? Oh, and something to do with a HAL (wasn't that some guy in the 2001 movie?), some USB support, something about plug-in non-VIDC graphics cards... but who needed all of those features? Those things are just a whole heap'o'junk found on PCs. Right?
Exactly.
You might not be able to see it and click on it, but their work was rather important.

I note with a certain amount of despair that some seem unhappy with the possible future-proofing of the Iyonix. Now while I would obviously enjoy keeping up to date with Castle's hopes and aspirations – you have to ultimately respect their approach of not pre-announcing stuff. Ask yourself which is more valuable:

- a thingummy you can drool over and go purchase right this second

or:

- the kind of thingummy that gives geeks involuntary orgasms but might turn up three years late...if ever.

Remember, people, the Iyonix turned up with software supporting it. This wasn't a stroke of luck, it was because Castle got the players involved and got lots of things sorted out and ready for the product launch. This proves one thing... maybe all you're hearing from Castle right now is silence. Don't *assume* that to mean that nothing is going on! They managed to keep Iyonix under wraps, didn't they?

Anyway, it is perhaps worth pointing out that the entire concept of the "future-proofed" computer is nonsensical and basically flawed. You can *upgrade*, certainly, but one box that won't be obsolete is *never* going to happen...
Take the RiscPC. The original processor was an ARM6, but in order to make the machine expandable, it was on a card. Two slots were provided to allow you to plug in an x86 – genius! This thing will never become obsolete! An ARM7 processor card was made, and ones based upon the ARM8 and ARM9 were touted. As it became available, just plug in a new CPU and *maybe* a new set of OS ROMs. What could be simpler?
Well, the ARM8 and ARM9 cards never turned up. Instead we had the breathtakingly zippy StrongARM which was such a step forward that it swamped the memory bus (which was now pitifully slow in comparison). To work around this problem, the Kinetic card had a StrongARM and a lot of fast memory all on the actual processor card. Unfortunately this had to talk to the hardware using the processor bus, which became the bottleneck.
The point is, unless Castle have ridiculously over-specified the Iyonix motherboard (I mean, akin to an A5000 style motherboard to run a system with a 2MHz 6502 at its heart), then your Iyonix may end up becoming "obsolete" quicker than you would like. This isn't an insult to the Iyonix, this is common sense. If you can find a computer mag from four-odd years ago when the "Millennium Bug" was a hot topic, look at the specifications for cutting edge hardware. It is rather pitiful isn't it?
Exercise your grey matter – recall that people are still getting good milage from their RiscPCs, indeed this is the target market of Select.
The StrongARM, old and slow as it is these days, can even play a six minute MP3 of Leonard Cohen without slowing the desktop or glitching once. I can't say the same for XP on a 2GHz machine that isn't doing an awful lot else at the time!
How old is the RiscPC? When was it released? What was hot in the PC world at the time?
I'll tell you – the Pentium. So before you bemoan my disparaging of the concept of a future-proofed computer, just consider how many mutations the Intel x86 class machines have been through. My (real) PC is only slightly younger than my RiscPC. It is a P90 with 16Mb of memory. My RiscPC is a 32Mb ARM710. Into one I can put a StrongARM and buy Select and catch up with the best of the new-older tech set. Into the other I could try fitting a P133 and 64Mb of memory...but I don't think I'd get terribly far in my efforts to run XP on it. Sure, it'll probably work, but it'll be a case of "click and make a cup of tea while the computer responds". If I did that (literally), I'd look forward to a life spent wearing incontinence nappies from the many gallons of tea I'd consume!
You get the point though, the concept of a future-proof computer is a naïve idealism. Even if the worst was to happen and Castle decide tomorrow to pack in their support for a desktop RISC OS machine, you are not hanging in the lurch.

The RiscPC is about ten years old and rather crusty, but still going. Your Iyonix will do the same. The RISC OS market has always offered the sort of longevity that seems simply unreal and unattainable in the Windows market. As for the permutations, not only am I number-dyslexic, but I've lost count and interest of how many different sorts of basically-similar processors are around (you know: Celeron, the MMX versions, yada, yada), so I'll simply say "A lot!".

It would be nice to be able to wrap this up with a delightful little Springeresque ending which neatly ties all the loose endings and provides a happy and sensible resolution to the entire debate while managing to insult the people that were involved in the show...
Ain't gonna happen.
Remember, both RISC OS Ltd and Castle are companies and one of their prime directives is to make money, since while altruism is a nice concept, it doesn't pay the bills. I could say it'd make sense for them to share so Iyonix gets the bells and whistles and RISC OS Ltd gets 32bit, but will it happen?

Right now, since we're not omnipotent and since anybody who believes a promise made by an IT person is a fool, this gives us two options:

1. RISC OS Select on 26/32 (read "old") hardware. Good software base, insofar as you can expect from the RISC OS scene.

2. Iyonix on 32 (read "new") hardware. Growing support, and Aemulor for all the obstinate stuff.

Forget about the future. Even if you buy a brand new PC, you're eventually going to hit a limit of how far you can expand it to make it cutting edge. In fact, while it is useful to keep in mind what you plan to do with your computer in the future – don't think *too* far into the future. Things may work out rather differently to what you'd expect. For me, my next computer is very likely to be a PC. Read page 21 if you would like to know why.

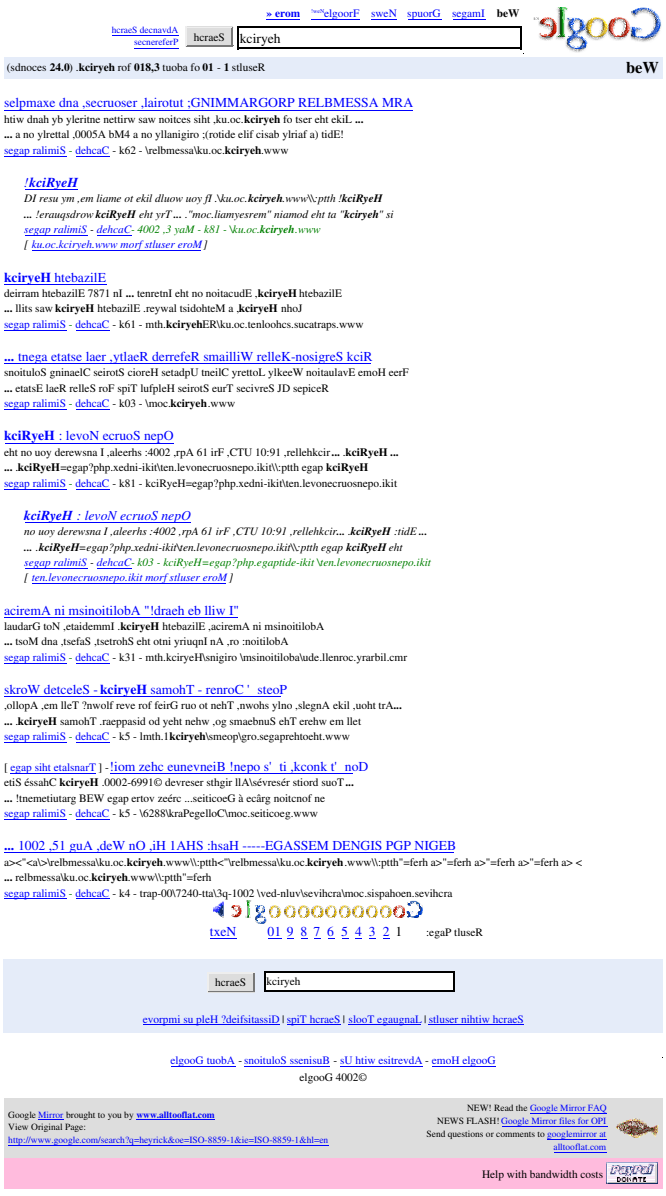
Perhaps Reese said it best:

> *I cannot help you with what you must soon face, except to tell you that the future is not set...*

SPOTLIGHT

http://www.alltooflat.com/geeky/elgoog/

It's a Google mirror... What more can I say?



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The Wrap Party

This concludes the *second* of the more recent issues of Frobnicate. Or, to put it in context, the fourteenth issue since issue seven. Uh... or something.

Sadly, my calls for articles have not come to any sort of fruition yet... You know – you don't *have* to write anything nerdy. You don't *have* to know all of your grammar and punctuation (God know's i dont!). What you need is an imagination and an inclination to write something to share.

Are you involved with a model flying club? Tell us about it! Tell us about your favourite model. How come you can fly a model helicopter upside down but you can't do that with a real one. Why do some planes have wings that tip up at the ends? Or perhaps woodwork is more your bag? Fine! Would you care to share with us how to make a chair? If we want to put together some bits of wood to throw plastic sheeting over to DIY a little greenhouse... there are loads of types and sizes in a shop. What is the best wood? Is there a formula for weight capacity vs length?
Those are two non-computery ideas, and if you submit such things, I'll print them. I'll also be happy to print replies to points raised in this (or previous) issues.

Don't be afraid to have your say!

I've said it before, I'll say it again:
This magazine, and its future, lies in your hands...

Anyway – as the title says, this is a wrap. I guess this page is a sort of "editor's notes for the end". Typically I write the issue from the beginning to the end. The notes reflect the plans and concepts in the issue; and this? This allows me to reflect on various things.

One thing worth reflecting on is the failure of whatever computer system the NatWest bank uses. Back in... maybe mid-March? (I'll have to check mom's diary for the exact date), we called the ActionLine system. Surprisingly a *real* girl answered – not a machine.
"Is the ActionLine system working?" "*No.*"
"Can you tell me a balance?" "*No.*"
"Will the cash machines work?" "*I don't know.*"
"If I call back when it is fixed, can you tell me what actually went wrong?" "*No.*"
Something happened that apparently took out the NatWest computers (no, the cash machines didn't work until half an hour later) and we're supposed to *accept* it without so much as a reasonable explanation. It is particularly ironic that this should happen just after I wrote about it in issue #20 (pages 31 and 32).

What do you think of the general tone of the articles? Most often I write the articles between midnight at three in the morning. It is 02:00 (CET) right now...
I remember a newsgroup discussion where I said that often I took breaks at work, alone, and sat in the corner and just did my own thing. Somebody replied that it might work in the short term, but it would ultimately be soul destroying.
I'm 30. I still like to be alone. It isn't as if I don't like the company of others – it'd be pretty hard to be an effective Care Assistant if you didn't like people! I just *prefer* to know what I am supposed to do, and to then be left (alone) to get on with it.

I'm sure mom would tell me that's a "man thing", like we (men) can read maps and reverse the car without looking behind us (the mirrors will do)... but we are unable to "switch contexts" quickly, nor can we iron *and* watch TV *and* hold a conversation with two different people *and* keep track of what's cooking...

I think it is something more specifically *me*, as I like to people-watch from time to time and it certainly doesn't seem like all the woman socialise and all the men stick to themselves...
...at least not until you get to B&Q in which case all the men feel a compulsive need to touch every single nail and make grunting noises and then eagerly compare specifications of power drills...
...while all the women get together and talk about mind-numbing things such as the economy, the price of petrol, how to make good dumplings and why men need to touch each nail 'cos it's only a pointy piece of metal – "What's the big deal? Just buy a big one!"...

No, I'm not being sexist, I'm just reminding you that no matter how much we may wish for equality, we are *actually* different... Not only physically, but mentally. A study a while back said men think of sex, like, every three minutes while a woman is on a roll if she thinks of it more than three times a day!

Anyway, I look forward to the day I see a group of woman fingering the nails (bring your own subtext) and grunting at air compressors. If nothing else, they'd surely be prettier than Tim-the-tool-man-Taylor!

Thank you *so* much for reading *Frobnicate*.

Rick
2004\06\05