

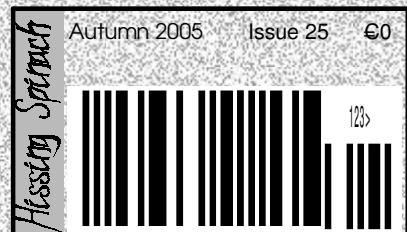
FROBNICATE

Can you see it?

FROBNICATE
CELEBRATES
TEN YEARS!

(gee, don't I feel old now!)

Contains sustained moderate geekery.



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[#25, 2005/10/13 13:42 CET]

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Credits:

Designed, written, and created by Richard Murray.

"Multiple satellite reception on a fixed dish" written by Ewen Cathcart.

"Attack of the Killer Secheresse" written by Stephanie-Jane Murray.

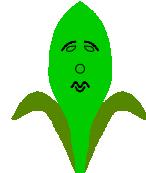
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TEN years, TWENTY FIVE issues!

<http://www.heyrick.co.uk/frobnciate/>



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heyrick -at- merseymail -dot- com

Editor's notes

Your starter for ten...

Well... I can't make a political point by putting a picture of a rotting body on this page with a caption about what a total balls-up the American government made of something that many people saw coming... You just need to turn on the TV in order to see extremely disturbing images and your regular selection of bullshit in soundbite form; such as some twit saying that violence is not being used to remove people from their homes accompanied by pictures of heavily armed police moving people at gunpoint – no exactly violence, but more than your subtle coercion.

So it must come to the obvious question – *why*? America sets itself up as “the leader of the free world” and we can clearly see the juxtaposition between that sentiment and the bodies lying face down in the water. How did this come to be? How did a city in such a vulnerable position have defences that failed, evidently with no backup systems? How come, during the evacuation, the public transport all but stopped? How come the forces took nearly a week to arrive, coming after the city had been looted, pillaged, and trashed? How come it took the President nearly two weeks to do his expected walk and pat on the back routine, yet certain celebrities found a way to get in and start helping in that number of *days*? Why was nothing arranged in the time *before* Katrina hit?

And – the really big question – if New Orleans and vicinity had been an exclusive and affluent part of America, would it have taken *that* long? Would things have been better? Was this genuinely appalling disaster preparation, or was more a “let’s look the other way for a little while”.



Photo off BBCi

To understand why I suggest this, we have to look at the history of New Orleans. The area was discovered by the Spanish in the 16th century. In 1682 a French bloke claimed the area and named it in honour of King Louis XIV. The place we now know as New Orleans was set up in 1718 to be the French capital of the New World, with aspirations of becoming a giant commercial centre. Those aspirations were hard to meet due to the flooding and storms and Yellow Fever. The city passed between France and Spain for many years, until Napoleon sold the entire state of Louisiana to the Americans for \$15,000,000 which, at that time, doubled the size of known-America. The city broke into three bickering groups (French, Spanish, and Americans) and it expanded. Eventually a bizarre double-leadership form of politics was devised and New Orleans became a cohesive unit. In the 19th century, the city found great prosperity as an important sea port, and became America's third largest city. Flooding was still an issue so in the '20s great levees (some as high as 25 metres) were constructed to hold back the sea water, because the median high of New Orleans is a metre and a half *below* sea level. The oldest and earliest-inhabited part was, obviously enough, “the French quarter”, which is why it survived the worst of the flooding. In the mid 20th century, after WW2, the river was very much alive but it was oil and steel rather than the old cotton and sugar. Obviously these were more valuable, so the city became even richer. That was until the '80s... when the oil markets declined and moved elsewhere, and the steel market also declined. Apparently no *new* oil refineries have been built in America since 1978, perhaps the Vietnam war hit the economy more than they'd care to admit? The levees received only basic reparatory work, even though the 14 pumping stations shifting out 70 cubic metres of water *per second* should have told them something... but even if it did, without federal assistance who was going to help? At the end of the '80s most of the black population (accounting for 57% of the total population in 1994) were unemployed and living in federal housing projects, a large number of whites were also unemployed and – as Louisiana is perhaps America's poorest state – things didn't look better through the '90s. The spirit of New Orleans kept trying to place itself back into the world situation. It is perfectly situated on the Mississippi to manage this, so long as there is *something* to transport. Also many people across the world know a little bit of the culture of the city, such as the flamboyant *Mardi Gras*, and because of this the tourism kept strong providing many with seasonal employment.

But this is a *Bush* administration. Hands up who *trusts* that man...

It is a bit of a *Frobnicate* tradition to have a political rant. Now that it is done with, we can turn our attention to more positive things!

Not only is this the *twentyfifth* issue, but *Frobnicate* has been going for a mere *ten* years! It is amazing to see how things changed in a decade, across the board and not just computer-related issues. And through it all has been Peter Andre with his one (his only?) song ‘Mysterious Girl’ which should get some sort of award, like the *MTV Dummy Award For The Most Reissues Of The Same Song By The Same Artist In A Decade*, or something!

As for this particular issue, you’ll notice that there is no ‘Living In France’ because what I wanted to write about got incorporated into the ‘Go figure’ article! But to make up for this, there is some geeky stuff – including an example in VisualBasic which must, for us, be hitting a new low (although I do colourise the code examples to cutesify them, to make them ‘sexed up’).

There is, also, no continuation on the article regarding using *Archie*. This is because there is a new player on the scene called *Arculator*. It doesn’t run as fast as *Archie*, it is perhaps 25%-33% slower, but it can work in a window if you want it to (hugely useful!). It also doesn’t appear to support much in the way of screen modes (TV resolution only), but it has a very specific benefit over *Archie* – it is still being developed! The *Archie* website has gone, and the software was last updated *five years ago*. By contrast, *Arculator* was last updated a couple of months ago. You’ll can even examine the source code, should you so wish... just type “arculator” into Google and you’ll be on your way...

Sorry – I can’t provide a URL. For some reason (!), Tom Walker (the author) omitted to include it in the help file...oops! :-)

Either way, if we take time to wait for Tom to develop *Arculator*, I think it could easily become *the* low-end (i.e. non-RiscPC) emulator for Windows machines.

It is Ewen to the rescue (again!) to bring a sense of sanity to *Frobnicate*, and to help interrupt all this geekery. He presents the first of a two-parter covering the use of a single satellite dish to receive transmissions from more than one satellite without the technical hassles of having a rotating dish.

Many of you will have seen the dryness and ‘drought’ that has affected a lot of Europe this year, and my mother talks about this in her article – *Attack of the Killer Secheresse!*

So there you have it – issue 25!

I hope you enjoy this issue...

If you are having trouble with the cover image...

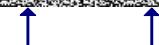
Hold it at about arm’s length. A comfortable distance, not ‘as far as you can manage’. You might find it better to hold it a few inches closer.

It should be brightly lit from *above*.

You should see a repeating sort-of ‘>’ shaped pattern about two thirds of the way up, i.e. (this is hard to see on-screen but quite visible on paper).

There are seven across the page. Choose the two to the immediate right of the centre.

Here’s the clever part. Let your eyes cross, don’t worry if it appears to go out of focus slightly. You’ll see the ‘>’ marks ‘float’. The idea is to get two of them to merge into one. Once you’ve done that, the hidden image will become apparent. And, amazingly, your eyes will adjust to the new image and focus on it! Clever, huh?



Introducing OvHTML Win

Looking at the *OvationPro* mailing list, it seems that a number of people would like to see an HTML import and export utility for *OvationPro*. The problem, as I see it, is that *OvationPro* can do a lot of things that HTML cannot do, and likewise HTML can do some things unique to itself, such as ‘frames’ which have no sane equivalent *on paper!* My own software, *OvHTML*, will read and attempt to recreate a basic HTML 3.2 document. By basic I mean it won’t touch tables, frames, or stylesheets. The Windows version is newer than the RISC OS version, so it can do slightly more. In contrast, the RISC OS version has an extremely rudimentary exporter, however since this is rather ‘tied’ to features of RISC OS it has not been implemented in the Windows version... yet.

One of the main questions asked is how do I know the format of the undocumented script language? Did David Pilling send me *OvationPro*’s source to look at? Hell, I’d *love* to take some time to read his source, but alas the truth is far less glamorous – I simply created small documents with various effects set and looked at the DDL that was generated. To test the theories I devised, I simply wrote my own DDL in *Edit* (and *Metapad*) and observed how long it took before *OvationPro* choked. Happiness was when the entire script of *Nurse Betty* converted and loaded without a hiccup, or when all those *Buffy* screenplays loaded.

Where did it all come from? As the (RISC OS) help file explains, there was a really basic HTML importer available, but it seemed to simply display the body of the document in black, and all of the markup in small red lettering, it was actually *better* to convert HTML to text using *Edit* and the search filter “<*>” (with Magic Characters on); in other words – strip out all markup! So I set about making a tool to strip the tags for me, and that soon became a tool to convert HTML into an equivalent document. My aim was to go for HTML 3.2 compatibility, based upon the *Fresco* browser (only without tables and frames). And, well, I think I have more-or-less achieved that!

It has been asked why I don’t use Style Sheets, and import those as well as the CSS? The *simple* reason is that I don’t *like* style sheets. It takes the elements of mark-up (font face, size, italics, etc) out of the web document and replaces it with a ‘style’, contrary to all HTML up to that point in time! Now this idea, per se, isn’t bad until you consider what will happen if you read the document on a non-CSS browser (yes, they *do* exist!). The result is an insipid mess. The *not-so-simple* reason is that *OvHTML* creates the output based upon the input, on the fly. If the HTML says then *OvHTML* says {bold 1}, and so on. Retrofitting styles and providing work-arounds so *OvationPro*’s understanding of effects-on-top-of-styles matches the web browser’s behaviour *could* be a large task that could require a near-complete rewrite of the majority of the parser. In short, I don’t plan to spend a lot of time working on something that I don’t actually encounter all that often. It seems far less people use CSS than PNG, and not many have abandoned GIF in favour of PNG... Those that do use CSS tend to be JavaScripted sites, which *OvHTML* won’t understand anyway.

The *final* point that I’d like to address, on a purely personal level, is the varied calls for *OvationPro* to save its documents in XML format – supposedly for compatibility for various Microsoft products that are expected to use XML in the near future (*Word* apparently!). The main question is *why?* *OvationPro* is a minority player when stood next to the likes of *Word*, so in case of any disparity, it is *OvationPro* that will need to break itself to cope with *Word*’s output. We should learn the lesson from RTF. Microsoft devised this format to allow data to be shared between applications, and many Microsoft applications that deal with text processing understand RTF... or rather, they understand specific dialects of it and ignore/screw up the rest.

So I’ll ask it another way... What would *OvationPro*’s use of XML *do for us*? The software has a native format in which things can be saved, and also a human-readable format in which every little nuance can be fully recreated. If somebody is desperate for XML, they can write their own filters, rather like I wrote my own HTML filter. I would vote strongly *no* to using XML within *OvationPro*. Such a thing *might* be necessary with software like *Word* that has no ‘description language’ (the closest you’ll get is the hard-to-read non-exact RTF), but it should not be necessary with *OvationPro* that has both. And if that argument doesn’t convince – how about “if it ain’t broke...”?

You can find out about *OvHTML for Windows* at:

<http://www.heyrick.co.uk/software/ovhtmlwin.html>

and you can see other Windows (& DOS) software of mine (web site scanner, teletext software, etc) at:

<http://www.heyrick.co.uk/software/windex.html>

Not so smart...

From security@barclays.co.uk on 24th May 2005:

Important Notice:
Apr. 25, 2005

Dear Sir/Madam,

Barclays Bank PLC. always looks forward for the high security of our clients. Some customers have been receiving an email claiming to be from Barclays advising them to follow a link to what appear to be a Barclays web site, where they are prompted to enter their personal Online Banking details. Barclays is in no way involved with this email and the web site does not belong to us.

Barclays is proud to announce about their new updated secure system. We updated our new SSL servers to give our customers a better, fast and secure online banking service.

Due to the recent update of the servers, you are requested to please update your account info at the following link.

<http://www.barclays.co.uk/cgi-bin/accountupdate/1,00,102.html>

J. S.
Smith

Security Advisor

Barclays Bank PLC.

Please do not reply to this e-mail. Mail sent to this address cannot be answered.

For assistance, log in to your Barclays Online Bank account and choose the "Help" link on any page.

Barclays Email ID # 1009

It looks convincing, doesn't it?

I especially like the bit about warning you of the fake link. I also find the URL interesting. How does it work, I wonder? It *almost* looks genuine.

The problem, and the reason why I say 'Not so smart" is because I don't even *have* an account with Barclays!

I think the lesson here is pretty obvious. The bank, *and not you* is responsible for "updating your information". Imagine if you were asked to set up your account on their new SSL-enhanced servers (as if a bank message would use techie terms and such strange use of English) ... wouldn't it be nice to set our balance to a few (tens of) thousand(s of) pounds?

Exactly.

The one-bit DAC

My now-defunct CD player advertised that it had a one-bit DAC inside. I thought this was a bit of a daft thing to brag about, but it turns out that a one-bit DAC is a rather innovative, if possibly misnamed device.

A DAC is a digital-to-analogue convertor. The way that it works is by a collection of resistors that can be switched, like:

```
input
|
| --[==]-- 1.00V (100%)
| --[==]-- 0.75V ( 75%)
| --[==]-- 0.50V ( 50%)
| --[==]-- 0.25V ( 25%)
`--[==]-- 0.00V (  0%)
```

This is very simplistic, but it gives you the idea – if we could push a 5 bit sample through our device, we could hear sound output from it, but since it only has five bits it will sound poor.

There is a problem though. A CD player uses 16 bit samples (which would require sixty five thousand possible values to be output). Two such (for stereo). All pushed through at forty four thousand times a second. It is necessary to change this digital signal into an analogue signal so that we can put it into headphones or a speaker for the benefit of our non-digital ears.

Now the icing on the cake is that resistors change value slightly in normal temperature fluctuations; and this can be resistor to resistor within the same DAC. Partial ways around this require expensive carefully-matched and engineered parts. Not the sort of thing that you can expect to find in a 14,99 euro CD player.

The answer – a cunning device. In order to understand how it works, consider a dimmer switch. The old-fashioned method is a giant rheostat. The more efficient method is pulse switching. If we take a hundred percent of the power and we switch it on for a microsecond and off for a microsecond, the result will be 50% of the power. If the ratio is 1:3 then it'll be a third of the power.

We can use a similar process with audio signals. A device called a *delta-sigma modulator* (sounds like a frat house, no?) creates a shaped noise by switching on and off rapidly to create an output similar to what would be expected from a DAC. The modulator works out what the value should be from the input pulses, and the results are thus time-averaged.

There is, sadly, a catch. For low background noise levels, the modulator must run quickly. In fact, for a 16 bit input, the modulator must run at 16 times the sample speed to get the best possible result. 4,294,967,296 a second.

Obviously a CD player with a DAC running over 4GHz is somewhat impractical. It is also a waste of power. Just as MP3 can convert a 40Mb file into 3Mb, we can shave a lot off of our clocking rate. In fact, we can push it down to 100MHz or so, and the cheaper end of the market will no doubt trade off even lower clock speeds for greater background noise in order to save some money...

All in all, though, a one-bit DAC isn't such a bad thing, even if it is possibly one of the most misnamed devices in modern consumer electronics!

Rick
2005/06/24

**Workgettingyoudown?
Samegarbagea'ryday?**



Try Frobnicate!
If the only thing that interests your boss are statistics, reports, and assessments; which nobody ever reads...

... **don't wasteyourtime!**

Рыт фор Фробныкайт ынстэд! :-)

Talking teletext

In recent issues of *Frobnicate* we learned how to communicate using the I²C bus – or, at least, a faked I²C bus!

If you visit my website you will see that there is an implementation of *PtIIC* now available for Windows (95, 98, and ME only as it uses direct hardware access) as a DLL. It is part of *WinTTX*.



The idea behind *WinTTX* is to try to give a new lease of life to those old teletext receivers that you might have lurking in the loft along with that old A310 that you discarded when you realised an A5000 would be cheaper than all the stuff required to go to RISC OS 3 from <cough> Arthur 1.2 ! :-)

SORRY but this information does not pertain to the Acorn Teletext Adaptor – that uses the 1MHz bus and has such specific timing that the “1MHz bus” in the Acorn add-on podule won’t even work!

The first thing that needs to be considered is tuning. You cannot receive teletext until you’re tuned into a channel! Now in our receiver (I’m using the Ground Control UTA-3) we have a tuner module that is controlled via I²C. You tell it what frequency and it tunes. Simple.

Or is it?

The first step is to convert your UHF channel (21 – 69) to an actual frequency. We know, from any decent book on television theory or repair, that channel UHF 21 is 471.250MHz, and that the channels are 8MHz apart, so we can use the formula:

$$(((\text{channel} - 21) * 8000) + 471250)$$

The answer is the actual frequency in kilohertz.

To convert this into something we can send to the tuner...

$$(((\text{kHz_value} + 38900) * 16) / 1000)$$

The answer is a 16 bit value that is sent to the tuner.

In order to actually select our desired channel, we should first send two bytes to the tuner (device ID 96 (or 192 in adjusted eight bit form)) to set up a retune:

The first byte is &C0

The second byte is &00

Now we *should* wait for 20ms. It’ll work without...

Finally, we should send two bytes more:

The first byte is the HIGH byte of our value.

The second byte is the LOW byte of our value.

When expressed in VisualBasic (just to irk you!), this all looks a little something like:

```
Public Sub ttx_tunechannel(Channel As Integer)
    Dim ChCopy As Long
    Dim ChkHz As Long
    Dim TuneVal As Long
    Dim RetCode As Integer

    ' Ensure channel is in range
    If (Channel < 21) Then Channel = 21
    If (Channel > 69) Then Channel = 69

    ' do the calculations
    ChCopy = Channel ' VB can't auto-cast sensibly!
    ChkHz = (((Chcopy - 21) * 8000) + 471250)
    TuneVal = (((ChkHz + 38900) * 16) / 1000)
```

```

IICdata = Chr(&H0) & Chr(&H0)
RetCode = PtrIIC_WriteBytes(96, IICdata, 2)
If (RetCode = False) Then
  ' IIC write failed - do your error handling
  Exit Sub
End If

' there should really be a 20ms delay here!
' (but it seems to work okay without it)

IICdata = Chr((TuneVal And &HFF00) / 256) _
  & Chr(TuneVal And 255)
RetCode = PtrIIC_WriteBytes(96, IICdata, 2)
If (RetCode = False) Then
  ' IIC write failed - do your error handling
  Exit Sub
End If
End Sub

```

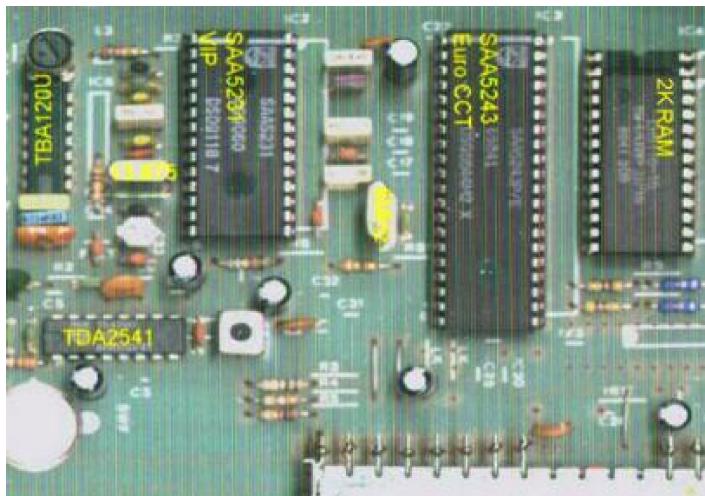
This can also serve as a brief example of how to use the *PtrIICDLL*.

Those good at maths and/or optimisations may spot a short-cut. If you wish to gain the tuning value for an absolute UHF channel, the following will work:

```
ll ((UHF_channel << 7) + 5474)
```

As you can see, the UHF channel is shifted into the high byte, so it is possible to insert sub-channel adjustments into the low byte if desired. I think each increment represents about 31.25kHz from the actual selected UHF frequency. If you are a speed freak, or writing in assembler and don't want the hassles of division routines (why not pass it over to the FPA?), then you could try this shortcut?

The tuner is only the first stage of a rather complex process. With reference to the picture below, we shall now look at the hardware side of things...



The tuner is the long thing along the lower right. The video signal is passed into the SAW filter (lower left, circular) and from there it goes through that mass of components and into the VIP2 (big IC, left). The components, all finely tuned, are designed to provide the VIP2 with the clearest signal possible.

The Video Input Processor (version 2) is responsible for assessing the quality of the input, and if it is acceptable, extracting the teletext bit stream (clocked at 6.9375MHz) which is 360 bits, which is a five byte line ID and 40 bytes of line data.

One 'line' of the television picture equals one line of a teletext display. Lines 6 to 22 and 319 to 335 are used. That's 32 lines 25 times a second. It takes around 28 to 34 lines to send a complete page of teletext (including 'ghost rows'). This means we can send around 28 pages per second; but knock this down to 25 because certain pages (p100, subtitles...) are sent more frequently. Now perhaps you can see why teletext is not exactly zippy. This, sadly, is because teletext has to exist within the constraints of the television picture, residing in the area called the Vertical Blanking Interval. If we roll CNN's screen we can see the lines of teletext as a sort of flickering 'noise' in the picture.

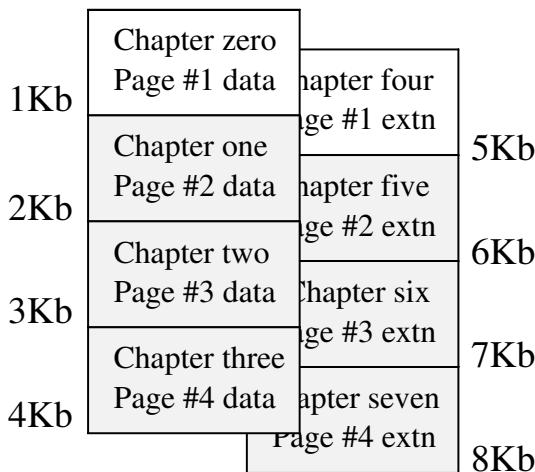
For what it is worth, the teletext receiver hardware is actually capable of full-frame capture where *all* of the television lines are used for data transfer (wow!). Obviously nobody broadcasts like this as it'd be like looking at an autostereogram (or the front cover of this issue).

The data, once passed into the EuroCCT (the biggest chip), is examined. If it is a line from a page that we're looking for, it is written to the memory.

Ground Control helpfully provided 2K of memory arranged for "chapters" zero and four. You see, each chapter is 1024 bytes long, and there are four of them. Following are for more chapters which are the extension packets ("ghost rows") relating to the page that is (chapter - 4).



Thus, page zero is written to chapter zero and the ghost rows relating to page zero are written to chapter four. This is what we can handle, with our 2K of memory.



Above you can see how all of this fits into 8K of memory. By cleverly wiring address line twelve from the EuroCCT to address line 10 of the RAM, we can obtain chapter zero and chapter four out of a single 2K RAM chip (parts shown without shading).

The depressing thing is that it wouldn't exactly have killed Ground Control to fit the full 8K of static RAM. This would have allowed us to search for four pages (with associated extension packets).

Oh, did I happen to mention that the four searchings that can be performed by EuroCCT take place *completely autonomously*? Wouldn't teletext be so much nicer if we could set chapter zero's page as the 'current', and as it comes in we can read the closest index page, the next page, and the previous page into chapters one to three. Chances are it'll be available before you click for it!

But, alas, they didn't provide this. :-)

Outside of the scope of this article, we *could* use chapter four as a second page buffer for dual-page reception, but we'd lose the information present in the ghost rows.

Anyway, the EuroCCT writes this information into its memory. You won't believe it, but the EuroCCT has a complete RGB teletext frame generator. This also is unused in the application of a computer teletext receiver.

The EuroCCT is a very versatile thing, isn't it?

The EuroCCT contains, nominally, 11 registers. You read and write them using the I²C bus.

R1 is the Mode Register. Normally this would be set to %01010000 which is 80, or &50. If your receiver only has 1K of memory fitted, set bit 4 to zero to disable ghost rows. You only need to set this up once. All bits are zero at power-up.

R2 is the Page Request Address Register. In our single-page receiver this should be set to zero. If you expand your receiver to multiple page fetches, this selects which acquisition circuit is to be programmed, though the details of how to do this are outside the scope of this article.

R3 is the Page Request Data Register. It is split into seven bytes, but we only need to worry about the first three. We will be requesting pages within magazines such as P100 or P178. This is actually P100xxxx and P178xxxx (the EuroCCT can be set to look for specific sub-frames).

While it is outside the scope of this article, you might be interested to know that the EuroCCT can be asked to search for pages like P1x1xxxx (thus, P101, P111, P121, and so on – as transmitted).

Anyway, we are interested in the first three bytes. The first is the magazine number, this is followed by page tens, and finally page units ("ones"). The other parts of the page request are set to "don't care" at power-up so we can safely ignore these when programming in our desired page.

The page tens and page ones are four bits long, and can contain values 0 to 15. The magazine number, by contrast, is only three bits long (0 to 7). In each case bit four is a "do care" marker. If this is set then the EuroCCT will use this part of the page number for matching – so obviously we want to set bit four whenever we are pushing in a new page to look for. The final bit is magazine byte bit 3. This is 'hot hold'. If this bit is set then the page acquisition circuit is enabled and things can happen. If it is unset, the page acquisition is disabled.

In more advanced multi-page reception, you can enable and disable the acquisition circuits as necessary. In fact, in all the time you've used your teletext receiver, the three other acquisition circuits have just sorta sat there twiddling their thumbs...

To show this logically:

<u>Req</u>	<u>B4</u>	<u>B3</u>	<u>B2</u>	<u>B1</u>	<u>B0</u>
R3a	DO CARE MAG	HOLD	MAG2	MAG1	MAG0
R3b	DO CARE PT	PT3	PT2	PT1	PT0
R3c	DO CARE PU	PU3	PU2	PU1	PU0

Where:

PT is page tens

PU is page units

Something to keep in mind is a tiny oddity in the magazine numbering. Magazine 8 (i.e. any page beginning with ‘8’ such as subtitles on P888) **does not exist!** It is requested in EuroCCT by searching for magazine **zero** – it is only shown as 8 in the user display.

Something else to keep in mind is that page numbers are hexadecimal, that is base 16. So the main index P100 is actually page 256, and the full index on P199 is actually page 409. This means that the page numbers run in the form Px00 to PxFF, and sometimes these unusual numbers will be available by way of the coloured ‘fast text’ keys – the Bamboozle game on Channel 4 used this method to prevent normal TV viewers from cheating by looking at each answer in turn...

Because the EuroCCT contains a display generator, registers R4, R5, R6, and R7 control the display. Ignore these registers.

R8 is the Active Chapter Register. Bits 0 to 2 correspond to address lines A10, A11, and A12, and allow the selection of the chapters. For reading the teletext page, we should set this to zero. For reading the extension packets, this should be set to 4.

It might be worth knowing that if bit 3 is also set then the addressed chapter will be cleared. All bytes of the chapter will be set to ASCII 32.

R9 is the Active Row Register. You can write five bits to select the row (0 to 25) to read or write. Invalid values can be entered but will be corrected after the first invalid access.

R10 is the Active Column Register. Six bits allow you to choose the column (0 to 39) to read or write. As before, invalid values will be auto-corrected.

This brings us to our final register – R11. The Active Data Register. Having written the desired row and column, you can read or write the byte available at that row/column address by reading or writing R11. The addresses automatically increment, so you can read an entire frame by simply reading R11 repeatedly, as shown in this example, in C this time:

```
void read_header(void)
{
    int col = 0;

    // write row/col to read from
    iicbuf[0] = 8; // start with R8
    iicbuf[1] = 0; // chapter = 0
    iicbuf[2] = 0; // row = 0
    iicbuf[3] = 0; // column = 0
    if (iic_writebytes(EUROCCT_WRITE, 4)==FALSE)
    {
        // your error handler goes here!
        return;
    }

    // read a line
    iic_readbytes(EUROCCT_READ, 40);

    // copy it to the frame buffer
    for (col = 0; col < 40; col++)
        data[col][0] = iicbuf[col];

    // display it
    gotoxy(1,1);
    graphics = FALSE;
    fgcol = WHITE;
    bgcol = BLACK;
    blink = 0;
    for (col = 0; col < 40; col++)
        display_character(col, 0);

    return;
}
```

The data received looks like:

2³²° TÈE ÁÐÐREÎTICE ÕÓÁÓ/W
Thå äandédaôås aôå ähaiiångåd öï
äðåaôå a pòïmïöéinai äampaégn æïò
ôhå îå: Üïòk Ðiiéää Äåpaðomåñô

To make this legible, OR with 128 and then subtract 128. The result will be (with colour codes omitted):

2320 THE APPRENTICE USA S/W
The candidates are challenged to
create a promotional campaign for
the New York Police Department

There's one part missing. How do we know when a page has been received?

This will be covered in the next issue. Until then, you might like to poke around the data contained in row 25. Try column 8. :-)

:) Go figure! (:

a ramble around Rick's mind...

My CD player died. Well, for a while now it has been refusing to "see" certain CDs while playing others. By this I mean the disc motor wouldn't even start spinning for some CDs. Then, it decided to refuse to see anything at all. I tried for a few days and even tried bashing it. :-) To no avail. The optical alignment was either messed up or the sensor was dead. Carefully I peeked into the laser path in case there was a little bit of fluff inside.

Nothing. It was astonishingly unfuzzy. Now I don't know about you, but I notice the CD players all talk about "invisible" LASER radiation. Well I can see it! Obviously I'm not stupid enough to stare directly into a LASER, but I can certainly see the red dot. In case I was missing anything, I tried using the video camera (they are sensitive to infra-red light sources, try pointing a TV remote control at a video camera, you'll see a flashing white light). It revealed exactly what my eyes see. I cannot see remote controllers, so either I'm slightly more sensitive to IR than most people, or that warning is just there to stop twits like me poking around inside CD players...!? Considering that the player was, for all intents and purposes, dead; I decided to see if a sensor realignment was possible. So I loosened the screws and wasted an entire afternoon when there was nothing better to do. Now, if I'd succeeded in realigning the thing using a kitchen knife (as a screwdriver, *like totally DON'T try that at home!*) and a toothpick, I think I'd have turned Catholic overnight and done the whole church thing. You see, we're bouncing a beam of light *nanometres* wide off of a rotating disc, passing it through a few mirrors, and sending it to a sensor that is itself *nanometres* (as it has to be capable of detecting 'drift' and correcting it before the data stream is messed up). All in all, pretty impressive technology for hardware you can buy for 10 euros these days (!), and the chances of me getting it right would be marginally *less* than my winning the lottery jackpot, or maybe being knocked on the bonce by something from outer space; perhaps a bit of Wensleydale broken off of the moon?



For what it is worth:

07 13 26 37 41 2 5

But don't blame me if somebody in Spain wins and you get nada.

I make regular use of my CD player, I couldn't be without one. A supermarket called the "Intermarché" (you know, the musketeers of shopping trolleys) came to the rescue offering a SCOTT CD player with MP3 capabilities.



My first thought was that it was pretty cool to have a textual display of what you are listening too (ignore what it says on that French consumer website, it *does* support ID3 tags). The capabilities seemed to be fairly impressive (VBR, 120sec buffering, blah blah) and best of all, it was quite *inexpensive*.

My next thought, it looks quite nice with the chromey-effect but it was totally unintuitive. What I meant was 'I'm a lazy sod, let's have a play button with the back/forward either side like they're supposed to be'.

A month or so on and I'm quite able to manipulate the player in the dark. Indeed, they have released a new model (same price, same spec) that has a more traditional styling. I think that'd be cool for playing CDs, but when it comes to MP3 many of the buttons take on additional tasks, so the styling wasn't so bad.

My MP3 disc has a playing time of around 8½ hours, and that is about as long as you should expect two batteries to last.

The only bad points are the display doesn't light up (to add that may double the price of the player!) and the unit doesn't charge when plugged into AC. I need to keep the old player around to charge the batteries.

As for MP3s – 140+ songs on a single disc. *Overload!*

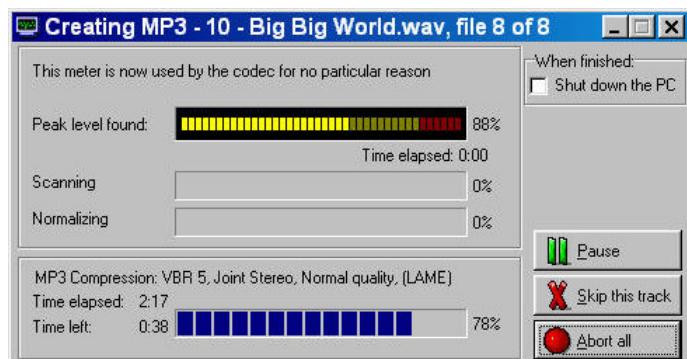
When I got that player, I also got a USB hub for six euros. You see, the Lexmark driver tends to kill the USB port if I unplug the thing, and I need to unplug to hook up the little digital camera. The solution? A self-powered USB hub. Four ports, so both bits can go in, with two ports to spare. The hub itself is sized to slot into the PCMCIA port. Clever, huh?

The Lexmark driver is weird. It gives messages like:



The printer cannot communicate with the computer? *How does it know that?* If it can tell the computer ‘Hey, where are you?’ or ‘¡Oiga! ¿Dónde está?’, then it has communicated. What this message *should* say is the computer cannot communicate with the printer!

On the subject of nonsense, I love this from *Audiograbber*:



‘This meter is now used by the codec for no particular reason’.

If there is no reason for it, *why use it?*

Thanks to Jérôme (bonjour!), I was able to get into the Minitel, but that is as far as I have been able to go. Further experimentation will have to wait until I have a phone connection (don’t hold your breath!). I did once get it to connect to a Pace Microlin fx32plus (one of the few modems at my disposal that is capable of the archaic 1200/75 rate) using the phone line faker published way back in issue #1. It

didn’t get any further, no data was transferred in either direction; I wonder if it is some sort of packet-based protocol. There seems to be a rather astonishing lack of information. Searching for ‘minitel serveur’ and ‘protocol minitel’ usually gives me links to *i-minitel* (an Internet face for the Minitel service) but nothing on the specific protocol or data transfer methods used. I know it isn’t a simple frame dump like teletext as I’ve seen it draw an advertisement on the screen, bottom up. Can it do ‘shapes’? Very possibly. Can it do colour? Possibly, but not my unit. I’ve heard it can in-line JPEGs, but I doubt this applies to these older terminals.

Take a look at this picture:



This is something that worries me. The ID, IZ, NAT, and RCS... If you wish to order stuff over Minitel (most French people trust it for transactions and banking, that’s something you don’t often hear about the Internet!) then I guess these values make up some sort of ID that uniquely identifies your terminal. Couple this with the ability to password-protect the terminal and the system would seem to be really quite secure. Okay, so breaking into the Minitel 2 using the secret keypress wasn’t hard, but it reset *everything*. Anyway – is this information only used for transactions, or will I be refused access to 3611 directory enquiries because of incorrect settings?

It’s that time again... The sun is blazing down from the sky, and amongst the burnt grass and dusty roads people line up tables filled with their burnt offerings. This is a French tradition called a “vide grenier”, literally that translates to “empty attic”. It is like a

giant car-boot sale, though unlike car-boots it is held right in the middle of the town. If it happens to be a Pop. 300 crossroads town holding it, you can rest assured that it'll cause hours of traffic chaos to amuse everybody except the drivers. The French seem to have a knack for putting their "déviations" (detours) through some of the twistiest, windiest little back roads imaginable. And cars plated 53 or 92 can be seen taking dead-ends at 60... and that's miles per hour!

Anyway, vide greniers. You can expect to find all sorts of things. A woman's court shoe (only *one!*) with a worn-out sole. Useful, everybody should have one! Bits of a plastic baby, and if you assemble all the bits you'll probably get three incomplete plastic babies. A wheel-less pram. And, one of my favourites, a pre-broken mirror (thus absolving you of the obligation of having seven years of bad luck). Possibly, the matching court shoe in a town thirty miles away? Some of the stuff on sale, frankly, I'd be way too embarrassed to contemplate offering to the world if it was mine. I mean, this stuff should become landfill (only the French have this really complicated system of recycling, there is no such thing as a municipal dump in the English sense). But don't let this put you off visiting a vide grenier should you be over here. If you look, take time to wade through the crap, you can find some treasure troves. Mom bought a pile of books, fairly current in the *France Loisirs* (a book club-by-post) catalogue. Price to her? 5 euros. Price if bought from the catalogue? Pushing 100 euros! I bought a record player for 3 euros. It was styled like some sort of oversized woman's vanity case. The top (containing



a speaker) could open up and be detached. The bottom was the turntable. It could play 33 $\frac{1}{3}$'s, 45's, 78's, and – get this – 16's! Ever seen a 16rpm? Ever even heard of a 16rpm? Me neither. It took a while to get itself fully going (about 40 seconds) and it got kinda warm inside. I remember an old TV built for 110V use that dropped from 240V with the aid of a bloody-great resistor. It glowed, like a mini bar-heater (it is no surprise ancient TVs used to self-combust!). I was wondering if it contained something like that inside. If it did, I'd look to adding a more modern method of voltage dropping.

Nothing could have prepared me for the shock of what was inside, even though it really should have been obvious from the diagnostics. Still, hindsight is a marvellous thing, right? :-)



So it was decided to keep this player for *special*. I, personally, think the valves enhance the sound (it would benefit from a bigger speaker though). Is this a psychological thing or do valves really sound richer than transistors or microprocessed audio? For a mere 499 euros you can buy (from Conrad) a valve amplifier containing four EL34's and two 6F2's. They sell the EL34's at 20,50 apiece, but don't appear to stock the 6F2's!

This record player is how old exactly? Nothing on it is dated, no schematic inside. Nothing. It's a shame as it is a veritable piece of history! It is certainly well made. The little rubber platter is flexible, both styli are in good condition (it has one for 78's and one for everything else). Am I looking at something from the fifties? Late forties? Who can tell?

I once had a 78 record. *The Ride of the Valkyries* I used to introduce parts of my <cough>radio programme</cough> with it. That was, until my friend dropped it and it was *bwoosh!* pieces of it everywhere. I had always thought 78's were made of Bakelite, but somebody at French course informed me that is was a really early form of plastic. Apparently some guy split his cat's milk into a tub of formaldehyde and it congealed into a muck that

we have refined and turned into the most over-used material on the planet. I bet most people are within arm's reach of something plastic at most times of the day. Hey, I'm tapping away like a chimpanzee on plastic keys attached to a plastic-cased laptop sitting on a plastic-coated piece of wood... My shoes contain some sort of plastic resin stuff. My cardie contains acrylic and polyester (in addition to cotton and a totally generous 1% wool!). Aren't those plastics of a sort? I could go on but I'm sure you've not only got the point, but lost the will to live...

This does, however, beg us to ask the obvious question – what's a tub of formaldehyde doing around where the cat would be fed? Having plenty of atomic kittens and psychocats around, I'm not sure I'd *ever* want chemicals and cats to meet each other!

So it was to a different vide grenier that I found the LESA record player. This does 33 $\frac{1}{3}$'s and 45's. Mounted in a plastic case, it was absolutely covered in crud and what looked like thirty years worth of mould. He wanted 3 euros, I said basically "it is rubbish, give it to me". And we settled in between.



This *Les*a record player seems to me to be one of those mass-produced Russian things. It wasn't astonishing, it just did what it was supposed to – to simply play records. Mom dates this sometime in the sixties, and I'd be inclined to agree. The electronics are simple, solid state but using the bulky cylindrical metal can type of transistors. The turntable itself is belt-driven and despite its age, the belt looks in reasonable condition, though the rubber platter has hardened. You can see in the picture a selection of

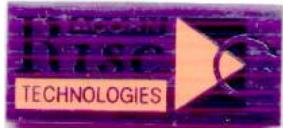
45's. Playing is *a-ha*'s "Take On Me" (who remembers that as a MODE Ø 'demo' on the BBC micro?) as well as some other favourites... though *The Chicken Song* is one you'll either love or hate!

Playing on the older record player (previous page) was Joni Mitchell, though I suspect given the problems B.A. had with their catering firm, it might be more prudent to play *Industrial Disease* by Dire Straits. Go Google the lyrics if you are not familiar with this song, you'll see why I picked it...!

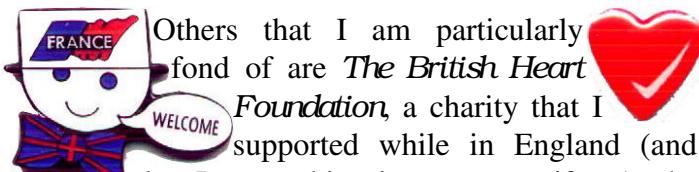
Still on the topic of vide greniers, something else mom and I like to do is look for interesting *pin's*. By this we mean those little pin-badge things. I've forgotten the English name as I'm used to calling them *pin's*..

I suppose I should comment here on the strange way the French have picked up the apostrophe – I've seen *jean's* and of course *pin's* not to mention *avec deux processeur's* in a computer advert. But I cannot really comment on this incorrect use of the apostrophe as, no doubt, some French people in Britain have noticed a depressing number of billboards for *fish and chip's* and the like. I have a little book of English grammar and even it seems unsure of the exact meaning of the apostrophe, it is almost like the '*' in the C programming language, it can do a dozen different things. This ambiguity is probably just as well. It can be my excuse when you email me to say that I have incorrectly used the apostrophe a billion times in this one article (I prefer 45's but you might prefer '45s or just 45s, though I write decades as *the '80s* because "19" was omitted).

Anyway. *Pin's* One of my favourites is the one I got when I joined *The Clan* (a thing for Acorn geeks, not a Scots gathering) and it says on it the original meaning of the "ART" acronym – Acorn Risc Technologies. Sorry the scan is so poor – it isn't easy to scan something reflective! Anyway, later on they decided to drop the Acorn name, perhaps due to the large number of stupid people who hadn't realised that there was actually life after the BBC micro. And the equally stupid people who felt that *The Micro Programme* unfairly gave Acorn the advantage (name me *any* other '80s home computer with that much I/O and



those sorts of graphics capabilities, so many had stupid limitations like ‘no text in graphics mode and no graphics in text mode’, and that’s ya lot!). Anyway, there was life after the Beeb and this pin shows it!



Others that I am particularly fond of are *The British Heart Foundation*, a charity that I supported while in England (and also I wore this pin on my uniform); the amusing ‘welcome to France’ pictured above, where we can be welcomed by the baking products man! I also have quite a range of nerdy pins – *France 2* and *3* (TV stations), *CanalSatellite*, *BBC Prime* – as well as French companies and things: *Brittany Ferries*, *Bridel*, *Annuaire 44*, *Laval* (a large town)... And several for Italian things, mainly pasta-in-a-tin! :-)
You can find a scan of all of them at:

<http://www.heyrick.co.uk/ricksworld/pins.html>

With this we shall leave behind the vide grenier and move swiftly on to the *secheresse*. I have to feed a number of cats and one of them is across a field. Now there was a time, no so long ago, when crossing the field wearing anything other than wellies would get your (or my) feet wet. That was... erm... last year. Since then, I doubt it has rained properly and solidly for anything other than a few hours. Our big pond with the fish and the moorhens and the toads... is now a puddle. And three carp (easily 5kg each) have been removed and buried. What killed them? Lack of water, lack of oxygen, lack of food, and if that isn't enough then consider the sun beating down on the pond. How hot must that puddle be? The puddle was then – seriously – about the size of an average bathtub. I've been in it and dug down through the mud until I reached the schiste (which was about a foot?) in order to give the remaining one, perhaps two, fish somewhere to go. The only reason our pond existed at all is because that is the level of the water table. If it wasn't for that, it'd have vanished months ago. To be honest, we didn't think we had any fish – we thought the *caricule* of 2003 had



killed them (the pond near enough dried up back then). But, there comes a time when there just isn't any more water, and the rain that came wasn't enough to do anything. Sure, we had a few hours of heavy rain at the end of August, but it was just a reprieve. The water level was artificially high due to the dry ground not absorbing it – but it didn't last long... For the first time in the memory of a number of people, the pond has completely disappeared. Where once were fishes and molluscs, there's grass.



Here you can see me *mowing* the pond! And we're also cutting back some of the willow trees...

I'll now mention that a new supermarket has been built in a nearby town. They tore down the old *Intermarché* (it was terrible!) and they built a hypermarket sized replacement. Check out the whizzy electronic price tags!



Attached to the supermarket is a little restaurant run by some very friendly people. They have an interesting range of salads, and coffee that'll set you free. A wholesome kind of meal, at a price that easily leaves the not-so-big-anymore M standing!

Now, as our ramble goes around and around, it is starting to look as if the vide grenier could become a fond (or not so fond?) memory. Somebody in the government has decided that vide greniers represent a form of small business enterprise. So some ancient law has been invoked, meaning a person can't sell at multiple vide greniers, and that they can only attend their local one. The aim is to catch professionals passing as amateurs, but instead of having inspections of vide greniers, they choose instead to put into place rules which could end the vide greniers as we know them. But y'all know the French are good at rebelling (what with cauli in the roads and all) so maybe they'll just carry on like before? :-)

There's one thing that I dislike doing, and that is refilling ink tanks. Here you can see me refilling the colour cartridge of my Lexmark Z23.



It makes sense to do this – the replacement *clone* cartridges come in around 34 euros. Add another 10 if you want it in a red box that says ‘Lexmark’ on it.

Sadly this is where it all starts to fall apart. Some printers like pressure, some like an air-lock. A further few like to sit and ‘equalise’. And the end result? If you are lucky, normality will resume after about eight cleaning cycles. Otherwise you’ll ensure all sorts of chaos as ink splatters across the inside of the printer. You know, an inkjet cannot squirt ink through a drip that is forming. Instead you’ll miss a colour for a few lines, until a huge magenta smear obliterates everything.

This was the case with the Lexmark. It was running low on blue, so I took the top off of the cartridge and filled the blue. While I was there, I topped up the red and the yellow. In the beginning it was hard to get blue to come out. Now I can’t stop it coming out! The trick is patience. You’ll have to wait for the micro-bubbles to disperse. Refilling might be

cheaper than new carts, but it requires you to give up printing for a while. The DeskJet 540 is ready as soon as it has been refilled, the Epson Stylus 640 takes about four hours, and the Lexmark Z23 takes a day...

Something I *did* notice – the needles given in all of the kits are proper hypodermic needles. In England (because we English are generally more stupid, perhaps?) the needles contained in ink refill kits are special blunt needles, like a tiny metal pipe. Safety needles. Needles for careless twits. Needles for Brits.

On the subject of printers, if you are like me you’ll find a flat surface (like the paper tray) to be a useful place to put stuff. Floppy discs, beer cans, spare batteries... the problem is when you wish to print, you have to clear all of it off and shove in some paper...

...I am now quite familiar with the internal workings of a DeskJet 540, all because a little piece of metal (a sun shield for a satellite strength meter (sorry Ewen!)) was eaten by the printer. Somehow in my cleaning off of the paper tray, I forgot this (well, it is a black thing in a dark place, hard to see, blah blah). It is okay, not bent or anything. The paper rollers picked it up, spun it around, and the whole thing jammed with a very disturbing noise.



Yes, the DeskJet has been refilled too. About eight times now, at a guess? It is the epitome of bizarre pressurised filling mechanisms, and it isn’t unusual for initial attempts to be met with ink pouring out of the cartridge. But when you get it right, all is well.

That’s all for this issue. If you have any comments, questions, or corrections on my abuse of apostrophe’s or, the, comma, etc – you know the email address! :-)

Multiple satellite reception on a fixed dish – part one

by Ewen Cathcart

```
#include <standard_disclaimer.h>
```

Okay, herewith the article...

This two-part article is intended to provide information on how to convert a standard satellite dish into something that is capable of receiving signals from two or more satellite positions in the sky. Satellite dishes that have this ability are known as *multifeed* dishes. We also use the term *multisat* to describe multiple satellite reception in general.

Part one will outline the theory behind multifeed, what you can expect to receive, and the equipment that you will need to perform the conversion. Part two will follow on from this by providing detailed instructions on how to convert your dish and wire everything together. Part two will be published in issue 26 of Frobnciate.

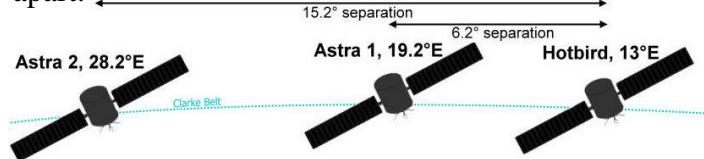
Please note that the term multisat applies to both free-to-air *and* subscription-based channels, broadcasting via analogue and digital means. If you intend to base your multisat system on equipment supplied and installed by a subscription TV operator, you will need to make sure that it does not breach the terms and conditions of your contract.

For the purposes of this article I will be concentrating on the *offset* design of satellite dish. This is the most common type of dish for DTH (Direct-To-Home) reception. The term ‘offset’ comes from the fact that signals arrive on the reflector at an angle relative to the dish itself. This angle is the degree of offset.

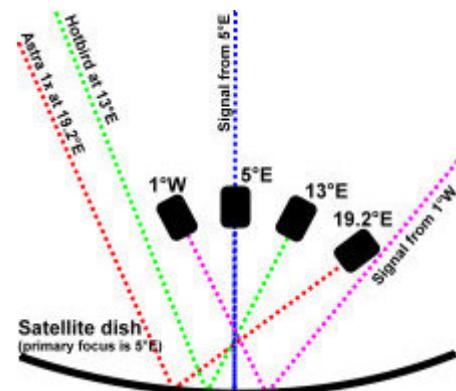
The main focal area of a satellite dish is known as the *primary focal point*. What most people don’t realise is that the dish has other focal areas – known

as secondary focal points. These are the focal points of adjacent satellites. The signals from these satellites are focussed onto an invisible line in front of the dish. The line is actually a representation of how the satellites appear on the Clarke Belt, but in reverse order (the curve of the line will be the opposite way around and upside down).

The distance between focal points is usually referred to as the degree of separation between satellites. For example, Hotbird and Astra 1 are separated by 6.2 degrees, while Hotbird and Astra 2 are 15.2 degrees apart.



Below is a diagram showing how several satellites produce focal points in front of the dish. The view is from the perspective of someone standing behind the dish, looking towards the ground.



As you move further from the centre, the secondary points become less well defined. Hence the efficiency of the dish starts to diminish. The drop-off in efficiency is measured in terms of an *equivalent* dish size. For example, an 80cm dish might have an

equivalent size of around 60cm at a distance of 6 degrees from the primary focus. The reduction in efficiency means that it is only possible to make use of a small section of the dish for multifeed purposes. The length of the section will depend upon dish size. However in most cases, anything in excess of 20 degrees on either side of the central focus is considered to be out with the usable range. [*This does allow you to cover 40°, which is not inconsiderable! -Ed*]

A number of DTH satellite dishes are not suitable for conversion to multifeed. These include Flat Plate (and similar), Pipe, and Cassegrain dishes. Sky Minidishes are a special type of offset, the characteristics of which do not lend very well to secondary reception. Some people have had limited success converting 60cm Zone 2 Minidishes into multifeed systems. Please note that Sky Minidishes use a special type of LNB that matches the profile of the dish. Any additional LNBs MUST be of a similar type! [*For our international readers: A normal offset dish is taller than it is wide. The Sky Minidish is wider than it is tall... -Ed*]

Most Minidishes in the UK are 45cm Zone 1 type. I really wouldn't bother wasting my time trying to convert one of those! Even Zone 2 Minidishes are less than ideal. My own personal recommendation would be to either replace the dish or install a second one.

The most popular broadcast satellites in Europe are located at 13°E, 19.2°E and 28.2°E. These represent Hotbird, Astra 1 and Astra 2/Eurobird respectively. Strictly speaking, the latter should really be 28.2-28.5°E, given that Eurobird has a 0.3-degree separation from Astra 2. However, for all intents and purposes, the dish "sees" the two groups as one single point in space. Astra 2 was up there first; hence the 28.2°E figure tends to get used the most (EuroBird is, technically, 28.5°E)!

You will also note that we refer to these satellites in the singular, despite each representing a cluster of co-located satellites. I guess it is easier that way. Eurobird is on its own (it cannot have its own cluster due to the proximity of Astra 2).

In mainland Europe we normally expect dishes to be positioned to receive either Hotbird or Astra 1. Both satellites offer a huge variety of programming in many different languages. For example, channels that are on Astra 1 broadcast in English, French, German, Spanish, Italian, Portuguese, Arabic, and Turkish. Everything from news to general entertainment. There are also some FTA music channels (mostly German) that have a wide following. Hotbird is much the same but with a few more languages to choose from. In both cases, channels are divided roughly half and half between subscription TV and FTA.

Spain and Portugal have their own broadcast satellite called Hispasat, located at 30°W. There is keen interest in this satellite from other parts of Europe. Lets just say that certain "emulated" decoders can bring loads of interesting stuff! :-)

Here in the UK, Astra 2/Eurobird are the dominant players. It is interesting that they appear to be less popular in Europe compared with the other satellites.

It is not uncommon to find multifeed dishes in mainland Europe. French subscription TV operators transmit from Hotbird (TPS) and Astra 1 (Canal Satellite), and while there is some overlapping in the type of programming that they offer, there are enough differences to persuade many to subscribe to both packages. [*Yikes! How much does this cost? Isn't the full Sky whack around £40 a month these days? If TPS/Canal+ are comparable... -Ed*]

American subscription TV operators transmit their programming over two or three satellite locations. A dish with an integral dual or triple LNB is normally offered as part of the subscription package. I am not sure why they decided to broadcast in this way. It could be that some slots are just too close together to allow for satellite co-location.

The multifeed concept has never really taken off in the UK. The possible exception to this was during the period when Sky were relocating from 19.2E to 28.2E. Sky offered the opportunity to receive both Astra 1 and Astra 2/Eurobird on the same dish (usually the existing one). [*Not to me, they didn't! -Ed*] You could continue to use your analogue

receiver alongside the Sky Digibox. Some channels were not available (or were encrypted) at 28.2°E. For example, TNT and Radio Caroline were exclusive to 19.2°E, while the analogue version of CNBC was still available as FTA. There was also the German version of MTV with much of its output in English. Some viewers were interested in retaining other German channels. I'd like to think they would be native German speakers or German language students, however I suspect it was mostly for the "grossen titten" stuff! :-)

There are many other DTH satellites out there. Just have a look around and see what takes your fancy. The beauty of having your own multisat system is that you can make adjustments to suit your own needs.

One of the main considerations is the recommended dish size for a particular satellite *footprint*. A good collection of satellite footprint charts can be found at www.wotsat.com/footprints.html. If you intend to use an existing dish for multisat reception you will have to determine whether it would be generally suitable for *ALL* of the satellites that you would like to receive. The convention is to point the dish directly at the weakest satellite, and then work from that basis. There will need to be some guesswork involved in determining the drop-off in efficiency at any given focal point.

If, on the other hand, you have decided to purchase a dish specifically for the purpose of multisat reception, then you *MUST* choose one that is the appropriate size. It might be tempting to buy something smaller than you really need, but in terms of digital reception it could mean the difference between receiving something clearly in all weather conditions, and not receiving anything at all. It's *THAT* simple!

Once you have made a decision about what you would like to receive, the next task is to purchase the

bits that are required. First, let's concentrate on the dish. We need to obtain the correct number of LNBs (one for each required satellite), together with an LNB bracket to place them on. Brackets for 2 LNBs are sometimes called "twin holders". Other (commercial) names include "Little Wizard" and "Little Extra". For the purposes of this article we will use the collective term "multi-LNB bracket"



www.brymar.co.uk

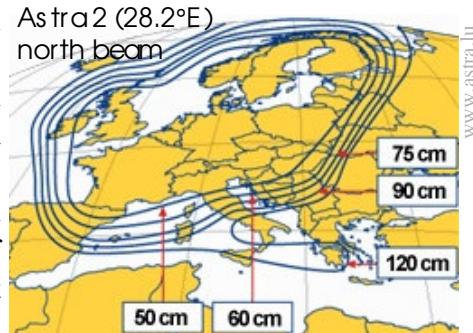
The LNBs that you choose must be "Universal" (dual-band) type designed for use with offset satellite dishes. If you would like to run two receivers off one satellite position then you should go for either a twin-output LNB or a four-output "Quad" LNB. The latter should NOT to be confused with a "Quattro" LNB, a type used for satellite TV distribution systems in apartment blocks.

Please note that a Sky LNB (single-output or Quad) will not work well on a normal offset dish. Unless of course you are using it in combination with a Minidish for dedicated reception of one particular satellite.

If you wish to receive satellites that are separated by 5 degrees or less, then you might have a problem. The physical dimensions of a standard LNB would normally preclude this. It is possible to purchase "narrow" LNBs that can be used to receive satellites down to a 3-degree separation. However please bare in mind that these will be more expensive, and also slightly less efficient at collecting signals due to the smaller dimensions of the LNB cap.

Multi-LNB brackets come in a wide variety of designs. Some are intended for 2 LNBs, while others can cater for up to half a dozen! A typical bracket would consist of one or two lengths of metal or plastic onto which two or more LNB holders can be slotted. Those that cater for 2 LNBs tend to have a more rigid design than the multi variety. The bracket is intended to replace the existing LNB holder of the dish.

Most multi-LNB brackets are designed to be used with a particular brand of dish. You will find that the bracket is shaped to fit into (or onto) a certain type



of dish boom arm. It might be possible to modify these brackets so that they will fit any type of dish.

Of course there is nothing to stop you making your own LNB bracket and holder! Have a look around at some of the designs and see what you can come up with. Actually, the extra LNB doesn't even have to be on a bracket. My own dish has an LNB that is attached to a completely separate arm! Whatever you do, please make sure that the angle of the LNB holder matches that of your original (or existing) holder.

Ewen Cathcart



It is worth mentioning that there is actually a *motorised* version of the LNB bracket! This type of device is also known as a 'Flying Feed'. The design allows a single LNB to be moved from one focal point to another. It can be set up to automatically place itself on a particular spot. One example of a Flying Feed is the IRTE Multisat (<http://www.rite.it/consumersat/multisat.htm>).

 Advantages of the design include the use of one LNB for multisat reception, and the ability to select the full compliment of satellites within a specified range. Disadvantages include cost (almost as much as a budget-end motorised dish) and availability (few satellite specialists appear to stock it). I have also heard that there might be a reliability issue (servo motor prone to jamming due to a build-up of grit in the mechanism). The unit might be worth considering if you prefer to have a fixed system but would like some of the flexibility offered by a motorised dish. My own personal opinion is that it could be hard to justify the expense.

Some satellite dishes are specifically designed for the purpose of receiving multiple satellites. The characteristics of these dishes tend to maximise the efficiency of secondary reception. Some appear to be slightly flatter than your typical offset, while others have a *double reflector* design known as a *Toroidal*. All come with either an

integrated multi-LNB holder or holders placed at set distances. This type of dish could be for you if you would like to receive satellites over a wide spread while maintaining efficiency. On the downside the dishes tend to be more expensive, and also less effective than a normal dish with an equivalent diameter. My advice would be to stick to the idea of converting a normal dish, unless you are interested in receiving 5 or more satellite positions over a wide area.

If your main desire is to obtain Hotbird and Astra 1, you might like to consider purchasing a special type of



LNB known as 'Monoblock'. This LNB has two heads that are located 6 degrees apart, and a single output. Head selection is made through use of an integrated DiSEqC switch (see below for an explanation of DiSEqC). Some Monoblocks are self-contained, while others are incorporated into a bracket that attaches directly to the dish. You can also get dual-output Monoblocks which provide independent selection of both heads by two receivers.

I gather that Monoblocks are quite popular on the continent. In the UK a Monoblock might be used for reception of Hotbird and Astra 1 in combination with a dedicated LNB for Astra 2/Eurobird. Monoblocks can be more expensive than 2 separate LNBs (though probably not if you include the integrated switch), but I think it is definitely something worth looking at.

Okay, next thing you need to think about is how you are going to link everything together. The simplest method is to have a cable from each LNB going into the house. Each cable can either be directly connected to a receiver, or you can swap cables around on one or more receivers. The advantage of this method is that you do not require anything else, apart from the extra lengths of cable. But there is the problem of how to get the cables into the house without having drill lots of little holes in the window frame. You could feed the cables through an open window, but not everyone would prefer to have a window open at all times. [If this was your only option, you can buy special 'flat' sections for



passing satellite cables through windows, though I'm not sure what impact this would have on the signal. -Ed There is also the annoyance of swapping cables on a single input receiver (plus having to turn the receiver on and off each time you do that). My previous set-up consisted of a dish with two LNBs, two separate cables (through an open window), and two separate receivers. The set-up before that had two cables going to a receiver that had two inputs.

If you are thinking about running two or more LNBs into a single cable feeding one or more receiver(s), then you will need to employ a method of switching that would allow you to individually select LNBs. The most common method nowadays is to use a receiver equipped with an integral DiSEqC controller, in combination with one or more DiSEqC switches. DiSEqC ('Digital Satellite Equipment Control') is a system that was developed specifically for the purpose of LNB switching. Nearly all modern satellite receivers (analogue and digital) incorporate this facility.

Before I go on, I must point out that Sky Digiboxes and original Sky+ boxes *DO NOT* support DiSEqC. Sky in their wisdom decided that it was not needed. However, it looks like they have had a change of heart with the introduction of a DiSEqC-enabled Sky+ 2 box. Not that it really matters. Sky receivers are not all that suitable for multisat reception anyway (and even less so with the arrival of new software). My advice would be to keep your Digibox on one cable, and use another cable and receiver for multisat stuff.

Assuming that you intend to use DiSEqC as a method of LNB selection, you will need to find a suitable DiSEqC switch. Switches are normally housed inside a small metallic or plastic box, and have 2 or more inputs (from LNBs) and one output. We talk about switches being 2-way, 4-way, 8-way, or we say they are 2x1, 4x1, 8x1. The switches are designed to be used outdoors and are typically installed behind the dish. There are several variants of the standard. Version 1.0 is the original and most common. Version 1.2 is an extension of this and provides support for servo-

controlled motorised dishes. Versions 2.0 and 2.1 allow for bi-directional signalling, as well as the ability to "chain" switches. The standard is backwards compatible; therefore a switch that supports a version higher than that of the receiver should still work. And vice versa.

Prior to the arrival of DiSEqC the main method of LNB selection had been through use of a switching box that responded to a 22kHz tone. The introduction of tone-controlled Universal LNBs rendered use of such equipment to be obsolete, at least in European terms (I gather that things are different in America, where LNBs are single-band and tone selection is utilised in preference to DiSEqC). DiSEqC does actually make use of the 22kHz tone as a carrier for its digital transmission, however the tone bursts are of short duration and therefore do not affect the band selection of Universal LNBs.

In DiSEqC terms, the word 'Digital' has absolutely **NOTHING** to do with the type of receiver! I have noticed that some DiSEqC logos have the words **DIGITAL SATELLITE**, 'Digital Satellite' and 'Equipment Control' on separate lines. This has lead to some confusion. Not really a smart move (a bit like Philips decision to retain the 'RW' logo for DVD+R media!). Do a search on Google Groups for the Lidl analogue satellite receiver offers and you will see what I mean!

Cost of equipment is likely to vary quite a bit, depending on the type of set-up that you want and the amount that

you are prepared to pay for it. If you are working to a tight budget it might be a good idea to check out the Lidl web site on a regular basis (the UK one can be found at www.lidl.co.uk). They usually have offers on satellite equipment roughly once every 6 months. You can expect to find good quality stuff at budget end prices. You might have to hunt elsewhere for multi LNB brackets and DiSEqC switches, as these are



www.dmsusa.com



Ewen Cathcart (Comag SL-55 box)

normally considered to be specialist items.

That's all for part one. Part two will show you how to wire everything up so that you will be able to experience the delights of multisat reception!

Ewen

Rick's comments:

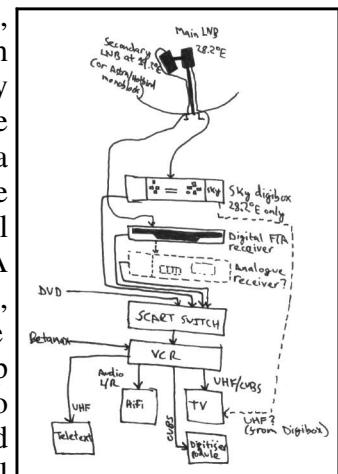
Firstly, Ewen's point about dish size is extremely important. After any strong wind I have to go out with the satbeeper and realign the dish (it is held in place by ridge tiles, it is not fixed to a wall (yet!)). The thing is, analogue would get a few sparklies and picture degradation. It isn't like that with digital. Your picture will be clear and fine, then it'll break up into blocks, then you'll get nothing whatsoever. The difference between getting a picture and getting nothing is *minute* – a fraction of a degree off and you'll spend your evenings staring at a blank television screen. Life is a lot easier if you only intend to receive analogue transmissions from satellites off of the prime focus, but to be honest that is like going to the cinema wearing a blind-fold. There is *so much* available free-to-air digitally that you'd be mad to go to the bother of setting up a multisat system and not planning to make use of digital...

It is rather ironic that recent updates to old Sky receivers block any use on satellites other than 28.2°E (without a card you cannot access Other Channels until the box has loaded the channels list...from 28.2°E! And with a card...you're likely to stick to watching English). Perhaps they don't want you to know that *TVEi* and *France 5* (as well as the slightly different *France 5 Europe*) as well as *CNBC* (it is available on analogue as well as digital) are all available free to air at 19.2°E – you need a Sky card to get them at 28.2°E. Also at 19.2 is *MTV* and *MTV:2 Pop* – in



German, although they show a number of American imports in English with subtitles (such as *Jackass* and *Scare Tactics*). If that isn't enough, there are *Viva* and *VivaPlus*, two more German music channels. All completely free to air. I've always maintained that with a few small exceptions, the Germans have a better taste in music than the English anyway! :-)

My ideal setup, when I can afford all of the bits, is a big dish – say 80-90cm – which will be set for primary focus on Astra 2. An LNB at this position will feed into a Digibox. Additionally a dual LNB system would be fitted for Astra 1 and Hotbird. I'm not sure if I can use a dual Astra/Hotbird LNB (by reversing which is which?), or if the angles will mean the LNBs must be slightly further apart (neither is the prime focus). This, via DiSEqC will feed into the back of a basic FTA digital receiver, and if the FTA receiver has a loop through, I'll attach an analogue receiver as well. This setup will allow me access to Astra 2 for the BBC and UK FTA channels, as well as Hotbird and Astra 1 for European channels. If it gets messy, I might 'drop' Hotbird for the time being and just go for Astra 1 and 2 coverage.



Either way, I'm sure waiting for part two of this article! I hope you are too... I expect (hope?) Ewen will explain some of the mechanics behind his dual-LNB setup, including how he managed to ensure that such a long pole (*say, is that a broomstick?* :-)) was perfectly aligned – it can be difficult enough when you're able to move the entire dish!

Can't wait...

Thanks Ewen!



MTV2:Pop at 19.2°E analogue



Ewen Cathcart

How to make an HTML quilt

part 1

What we are going to look at this time is alternative ways that you can format your text.

The first, we have already covered. To place line breaks into a document, use `
`. To make paragraph breaks (a blank line between paragraphs), use `<p>`.

Here is some example mark-up.
This is line two.

This text is the second paragraph. To be honest, this is a really lame example, but you get the point...
...right?

The code would look a little something like:

Here is some example mark-up.
`
`

This is line two.

`<p>`

This text is the second paragraph. To be honest, this is a really lame example, but you get the point...
...right?

The tags `
` and `<p>` stand by themselves. There is no ‘opening’ and no ‘closing’. They just *are*.

There is a form of the paragraph tag that allows for alignment formats to be applied, though personally I much prefer – and encourage – the use of `<div>` for this purpose.

If you want a block of text to be centred, you can use:

```
<div align="center">  
...your text goes here...  
</div>
```

Note – American spelling “center”, British spelling is not supported!

To be right-aligned, use:

```
<div align="right">  
...your text goes here...  
</div>
```

It is possible, within Microsoft’s Internet Explorer, to set a fully justified alignment (where both sides line up, like in this article), but it only seems to work

in tables and in certain specific conditions, so for most intents we can ignore this for now.

You’ll have noticed that the `<div>` has a closing `</div>`. This will return you to normal left-aligned text. The `<div>` tag allows ‘left’ to be specified, which may be useful in tables where the default alignment has been set to something else, but in normal use, left alignment is ‘normal’ and what you get if you don’t say otherwise.

There is also the tag `<center>` (closing form `</center>`), but curiously some browsers don’t support this correctly (or at all?), while many understand `<div align="center">`! As before, you have to use American spellings. Some British-made browsers may support ‘centre’, but the big popular American-made browsers (which account for a large proportion of your audience) do not support the British spelling.

The next things to cover are basic *styles*. You see, plain text is kinda boring to read. It helps to put certain key phrases in a different style to highlight them, either to introduce a new word or to emphasise a concept. Or, perhaps, simply to mark a word that should be said/read with stress. The possibilities and conventions are *limitless*. At the start of this paragraph I emphasised “styles”, and in the proceeding sentence I emphasised “limitless”. Rather incompatibly, but it serves as an example. The two main styles of emphasis are *italicised* and *emboldened*. For serious points, you can do *both*. Generally speaking, italicising is preferred. It is a much more subtle way to highlight something, and entire quotes can easily be italicised for effect:

I did not have sexual relationships with that woman!

On the other hand we have bold. Bold is more a way of shouting at the reader:

Don’t touch that, dumb-ass!

It stands out, for sure... It shakes the eyeballs. And as such it is used a lot less. There is a controversy here. Technically, with HTML 4.0, both `` and `<i>` are *deprecated* – you are supposed to use `` and `` instead. However I have seen

varying interpretations of `` (which is supposed to be roughly like `<i>`). If I wish for italics, I use `<i>`, regardless of whether or not it has been deprecated. Yes, I'm perfectly aware that HTML is a mark-up and not DTP, it is just that while some browsers cannot render italics, I've never seen one render it in bold! And, really, bold is often *too* harsh.

So, to recap:

<code> ... </code>	Text in bold.
<code> ... </code>	<i>Emphasised</i> text
<code><i> ... </i></code>	<i>Italicised</i> text
<code> ... </code>	"Strong" text
<code><u> ... </u></code>	<u>Underlined</u> text

You can mix, for `<i>bold italic</i>` text. *Undo the tags in the reverse order to how you set them*, like last-on-first-off.

The next control you have over text is the size. The size goes from 1 to 7, and the normal size is 3. You can either set the size directly using:

` ... `

or indirectly using an offset:

` ... `

If the parameter is just a number (i.e. '5'), then you do not need to enclose it in quotes. If it has a symbol (i.e. #, %, +, etc) then you *must* enclose them in quotes.

There is another way to alter the size briefly – use the `<big> ... </big>` or `<small> ... </small>` tag pair. Each adds or subtracts one text size each, so adding two to the size (or setting size 5) is `<big><big>`. Simple, huh? Don't forget `</big></big>` to return to normal size (don't do `<small><small>!!!`).

The font tag has other uses as well. Fancy displaying some text in magenta? No trouble!

` ... `

But you could use:

` ... `

` ... `

You'll note, again, Americanisms are required. You have to omit the 'u' from the word colour.

The final of those three examples shows the total flexibility of the system. There are over a hundred defined colours – *fuchsia* is another name for

magenta. There is also *azure*, *goldenrod*, et cetera. But when those don't suit the exact precise colour that you want, you can set the colour components. It is hex (base sixteen), the values range from zero (00) to 255 (FF). The colour is defined as follows:

`#RRGGBB`

where 'RR' is red, 'GG' is green, and 'BB' is blue. So to set magenta (full red, full blue, no green) the colour setup is R=255, G=0, B=255. Or in hex it would be `#FF00FF`.

Again, it is useful to remember that not everybody has access to a 16 million colour display (yes, even in this day and age). Some poor people are stuck with 256 colours or – worse – 16 colours. Now some decent operating systems (I'm thinking of RISC OS here) can dither intelligently, but others (Windows comes to mind) are really appalling at dithering. I've seen Windows ME stuck in 16 colour VGA because it didn't recognise the graphics card. The dithering of AOL's login made most of it completely unreadable. It was really bad. So if you design a sexy-looking website, give it a quick switch to 256 colours to see if still looks good. Or, failing that, if it is usable. But don't worry about 16 colours, people stuck in 16 colours in 2005 have more problems than whether or not your web site works!

There is one other option at your disposal. Font *face*. You can set custom type styles. Sadly the majority of people set Windows fonts (i.e. "*Comic Sans MS*") so other systems either try to alias to an equivalent type or go to further lengths like including an TrueType font renderer (seriously, this is how Oregano did it!). Certain typefaces are supposed to be globally supported – *mono*, *serif*, and *sans-serif*.

The final comment, a lot of browsers don't support *mono*, and setting *Courier New* is a load of bother. Just set `<tt> ... </tt>` for when you want stuff in a mono text. Could be useful?

Well, maybe... :-)

More next time!

Rick
2005/09/10

xemik.net

Attack of the KILLER SECHERESSE!

by Stephanie-Jane Murray

Today is 10 October, a fine sunny day, and Ouest-France has officially said that we are having Indian Summer. Not that it was cold earlier. Or wet.

We are waiting for the arrival of our friendly plumber because three days ago our water suddenly stopped. We don't have "town water", all of our water both inside the house and outside originates from two deep wells. The well opposite the front door is stone, and very old. The ancillary well, up in the summer garden, is much newer, made of concrete rings. Naturally we had a look at the water level, and the old well has only dropped by a metre or so; but the concrete well has gone down dramatically. It was even more dramatic when Rick beamed sunlight down there, courtesy of Physics (a mirror and sunlight). Wow! It would, of course, have been even more interesting if it hadn't been so worrisome. You'll be pleased to know that neither well contained the ossified remains of anything, and both were quite clean, considering. I guess man had to be very precise several hundred years ago, when digging a well. Their life depended on it. Nowdays, although it can be expensive, town water can be connected almost anywhere. Did you realize water in France is metered? There are pros and cons for having only well water. The nicest thing being that it is free. Or it is free when it works. Rick thinks the problem is some complicated equation to do with pumping up depending on the lowest level down (is this an arcane version of Archimedes Screw?).

We have not had any rain at all, not for months and months. Our pond totally disappeared about 6 weeks ago, and our neighbour, who is nearly 80,

said she has never seen that happen, ever. Of course, other folk's ponds are disappearing as well, including the Big Pigs up on the hill and the lovely big pond just outside of Châteaubriant on the road to Moisdon. That one used to be a picture with all its pretty lily pads. Alas, it is a brackish load of gunge now. And walking through the newly-turned fields is like walking through fine sand. I hope no one in New Orleans is reading this, you guys have so many problems in the other direction.

It has been an eventful summer this year. My antibellum IBM 486 decided that it wanted to retire, it had had enough and the hard disc failed. Totally. Rick retrieved what he could, but most of it was lost, gone forever to that great vapour in the sky (probably the same place lost e-mails go). I had to relearn practically everything, which wasn't all that difficult in my case, since I don't know much about computing. This is being written on Rick's Compaq Presario 7210, nearly as old as my 486 (Rick says P75 16Mb Win95 might make more sense than a model number, only he had to type that bit in because not only hadn't I a clue what it means, I could only remember P75, which sounds more like a paper issued by the DSS than something computer-related. Which goes to show... Something or other.).

This is Rick taking Tiny Alice up the driveway for her daily walk.



If anyone is wondering about our rescued cat Shadow (he was thrown out of a car a year ago),

he landed on all four paws last month. He is now residing in great splendour at the home of my dentist, so there is a very happy ending to that story. We have moved Tiny Alice down to the bergerie, she constantly left us little puddles in the living-room, and it wasn't all that pleasant. We have plasterboard walls in there...don't even *think* about that.

We drove down to the Loire in late August, near Ingrandes, and there was only the smallest trickle of water in the once-mighty river. A 'Loire-plage' (beach) had been created on the southern shore for the local children. Normally the sandy bed is under several metres of water. The drought is very, very bad. We haven't had a particularly hot summer, just dry. And, so far, we haven't had any thunderstorms either. Most of them have passed to the east of us, seeming to travel up the Mayenne river.

Likewise, it was not a good year for vegetables or fruit. As well as the dryness, Spring arrived late. I had sown multi-colour carrots – in really intriguing shades like deep red, yellow and nearly white. We never had one, the slugs ate them all. Tomatoes were a disaster, as were aubergines. Truly, the only success was the beetroot. Wow, we have lots of beetroot...again. We had no cherries at all, nor apples, nor walnuts. I'm a true hedgerow scavenger and normally at this time of year would be making lots of hedgerow jellies. There weren't even any blackberries, try to imagine no blackberries? Oh, the bramble plants are very much in evidence – too much in evidence at Les Prés – but nary a berry.

Next year I may grow diminutive little vegetables bred especially for pots. Ah, yes...next year. But we have to get through the winter first!

This month's book recommendation is *The Secret Life of Bees* by Sue Monk Kidd, published by Viking. 1964 in South Carolina. Lily age 14, accompanied by her nanny goes looking for the truth about her deceased mother. She finds a generous family of black beekeepers, who hold the secret about bees...and about her mother, too.

Here is a photo of me, talking to Claude, at a picnic. Which one of us appears unable to speak without using their hands?????:–)



That is an old water mill in the background.

Finally, I would like to say a big merci beaucoup to Jérôme for all the interesting information he has passed on to us over the years; and *tapadh leat* to Ewen up there in wild, northern Scotland-by-the-Sea. Dylan and even more Dylan (yummy!). So much music to dance to (well, not Dylan, necessarily...).

That's all for now, except to remind you to keep warm!

*Stephanie-Jane Murray
10th October 2005*

Rick's addendum

As if by magic, or perhaps just deep irony, it rained quite heavily the *day after* mom wrote this article; and right now it has settled down to that not-quite-rain that I refer to as 'Scots Mist'. There is some water in our pond, but since the level in the wells have hardly risen, I figure the pond water is only there because the ground is so hard that it doesn't have anywhere to go to. A week or two will tell, but it was *really* nice to *finally* see some rain. It is just a shame about the peaches, cherries, pears, apples, tomatoes, carrots, leeks.....

The Wrap Party

TENTH ANNIVERSARY EDITION



The first thing I must do is apologise for this issue being three weeks late. The majority of this issue was ready on time, and it could easily have been complete for the due date (only the last three pages were waiting). The problem is that uploading with a friend's computer and a dial-up modem running 28k8 is totally impractical – especially if you are not paying. Remember, two copies need to be uploaded now, the *OvationPro* version and the *PDF* version; and then the web site updates. I have not built the TAR yet, but I'd bet we're looking at 4Mb or so. A breeze with broadband, maybe 20 or 30 minutes at those dial-up speeds, assuming it doesn't go belly up at 98% or something!

Anyway, *FrobNicate* is here, now, you're reading it!

I've been reading *Dilbert*, both the book and the collected strips, and so I decided to put together a little strip, below. *My excuse* is that I was outside and my eyes are very sensitive to light, so the sun on the paper was blinding me. The reality ... I'm hopeless at drawing. By the way, the character with glasses was not supposed to be a pastiche of Gates, Jobs, or Wozniak – it's just a nerdy guy with glasses. And the one on the right is supposed to be an old bloke with no hair, though he does look like one of the henchmen in Tomb Raider. Like I said, I'm crap at drawing. That's why you *might* see another strip in issue #50 or something like that.

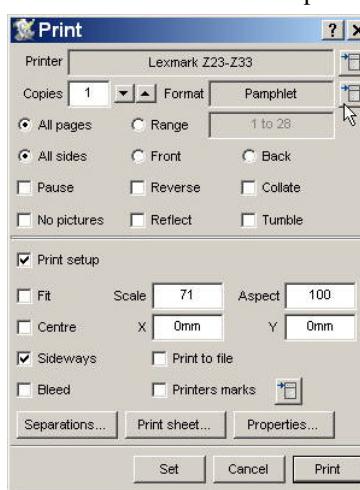
I'm not going to explain the meaning of the strip (been there, done that) and without being insulting, if you don't "get it" then you probably won't understand the explanation. It's a prod at geek culture (yes, geeks have culture).

According to BBC THREE's news, geeks are coming up in the world and the world is getting more geeky. Once, it was the height of uncool to have a filofax, and those with Psion organisers were just too sad to be allowed to live. Now people have PDAs and it isn't seen as a bad thing, and people have little MP3 sticks and that's seen as cool; like mobiles with built-in cameras. I guess the world was won over with arguments like "I can fit ten hours of music on a CD" and "How about five movies on a disc, thanks to DivX?". All these geeky inventions that are entering everyday parlance, along with bizarre website names – everybody Googles, and all but the most out of touch know what Google is, and they've probably used it (heck, even *my mother* knows how to Google stuff). But, well, I'm not so certain "confused dot com" sales it to me as a place to get the best car insurance (it *is* car insurance, isn't it?) and wasn't

some employment site called "monster" or somesuch? At least I've kept my website "HeyRick" and you'll find FrobNicate in "slash frobNicate slash", even though it is *actually* "published" under the guise of "Hissing Spinach". Yes, really. Look at the little green logo on page two, it's been there since forever! But *uuuhissing-spinachwhatever* is weird, even by my standards!

You might have noticed that all of the recent issues of *FrobNicate* (20 onwards) are a multiple of 4 pages. This is so that you may do something I refer to as "*FrobLite*".

To do this, select "Pamphlet" in OvationPro's printing options. The scale, if visible at that time, should say "71%". Click on Set and then confirm the printer margins are acceptable. Some



of the older printers just a large gap at the bottom of the page so you might need to fine-tune the scale and offsets.

Then, simply insert the paper into your printer *manually*. The *first* and *last* pages will be printed, then the *second* and *penultimate* pages. For these, you'll need to insert the *same* piece of paper the other way up. How depends upon the printer, some print straight, others flip it.

The Print Sheet option allows you to correct any mistakes you might make – useful!

Here is the last issue and this in the A5 sized *FrobLite* form, which is not only a lot easier on the paper (8 pages instead of 16 or 32), easier to hold, easier to store... :-)



And with that, we end the 25th issue. Thanks for reading!

Rick Murray, 2005/10/10



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