

FROBNICATE

This time, RiscOS takes no crap from nobody...



- The Hacker gets *active*...
- Doing a backtrace in C.
- Results of the Frob. Awards.
- LCD modules

Hissing Speech

Spring 1999

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Credits:

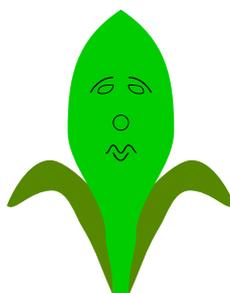
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A Hissing Spinach production
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Editor's Page



The Editor's Page has been
withdrawn in protest of society.

Switch your TV on. Watch the news.

Then ask yourself if this is the result
of thousands of years of civilization,
what kind of mess will we be in, in
another thousand years?

A brief note from the Hacker:

Guys, please stop emailing me asking how to get free drinks from
machines. What d'you think I am, a public information service?
Link yourself into a search engine on the Internet, stop pestering me!

Love and corrupted bytes,
The Hacker

Diary of a hacker (part 1)

It was a rather “cloak and dagger” affair. Meet in the café on the corner. Sit away from the window. Order a plate of chips and be reading a copy of The Times.

I glanced up at Sergeant Atwood. He knew me. I knew him. Was he going to be an asshole because I wasn't reading the correct newspaper? I had my reasons.

Eventually Atwood sat at my table, after a big pretence at not knowing me. A pretence that would have worked if the place was full. But, seeing as he could have picked from twelve other tables – he may as well have just sat down and shut up.

“Why aren't you reading The Times?”, he hissed.

“In '95 The Times sold out to MicroSoft. I don't trust anything they say when it comes to anything remotely electronical.”

“And you trust The Daily Mail instead?”

“Not really. But it has some good women's pages.”

“Excuse me?”

“Well, Sarge, it is like this. Not all guys in the world are obsessed with football.”

The conversation carried on like that while I explained that MicroSoft bought The Times for a day to promote it's new Windows95 so-called operating system. I was about to explain that Win95 was basically a GUI on top of the old DOS, but figured he was already having trouble with the newspapers.

He ordered a beer. The waitress gave him an odd look, so he looked around. This place wasn't a licensed premises. He settled for a black coffee and then stared at me for several seconds. He then looked around the room without moving his head; his eyes scanned from one side to the other. I bit my tongue not to laugh.

“We need your help”, he said.

“This the same police force that tried to bust me two years ago?”, I asked.

“This is the same police force that turns a blind eye to the way you ride your bike to college, and the multitude of complaints that your principal lodges with us every week.”

He had me there.

“So, you want this guy.”

“Yes.”

“Why don't you kick his door in and shout “You're nicked!” or something?”

“Because this isn't an episode of The Bill.”

“A minor technicality, at best.”

Sgt. Atwood went on to explain that this suspect was “a crafty old bugger” and they needed him out of his premises so they (the police) could enter with a court order and look around before the suspect has a chance to dispose of the goods. That is where I come in. Apparently I have ways and means. With the recent stories of corruption, the police want to be Fairy-clean on this one. No little technicalities to cause the court to let a nasty criminal go free; or worse, be paid compensation.

I have morals. But when it comes to drug pushers, my morals are rather relaxed.

Go home, grab some shut eye then meet same place same time tomorrow. Time to wheel and deal.

This time I brought a Guardian and a Telegraph. When Sgt. Atwood wasn't looking, I swapped.

He sat, eyes scanning the room. I had taken the liberty of ordering a coffee.

"So, what are you expecting in return?", he asked me.

"Can you set me up with Athina?"

"Who?"

"Onassis."

"You don't think she's a little young for you?"

"She's got money, who cares about age differences?"

"Shallow bast....ahem!", Sgt. Atwood spluttered.

"Okay. You know what I want. It is obvious."

"The keys to the bank?"

I shook my head.

"A direct line into the PNC?"

"Already got that." I shook my head again.

"Ah. Your principal mightily embarrassed."

"Now we're cooking with gas".

"Hauled off during the daytime when people are watching?"

"Five minutes before lunch time, before everybody goes away for lunch. Enough cop cars to make them want to stay around."

"More than one cop car?"

"Full scale training exercise. Cop cars. SWAT. Police from other towns. Hell, I want helicopter support at each compass point."

"You *have* to be joking. You think we can storm in and arrest somebody with that scale of operation without repercussions?"

"Actually, yes. September 1994 in..."

"Okay, so that was a mistake. A very grave error that caused heads to roll. Our evidence was lacking."

"Oh? If evidence is your problem, leave it to me."

"What do you intend doing?"

"Ask yourself what any good hacker could do if that found naked pictures of his niece on the college server."

"So?"

"She is, oh, eight at a guess."

"Ah. Mmm... But anyway. I don't think so. I can certainly arrange for a few of my men to question him."

"No deal."

"What!?"

"I want the works. I want the jerk to be so ashamed he'll quit. Then I can fiddle the staff records so that Gorgeous Babe is promoted to top position."

"Uh..."

"I know how much this crim means to you. You reckon he has stashed several million in raw cocaine. And I can tell you some extra titbits like where he gets it from and how much there is there."

"How...?"

"I jacked into your cute little PNC, got his details and set up a survie on him last night. I don't know about your guys on obbo duty – but somehow they missed him making a pickup."

Silence.

"Play ball?"

More silence.

"Meet here tomorrow. I'll see what I can do. But your so-called evidence for your principal better be bloody good. I'm not carrying the can on this alone."

"Don't worry. I want him OUT in style. See you tomorrow."

Simple Backtrace in C

When you are writing a C program, a facility that may come in useful is to be able to output a backtrace. The standard handlers do it, sometimes, but there doesn't appear to be a call to allow you to output your own.

The backtrace we shall present will output data in the form:

```
Backtrace:

Function : freespace_prog_draw (at &0001A784)
          PC : &039795C0

Function : listing_clickhandler (at &00018428)
          PC : &0001851C

Function : <unknown> (at &0001CACC)
          PC : &0001CB10

Function : No information available.
          PC : &039A29C0
```

It can be added to a coredumping routine to log what happened and when.

In the source header, you would want:

```
#define mask_26 ( ( 1u<<26 ) - 1 )
#define mask ( mask_26 & ~3 )
```

and

```
typedef struct
{
    unsigned int    length      : 24; /* Number of bytes used to store function name */
    unsigned int    terminator  :  8; /* Should be &FF if a function name before this */
}
function_name_info;
```

And the backtrace function itself, passed a file handle so it can output to a file.

```
void backtrace(FILE *fh)
{
    /* Tries to backtrace functions */

    _kernel_unwindblock frame;
    char *language;
    int pcaddr;

    fprintf(fh, "Backtrace:\n\n");

    backtrace_getcurrentframe( &frame ); /* Call assembler code function */

    while ( _kernel_unwind( &frame, &language ) > 0 )
    {
        function_name_info* fname_info;
        unsigned int*      save_code_pointer;
        unsigned int*      frame_create_instruction;
        unsigned int*      return_pc;
        unsigned int*      return_fp;
        unsigned int       test_word;
        /* 'frame' contains info on a particular stackframe. However we can only
           use 'frame' to ID the *PREVIOUS* stack frame, 'cos it's a bit ballsed up...
           Top four words:
           [fp, #- 0] save code pointer
           [fp, #- 4] return Program Counter
```

```
[fp, #- 8] return Stack Pointer
[fp, #-12] return Frame Pointer
```

Refer to PRM 4-400 (ARM procedure call standard)

```
*/
return_fp = (unsigned int*) frame.fp;
return_pc = (unsigned int*) (frame.pc - 4);

if (return_fp != NULL)
{
    save_code_pointer = (unsigned *) (*return_fp & mask);

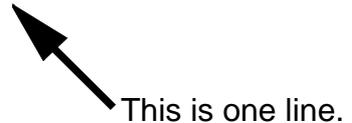
    if ( (save_code_pointer != NULL) && ( (int)save_code_pointer < 0x3800000) )
    {
        char* function_name = NULL;

        frame_create_instruction = save_code_pointer - 2;
        fname_info = (function_name_info*) (frame_create_instruction - 1);

        for ( test_word = 5; /* Limit of search depth */
             fname_info->terminator != 0xFF && test_word > 0; test_word-- )
        {
            fname_info--;
        }

        if ( fname_info->terminator == 0xFF && fname_info->length < 4096 )
        {
            function_name = (char *) fname_info - fname_info->length;
        }
        fprintf(fh, "Function : %s (at %08X)\n", (function_name) ? function_name
: "<unknown>", (int)save_code_pointer);
        pcaddr = (int)return_pc;
        pcaddr = pcaddr & mask;
        fprintf(fh, "      PC : %08X\n\n", pcaddr);
    }
    else
    {
        fprintf(fh, "Function : No information available.\n");
        pcaddr = (int)return_pc;
        pcaddr = pcaddr & mask;
        fprintf(fh, "      PC : %08X\n\n", pcaddr);
    }
}
}

return;
}
```



Finally, a short snippet of assembler. This example is written to be compiled with Acorn's objasm, but should be easy enough to port.

```
AREA |C$$code|, CODE, READONLY

EXPORT  backtrace_getcurrentframe

a1 RN 0
s1 RN 10
fp RN 11
sp RN 13
lr RN 14
pc RN 15

backtrace_getcurrentframe
STR    fp, [a1, #&18]
STR    sp, [a1, #&1C]
STR    s1, [a1, #&24]!
MOVS   pc, lr
END
```



(the original image was rotated to fill the page, but rotating JPEGs using old software is... ;-)

This wonderful picture was rendered by Emlyn Owen.
The original Targa file is 1.4Mb in size, and can be downloaded from the Froblicate website.

Diary of a hacker (part 2)

In the last episode, the hacker confuses the police intelligence (not difficult) and pushes to set up Sopowitz in exchange for some behind-the-scenes string pulling...

I sat down in the chip shop. The food here was better. My laptop was hooked into the surveillance camera in the High Street. I could see Sgt. Atwood pacing up and down outside the café. I'll bet his desk is covered in Post-It™ notes in his own writing, none of which he can comprehend. I let him pace for about ten minutes and then called him on his private mobile.

"So where were we?", I asked, presenting him with a strong black coffee. Ugh.

"We were at the part where you were telling me how you got my personal phone number...", Atwood prompted.

"No we weren't!", I sang back, smiling widely. Time for the cute approach.

"Ah. So what do you have on your lovely principal?", Atwood asked, "It'd better be good."

I passed over a Betamax cassette.

"What the hell is this?"

"Uh, a video tape."

"What kind?"

"Betamax."

"God, you mean somebody still *uses* these things?"

"I'll guess you'll want a VHS then?"

Atwood nodded. I reached into my backpack and brought out a VHS tape.

"You know, I was expecting a floppy disc or something", Atwood remarked pointedly.

"Yeah, so was I until I saw what I saw last night."

"Carry on."

"Well, I tapped into the security camera in his office, yeah? Then I set up his computer to load that picture if he tried to start his word processor. It all went to plan. I got that frame with his staring at the picture. Then it got bad."

"Oh?"

"Well, he switched the monitor off. The monitor, *not* the computer. He went out. Came back around three minutes later with a wad of bog roll."

"And?"

"Think about it."

My hot chocolate was getting cold. I made a few blatant hand gestures and the penny dropped.

"Oh the disgusting runt!", Atwood exclaimed, with remarkable self control.

I nodded.

"That is on this tape?"

"Yup. Didn't watch it myself, once I figured out what he was doing. Sadly there is no sound. The college hook-up uses sound-in-sync. I only just managed to get a viewable picture out of it."

"One grunt sounds pretty much the same as the other", Atwood replied with a totally deadpan expression.

That killed me. It really did.

My side of the bargain was easy. Cut the power, reconnect the power, cut, reconnect. Keep doing that at approximately 30 second intervals. In case the dealer got ideas about calling the electricity board, I set the telephone to respond with the Not Available tone to all outgoing calls. He didn't budge. So time, I think, for my piece de resistance. I had earlier hooked up the local substation to bypass the final step-down transformer if the main switch was taken to the off position.

With a long wooden broom handle, I cranked the switch up. Sparks showered to the ground during changeover. I looked behind me. Every third house was dark, and some of the street lights were burning. I heard screams and panic. Well, I had just shoved some eleven kilovolts down the mains. But what do I care? Those other people were insured, right?

No sooner had the crim gotten fed up and left, the police burst into the premises and to put it bluntly they trashed the joint, and still they failed to find anything. Out of despair I SMS'd Atwood suggesting they look in unusual places...

...it was found by a cop who wanted to pop his coffee in the microwave. There it was, stuffed in there. A whole 4.3Kg of substance abuse waiting to be cooked. Weird, I could have sworn I saw the crim buy 4.5Kg of the stuff. I'll have to check my tapes later.

A week passed and nothing happened. I posted a Tom Jones record to Atwood. Another week passed. So I popped round the station and dropped off a Catatonia CD for Atwood.

So, it takes Cerys Matthews to get the police to do something. My god, what a sorry state of affairs. One bobby turned up at 11am. I helped them collect a whop of candyfloss sugar and they send back one lone cop. He isn't even armed with a Minigun. Just a clipboard.

I logged into two of my accounts and began to play Doom on both machines. Loudly fragging anything that got in my path. Sitting under the sign that said network games were prohibited. If sysadmin disturbs me right now, I'll tell him exactly where he can put that sign.

Joanna had to literally pull me off of my seat to get me to notice the fire alarm over the racket of my BFG9000 in Happy Ammo Mode. Sure enough, it was screaming away. And sure enough, half the student body was in a panic having not bothered to read the fire drill notices.

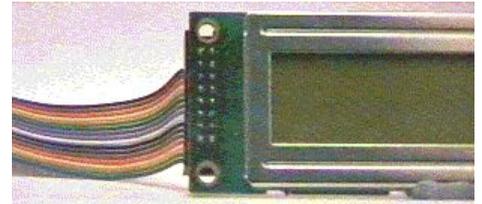
Some loud thumped through the air overhead. Joanna and I ran to the nearest front window. The scene that I saw was almost sexually exciting (almost, but not quite). Dozens of police cars, strobes running. An ambulance. Trainees in riot gear. Three helicopters (that I could see). Two vans. The media.

Sopowitz was being placed in a van. Then came the principal. Students were leaning out of the windows, jeering and throwing all manner of rubbish.

I broke backwards and did two things. I smashed the nearby fire alarm - it was really starting to bug me. Then I broke open the roof access door. It must have been a good idea because several dozen students followed Joanna and I to the roof. Before I reached the edge I heard cries of "Pædophile!". I looked down to see the riot police trying to get in to shield the principal, with little effect. A girl broke cordon and punched the principal in the face, then held her arms up to a cheering crowd as a cop tried to cuff her and was pushed away.

The last three things I remember are cheers, a surge from behind, and feeling terribly airsick. Amongst the rebellion and anarchy; my unconscious body lay broken on the ground. Oh bummer.

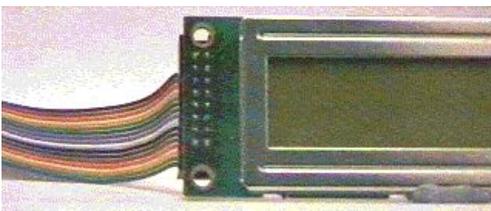
LCD modules



By Paul Roegele

Right, well, after recently discovering Frobnicate and printing every issue currently available, I decided that I really should contribute.

About 6-8 months ago, I noticed a posting on C.S.A.Misc about LCD Modules and driving them from the parallel port. Becoming intrigued, I thought I'd give it a go myself and this is what I came up with.



The displays are easily available from Maplin (www.maplin.co.uk - page 653 in Feb 99 Catalogue) or Farnell (www.farnell.com - Optoelectronics and indicators) etc (you could probably use the displays from places like Bull or Greenweld, but I've not tried them yet) and cost from about £10 to £65. If you don't get a datasheet with your display, I'd recommend getting one from Farnell on their datasheet request page - it's free and very useful.

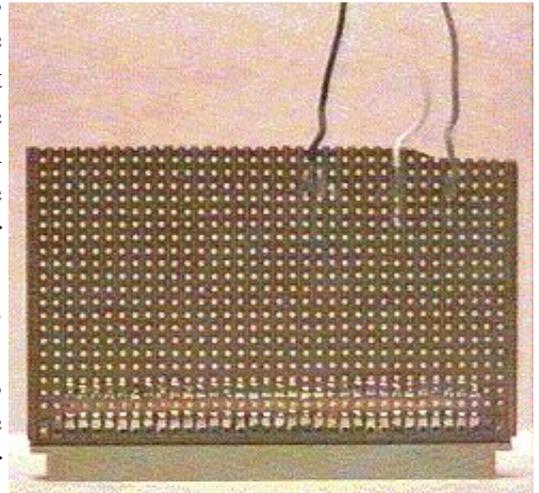
The display I'm using is the 2 x 20 character module from Hitachi.

Once you've got your display, you need a way of driving it. If you happen to have a user port or similar, you could write your own driver software, or if you're really masochistic, you could go for direct connection to the data and address buses in your machine although don't come running to me if you bugger up your hardware :-). As a slightly simpler (and safer) method to the above, I've opted to use the I²C bus as it's easy to program and very flexible. For those of you that don't know, I believe that the I²C bus was created by Philips to allow better communication in their monitors with the minimum of connections. The idea is this: the IC's are all connected together using two lines. Data and Clock. You can probably guess about the clock line (if you can't you should go back to your pink fluffy slippers and watch Barney) and the data line is pretty self explanatory too. There is a master IC which is already installed in your computer and generates the data signal and the ones that we'll be connecting are the slave IC's. We program the master IC and it communicates with the slave ones to produce the required output.

In order to use the bus, we need a decent slave IC. Originally used by Mike Cook, I've chosen the PCF8574 - it's a beaut! For your money (about 8 quid from Farnell), you get an IC which converts the I²C bus signals to 8 (count them eight) quazi-bidirectional ports. What this means is that you can either write to the ports or read from them, but you can't mix them up - a shame, but there you go. Ah Haa! I hear you say, we've got 11 connections and only 8 ports, how is he going to sort this? Well, it's very simple, you use two IC's. Each IC needs to have a unique identity on the bus. The IC's have part of this identity hardwired inside them, but you can select part of it yourself. You get three bits to play around with, giving you the ability to connect seven 8574's, giving 56 possible ports - smooth!

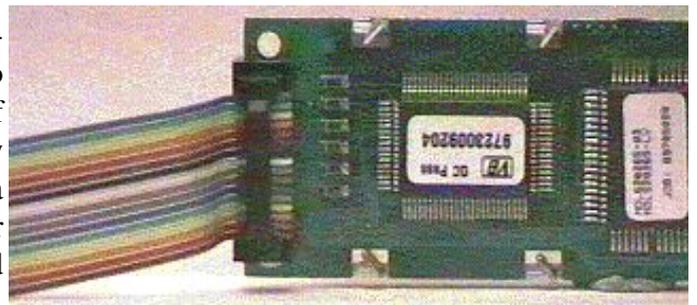
That gives us most of the hardware we need, but there is still one major problem. You need to get the I²C lines out of the computer. If you happen to have these bought out already or have an expansion card with them provided, you can skip the next paragraph, but if not, read on.

What I suggest, if you happen to have an expansion port free is that you buy yourself a little bit of veroboard and a DIN41612 right-angle connector - look them up in Maplin - it needs to be a 64 way one with rows A and C occupied and be a male one (with the pins 'sticking out'). What you do is solder the connector to the veroboard, with the tracks running from A row to C row ie at right angles to the connector. Then you break all the tracks between the A and C rows (you can do this before you solder if you want) and **MAKE SURE** they are broken as a short on this card can make your machine go all silly or even DIE!! Look at picture one for reference. Then you need to solder some wires onto the veroboard. For the clock connection you need pin 19C and data is 20C, remember that (as in the picture) the pins run from left to right (1 being on the left). Your DIN connector will have the pin numbers marked on it. You may need a magnifying glass as the numbers are pretty small. Also, if you don't have power tapped from your machine and don't have another power supply, you can draw enough from your computer (yes, even an A3000) to drive both IC's and the display. The pins you need are 1C for 0V and 30C for +5V.



Note: if you're going to get power this way, BE CAREFUL not to short anything, as you can roast your PSU and damage your computer if you're not. Anyway, on a lighter note, once you've done that, you can connect it to your IC's.

Ok, after that, you need to connect the display - preferably to some ribbon cable. Now, it's possible to do this by hand, but it's fiddly and gets messy. If possible use IDC connectors as in the picture, not only is it simpler, but it looks nicer too! Then make up a ribbon cable with connectors on both ends. Solder another IDC connector to a piece of veroboard and bring the connectors out on wires.



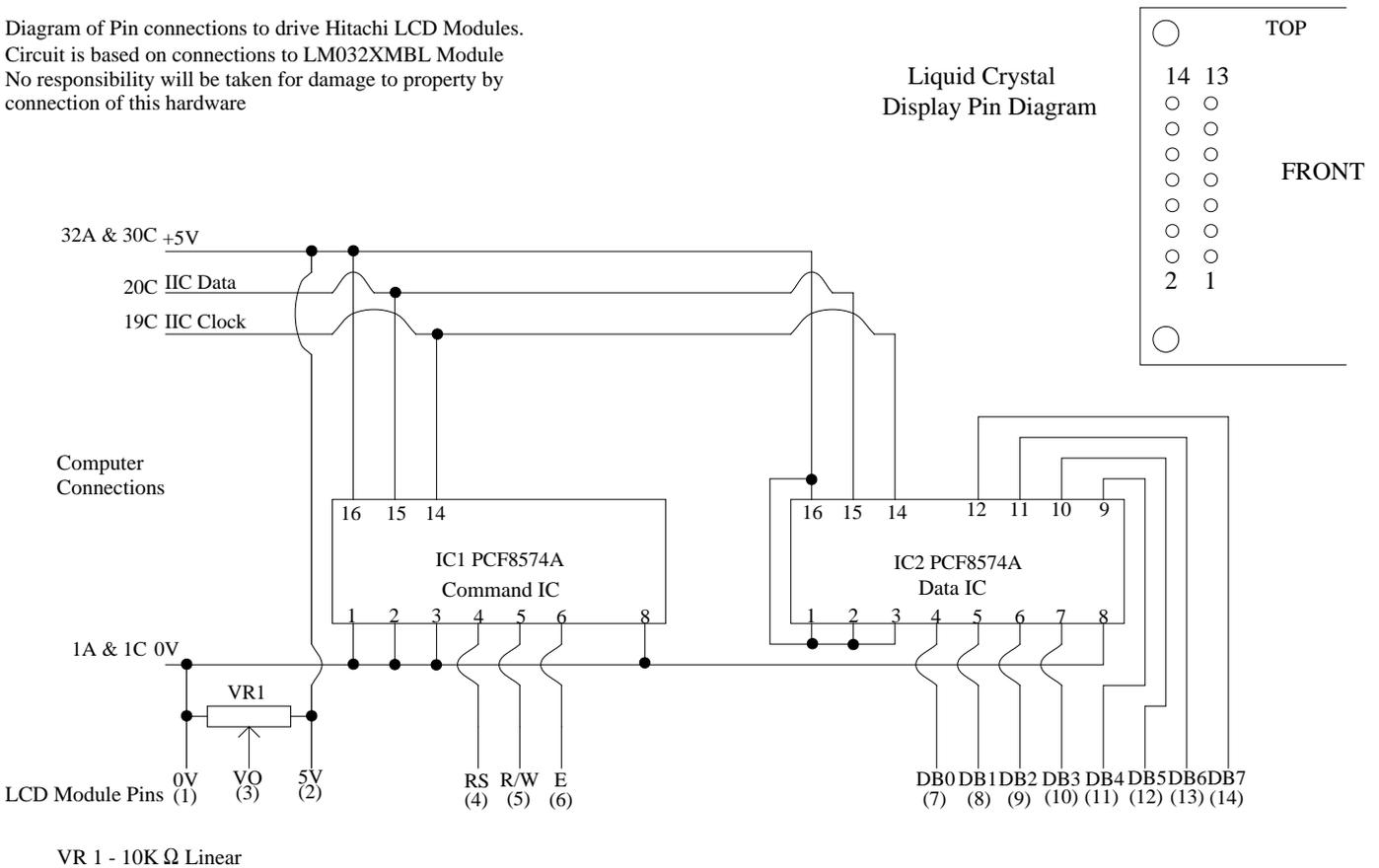
Now we're ready to connect things up. First locate the IC's in a breadboard (you can put it onto veroboard / PCB later if you want) and connect pin 16 to +V and pin 8 to 0V on both IC's. Do the same with the clock and data lines from the computer (both IC's). These need to connect to pin 14 for the clock and 15 for data. Next are the address lines. These are pins 1,2 and 3 and you can pretty much specify these yourself although I would suggest connecting these pins to 0V (address of 000) on one IC and +V on the other (address of 111). Finally, we need to connect the display to the IC's. To describe this would be rather silly, so I've included a diagram on the next page - the connections are simple and speak for themselves really.

Now that we've got the hardware connected, we need some software.

If you're following the suggestions for connections I've made above, you should be able to use the same software that I do. Included is the current version of the !LCD software (1.08), and a copy is also on the Frobnicate website. It's pre-configured to use the hardware as connected below.

Firstly, connect the display to your computer (if you haven't already). When you power up the machine, the display should show the first line (or only line) switched on showing blocks - this is fine. Now run the software. All going well, the display should clear and end up with the date, time, free memory and CPU usage on the top line.

Diagram of Pin connections to drive Hitachi LCD Modules.
 Circuit is based on connections to LM032XMBL Module
 No responsibility will be taken for damage to property by
 connection of this hardware



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What's that? You don't got a display, huh? Well, I suggest you check all the connections and give it another go. Another thing to remember is that software requiring heavy use of the expansion bus may stop the software - my display freezes when I start using my digitiser.

This shouldn't be a problem as the software will simply carry on running (this is also true if the display isn't connected). If you've still got problems, storm off in a fit of temper, eat something fattening and come back in a couple of hours - it really does help (If you still have problems, email me see address at end) and I'll see if I can help.)

OK, everything running nicely, display looking more than slightly cool, now what do you do? Well, you could leave it at that if you wish, but I'd suggest exploring some more. Firstly, look in the config file inside the !LCD application. It's pretty self explanatory really, you can change the layout of the display from this file, whether a log is kept (see later) and how often the display is updated. Please leave the last two lines of the config file alone (including the blank line at the end) as I'm afraid the software isn't very tolerant about changes in the config file.

Now, you may be wondering what the second line (if you have one) is used for. Well, it's kept blank for messages. This allows software to drive the display without having to worry how to address it, whether it's connected or anything else like that.

Any software can send a message to the driver software and any message will be displayed on the hardware without discrimination.

To send a message to the display, you can use a piece of code like this:

```
text%      = block%+20
$text%     = "Your message here"

!block%    = (LEN($text%) + 23) AND NOT 3
block%!4   = 0
block%!8   = 0
block%!12  = 0
block%!16  = &766768 : REM L C D

SYS "Wimp_SendMessage", 17, block%, 0
```

There you go! `block%` should have been previously defined (I use the same block that's used for wimp polling). The message number isn't registered and if it causes any problems, tell me and I'll change it - if the software gets popular enough, I might consider registering it **grin**.

Once received, the message will be displayed on the lower line of the display. Don't worry about the length of the string sent as it will be chopped to the length of the display (currently hardwired to 20 characters) by `!LCD`.

Erm, that's about all I can tell you about the software, now for the programming bit (*Woohoo! Mmmmmm, programming!!*)

OK then. Driving the display is relatively simple. Firstly, initialisation codes are sent to the display to start it up, specify the presence of a cursor etc - it's all in the documentation. After this, you can send data to the display and tell it to either interpret it as text to be displayed or a command to the display, by changing the state of pin 4 on the display.

There is a slight problem to be overcome when sending data to the display. The display requires the eight bits of data and three bits to control the display. This gives us 11 bits, but we can only control eight at a time with the I²C hardware. Fortunately this problem is dealt with simply. The display will not respond to the data on the 'DBx' pins until told to do so by the enable pin (pin 6). This means that we can send the data to the second IC, where it will stay put and then control the first IC to tell the display to read the data.

An example piece of driver code may be the following:

```
DEF PROC_lcd_display_initialise(_lcd_initialise_string$)
  ?_lcd_data% = %00001100
  SYS "XIIC_Control", _lcd_output_port%, _lcd_data%, 1
  PROC_lcd_strobe_command
  ?_lcd_data% = %001110
  SYS "XIIC_Control", _lcd_output_port%, _lcd_data%, 1
  PROC_lcd_strobe_command
  PROC_lcd_display_wipe
ENDPROC
```

This is the driver initialisation procedure which clears the display and starts it up ready for use. The other procedure (`_lcd_strobe_command`) is used with `_lcd_strobe_data` which control the first IC and the read/write, command/data, enable pins.

Probably the simplest thing to do is supply a list of procedures, what they do and what data is needed to call them - here we go:

```
PROC_ClearDisplay           : Clear display
PROC_lcd_display_new_line  : Position LCD cursor on second line
PROC_lcd_display_string(s$) : Display string on current line of display
PROC_lcd_display_return_home : Return LCD cursor to top left hand corner
PROC_lcd_command(int)      : Send an integer command to the display
PROC_lcd_data(int)         : Send data to the display
PROC_lcd_strobe_command    : Pulses lines to make display read data as command
PROC_lcd_srobe_data        : Pulses lines to make display read data as data
PROC_lcd_display_initialise(s$) : Initialise display with string to display (can be empty)
PROC_lcd_display_wipe      : Wipe display clean!
PROC_lcd_display_cursor(d,c,b) : Controls display of text, cursor and blinking of cursor.
FN_lcd_read_configuration(s$) : Read configuration file (s$)

PROC_lcd_library_initialise : Start up the driver library
```

That's about it really, I suggest you look through the !RunImage file and use it as an example. If required, it is possible to download the driver procedures in their own little library (mail me).

I can supply PDF data sheets for the LM016, LM017, LM018, LM020, LM032, LM041, LM044 and LM054 displays if required.

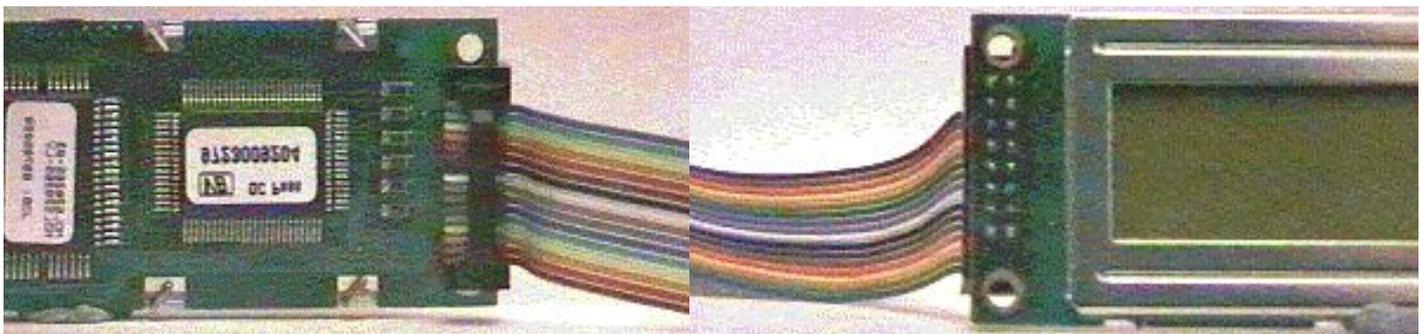
Before I finish, thanks must go to Kristoffer Adcock (<http://www.adcock.demon.co.uk>) for his help with the project - and the original idea! Cheers Kris!

That's about all I can say really. I hope you enjoy messing with it as much as I have done (and still do). If you're unsure of anything or would like help (or even just a chat), you can email me at:

paulr@argonet.co.uk

I check my mail pretty regularly (more than once each day).

Well, I'm off to carry on with my latest project (a dot matrix graphics display) which is rather more complicated!



THE Frobnicate Awards Results

PART ONE - RATINGS : PEOPLE/COMPANIES

#1	DAVID PILLING	8.571
#2	Acorn computers (the machine)	7.625
#3	R-Comp Interactive	6.714
	Dave Walker	6.714
#5	Jason Tribbeck	6.571
#6	Peter Bondar	6.500
#7	Beebug	6.428
#8	Kerri Green	5.833 (actress "The Goonies", etc)
#9	The BOFH	5.833 (he won't be happy about that!)
#10	Hermann Hauser	5.428
#11	Argo Interactive	5.285
#12	Stan Boland	2.428 (balanced)
#13	Acorn Computers (the company)	2.375
#14	Bill Gates	-0.714

Stan Boland's calculation was worked ignoring the -100 vote. Including it would give a result of -10.375.

Stan Boland typically scored between -1 and 3. However one person gave him nine out of ten and explains why...

*"The Stan Boland nomination is serious - though I don't think he had any intention of doing the RISC OS scene any favours his actions may turn out to be the best thing that could ever have happened to us! RISC OS Freed from the Acorn specific hardware with new machines and software being widely developed - could be good things!
This year should show us!"*

Bill Gates' score was worked ignoring the -9E99 vote; because I was unable to enter that into !Calc. More people voted for him negative than positive.

When contacted, David Pilling said:

Thats very gratifying. I'd like to say "Thank you".

PART ONE - RATINGS : BEST MAGAZINE

#1	ARCHIVE	.	.	.	.	.	.	7.000
#2	Acorn User	.	.	.	.	.	.	6.888
	Froblicate	.	.	.	.	.	.	6.888
#4	Risc User	.	.	.	.	.	.	5.142
#5	Archimedes World	.	.	.	.	.	.	4.571

Since publication of the questionnaire, **Acorn User** has absorbed **Archimedes World** ; like a great big magazine sucker... Suck! Suck! Suck!

Don't suppose you would like to incorporate Froblicate? I could do with a little more readership!

When informed of his position, Mr. Beverley said:

I was very pleased to hear that Archive had been given the award for the highest rated Acorn magazine, but I have to say I'm not surprised! That may sound arrogant, but it's not meant to be. Let me explain...

What I mean is that Archive is, in a sense, "owned" by its readers. All the material in it is contributed by the subscribers - my job is just to edit them and print them. In so far as the articles are informative and answer the questions people are asking, that's thanks to the contributors, not the editor. It's the RISC OS community spirit that Archive reflects.

Paul also asked me to mention the trial issues of Archive... in his own words:

We will send you the next two issues of Archive FREE OF CHARGE on the understanding that (a) you haven't subscribed to Archive before (or at least not for the last few years), (b) you haven't taken advantage of any other such free trial offer, and (c) if you do decide to take out a subscription (£25 in UK, £30 Europe, £38 elsewhere), those two magazines will be the first of the twelve issues for which you will be paying.

If you are interested in trying out Archive; contact Paul at:

Archive Publications,
18 Mile End Road,
Norwich,
NR4 7QY.

Phone: 01603-441777 Fax: 460736

Email: paul@archivemag.co.uk

PART TWO - PERSONALITY OF THE YEAR

There was no outstanding personality (everybody voted for somebody different), so here is the Editor's choice of personalities from those nominated.

Phoebe, Kira L. Brown, Steve Turnbull, Tarcus, Harriet Williams, Sophie Wilson, Dave Sharp, David Pilling.

The most novel entries were:

Phoebe... *for making more news by not appearing than by appearing*
S. Turnbull... *because he still accepts articles from me*

PART THREE - BEST... COMMERCIAL SOFTWARE

The nominations are obvious - Sibelius, Ovation Pro, PhotoDesk, ANT Suite, Voyager, ArtWorks, and TechWriter Pro.

The winner is TECHWRITER.

When informed of the result, Mike Glover (for Icon Technology Ltd) said:

Many thanks for letting me know.

We are delighted to have been given the award for the highest rated commercial software for TechWriter pro by your readers. We are continuing to develop it and hope to make it even better despite events in Cambridge.

TechWriter is the work of one man, Bob Pollard to whom the credit is due.

The most novel entry was:

Ovation Pro 2.46... *Because it's totally excellent, and trounces QuarkXPress/Pagemaker at every turn.*

and was chosen because I'm 25 years old and never before seen anybody actually use the word "trounce"!

Besides, in the course of my work I have to put up with PageBreaker (v5). It doesn't take much to trounce *that*...

PART FOUR - WORST... COMMERCIAL SOFTWARE

The winner is PESKY MUSKRATS. (a game, if I remember correctly)

The runners up were:

MicroSoft Internet Exploder 4 (sic; and is this strictly commercial?)

Wastebin from Fabis

SML-NJ (huh?)

The most novel entry was:

Wastebin from Fabis... *How much? For a bin? **HOW MUCH?!***

We were unable to locate a price for the product in recent issues of AU.

If anybody knows what SML-NJ is, answers on an email please!

PART FIVE - GOOD BUT OVERPRICED SOFTWARE

The winner is SIBELIUS. There's a surprise... :-)

PART FIVE - BEST... PD/SHAREWARE

The main nominations were for Zap, Messenger, Pluto, and Organiser.

The winner is ZAP.

When contacted, James Aylett replied on behalf of the Zap developers:

If any blame is to be handed out, it must arrive at the door of Dominic Symes, who designed and wrote Zap for more years than I care to think about (he started work on it in 1991, and finally stepped down from development at the end of 1998; I can't think of any single thing I've been doing for that long).

Then, perhaps, we should accuse his co-conspirators, people like Martin Ebourne and Tim Tyler, who between them wrote vast numbers of extensions to Zap before getting involved in the development of Zap itself - Tim in particular, who has to take responsibility for lots of the new and useful features that have appeared since Dominic handed over the reins.

Then again, there are people like Darren Salt, Justin Fletcher, Daniel Wagenaar and Elliot Hughes, who have given us plenty of other features; it's a rare Zap user that uses none of the things they've done.

And then there's me. I've been working on things for Zap since 1996 - but most people wouldn't notice the difference if I hadn't (although that should change with future versions). But I use it - and so I have to accept that it's at least partly my fault; without people who want to keep on using it, something like Zap - even with the enthusiasm and determination of the developers we have - would have died out long ago.

*So it's **your** fault.*

The most notable entry was:

FidoMail... *Cos I wrote most of the new version.* (see below)

PART SIX - WORST... PD/SHAREWARE

Wow! Loads of nominations. I think we can safely say that there is a lot of dross out there. Luckily none of my creations were mentioned. <phew!>

The most novel entry was:

FidoMail... *Cos it still crashes a lot.* (see above)

PART SEVEN - BEST... HARDWARE

The winner is the StrongARM upgrade.

Runners up: DMI MIDI interface, IDEA interface from APDL, Eesox SCSI cards, Simtec IDE card, Audio Dynamics DMI-50S.

The most novel entry was:

Simtec IDE card... *It Works (TM)*

PART EIGHT - WORST... HARDWARE

The winner is the AKF18 monitor.

Runners up: RapIDE interfaces, SAMSUNG x24 CD drives (from APDL), APDL IDE card, Zip drives, "probably one of them TV jobs", Oak SCSI card, the IDE bus.

The most novel entries were:

RapIDE interfaces... *They're stupid. They barely even DO anything...*

and the person who nominated the entire IDE specification as *the worst hardware design since the Intel 80x86*.

PART NINE - GOOD BUT OVERPRICED... HARDWARE

The winner is TV cards (notably RiscTV).

Runners up: 5x86 coprocessor, CD-R, DVD drive, Irlam digitiser, Acorn machines, Ethernet cards.

When contacted, Irlam said:

Compared to 'equivalent' products for PCs, Risc TV may seem more expensive.

On a typical PC TV card, there are two main components - a UHF tuner, and a combined video digitiser/PCI bus controller. There is no need for a separate framestore, as the fast PCI bus can happily pipe the 25Mb/s video data directly to the VGA card's display memory with no processor intervention.

Unfortunately with Acorn machines we don't have have the luxury of PCI bus, and so we have to resort to using dedicated (and correspondingly expensive) hardware to achieve similar results.

I hope this clarifies things.

PART TEN - BEST... PEOPLE AND COMPANIES

There was no clear winner. Nominations for R-Comp, Jonathan Duddington, the Linux kernel group, Steering Group, and Castle Technology.

PART TEN - WORST... PEOPLE AND COMPANIES

This was a close fight. On the one side we had Stan Boland and Acorn. On the other side it was MicroSoft. Both scored 50%. So I referred to the previous voting between Bill Gates and Stan Boland. Bill Gates scored consistently worse, so I decided MicroSoft was the winner of the Worst People And Companies Award.

I would like to say "When contacted, MicroSoft said:", but I can't.

The emails sent have so far been ignored.

PART ELEVEN - BIGGEST JERKS EVER

Amazingly, the CEO of a large corporation near Seattle was not listed. Instead, the clear winner is Acorn's board of directors; for being utter gits / for being total t***ers / and some comments that can't be published.

The most novel entry was:

Steve Jobs... *W**kbiscuit, IMHO* (What's that then? Or don't I want to know?)

PART TWELVE - OPERATING SYSTEMS

OS	Own	Use	Love	Hate	Only when I'm paid to
BBC MOS	3	2	4		
Arthur	1			1	
RiscOS 2 or 3.00	3	1	1	1	
RiscOS 3.1x	6	4	2		1
RiscOS 3.5				1	
RiscOS 3.6	2	1	1		
RiscOS 3.7/3.8	7	6	6		
RiscOS 4 softload		1			
Windows 1 or 2	1				
Windows 3 or 3.x	2	4		4	1
Windows 95a	2	3		3	
Windows 95b	3	5		5	2
Windows 98	1	3		2	1
Windows NT	1	3		2	3 (v4.00, SP3 & v4.00 no SPs)
OS/2					
Linux - Redhat		1	2		(v5.1)
Linux - Slackware			1		
Linux - Other	2	2	3		(Debian v2.0)
netbsd	1		2		(1.3.3)
freebsd			1		
Commercial Unix		1	1		(SunOS 5.6)
Other OS	1	1	1		(BeOS)

PART THIRTEEN - MOST POPULAR SOFTWARE

<u>Software</u>	<u>Own</u>	<u>Use</u>	<u>Love</u>	<u>Hate</u>	<u>Only when I'm paid to</u>
FireWorkz (Pro)	1	1	1		(somebody added this themselves)
Ovation	2		1		
Ovation Pro	2	1	3		
Impression2/Junior	2		1		
Imp. Style / Publ.	6	5	3		
MS WORD 6	1	2		4	1
MS WORD 7	1	1		3	
MS WORD 8 (Off97)		2		5	1
AmiPro				1	
WordPerfect 5.x				1	
WP 6 or newer	2	1		1	

PART FOURTEEN - INTERNET

- 7 Have their own ISP accounts
- 6 Use a college/uni/work account
- 6 Most often connect with Acorn
- 1 Most often connects with a PC running Windows
- 2 Most often connects with a PC running Unix (1 uses SunOS Unix)
- 2 Use ArcWeb
- 4 Use Fresco (ANT version)
- 2 Use Fresco (Argonet version)
- Nobody used JS Fresco at time of questionnaire
- 3 Use Browse
- Nobody used Webster
- 1 Uses WebsterXL
- 2 Use MSIE 4.00
- 4 Use NetScape (3.0; Communicator Gold 4/Linux; and 4.5)
- 1 Uses Lynx

PART FIFTEEN - DEMOGRAPHICS

Average age of respondents was 21.857 years old.
 All respondents were male.
 Average income (of those given) was £8,500 per annum; however the majority of respondents were students.

PART SIXTEEN - SPECIFICATIONS

- 3 8-bit (BBC micro / Master etc)
- 4 Archimedes, pre-RiscPC in a three-part box (A3xx - A5000)
- 6 Archimedes, pre-RiscPC all-in-one (A3000, A30x0, A4000, A4)
- 7 RiscPC
- 2 Pre-80486 PC
- 2 80486
- 2 Slow Pentium (< 100MHz)
- 2 Pentium MMX (200 - 300MHz)
- 1 Pentium MMX (> 300MHz)
- 1 Apple PowerPC
- 1 Pocketbook

Acorn averages:

Base unit : Archimedes all-in-one (A3000 style)

Processor : Old: ARM 3
New: StrongARM

Harddisc : 2Gb IDE, using IDE podule

AND FINALLY...

The most novel closing comment was:

Rachmaninov is tremendous. (who?)
I like chips.
I want a hug.
Women are an utter waste of time ;-)

Until next time,

Hasta la vista...baby!

Froblicate is a production of the *Budgie's Television Workshop*
 Today's number was 19, and the letters were B, O, F, and H...