

FROBNICATE

MORE *FUN* THAN ANY OTHER ACORN MAGAZINE!

Includes also a
stunning
article by the
Editor's
mother...

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EDITORS PAGE part one

Welcome again to my usual ramblings. First up – the WHSmith's in Woking seems to be selling Archimedes World no longer. Before you flame me, I'm not a fan of AW for it's wonderful layout (though this latest issue is much better!), moreover I'm a fan of *any* Acorn magazines on the news-stand. That branch will stock only Acorn User. Soon people will look elsewhere, so why stock AU? Sure, it's available by special order – but that's not the same. It takes away your freedom to 'buy one when you're there'.

It's the biggest one yet!

Why, I'm talking about Frobnicate of course! :-)
After lots of hiccups along the way, and a few articles that never surfaced, this summer we've finally broken the record set by Frobnicate issue 4, this time last year. In fact, I heard somebody mention that the current Acorn User is about 85 pages long. WOW! That means Frobnicate is around half the size of Acorn User, and entirely *free*, and voluntary and, well... Controversial as ever. Just wait 'til you hit page 32.

For the techies and Acorn nostalgists among you, we have a section on installing the Acorn Econet system. Slagged off by many for painfully slow transfer speeds, this system linked BBC micros cheaply and efficiently when many networks weren't even thought of. Part of the reason why Acorn hit it off in the UK classrooms?

Then we proudly present the Bas***d Operator From Hell, a funny story of a computer systems operator who has better things to do than deal with whiney brats using the computers.

This is followed up by the Frobnicate Awards, an offbeat look at the Acorn world's best and worst. Anybody in the "worst" category should

not be offended, but instead try to think why they were voted "worst".

The Diary Of a Demented Hacker is back. This time with an attitude problem, looking somewhat like a cross between BOFH, Ferris Beuller and that obnoxious guy down the road.

This is followed by Ovation Pro sales blurb. I'm really happy to include it, because, well, rumour has it that Ovation Pro wipes the floor (and the chrome) with everything else. As for one person's achievement – it is truly amazing. Especially when you consider his 'other' achievements include HearSay, ArcFax, Spark, SparkFS and some other bits I'm sure to have missed. This David Pilling person must be one fast typer. :-)

Skipping past some stuff, I *have* to mention page 32. An article by my own lovely mother. Ahem, don't let her hear that – I'm supposed to be the son from hell not a softie. :-)
Anyhow, this is a non-technical departure for Frobnicate. Expanding into new areas, and jumping straight in with... well... turn to page 32 and read.

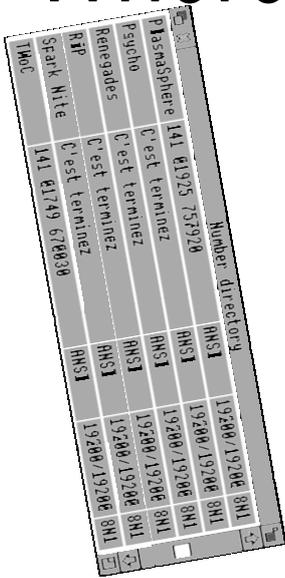
Then we welcome back the second instalment of C from BASIC.

To top it all off and break the 40-page limit, Frobnicate proudly presents a look at UUcode.

Enjoy issue #9!

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Where have all the BBS's gone?



Renegades and Skyline Online.
Where have all the BBS's gone?
Digitax as well.
Where have all the BBS's gone?
Gone to the bit bucket, ev'ry one.
Will they ever return?
Will they ever return?



Here we mourn the passing of Renegades, Skyline Online, Digitax, RiP and various other systems.

Here we also celebrate the introduction of Brain Storm, ARM Pit, DreamWorld EIE and other systems.

The question we should ask ourselves is why are these systems closing, and does this mean that some people just "can't hack it" as a SysOp?

One would imagine the answer to the issue of "hacking it" is a surprising "YES!". You see, being a SysOp is fun for the first month or two. Then problems occur that you have to deal with. 3000 files are downloaded for every one uploaded. Your BBS is too close to Arcade. Your BBS is too close to the moon. Your BBS is experiencing the wrong phase of the moon. Your 28800bps modem is too slow. What do you mean you've only got a 1Gb harddisc? Your BBS didn't answer at lunchtime – despite concise postings saying 6pm to 9pm ONLY. Your

mom is sick of the phone going dead when she picks it up.

That is a collection of comments from some known and not-so-known Acorn SysOps over the past few years. Being a SysOp can be a thankless task because so many users seem to think BBSs are their for their own personal edification.

Think about it guys. These "weirdos" that call themselves SysOps buy fast computers, fast modems, RAM, large harddiscs and telephone lines and they then more or less *give* them to you. I then see a user 'accidentally' post a public message saying a certain BBS is crappy. Why is this?

Unless the SysOp is charging you a subscription, you should by most accounts thank the SysOp every time you call his BBS for something. I'm sure everybody reading this can think of a better thing to do to a well expanded RiscPC than attach a heap of modems and leave it in the corner waiting for you.

Sure you can. You can all think of good uses a RiscPC can be put to. Play games, edit movies, music sequencing, DeskTop publishing...

So what's behind Arcade? Digital Databank? ArcTic? No, not an A440 with three fans. A shiny RiscPC.

Smaller BBSs use smaller systems. Encina is currently using an A5000. Other systems use A3010's and A4x0's.

So why be a SysOp?

Well. For that, I think we'd better ask the SysOps themselves why they do it...

DANE KOEKOEK

Erm.. why I run a BBS? Well, it's fun when other people logon. 'Tis good having to put up with 10 points when Binkley screws up, erm. Gives some pleasure seeing other people use the service you're providing, hopefully to the best of your ability. Anything else? ;-)

GLENN RICHARDS

So why am I starting a BBS?

I'm a masochist?

Maybe I am, but I do have this fascination with networking, whether it's by the telephone, or by a LAN such as Econet or AUN.

I currently run my system as a mail-only node. I already have a full Fidonet address, I suppose opening the system as a full BBS is the next step.

When did I really know that I wanted to start a BBS? About two months ago, I was at Helen Rayner's house, when a user who I knew personally (Quintin Parker) called her BBS.

After a while, he paged the sysop. Helen was quite busy, so I answered the pager.

It seems there is something different about chatting to a user, it's *your* BBS, something *you* have created and set up.

On Monday 24th June, I opened the BBS for one night. I had a grand total of 10 callers, three of whom were people I'd never

met, mailed or chatted to.

Considering I'd only posted the ad for the trial in the Acorn BBS echo two days previously, it wasn't a bad response.

The fact that three people who I'd only heard of, and didn't know, called *my* BBS on its trial night does mean something.

HELEN RAYNER

Reasons for running a BBS.

- 1) To offer our users a good service
- 2) I like computers I enjoy comms and I enjoy meeting new people
- 3) It was a task I wanted to undertake, if other people can do it so can I.
- 4) I like the control.. sitting at the computer knowing I am the boss
- 5) Free chatting

There you go, I hope that is good enough. And here is my opinion on some BBS's out there.

OK... BrainStorm was an untidy messy yucky BBS. I wondered why people didn't call. Then I realised, what did we have that others don't? I still ask myself that question today, I know we are not as good as some, but not for long. Now, ArmBBS, Newsflash, RiscBBS <grin> are too easy to get hold of with ArcBBS, it costs a bomb to buy and the sysops don't tend to need **AS** much support. They know what they are doing and have knowledge of the software.

Something I regret today is that we put BrainStorm online too early. We shoved some menus on had around 1 file and said that should do. The hours couldn't be helped and I don't look down on BBS's that aren't 24hrs. I didn't have ANY idea what ArmBBS was really. The scripts were there so I didn't need to do much.

I sometimes consider having a grand re-opening but I can't be bothered. Now, some BBS's out there have a scruffy mainmenu, have to force people to call and then ask for donations...

Until you are offering a service, don't expect a penny. When running a board you have to be unique you have to grab anything that comes your way, you have to shove adverts up all over the place and most of all, you have to get to know sysops and see what kind of hints and tips they can give you.

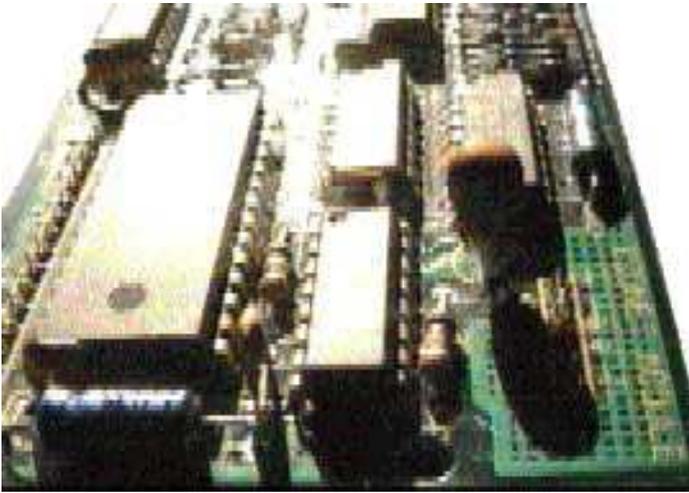
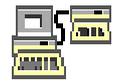
I enjoy running a BBS now but in the past, I don't think people would have minded BrainStorm going offline, we were pretty terrible and I admit to that.

But we soon found out what we had to do.

So there you go. Three views from three SysOps.



GET ECONET'd



Econet levels. This thing is in a modified master compact housing and contains the clock system and the Econet server.

Why did I do this instead of buying a nice simple Ethernet card or two?

It's quite simple. I have no need to be PC compatible. It is supported in RiscOS. It is a doddle to program. It is dead easy to install and maintain. And, well, I like all things Acorn. Could I pass up a chance to install Acorn's very own network?

Of course not.

The very first thing I shall do is scare you. Here are some sample timings. My network is running with a mark:space ratio of 1:4 over 1uS (which in English means 200kHz).

Loading 183K sprite from FileStore harddisc to !Paint	14.91sec
Saving 183K sprite from !Paint to FileStore harddisc	45.74sec
Copying 183K sprite on FileStore harddisc	43.63sec

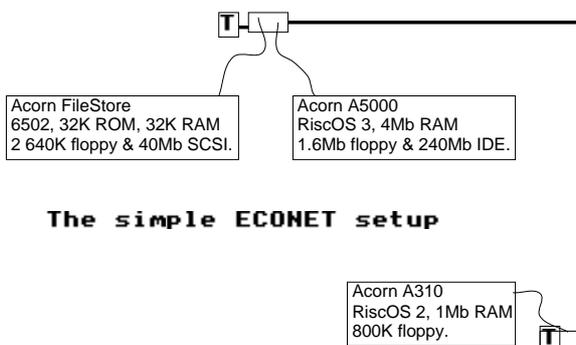
A test with Level4 showed loading was about the same, whilst saving was slower. Econet seems geared towards loading. This could be due in part to the archaic filing system. Listening to the harddisc in the FileStore, one gets the idea that a file is 'created'. Then it is written blank byte by byte. Then the data is sent down the line. Weird? Remember this concept was developed in the early '80s when loading 20K was about the maximum you'd expect and when such complex things as Archimedi weren't even anticipated. Between two RiscOS machines, one can get 25K/sec which isn't bad for what it is. That's about the same as a 28800bps modem (with no compression) operating at the full 28800bps...

Now, if you're still reading this – go fetch a glass of milk and calm down. Chill out. Remember that not everything in life needs to run at 800MHz and have two inches of heatsink to make it good.

The first thing somebody will say when you mention Econet is how terribly slow it is. In all fairness, by today's standards it is pretty dismal. But one must remember the sheer beauty of Econet is it was designed and conceived in the early '80s. So early that all the original BBC micros had an Econet upgrade option. So early that legend has it the omnipotent Bill Gates asked Herman Hauser what a network was when he saw it. But like Bill Gates' apparently saying "640K is enough for anybody", nobody has a tape recorder when they need it.

Econet exploded. Schools up and down the country were packed with BBC micros linked together with FileStores and god-knows-what.

And yet here, in this tiny domain known as "Ricks Room", there exists this old obsolete not-as-good-as-Ethernet hardware. I have three RiscOS computers. An A310, an A3000 and an A5000.



These are all linked together with this contraption known as a FileStore. This thing is the "Level 3" of

Econet cards can be bought for around £10. Can you say the same of Ethernet?

The “brains” of the system are a pile of 68054P data link controller chips.

There are two ways you can go about this:

1. Buy an Econet card for each RiscOS machine. Buy a clock box. Build some passive terminators and your own sockets and drop-leads for each computer. Hook it all up using telecom cable. Load !AWserver or a copy of Level 4 on one of the machines.

You should be able to network three machines for about £60 with it costing about £12 for each additional station.

2. Buy an Econet card for each RiscOS machine. Buy a FileStore with a harddisc. Clock is usually included in the FileStore circuitry. Buy proper Acorn or SJ sockets and drop-leads. Buy proper Acorn or SJ passive terminators. Buy proper Econet backbone cable.

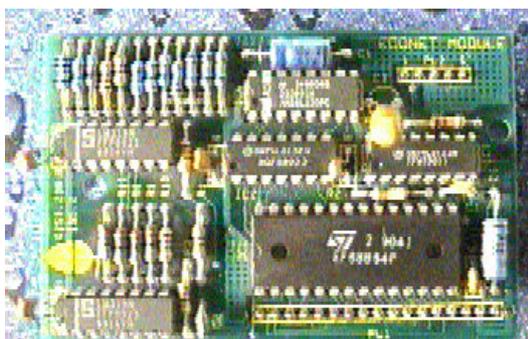
I did this for £130 for three machines, with an anticipated cost of £15 for each additional machine.

So, now I suppose the first thing to do is to examine each component of the system in detail.

THE RISCOS COMPUTER

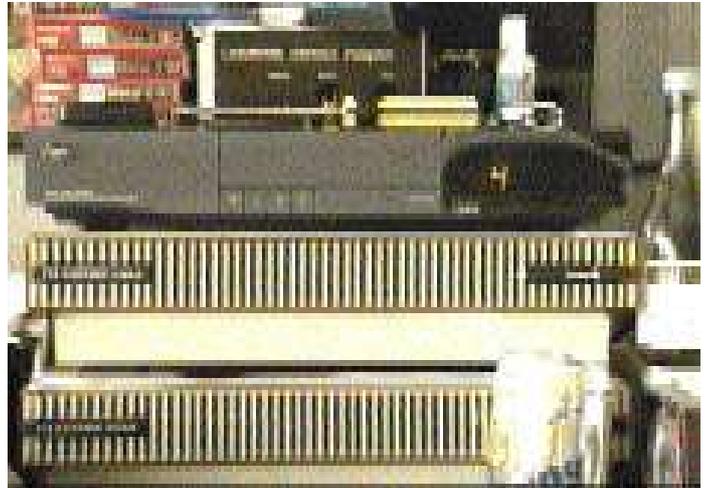
You’re looking at it.

THE ECONET CARD



This little piece of hardware is what allows your computer to utilise the Econet system.

FILESTORE

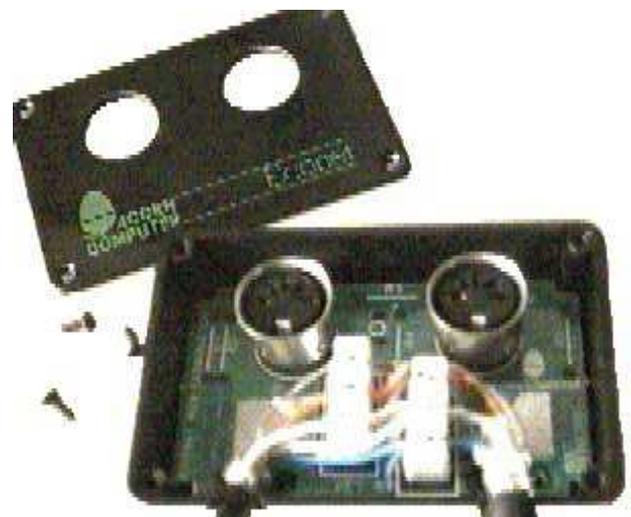


Here you can see the FileStore and the harddisc underneath the satellite receiver. In case you’re interested, the red things are Hi8 tapes, next to that is the teletext decoder. Then there is the speaker connected to the Hi-Fi. The small bottle of wine is for when it all worked. Finally, the bottom right (what the wine is sitting on) is the A5000.

This thing ‘serves’ the Econet. It isn’t brilliantly fast but it prevents another system from being bogged down with the task.

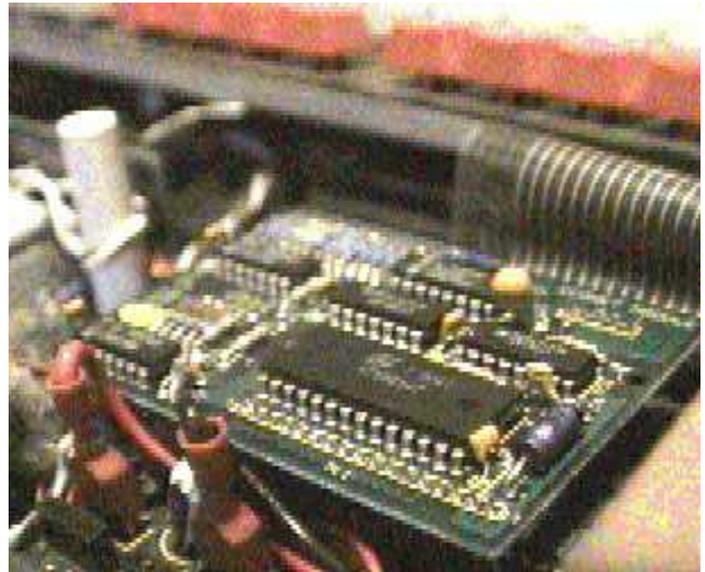
SOCKET BOX

This is basically two DIN sockets wired to a PCB that has connections for the Econet cable. The picture below shows you a standard Acorn socket box. You can also see the backbone cable.



TERMINATOR

Strictly speaking, these are needed. They come into their own in noisy environment or when the network cable is long or when the cable has many machines connected. Glenn Richards told me about an active terminator (requires a power supply), however all I've ever seen myself is a passive terminator (a few resistors and stuff). One connects to each end of the network and prevents all sorts of techie things happening – like data echoes or whatever. Best bet – fit them. For a picture, refer to the installation guide.



CABLE

Glenn Richards (and many other people) make do with telecom cable. Due to Econet's slow speed it will work with crappier cable, albeit slower. I opted for the official "backbone" top-of-the-range cable. This stuff is like satellite LNB cable is to ordinary UHF co-ax. You peel off the other covering to see metal wire braiding. Rip off the braid and there is an "earth" wire. Below that is what looks like tin-foil wrapped around the inner. Below the tin-foil is a layer of thin plastic (mylar?) wrapped around the inner. The inner consisted of four colour-coded wires which are solid-cored and quite thick. This is the Rolls Royce of network cables.

GETTING IT TOGETHER

1.

The first thing to do is to open up all the computers and install the hardware. For all RiscOS machines except the RiscPC (and the Master 128), you pop in this little daughterboard. It's a tight squeeze in some circumstances, but Acorn made room for it. The thing runs fairly cool so no heat worries.

In the picture at the top of the next column, you can see an Econet card fitted into an A3000. It fits just behind where the keyboard connects.

If you do with to upgrade a RiscPC, I believe you require a special network card. The same may be true of "cut-down" machines like the A3010.

2.

Once you've dealt with the computers, it is time to plan how the network is going to fit together. The backbone cable must run in a straight line (of course it can bend around walls but it cannot branch or loop around into itself). Take the time to plan this out and measure it. Then add half a metre for "inaccuracies". Fix the cable as you see fit.

3.

Now that the cable is in place, you need to wire up the sockets. The colouring I choose was for BLUE to be the clock and ORANGE to be the data. Solid colour was the +ve line and colour/white was -ve. It doesn't really matter how you do it as long as it all matches up. Take the time to go around with a multimeter and paperclip and *ensure* everything works.

4.

The next task is to fit the terminators. The left side of the network has a separate terminator box. The right side has an SJ Research terminator 'plug'. The techier people could probably get away with soldering the terminator components inside the end socket boxes.

On the next page is a picture of the left-hand socket box and the associated terminator box. The white (actually light grey) drop-lead goes to the FileStore, the black drop-lead is for the A5000.



The socket box is a true Acorn. The terminator box is SJ Research. I prefer the true Acorn equipment (maybe I'm a purist?). However SJ stuff is just as good. After all – there isn't a whole many variations of two DIN sockets mounted on a PCB inside a little plastic box. Why not build your own from Maplin bits? A full-spec MIDI patch panel could be used? As long as all five pins are connected and there are *no* weird bits in between.

5.

Next on the agenda, a simple task... Fit the drop-leads. These could be MIDI leads (as long as all five pins are connected).

6. [FileStore]

Nearly at the end now! If you have any FileStore discs, pop them in and close the front cover. The front cover must *never* be opened in normal use. Switch on the FileStore. The POWER indicator will come on and the MODE indicator will glow for about 15 seconds. Then each disc drive will be checked. The MODE light will go out.



If the mode light starts flashing, no valid "Passwords" file was found on any of the discs present. Insert a different FileStore disc. If you don't have any FileStore discs, post me an 800K disc and I'll format it to FileStore (Level 3) specification for you.

When the MODE indicator goes out, and the disc drive indicators go out, the FileStore is ready.

6. [AWserver/Level 4]

This consists of loading the software. You cannot log on to the same machine as the server is located. Pain in the butt, yes.

7.

The *hopefully* final step is here. Go to one of the computers connected and click SELECT over the new "Net" icon. A window will pop up asking you to enter your username and your password. Both are NOT case sensitive. If you have a freshly formatted FileStore disc, you can log in as SYST with no password. Level 3 creates a default Passwords file on each new disc. **DELETE IT IF IT IS NOT NEEDED. IT IS A SECURITY PROBLEM.** For AWserver/Level4, a little hacking should reveal the SYST password.

If you bought the FileStore off of somebody, you may find it already has a password on the SYST account. Contact the seller to see what that password is. If all else fails, post me a DD disc and I'll format it for you, creating a null password file with SYST having no password. :-)

Log on on each computer, to ensure it works. Then run a little program called "SetStation" on each machine to configure its Econet station number. "SetStation" should be supplied with your Econet hardware. If not, the official one is available from Acorn. The unofficial (no, not a pirate - my own version) is available from me.

8. [the bit you shouldn't see]

This section is the diagnostics. Messages you'll receive and what to do about them...

FILE SERVER '<blab>' NOT KNOWN

This means the file server was not recognised, either by name or number. FileStore by convention is number 254. If you use the "FS List" open in the NetFiler menu, you can see what servers are available and log onto one by clicking.

NOT LOGGED ON

You are trying to do something on the NetWork but you are not logged on.

To log on, you must type:

*I AM <username>
And the screen will prompt you for your password.

You can also type:

*I AM <username> <password>
If nobody is likely to be looking.

USER NOT KNOWN
WRONG PASSWORD
Both are obvious.

BAD COMMAND IN USER MODE
You cannot do FileStore maintenance operations in "User Mode".

INSUFFICIENT ACCESS
You don't have access rights for what you are trying to do.

LOCKED
File is locked against deletion.

ALREADY OPEN AT STATION <blab>
Another station has this file open.

TOO MANY USERS
No more users can log on. When a computer is rebooted or switched off, users logged on there are not logged off. You must *BYE. If you keep switching on and off, you may well experience this problem.

ALREADY A USER
You cannot create a user with that name because...

BAD PASSWORD
Level 3 passwords are 0 to 6 characters. Level 4 passwords are 0 to 20 characters (with an optional "force 6 characters minimum").

And if I have no FileStore disc?

Simple. Open the front cover, then log-on as SYST with no password. You are dumped into maintenance mode so you can format a new floppy.

Commands understood by the FileStore:

NEWUSER <username>
Creates a user account for the specified username.

PRIV <username> [S or L or none]
Sets the user privilege... System, Locked or Normal.

REMUSER <username>
Removes the user account for the specified user.

FSREPORT
Reports the FS state in a really cryptic way.

PRNAME <printer name>
Sets the FileStore printer name (max 6 chars).

PRPAGE [Y or N]
Sets printer form feeds on or off.

FSFORMAT <drive> <disc name>
Format the specified drive.

FSVERIFY <drive>
Verifies the specified drive.

FSMAXDRIVE <maximum drive>
Sets the maximum drive. '3' disables floppies. '5' enables all drives.

FSMAXUSER <maximum user ID>
Sets the maximum user number.

FSSTATION <station number>
Configures the FileServer station. This takes effect immediately – and will probably crash NetFS. :-)

FSMODE [M or U]
M for maintenance mode, U to return to user mode. When you return to user mode it is as if you just switched the FileStore on.

FSPROT [ON or OFF]
Sets whether or not the FileStore is 'protected'.

FSUSER <id>
Pass. Don't know what this one does.

FSNAMEDISC <drive> <disc name>
Renames the specified disc.

You may need to be in maintenance mode to execute some commands (most of the FS* ones). You can only enter maintenance mode if you are a system user.

The Bas***d Operator From Hell

A witty story that has recently been uploaded in parts to the UK-OFFTOPIC echo by Glenn Richards. However, it seems part five is missing. So here is – all nicely typeset for you. Happy reading!

The Birth Of THE BAS***D OPERATOR FROM HELL

I'm really bored. You know how bored you get when work's going on and on and on, and nothing interesting is happening, and you're listening to a radio that picks up ONE station on FM, and it's always the station with the least records in the city, about 5, and one of them is "You're so Vain" which wasn't too bad a song until you hear it about 3 times a day for a year, and EVERY time it plays, the announcer tells you it's about Warren Beatty and who he's currently poking, someone you'll never sniff the toe-jam of, let alone meet, let alone get amorous with. And EVERY time someone mentions Warren Beatty, someone says that he used to go out with Madonna too, and have you seen "In Bed With..." AND THEN, someone ELSE will say "It wasn't really about Warren Beatty, it was James Taylor" and the first person will say "What, 'In bed with Madonna'", and they laugh and everyone else laughs, and I pull out the Magnum from under the desk where I keep it in case someone laughs at a joke that's so dry it's got a built in water-fountain, and blow the lot of them away as a community Service. I figure that I'll get time off my sentence if I ever kill someone by accident who's got a life.

So visitors are getting pretty thin at the moment, and the Quick-Lime Pits are filling up rapidly, and all I've got to do is the full backups and maybe I can go home.

So, to relieve the boredom, I get some iron filings and pour them into the back of my Terminal until it fizzes out (which doesn't take all that long, surprisingly enough), then call our maintenance contractors and log a fault on the device. Sometimes they'll send someone who knows what they're doing, but it's a lot more fun when they don't – which is about 98% of the time.

So the maintenance guy comes in, and I can tell he's NEW because the photo on his ID actually LOOKS like him, not like the head engineer, whose photo is a black and white tin-type (he's that old).

Maintenance Contractors always dress up nice, with a tie and everything because they believe that a customer will trust a nicely dressed guy.

Because he's NEW and ALONE, he's what you call an appeasement engineer, the new guy they send so they respond within the 4 hour guaranteed response period. (Things are getting better and better) Your average appeasement engineer is about as clued-up on computers as the average computer "hacker" is about B.O, and their main job is to make sure the power plug is in and switched on, then call back to the office for "PARTS". The really keen ones will sometimes even take a cover off the equipment and pretend that they see this stuff all the time. I wonder what sort today's is...

"You got a dud terminal?" he asks pleasantly

I tell him yeah, and bring him into the control room.

"Which one is it?" he asks, confused by the fact that only one of them is smoking. "It's the Model Three" I say, giving NOTHING away.

"Ah, the old model three!" he says knowingly, without a clue what a model three is, or which one of the three terminals it is, which isn't surprising, as I just made it up. "We get a lot of model three problems" he says nodding "So what actually happened?"

Sneaky, but not good enough. I'm not going to point it out to him.

"It just went dead" I say, in luser mode.

“I see. Could you just recreate what you were doing so I can check the unit out when it’s ready for operation?”

Very sneaky. I decide to let him off the hook.

“Look, I’ve got to go to the toilet, there it is over there” I say, pointing at our Waffle–Iron.

“But that’s a Wa...” He says, then stops. He’s a beginner, and it’s just possible that the company has a line of terminals that look like waffle irons. He bites.

“Sorry” he says, smiling again “for a minute there I thought it was a model 2!”

A reasonably good save, but it won’t save him.

I leave, which means he’s got to take it to bits, otherwise he knows I won’t believe he’s worked on it. I give him a couple of minutes to get the element exposed then wander back in.

“So how does it look?” I ask, concerned–like.

“Well, I think we could have a processor problem..” he says concentrating on prying the element up.

..concentrating so much that he doesn’t notice me plugging the iron in.

“Shouldn’t you be wearing an earthing strap?” I ask innocently.

When he thinks I can’t see, he creeps his hand over to the wiring frame and says “Well, It’s just as easy to hold onto earth like this”

“But what about the risk of a cross-the-body shock with no resistor in series with you?” I ask ever–so–more–innocently

“Oh, it’s ok” he says “the unit’s unplug...”

<click> <BZZZZZZZEEERT!> <clunk!>

I ring the maintenance help-desk again...

It’s Rhonda

“Hey Ronda!, Ah, I’m going to need another engineer and a new Waffle–Iron over here; for some reason your engineer opened up my Waffle–Iron without switching it off.” I say

Rhonda knows me. It’s the third call and the third appeasement engineer. “You’re a real prick” she says, annoyed

“Tell ya what Rhonda, why don’t you come and fix it; it’s a model three...”

<time passes>

I’m still bored.

But at least now the radio’s off, it was on it’s 12 repeat of “Wildfire” THIS WEEK, and it’s only Tuesday; s**t I hate that.

So anyway, I quicklime the engineer to remove any fingerprints and then FedEx him back to headquarters and set about waiting for the engineer.

Now the second engineer only has to come out after another 4 hours, there’s no death of engineer penalty clause, (but I’m thinking about asking for one) so I’ve got to fill in some time. This guy’s going to be a technical engineer, the sort that comes in with a raggedy tie where he got it caught in the drum printer at 3000 rpm a couple of years ago, and he’ll have the grazes on the face that indicate that he didn’t get the gate open in time...

I know these sorts...

So I fill in a couple of hours by killing users off and deleting their files, then waiting for them to call...

“Um, I can’t find my files” the whimpering simp on the phone says

“Files? What files?”

“The files in my account. My thesis, my research – all gone!”

“Gone ay? What’s your username?”

“TURGEN”

“TROJAN?! LIKE THE CONDOM?”

“No TURGEN. T-U-R”

“OH Turgen, like TURD, but with a GEN instead of a D... Ok lets see”

I make vague clicking noises my dragging the quicklimed man’s fingers back and forth across the keypad.

“Uh-huh” <drag drag>

“Yeah..” <dragedy poke> “AH! - You haven’t got any files”

“I KNOW!”

“Well, what are you calling ME for? We don’t make the files you know, we just look after them. And chopitty–chop too, your thesis looks like it’s due in a couple of days..”

I hang up – he’ll call back. Meantime I open up a copy of “VMS BAS***D OPERATORS MANUAL FROM HELL” I’m reading the article I sent in about getting rid of those trouble users...

“... Modify the user’s password minimum from 6 to 32 letters, give the password a 1 day lifetime, set it so that they HAVE to use the password generate utility when they change their password (so their password will always be something that looks like vaguely pronounceable line–noise), add a secondary password with the same as the above, then redefine their CLI tables so that the only command that works is DELETE, and all other commands point to it.”

Beautiful. S**t I’m good!

He calls back.

“MY FILES ARE GONE!” he screams, panicking. “Did you have a backup?” I ask, as sweet as pie “But that’s what you people are supposed to do!” he sobs “Yeah, well we did - but then we switched to those 8mm tapes, and they’re the same size as the ones in my video camera, so I’ve been using them to tape the neighbour’s sex romps...”

I hear the revolver go off, but what the hell, it’s 5pm, and not my problem...

So the second engineer rolls up, but the FedEx man has been and gone, so he misses out altogether.

This guy’s a techno, (you can tell by the tie) but he’s smart (no grazes), so I’m going to have to be wary.

“What’s the problem?” he asks, in a business–like manner.

“It’s the model three” I say (what the hell, it worked before)

“What the f**k’s a model three?” he asks confused.

He could be just testing me, but I decide to come clean. He doesn’t notice so I just walk funny for a couple of minutes and then show him the terminal that I’d poured the iron filings into.

“It just went dead!” I say (having previously vacuumed the iron filings up, of course) – My name’s willy, not f***ing stupid.

So anyway, he gets to work opening the cover and making board replacement noises. I decide to help and point out a fuse that’s blown on the power supply board.

“Oh, I haven’t got the parts for that – I’ve only got a replacement board.” he says in a confused manner. “Which one was the fuse again?”

I point it out to him.

“Wow! And what does it do again? You know, I’ve been working at the same place for 6 years, and I’ve never seen one of those fuse things. It’s amazing what you learn isn’t it!”

“What are you again?” I ask, already suspecting the answer

“Chief Engineer”

Thought so.

“Say, do you know anything about waffle irons?”

“A little...”

<Click!> <Fzzzzzeet!> <Clunk>....

BAS*D OPERATOR FROM HELL #1**

It’s backup day today so I’m p**sed off. Being the BOFH, however, does have it’s advantages. I reassign null to be the tape device - it’s so much more economical on my time as I don’t have to keep getting up to change tapes every 5 minutes. And it speeds up backups too, so it can’t be all bad.

A user rings

“Do you know why the system is slow?” they ask

“It’s probably something to do with...” I look up today’s excuse “.. clock speed”

“Oh” (Not knowing what I’m talking about, they’re satisfied) “Do you know when it will be fixed?”

“Fixed? There’s 275 users on your machine, and one of them is you. Don’t be so selfish – logout now and give someone else a chance!”

“But my research results are due in tomorrow and all I need is one page of Laser Print..”

“SURE YOU DO. Well; You just keep telling yourself that buddy!” I hang up.

Sheesh, you’d really think people would learn not to call!

The phone rings. It’ll be him again, I know. That annoys me. I put on a gruff voice

“HELLO, SALARIES!”

“Oh, I’m sorry, I’ve got the wrong number”

“YEAH? Well what’s your name buddy? Do you know WASTED phone calls cost money? DO YOU? I’ve got a good mind to subtract your wasted time, my wasted time, and the cost of this call from your weekly wages! IN FACT I WILL! By the time I’ve finished with you, YOU’LL OWE US money! WHAT’S YOUR NAME - AND DON’T LIE, WE’VE GOT CALLER ID!”

I hear the phone drop and the sound of running feet – he’s obviously going to try and get an alibi by being at the Dean’s office. I look up his username and find his department. I ring the Dean’s secretary.

“Hello?” she answers

“Hi, SIMON, B.O.F.H HERE, LISTEN, WHEN THAT GUY COMES RUNNING INTO YOUR OFFICE IN ABOUT 10 SECONDS, CAN YOU GIVE HIM A MESSAGE?”

“I think so...” she says

“TELL HIM `HE CAN RUN, BUT HE CAN’T HIDE”

“Um. Ok”

“AND DON’T FORGET NOW, I WOULDN’T WANT TO HAVE TO TELL ANYONE ABOUT THAT FILE IN YOUR ACCOUNT WITH YOUR ANSWERS TO THE PURITY TEST IN IT...”

I hear her scrabbling at the terminal...

“DON’T BOTHER - I HAVE A COPY. BE A GOOD GIRL AND PASS THE MESSAGE ON”

She sobs her assent and I hang up. And the worst thing is, I was just guessing about the purity test thing. I grab a quick copy anyway, it might make for some good late-night reading.

Meantime backups have finished in record time, 2.03 seconds. Modern technology is wonderful, isn’t it.

Another user rings.

“I need more space” he says

“Well, why don’t you move to Texas?” I ask

“No, on my account, stupid.”

Stupid? Uh-Oh..

“I’m terribly sorry” I say, in a polite manner equal to that of Jimmy Stewart in a Family Matinee “I didn’t quite catch that. What was it that you said”

I smell the fear coming down the line at me, but it’s too late, he’s a goner and he knows it.

“Um, I said what I wanted was more space on my account, *please*”

“Sure, hang on”

I hear him gasp his relief even though he covered the mouthpiece.

“There, you’ve got plenty of space now”

“How much have I got”

Now this REALLY **P**SES ME OFF!** Not only do they want me to give them extra space, they want to check it, to correct me if I don’t give them enough. They should be happy with what I give them **and that’s it.**

Back into Jimmy Stewart mode.

“Well, let’s see, you have 4 Meg available”

“Wow! Eight Meg in total, thanks!” he says pleased with his bargaining power

“No” I interrupt, savouring this like a fine red, room temperature “4 Meg in total”

“Huh? I’d used 4 Meg already, How could I have 4 Meg Available?”

I say nothing. It’ll come to him.

“aagggggghhhhhH!”

I kill me; I really do

BAS*D OPERATOR FROM HELL #2**

I’m sitting at the desk, playing x-tank, when some thoughtless bas***d rings me on the phone. I pick it up.

“Hello?” I say. “Who is this?” they say “It’s me I think” I say, having been through a telephone skills course “Me Who?” “Is this like a knock knock joke?” I say, trying anything to save myself having to end this game.

Too LATE! I get killed.

Now I’m p**sed!

“What can I do for you?” I ask pleasantly – (one of the key warning signs)

“Um, I want to know if we have a particular software package..”

“Which package is that?”

“Uh, B-A-S-I-C it’s called.”

<clickety clickety d-e-l b-a-s-i-c.e-x-e>

“Um no, we don’t have that. We used to though..”

“oh. Oh well, the other thing I wanted to know was, could the contents of my account be copied to tape to I have a permanent copy of them to save at home in case the worst happens..”

“The worst?”

“Well, like they get deleted or something..”

“DELETED! Oh, don’t worry about that, we have backups” (I’m such a *s**t*) “What was your username?”

He gives me his lusername. (What an idiot)

<clickety click>

“But you haven’t got any files in your account!” I say, mock surprise leaping from my vocal chords.

“Yes I have, you must be looking in the wrong place!”

So first he spoils my x-tank game, and now he’s calling me a liar...

<clickety click>

“Oh no, I made a mistake” I say

Did he mutter “typical” under his breath? Oh dear, oh dear..

“I MEANT TO SAY: That username doesn’t exist”

“Huh? <whimper> It must do, I was only using it this morning!”

“Ah well, that’ll be the problem, there was a virus in our system this morning, the... uh... De Vinci Virus, wipes out users who are logged in when it goes off.”

“That can’t be right, my girlfriend was logged in, and I’m in her account now!”

“Which one was that?”

He tells me the username. Some people NEVER learn..

“Oh, yeah, her account was just after we discovered the virus.” <clickety click> “..she only lost all her files”

“But...”

“But don’t worry, we’ve got them all on tape”

“Oh, thank goodness!!!”

“Paper tape. Have you got a magnifying glass and a pencil. SEE YOU IN THE MACHINE ROOM!!!! NYAHAHAHAHAHA!”

I’m such a prick!

BAS*D OPERATOR FROM HELL #3**

So I’m working so hard I barely have time to drive into town and watch a movie before I told people their printing will be ready. The queue’s WAAAAY too long to have everything printed (and sorted) by the time I told them, so I kill all the small jobs so there’s only 2 left and I can sort them in no time.

Then, after the movie, (which was one of those slack Bertolucci ones that takes about 3 hours till the main character is killed off in a visionary experience) I get back and clear the printouts.

There’s about 50 people waiting outside and I’ve got two printouts. That’s about average for me. I thought I’d killed more tho. Anyway, I put out the printouts and walk slooowly inside, fingering the clipboard with “ACCOUNTS TO REMOVE” in big letters on the back. No-one says anything. As usual.

...

I’m sitting back in the Operations Armchair, watching the computer room closed circuit TV, which just happens to be connected to the frame-grabber’s Video player (sent off for repair, due back sometime in ‘94) when the phone rings. That must be the 2nd time today, and it’s really starting to get to me!

“Yes?” I say, pausing the picture.

“I’ve accidentally deleted my C.V!” the voice at the other end of the line says.

“You have? What was your username?”

He tells me. What the hell, I AM bored.

“Ah no, you didn’t delete it - I did.”

“What?”

“I deleted it. It was full of s**t! You didn’t ever get more than a B- in any of your subjects!”

“Huh?”

“And that crap about being a foreign exchange student, that was your girlfriend and we both know it.”

“Huh?!!”

“Your academic records. I checked them, you were lying..”

“How did y..” He clicks. “It’s you isn’t it? THE BAS***D OPERATOR FROM HELL!”

“In the flesh, on the phone and in your account.... You shouldn’t have called you know. You especially shouldn’t have given me your username..” <clickety> <click> “Neither should you have sent that mail to the System Manager telling him what you think of him in graphic terms...”

“I didn’t send any..”

<clickety> <click>.....

“No, you didn’t did you? But who can tell these days. Not to worry though, It’ll all be over VERY soon..” <clickedy click> “..change my username back, and...”

“b-b-b..” he blubs, like a stood-up date

“Goodbye now” I say pleasantly, “you’ve got bags to pack and a life to start over...”

I hang up.

Two seconds later the red phone goes. I pick it up, it’s the boss. He mumbles the username of the person I was just talking to, mentions something about a nasty mail message, and utters the words “*You know what to do...*”, with the dots and everything.

Later, inside the Municipal Energy Authority Computer, as I’m modifying the poor pleb’s Energy Bill by several zeros, I can’t help but think about what lapse of judgement – what act of heinous stupidity causes them to call. Then, even later, when I’m adding the poor pleb’s photo image over the top of the FBI’s online “MOST Wanted Armed and Dangerous, SHOOT ON SIGHT” offenders list, I realise, I’ll probably never know; but life goes on.

A couple of hours later, as I see the SWAT vehicle roll up outside the poor pleb’s apartment I realise that for some, it just doesn’t.

But tomorrow is another day.

To be continued...

The Frobnicate Awards

Here are the results of the International Jury of Frobnicate...

1. Best Acorn software package...

Clear winner : **Zap**
Near miss: !Paint (Huh?)

2. Crappiest Acorn software package...

Shared between **Resultz** and **1stWord+**.
Near miss : TrueANSI, which is a shame as it's the best at what it does.

3. Best Acorn commercial software...

PhotoDesk
Near miss: Impression Style.
Near miss on a technicality: Ovation Pro (wasn't released at vote time!)

4. Crappiest Acorn commercial program...

The Wimp Game
Near miss: Resultz

5. Best Acorn PD software...

Zap
Near misses: ArmBBS and Connector

6. Crappiest Acorn PD software...

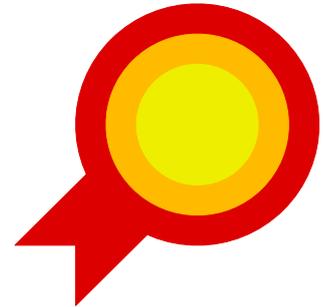
Sheep Racing (Well I liked it... – Ed)
Near misses: Archimedes Image Manager, Binkley, Quintin's Morning After Simulator and half a dozen variants of the 'flying desktop background things' (planes, hedgehogs, fish) and any program that reconfigures the computer or relies on there being a system sprite area.

7. Best Acorn advertisement...

Irlam 24i16 (p8 AU June 96)
Near miss: The adverts ICS used to use because they are so "feelgoody".
Nobody voted the Atomwide advertisement. One person said "I'm resisting the temptation to ... pick the Atomwide ad, because I think it is too easily overlooked".

8. Crappiest Acorn advertisement...

Anybody who squeezes their entire catalogue onto a sheet of A4 paper.
Near miss: The Daco Systems advert with the guy that has the misproportioned thumb.



9. The lame but good Acorn advertisement... The best 'limited budget' Acorn product advert.

The **Data Store** adverts with "Contrary to what you may have read, we are still committed to Acorn."

Near miss: SkyFall PD who use almost all the space with "BIG CHOICE".

Special mention for achievement: PlingBoot... Who apparently had about three A5000s with cats sitting on top of them this one time...

10. Most overspec'ed Acorn product...

Hydra card filled with StrongARMs – by an intensely massive majority.

Near miss: Sibelius

11. Most absolute bollox in an advert...

Inundated with loads of **PC adverts**. Also the adverts of a company that has recently left the Acorn scene and used to have green/black stripy border to the adverts...

Near miss: A certain BBS in London (NW1) that I cannot mention for "historical" reasons that apparently says "THE WORLD'S **PROVEN FAVOURITE ACORN BBS**".

12. Acorn VapourWare...

HomeWorks – that thing on AU coverdiscs about this time last year.

Near miss: Ovation Pro (hehe – eat your words guys!)

13. Unlucky... Vote for anything you think is jinxed.

Acorn's product scheduling / **marketing** departments.

Near miss: Werewolf (read CSA.MISC recently?)

14. Absolutely coolest glue my retinas to the monitor unbelievable Acorn game...

I was expecting StarFighter 3000, but the majority vote went to **Lemmings**.

Near misses: StarFighter 3000 and Spheres of Chaos.

15. Artistic license...

Best entry: Awarded to **Robin Abecasis** in remembrance of all the entertainment he posted in the UK-OFFTOPIC echo.

Near misses: Slagging off the SysOp of certain BBS in NW1 and the end of Euro96.

Heaping praise on Helen Rayner!

16. Best EuroSong '96 entry...

The Voice, Ireland.

Near miss: Just a little bit, England because, well, it was British.

17. Worst EuroSong '96 entry...

The **Spanish** entry.

Near miss: The yodelling bit during the interval. Okay, the music was weird – but the camerawork was awesome wasn't it?

18. Best modem...

US Robotics 28800bps (Courier and Sportster equally well rated).

Near miss: Supra 144LC

19. Worst modem...

Anything that can't go above **2400bps**.

Near misses: Sportster (ugly), Smart One v34 (really ugly).

20. Best Acorn paper-based magazine...

Clear winner : **Acorn User**.

Near miss: Archive

21. Best Acorn disc-based magazine...

Clear winner : **Froblicate** (not sucking up much are you! :-))

Near miss: The only person not to mention Froblicate mentioned "Spectrum"... Huh?

22. Best Acorn BBS...

Clear winner : **Digital Databank**

Near miss: Arcade

23. Best BBS in general...

Digital Databank

Near miss: Arcade

24. Worst Acorn BBS...

Clear winner : A **certain BBS** in **NW1**.

Near miss: Jolly Roger (and I've never called this BBS either! Hmm...)

25. Best WWW site...

Acorn's.

Near misses: <http://sp1.berkeley.edu/findthespam.html> or www.yahoo.com

My thanks to everybody that returned the vote questionnaire.

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For more information and discussion on issues raised in Frobnicate, why not join into the FROBNICATE echo on Fidonet?

Average Frobnicate distribution for issue #8:

Arcade	56
ArcTic	20
Digital Databank	5
Others	4
TOTAL	85

Up approximately 20%, and one of the highest counts!

Interesting to note that all-round, the OVATION versions of issue #8 are more popular than the text. Is this due to the release of Ovation Pro? Oh, and Arctic is 2nd place!

YOU can advertise here!

Contact "Richard Murray" at 2:254/86.1 or rmurray@arcticbb.demon.co.uk

Arcade BBS presents the annual Acorn World Show ticket competition!

Xemplar Education Ltd have kindly given us 10 tickets for the November 1996 Acorn World Show for you to win in our simple but skill-testing competition.

Just call Arcade BBS via telephone or telnet and while browsing the BBS and enjoying its features, collect the 13 isolated single characters that we have specially sprinkled around our menu screens. Even unregistered or first-time users have a chance to win, but you'll find more interesting browsing if you are a registered user. You can see how to register when you call.

When you've found all 13 letters, you'll find they can be assembled to form a phrase that Xemplar use to describe their philosophy. As a tie-breaker, see how many 3-or-more-letter words you can make from the 13 letters you've found.

When you've worked out the phrase and made as many valid words as you can with the letters, you can either send your entry as BBS private mail to #1 or 'David Coleman', or send it by Internet email to this address: comp96@arcade.demon.co.uk

Good Luck! Dave and David

+44 (0)181 654 2212 / 655 4412
<http://arcade.demon.co.uk>

New software from

BudgieSoft



FSTime

This is an Econet utility to show the time of the File Server. RiscOS only.

Notify

My first attempt at "pure" assembler. This is a notify application for Econet. RiscOS only.

BudgieMgr

This is a full-featured Level 3 Econet user manager. Features include Ping, Notify, Automatic scanning, Search, Point'n'click interface, snoop, reports and MORE! RiscOS/ShareWare.

The diary of a demented hacker

Thursday

Got expelled from college today. Mr. Sopowitz caught me with my magstripe reader teaching myself how to add extra credits to my utility card. It's not my fault the utility card doesn't allow you many cups of tea or photocopies or spare pens. Sopowitz dragged me to the principals office, but luckily he wasn't there.

Tell a lie. It wasn't luck. If I poke a pen in my bracelet the principal's pager goes apesh*t. A nice touch.

I'm not worried. Mom doesn't know. The principal doesn't know. The librarians don't know and the photocopier doesn't know. Sopowitz? Well, tomorrow by registered post he'll receive notice of his termination.

It was a simple hack really. Albert Sanawuse was due to be terminated. He's a really cute old guy that cleans the toilets and grosses-out the girls by popping out his false teeth. I like him. Slip him a fiver and he'll leave the basement door unlocked so you can parade up and down the mainframe harddisc all night.

Sanawuse (pronounced "sana-woo-s", but most people said "sana-w-us") is a really funny name for a sanitary engineer, as he likes to call himself. It's close enough to Sonowitz, and, well... Nobody will know the difference.

And I get to go to school tomorrow.

Friday

Sitting here reading Woman's Own. Yeah, you guessed it. I'm at the dentist. There is no guy in the world that scares me more - except the spooks that even the spooks themselves won't admit too. He spends all the hour discussion financial advice and how to make a killing on the stock market. Out of my duty to mankind I tell him all the trade secrets that I read in National Enquirer last week. Then the guy has the balls to hit me with full charge. Well,

well, well... It still amazes me he isn't aware that he does *not* have a water meter fitted. And he must be a bad driver too. I get the PNC to send him a fine for a randomly chosen traffic offence or parking offence about once a month. Three days later it comes up paid. Yo-ho-ho-and-a-bottle-of-rum. Let's call that my contribution to the modernised poll tax.

Saturday

RoboCop and AirWolf are on today. Today is also the day that the jerk down the road pumps Celine Dion into his 1/2KW CB set and wipes out the electromagnetic spectrum for several miles. I lean out my window and watch as seven police vehicles drive up. I wonder where they got the idea that that was a drug-house. To add to the fun, Dave flew his model helicopter over the house and dropped half a kilo of low quality cocaine down the chimney (like, where does a person find 500g of the stuff in the first place?). Shouldn't take the cops long to find that.

I sit back and enjoy the beginning of AirWolf when there is a loud knocking at the door. Looking in my monitor I see it is a cop, and he looks pi**ed.

I wrench the door open and emit a gruff syllable that is supposed to be "Yeah?". I've made a point of not talking nicely to the police. They're okay people, but it's the principal of the thing. They uphold the establishment so they are the enemy.

The cop holds out the coke bag.

"Sorry mate, I failed cookery", I say.

"Listen punk, the only mates I have come in packets of three.", he replies.

At the "punk" bit I was about to slam the door in his face. But hey - this dude has a sense of humour.

He continues, "This was found in 14. The person there alleges you placed it there."

Oh boy.

"Firstly, packetofthree, I don't know what the hell that is. Secondly I don't know the guy in 14. Lastly if he's in trouble bad enough to get the entire police force here - I'm sure he'd say anything to cut some slack."

"Would you make a statement?"

“Sure. How does police victimisation sound?”

“Huh?”

“I was watching TV. You go bust some jerk-off and bring it to me. Thanks but no thanks. I’d rather see if String and Caitlin ever get it off.”

“Huh? Who? What?”

With that, the door clicks shut.

I sit down and turn the sound on the TV back up. I glance at the monitor and see the cop is still there holding the bag. Knowing them I’ll be arrested tomorrow for misappropriation of a police officer or something daft.

I lay my amended SWITCH card on the table. In front of me are about 50 bags of Roysters and about 40 lottery scratchcards. Judging by the expression on my face, I didn’t win. About £20 pounds and 4 bags of Roysters to collect. Not exactly the big time.

I lean over and switch the monitor to the rooftop camera. Gently I guide the telemetry system to give me an image inside CB-jerks house. Dark. He’s not home, probably going away for a long time – about three weeks by today’s standards. I switch the infra-red and see lots of “Police Line Do Not Cross” tape around. I also see three youths inside the house looting it. What a nice world we live in. I deftly hit “RECORD” on the VCR. That should get me a few blackmailed favours in the coming weeks.

The Acorn logo appears as my A5000 boots. I still pay extremely close attention in case there are any unhappy smilies. However that might have all been a nightmare. I found myself lying in bed surrounded be beer cans. I don’t even like beer.

I boot Ovation and drag this month’s Frobnicate into it. It’s a weird kinda magazine idea. It’s got the balls to be *different* and proud of it. I like that. My kinda style. After all, what can you expect from some guy that calls his software “company” BudgieSoft and his magazine “company” Hissing Spinach. Like I said, weird.

This month covers the disappearance of BBSs and a nice long bit on Econet. Lucky I don’t have college tomorrow. I’ll be up all night absorbing this stuff.

Sunday

I’ve located a source of Econet parts, and found

somebody called Glenn on Fidonet who seems to be quite knowledgeable about these things. I’d better not mention I already have Ethernet and a 64kbps kilostream ISDN already fitted. Hehehe...

Sunday is traditionally the day of rest. And that’s exactly what I did. Pump MTV into the hi-fi for the first few hours, then pump in the satellite movie channel and try out my television projector. The image is a little fuzzy, bit it fills the back wall of the bedroom. Perfection. All I need now is to whip a few tenners out of the colour LaserJet and order pizza.

On second thoughts, order a Chinese. The pizza guy looks closely at his money after I had a party and stung him for over £75. He didn’t realise. His boss didn’t realise. But the bank did.

Monday

I print out a piccy of Helen and Angela Rayner to decorate my coursebook with. I’m a boring nerd who’s hopeless with the female of the species – so maybe having a different girl on both sides of my coursebook will make it seem like I have something vaguely resembling a social life. I doubt it though, nobody noticed when I stencilled the mainframe supervisor access codes onto my last coursebook. The thing most have spent a good few days sitting in the computing services room when I accidentally-on-purpose lost it in there. And nobody noticed.

To think – these people are supposed to impart their so-called knowledge unto us. Je n’y crois pas.

Until next time, hasta la vista...

...baby!

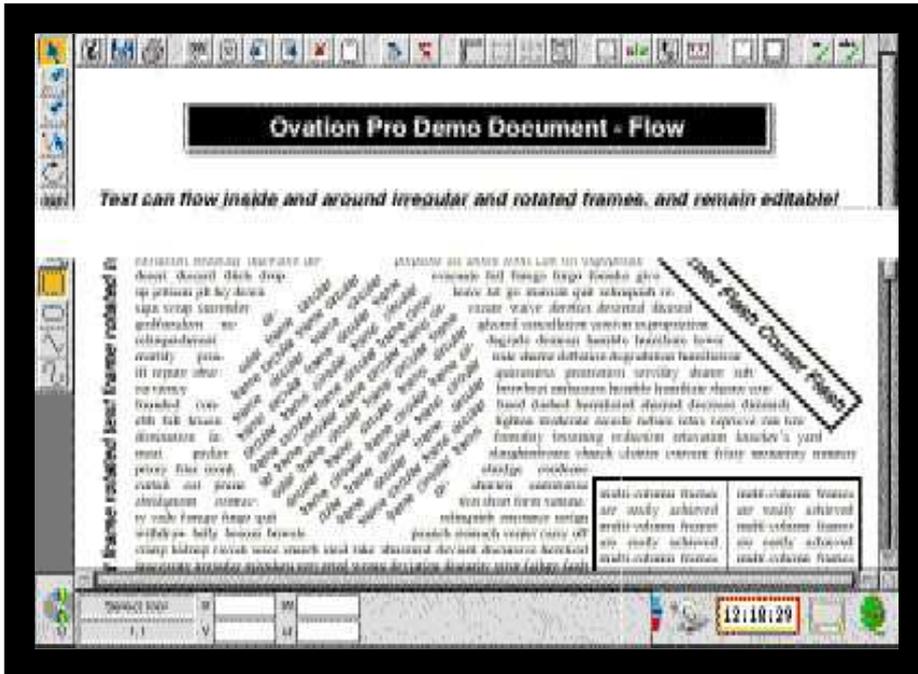


Left, Angela.



Right, Helen.

Ovation *PRO*



We here at Frobnicate are pleased to announce that Ovation Pro has finally been released. This – the stunning upgrade from the previously excellent Ovation (as used to create Frobnicate) – looks set to do some serious damage to the Impression stronghold, especially as Beebug are offering special trade-in prices. I dream of having £79 to upgrade, or having a play on the demonstration version. Here's the spec:

Ovation Pro in action. Please excuse the errors in the picture. Beebug kindly emailed me this information but it appears to have been garbled along the way. I've restored as much as I could.

Ovation Pro Information 06/03/96

Ovation Pro Features

Ovation Pro brings together word processing with state-of-the-art page layout features to deliver an extremely powerful desktop publishing system. You may use Ovation Pro to create just about any type of document, from a single-page letter to an entire book, or from a simple leaflet to a complex advert.

Even with such a vast range of features available, Ovation Pro is still easy-to-use, thanks to a superb user interface that makes the software easy to learn and instinctive to use. It is also extremely fast and responsive, and of course in true What You See Is What You Get (WYSIWYG) manner, faithfully represents the document on the screen exactly as it is printed.

Special features of Ovation Pro include:

- Toolbox attached to the active document.
- Context sensitive Info Palette gives information and options about the current operation.
- Definable Button Bar allows you to choose which options you would like to appear on a bar across the top of the document.
- Irregular frames drawn using lines and curves. Text can flow inside or around irregular frames, and pictures are cropped inside them.
- Rotated text frames with fully editable text.
- Multi-step Undo/Redo. The number of steps that may be undone is determined by the size of a user

definable buffer.

- Drag and Drop for text and objects within the same page or even to another page or document.
- User-definable named colour system allows you to use colours consistently throughout your documents. You can even create your own colour charts.
- Automatic drop-caps. These are large capitals that are often seen at the start of paragraphs.
- Pasteboard around document for temporary storage of objects and to allow objects to bleed off the page.
- Advanced justification with fully controllable letter spacing. This allows you to fit text into narrow columns easily.
- Advanced automatic hyphenation control.
- Multi-column frames, frames with rounded corners, skewed frames and vertical alignment of text in frames.
- Automatic text flow around irregular pictures.
- Picture cropping can easily be achieved using a special tool.
- Frame borders and auto drop shadows on rectangular frames.
- Straight and curved line drawing.
- Grid and ruler guidelines for easy page design. Plus facility to snap to other objects.
- Full page and chapter handling with separate master pages for each chapter.
- Easy-to-use headers and footers.
- Character selector and single-shift font change allow you to easily insert special characters from other fonts.
- Extensive printing capabilities including pamphlet and galley printing.
- Integrated script language based on a subset of the C programming language. For advanced users and programmers only.

Availability

The first release will support all the facilities listed in the colour brochure except the following:

- Colour separations
- Image processing
- Paragraph rules
- Contents and index generation
- Virtual memory for pictures
- Auto bulleting and numbering
- Orphan/widow control

System Requirements

Ovation Pro requires RISC OS 3.10 or later, 4Mb of RAM and a hard disc.

Prices

0082 Ovation Pro single user	£165
0082 Ovation Pro (RISC User member price)	£139
5330 15-user primary school licence	£300
5331 30-user site licence	£600
0053 Upgrade from Ovation or other DTP/WP *	£ 99
0053 Upgrade from Ovation (bought before 27/10/95)	£ 79
5335 Ovation primary licence upgrade	£155
5336 Ovation site licence upgrade	£315

+ includes Advance, Impression, EasiWriter and PenDown+. Upgrades from other desktop publishers and word processors may also be available - details on request.

Ordering Information

Prices exclude carriage and VAT. UK carriage is £2.70 + VAT. Airmail will be charged at cost to overseas customers.

We accept payment by cheque, Visa, Mastercard, charge card and sterling cheques drawn on a UK bank. Overseas customers may pay by EC cheque.

To upgrade you should return your *original* program disc with payment. Your disc will be endorsed and returned to you.

Buying Through Dealers

Ovation Pro is available through most Acorn dealers in the UK. Upgrades are not available through UK dealers.

Finding Out More

A colour brochure is available on request - please send us your address.

A detailed specification is also available. Hard copy and electronic versions of this are available on request.

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COMMENT by the Editor:

Having read the specifications, I am quite (quite? QUITE!? Try *very!*) impressed. You can see the flowing and rotated/circular stuff in the screenshot. As for the Undo/Redo, it is a feature I've wanted for ages. The drag'n'drop across pages is another good idea. Something that could be expanded by the ability to view the pages in a long line and drag them into the desired order? The single-shift font change is another wonderful idea. There are some characters that stand out better in a different font and can now be easily done. Ovation had all the hotkeys for font style and size – but I found actually changing fonts was a bit of a fuss at times. The script is a good one too. Expect a few BBS statistics doors to create Ovation script files. :-)

I noticed some people asking why virtual memory is only applied to graphics and not the entire document. The technical answer is up to David Pilling. Maybe it is easier? As for the non-technical answer... This file right now is about 650K long. I've loaded up a second copy and deleted all the spritefiles and drawfiles. It is now about 128K long...

Ovation Pro? Can't wait! I hope a demo is available soon.

ODE TO COMMS

Here's my (I'm Richard Murray) "Ode to comms".
If you really feel like singing it (!), it is laid out loosely in the form of
"For Whom The Bell Tolls" by the BeeGees. :-) Enjoy.

Ode to comms

I love Arcade I do,
Digital Databank and ArcTic too,
A place where friends communicate.

I wrote the voting door,
InfoSys and a whole lot more,
I even wrote the Frobnicate!

My modem is not the best,
But it is quite fast,
It's a "Vee-thirty-two-beez"

I call for fido and files,
Upload and download,
And a good chat too...

And so we are here,
Where-ever you are,
Cyberspace!

Not bad for 12:00h on a Saturday morning where I stayed up 'til 04:00h.
I composed that whilst making my regular cup of tea.
Okay... So maybe it does suck. If you'd care to submit something better... <grin>

Qu'est-ce que c'est, ça?

And life seemingly carries on regardless...

Firstly this issue is anticipated to be one of the biggies, to give your eyeballs a treat.

Secondly, Frobnicate is moving emphasis away from straight techieism to a more eclectic mix. If somebody wishes to write an article of Fourier transformations, all the well – but that won't be all you'll see. We here at Frobnicate are trying to appeal to a wider audience. Now there is no reason why Acorn enthusiasts cannot enjoy the fun and frolics known collectively as "Frobnicate".

Continuing, this issue of Frobnicate is to be released in the usual two versions. The first version is the usual Ovation. The second is the text & graphics.

Frobnicate will, in the near future, expand its range of fonts. Currently these fonts are utilised:

Corpus Homerton & Trinity

This will be expanded to ANSI, Paladin, SymbolB System.Fixed and Vogue.

ANSI is part of the TrueANSI package by Gareth Boden and is a lovely little font for BBS 'screens'.

System.Fixed should be in !Fonts on Apps disc 1.

The other fonts are supplied as default with Ovation. Therefore, with a quick call to your local BBS, you should have all the fonts. "MDA1" can also be renamed "ANSI". It won't look as good, but close enough.

Helen and Glenn (re the wedding bells of issue #8). Better put that champagne on ice. Things are looking a little less rosy (though frankly I'm as confused as heck about it all), and Glenn has turned to making sheep noises. The vital signs are still present though... <grin>

Justin Fletcher. The person that asked why everybody looked to him like the god of Acorn hackers.

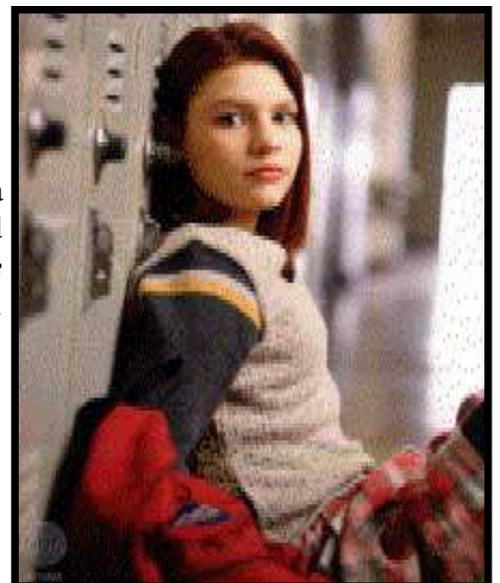
Well... Um... You know this RiscPC gizmo called Dynamic Areas (kinda like the way the RMA should have been?). Justin has provided a "Dummy Dynamic Areas" system for RiscOS3 (4Mb) machines. Nobody else has been brave enough except the god-like Justin. :-) A brief outline follows on the next page.

Until next time, I thought I'd leave you with two pictures of Angela Chase (Claire Danes) which are vastly better than last months screenshot...



Byeeee!

Left, a "shining happy person"??



Right, Angela Chase has had one of *those* days at school.

DDA description

DDA, or Dummy Dynamic Areas is an impressive bit of coding by Justin Fletcher. The module and full documentation is available from Arcade or Oujjaboard (by preference).

This is a little bit about how DDA operates.

Well, I think the time has come to 'come clean' about how it works. I'm only going to **VERY** quickly sketch out what it does. Hopefully that'll give you enough of an idea to be completely terrified of ever using it :-)

Firstly, the module will check when it starts up if there is a RAM disc. If there is it'll complain and die. After that it installs a hardware SWI handler to trap :

```
SWI &66 - OS_DynamicArea
SWI &2A - OS_ChangeDynamicArea
SWI &5C - OS_ReadDynamicArea
SWI &38 - OS_SWINumberToString
SWI &39 - OS_SWINumberFromString
SWI &3A - OS_ValidateAddress
```

OS_SWINumber... are used to add the support for OS_DynamicArea which is not supported even by name under RO3.1.

OS_ValidateAddress is used to ensure that you can actually do things in the newly created areas as the OS actually doesn't check that the memory *does* exist, only that it *should* exist.

OS_ChangeDynamicArea is used to alter the area sizes will stop you from changing the size of the RAMDisc 'stupidly'

OS_ReadDynamicArea returns the area sizes in the same way as RO3.6 does (using R2 if b7 is set), and makes the RAMDisc *always* return a zero size.

OS_DynamicArea is the main engine.

When you do anything which requires remapping, the **entire** RAM Disc is restored from being in the fragmented state into it's 'original' state where the pages are all at the low end of memory. Then the remapping takes place and the **entire** Dynamic Area is restored from the RAM disc. This is called imploding and exploding respectively, and the reason is that I use OS_ChangeDynamicArea for the RAM Disc to cause the changes. OS_CDA doesn't like memory being where it shouldn't be and complains quite violently otherwise. For this reason, interrupts are disabled whilst this is done - previous releases did not do this.

The areas are handled by three tables. The first of which holds all the details about the dynamic areas themselves and is dumped when you type *DDA_Areas. The second is a map of the logical area of memory and is displayed with *DDA_MemMap, this holds information about who is using which addresses and who can use which addresses. The third table is a list of all the pages we are currently using in the order that they were allocated so that the RAMDisc can be restored safely when we remap.

That's about it really. A lot of the code is taken up with remapping things and sorting out the SWIs. It's not very nice. I trust it much less than Jasson Tribbeck trusts Longfiles.

I wonder, could it be possible to add a simple VM mechanism by paging in/out blocks of memory from a storage device?

Just loaded SwiftJPEG and it is indeed swift, even with dummy dynamic areas on an ARM3. Had to 'hack' a few things to force MODE 36 and get the aspect ratios correct, but.... :-)

Well done Justin!

HTML

Acorn User is beginning a series on HTML. Rather than duplicate Acorn User, we shall assume you already know the basics of HTML and are looking for some interesting ideas.

If you don't know HTML and what all this hypertext stuff means, refer to recent Acorn User magazines.

1. Fancy titles

Would you like your title to stand out? Simple enough. Take the following HTML:

```
<html>
<head>
<title>My HTML</title>
<title>*y HTML</title>
<title>M* HTML</title>
<title>My*HTML</title>
<title>My *TML</title>
<title>My H*ML</title>
<title>My HT*L</title>
<title>My HTM*</title>
<title>My HTML</title>
</head>
<!-- Animated titles, from Frobnicate magazine! -->
<body>
Your text goes here!
</body>
</html>
```

This little demonstration will animate the title bar with "My HTML", and zap an asterisk across the title. You can do other stuff as well. Take a look at the BudgieSoft HTML index page for an example. Your very first title **MUST** be the complete title, no matter what effect you are trying to achieve. This may, in certain circumstances, look messy – but it is there for the benefit of search engines who are likely to read the first title and junk the rest.

2. Specifying where in the page to jump to...

Doesn't make sense? Okay. Assume the BudgieSoft "software" page. Now consider that the page contains a section on BBS doors, a section on BBS utilities and a section on 'other stuff'. Wouldn't it be nice to make your links jump directly to the appropriate place in the document? Simple enough... Where you would type: `BBS utilities`, simply add in the jump-to name: `BBS utilities` and in the ProgInfo page you define the appropriate link position: `Utils title`

You can have a page call itself to provide a rough form of index or 'hotlinks'.

More tricks next time...

How advertising is corrupting our morals.

by "Mom", the Editor's mother. :-)

How many of you have ever stopped to consider what the world would be like today without the precedent of mass advertising, through magazines and nowadays through television?

Back in the "good old days" when we were all young and (relatively) innocent, we believed the things our parents and other elders taught us...to be honest and hardworking and to accept that there was some kind of scheme of things, even if it wasn't always apparent to us. Live by some kind of moral code. Be nice guys. Surviving was important, and there wasn't a lot of spare time.

What I am getting at it that before the advent of mass communication there wasn't much scope for advertising, aside from word-of-mouth and perhaps little adverts in newspapers (although there wasn't much spare time to read). The first world war caused a great shift in population away from small country hamlets to rapidly increasing towns and cities. Women had been freed from "schoolmistress or service" employment to becoming wage-earners in their own right, and after the second world war they demanded many of the rights to which they had long felt belonged to them. Instead of being barefoot, pregnant and in the kitchen, women became a force in their own right, instead of just a chattel to their husbands.

This, then, led to their becoming a target of advertising. Men had long been established and they were considered more or less entrenched in their ideas. Women, on the other hand, had little or no precedent and thus were open to

advertising manipulating their ideas and ideals. Immediately after the second war, the advertisers realized the great, indeed almost limitless, potential to be tapped. They set about convincing women that they **HAD** to have washing that was whiter than white, or the very latest washing machine, or fitted carpets in every room. And the women believed this. They believed that if they didn't have all these new innovations they were less of a wife than the woman next door who did have them. Less of a wife, less of a mother, less of a homemaker. They were letting their side down. They were convinced that freezers, multi-level seventeen ring all-purpose cookers, electric gizmos to peel, core, cut and slice, and a whole range of consumer goods were absolutely necessary to every home. They believed it because the gurus of advertising told them it was true, especially in women's magazines and on the television. Listen lady, if your gravy has lumps then you are a useless person. Buy our whizzbang gravy delumper and you will be accepted at all the best places as a princess of the kitchen. Don't buy it at your own peril. If your husband leaves you for a female who makes smooth gravy, well, then it serves you right!

Women then developed a homemaker's complex and had to have all these things-for-the-complete-house. They weren't entirely certain why, but they knew they had to have them. Such is the power of advertising. The advertisers, of course, were always on the lookout for new "things" to sell to their female market, female "things". Men may pay for the "things" but it was the women who were

targeted as the instigator. Women wanted the “things”, not the men.

Then, after a number of years of being “on a roll”, the advertisers found that women were beginning to be more sophisticated. They did not necessarily desire to own “things” for the sake of owning them. They already had televisions and freezers and split-level apple corers and were becoming a bit disenchanted with homemaking. Shock horror - the advertisers were finding their fountain of wealth was beginning to dry up. They couldn't sell an unlimited quantity of “things” to these women by making them feel guilty about their homemaking abilities.

The advertisers had to have a quick rethink and a massive change in strategy. What new market could they open to capture the spending potential of a growing number of women with an ever increasing amount of money to spend? Well...instead of spending on their homes, the advertisers thought why not get them to spend on the women themselves. And how would they do that?

Her weight. Perhaps you have heard the saying (attributed to the Duchess of Windsor) that “You can never be too rich or too thin”. Isn't that just carte blanche for anorexia? It doesn't matter whether it is the pre-teen in her new high heels and lipstick, the twenty three year old whose just had her first baby, or the poor forty-something housewife struggling with gravity - they will all be bombarded with advertising telling them in subtle and not so subtle ways that they are just too fat. There is, in fact, a medical formula of ratio of weight to height (weight squared, divided by height...generally done metric) which could be simple to teach to any woman, and where she could easily check to see if her weight is within the normal range. But the women are so brainwashed by this overweight idea that I doubt if a lot of them would accept the “norm” (if you want to try it,

any final number between 20 and 26 is acceptable). A lot of these women look at themselves in the mirror and don't really see themselves as they truly are. They see themselves as fat. They are brainwashed into thinking they are fat. Because if they ever started thinking that they were acceptable or average or whatever, the multi billion pound diet industry would grind to a crashing halt.

But even more insidious were the advertisers of beauty products. What were they to do?

They would touch upon a raw nerve in the heart of most women. Their looks! Pretty clever, isn't it? What woman is going to ignore her looks, especially as she ages. Oh, here it is, all in one - they would go for the women who was struggling to keep her looks, and thus her job and, wow, her husband, too. What woman wouldn't want to make herself “more beautiful” for her man?

So they began with their most captive audience - The Older Woman. Advertisers appealed to her ego with remarks like “anti-aging” or “youthful” or whatever. A whole plethora of products hit the market, to beguile and bewilder. Historically, older women have held positions of authority in some societies as givers-of-wisdom, midwives, soothsayers or the aged parent who recalls familial stories of days gone by. They were (by virtue of their age) special people. The advertisers were about to change modern woman into neurotic woman, - never young enough, never thin enough, never good enough. At first this was primarily achieved through advertising in woman's magazines, especially the “glossies” which existed primarily as advertising media, complete with special articles and advice columns dedicated to dispensing the latest beauty information to the readers. Oceans of creams, cases of lotions, tons of special pills were advocated, all under the guise of “improvement” or, more to the point, making

the poor woman think that she had been guilty of some major transgression of good taste by daring to grow old.

Unfortunately, aiming the advertisement at the Senior Citizens was rather limiting - they had an irritating habit of dying. And buying no more. Competition was fierce. Good idea - why not target a slightly younger age group, like the 40-plus. The women who were just beginning to show signs of aging. The advertisers could really have a field day on her - make her believe that as soon as she showed the slightest signs of a wrinkle, the man in her life would immediately aspire to throw her out for a younger model, one without those tell-tale wrinkles. Thus the manufacturers invented creams, lotions and pills not just to improve her, but to slow down the effects of aging. Or, at least, to smooth out the worst of the lines. And the women had to keep at it every day, otherwise old age would suddenly appear overnight. Thus they hooked the 40 plus group.

When television became more sophisticated, so did the advertising. The target age group was steadily lowered, in order to capture the market for an ever-increasing number of years. Advertisements regularly appeared, aimed at "pre-teens" giving them the impression that childhood was dull and boring, while wearing high fashion, high heels and face make-up were to be extolled. Special ranges of cosmetics were brought out specifically for 9 to 11 year olds (who really didn't need to worry about wrinkles quite yet). But a big problem was being able to capture the imagination and the product loyalty of the notoriously fickle teen and pre teen age group. Visuals rather than text were attention grabbing to this age group (meanwhile, the poor 40 plus age group just had to read the word WRINKLE to run racing to the chemist for the latest technological revolution in skin care). At first the visuals were nothing remarkable: youngsters trying to look grown up. But the

youngsters found this kind of advertising passe. They wanted vibrant, exciting things, rock stars and loud music things. As the 1970's unfolded, so did punk rock, and so did advertising go punk. Black leather and motorcycles and pierced noses were accepted by mass advertising as normal. Accepted by the teens and pre-teens as normal.

And therein lies the crux of the problem, for where does the media draw the line between acceptable advertising and what is to be considered as normal in our culture? Chances are that the media will go on exploring and creating our limits of "good taste", in actual fact adding more and more bad taste. Once we become used to a standard, however arbitrarily placed, we tend to accept that standard, take it for granted that it must be acceptable since everyone else appears to be accepting it, including the so-called Moral Majority. A person or organization who tries to draw attention to the fact that the social mores are in terrible decline will be labelled "a do gooder" or some such derogatory name. Advertising is very, very powerful, make no mistake about that.

It is my feeling that unless advertising is much more strictly regulated (as it was prior to the second world war and the advent of mass media) to exclude specific sexual references, either overt or implicit, we will find ourselves in a society which deserves exactly what it gets.

In a further article I will discuss ways in which it may be possible to curb the more deplorable tendencies of certain types of advertising. Certainly there should be allowable limits - I'm not a purist, nor do I expect the pre war morals will ever come back into fashion, but I truly believe boundaries need to be set.

I would welcome comments from any of you out there. Please send care of the editor.

C from BASIC

In the previous episode...

```
#include <stdio.h>

int a, b, c;
int addition(int x, int y);

int main(void)
{
    printf("Enter the first number : ");
    scanf("%d", &a);
    printf("Enter the second number: ");
    scanf("%d", &b);
    c = addition(a, b);
    printf("\n%d plus %d is %d", a, b, c);
}

int addition(int x, int y)
{
    return (x+y);
}
```

This is an important little program. It shows us:

- How to display output.
- How to input.
- How to call a function.
- How to prototype the function.

We shall quickly run through the program in a verbose explanation:

Include the standard functions library. All C code requires this.

Define three 'integer' values, 'a', 'b' and 'c'.

Define a function 'addition'. It returns an integer value and accepts two integers.

Begin function 'main'. It returns an integer (implicit) and accepts nothing.

Opening brace.

Print out "Enter the first number :".

Get a *number* as input and store it at the address pointed to by '&a'.

Print out "Enter the second number: ".

Get a *number* as input and store it at the address pointed to by '&b'.

Set 'c' to the value returns by function 'addition' with input 'a' and 'b'.

Print out a newline, followed by "<number> plus <number> is <number>", where the numbers are replaced with the correct digits.

Closing brace. This implicitly marks the end of the function.

Begin function 'addition'. It returns an integer and accepts two integers.

Opening brace.

Return from function with the value 'a' + 'b'.

Closing brace. Even if you explicitly 'return', you need to include the brace.

So what about these points?

- How to display output.

At first, something like (" %d plus %d is %d", a, b, c) will seem quite confusing. However it soon becomes wonderful in comparison with the way you'd do things in BASIC. printf() also provides the ability to format something intelligently without you thinking too much about it. Take, for example:

You want to create a formatted output such as:

```
Port <> : <username 30 chars left just> (#<un>) @ <#>bps <doing 16 char > <newline>
```

Where the port number has no leading '0', but has two characters width, right justified.

Where the username is up to 30 characters, left justified in it's allocated width.

Where the user number is padded with leading '0's to four characters width.

Where the bps is five characters, right justified and no leading '0's.

Where the doing string is 16 characters, left aligned.

And to top it all off, a newline at the end.

Whilst you think of how painful something like that would be in BASIC, let me show you the C version which can all fit on one line...

```
printf(" Port %2d : %-30s (%#04d) @ %5dbps %-16s {%d}\n", <parameters follow...> );
```

As you can see, I've left off the parameters to make it a little clearer.

This isn't the only way to output, but once you've fallen in love with printf() then you won't want to explore anything else. printf() has a few /flavours/ too:

- printf() - To stdout, the screen.
- fprintf() - To the file specified.
- sprintf() - This is immensely cool. You can printf() into a variable!

And, as "doors_txf()" proves, creating your own isn't too difficult.

- How to input.

What you've seen is a rather constrictive input gadget. scanf() is like a reverse printf(). You tell it what is acceptable (in this case %d, or a number) and it will junk everything until a match is made. Strangely enough, C has no equivalent to the 'INKEY' or 'GET' commands, though all isn't lost as you can write a little routine to call OS_ReadC until a key is pressed.

- How to call a function.

Functions will allow you more 'scope' than BASIC. Technically there is no distinction between a procedure and a function, like there is in BASIC. Either a value is returned, or it isn't. It is possible to pass numbers, characters, arrays, offsets, pointers and all sorts of weird and wonderful things. In the example, we pass through two numbers. A function can also have 'local' variables such as in BASIC.

- How to prototype the function.

In C, *everything* must be declared before you touch it, use it or even think about it. Unlike BASIC where you can create variables on the fly, C requires you to have paid a little attention to your code, and thought of these things. The same goes with functions, with a difference.

A la Pascal, C can use a function if it appears previously in a program. Therefore the following will work:

```
#include <stdio.h>
int x;
char splat(void) { return 'A'; }
int main(void) { printf("%c\n", splat()); }
```

However the following will not:

```
#include <stdio.h>
int x;
int main(void) { printf("%c\n", splat()); }
char splat(void) { return 'A'; }
```

creating errors like:

```
Norcroft RISC OS ARM C vsn 4.00 [May 3 1991]
"{filename}", line 3: Warning: inventing 'extern int splat();'
"{filename}", line 4: Serious error: type disagreement for 'splat'
{filename}: 1 warning, 0 errors, 1 serious error
```

However I like to code associated routines together. Here be bits that handle WIMP stuff and here be door bits and here be dragons. So you can insert a function prototype to get around this. A prototype has a ';' where you would expect to see a '{'.

```
#include <stdio.h>
int x;
char splat(void);
int main(void) { printf("%c\n", splat()); }
char splat(void) { return 'A'; }
```

Compiles with no problems.

The next thing to remember about C is these next four examples will produce *EXACTLY* the same results:

```
#include <stdio.h>
int x; char splat(void){return'A';}int main(void){printf("%c\n",splat());}
```

And...

```
#include\
 <stdio.\
 h>

int x;ch\
ar splat\
(void){r\
eturn'A'\
;}int ma\
in(void)\
```

```
{printf(\
"%c\n",s\
plat());\
}
```

And...

```
/* Include standard library */
#include <stdio.h>

/* Define integer 'x' */
int x;

/* Splat routine, returns ASCII character 'A' */
char splat(void)
{
    return 'A';
}

/* 'main' routine. Prints result of 'splat'. */
int main(void)
{
    printf( "%c\n" , splat() );
}
```

Finally, and rather disgustingly:

```
#include /* standard library */ <stdio.h>
int /* Define integer 'x' */ x;
char /* Splat routine*/ splat(void){return /*returns ASCII character 'A' */ 'A';}
int main(void){printf( /* Prints result of 'splat'. */ "%c\n" , splat() );}
```

Nutty isn't it? All output 5412 bytes of code (mostly SharedCLibrary pointers). So for this reason, that code layout doesn't affect the output code size, you should lay out your code neatly, concisely and with comments where needed. Think about coming back to your project in six months or a year. Will it make sense to you?

Functions like "splat" and variables like "a" and "b" are NOT good practise, though it is acceptable in programs less than a page long because you can easily see what is happening. Here is the addition program written in slightly better style:

```
#include <stdio.h>

int firstnum, secondnum, result;
int addition(int x, int y);

int main(void)
{
    printf("Enter the first number : ");
    scanf("%d", &firstnum);
```


UUcode

The first question... What is UUcode?

Imagine I wish to send you a file via Fidonet as part of a message. How would I do this?

I know! Let's simply include the file. For the purposes of this article I shall send you my file to display the FileStore time.

Firstly, however, we must strip out all ASCII code 1 characters ([01] in !Edit) because Fidonet uses this character to prefix special control lines.

Secondly we must strip ASCII code 0 characters ([00] in !Edit) as Fidonet uses these to mark the end of a message. Then ASCII code 13 ([0d] in !Edit) as this are newline characters.

Next we strip out all the ASCII characters below 32 (all the "control" characters) as these may make your software behave oddly, or just won't be printed... Leaving in high-bit characters isn't advised, so whilst it may be possible - we'll take these out to be on the safe side.

Finally we are left with:

```
OH()K!a 0QDFtimeOtimeThe file server time
is %24:%MI:%SE on %WE, %DY%ST %MO %CE%YR.©
1996 Richard Murray [BudgieSoft]
```

Which, well... Let's just say I needed to reboot after running that.

Okay. So that method is obviously not going to work. What we really need is some way to encode the file into something that I *can* email around. Something that uses only those characters that even the thickest of "one-line-every-four-seconds 300bps serial input film-ribbon printers" can handle without getting in a panic.

Yup. You got it. UUcode.

So the second question is what is UUcode?

No. This is not a trick question. Now we've identified what it is (roughly), we can ask the same question in a slightly different context for more

depth. And here goes:

UUcoding is an old method devised for Unix–Unix file transfers across diverse networks. It encodes the file into 6–bit printable characters.

What you do is you read in three 8–bit bytes and you stretch them into four 6–bit bytes and you add 32 to each byte to make it a 'printable' character. However some transmission systems compress out erroneous spaces (not often) so you might see UUcodes with a `back–quote` (ASCII 96) instead of spaces.

The code required to convert is quite simple, but it looks hellish. Here we assume that "b%" is a buffer where you have stored your bytes. You are stepping through in groups of three. "o%" is an offset pointer into the buffer b%. Oh, and "f%" is a file handle for output. Variables "q1" to "q4" are used locally.

```
FOR o% = <b% start> TO <b% size> STEP 3
  q1 = b%(o%)>>2
  q2 = ((b%(o%)<<4 AND 48) OR ((b%(o%+1)>>4)AND 15)
  q3 = ((b%(o%+1)<<2)AND 60) OR ((b%(o%+2)>>6) AND 3)
  q4 = b%(o%+2) AND 63
  BPUT#f%,((q1 AND 63) + 32)
  BPUT#f%,((q2 AND 63) + 32)
  BPUT#f%,((q3 AND 63) + 32)
  BPUT#f%,((q4 AND 63) + 32)
NEXT
```

Which is basically how to build it up UUcoded data. Reverse the process to decode.

But that isn't all. There is actually a format.

Have you ever noticed that most lines begin with an "M", or InfoSys UUcodes tend to use "V"?

Have you ever noticed they're the same length?

Have you ever noticed the "begin 644" bit?

On the next page, I'll describe the physical file format of a UUcoded file.

The first part of a UUcoded file is the “table”. This is a character mapping that defines that the characters input are, as a byte value. The format for this is:

```
table
first 32 characters
second 32 characters
```

And this usually looks like:

```
table
!"#$%&'()*+,-./0123456789:;<=>?
@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_
```

Although a lesser known variant called XXcoding exists, the difference is it uses the following table:

```
table
+-0123456789ABCDEFGHIJKLMNPOQRST
UVWXYZabcdefghijklmnopqrstuvwxyz
```

But we shall not discuss XXcode any further here.

The next thing you will see is usually something such as:

```
begin 644 MYFILE.ZIP
```

The begin is a tag to indicate that the UUcode is about to begin. Rarely you may encounter multiple “begin”s in one UUcode. The “644” is a UNIX access attribute. I’m not sure exactly what this maps on to, possibly owner read/write/execute and read only to group and world (-rwxr--r--). Finally comes the filename. Some badly written software assume things (like up to 8 characters, dot, 3 characters) which is incorrect. You should be able to handle a filename like “examples.directory.one.gz” and cope with it.

Then follows the UUcode. The first character on every line is a counter. Most lines have 45 encoded bytes. 45 added to the 32 offset is 77. ASCII code 77 is an “M”. That is where the “M” comes from. However the InfoSys UUcoder uses lines of 54 bytes so the mark character is “v”. You should not assume anything about the line length, but instead read it from the first character. It is unusual to find encoded lines over 80 characters, and certain systems cannot handle physical lines longer than 128 characters (the limit is 255 on RiscOS).

Then follows the encoded data. We have already discussed how this data is created. Three bytes expand into four, so UUcode gives a 25% increase in file size.

At the end of the line is a checksum. The checksum is conventionally the sum of all the encoded

characters (before adding the mapping) modulo 64. However Spark/SparkFS puts the segment letter there (see below). The InfoSys UUcoder uses a variety of characters... “x”, “a”, “z”, the line length or “~” (depending on version. I couldn’t find one I was happy with! <grin>). Many UUcode software tends to skip the checksum. There isn’t much you can do if it does fail.

The end of the file is marked by a zero-length encoded line (denoted by a back-quote) and then “end” on the next line. However as mentioned earlier it is possible (but extremely rare) to encounter another “begin” where the “end” should have been.

Split UUcodes:

If the UUcode is split because of size considerations, then the main UUcode is chopped into segments, each with their own “table” and “begin” data.

The end of each segment except the last does not have a zero-length line. Instead of the “end”, it says “Include <file><letter>.uue”. <file> is the filename given to the UUcode as it was saved (not the name of the encoded file) and the <letter> increments from “a”.

The “begin” line of every segment except the first says “begin part <letter>”, where letter matches the filename letter.

An example should make this clearer. There are three parts here, and the “table” has been omitted.

First segment, called “myfilea/uue” (in RiscOS format):

```
begin 644 Frob9_Ovn
M<...encoded data...>a
M<...encoded data...>a
include myfileb.uue
```

Second segment, called “myfileb/uue” (in RiscOS format):

```
begin part b
M<...encoded data...>b
M<...encoded data...>b
include myfilec.uue
```

Third segment, called “myfilec/uue” (in RiscOS format):

```
begin part c
M<...encoded data...>c
`c
end
```

As you can see, segment a calls segment b which calls segment c.

The group "comp.binaries.ibm.pc" has been reported to use other ways to denote segments, such as:

```
Archive-name: <name>/part<number>
Archive-name: frob9_ovn/part02
```

or:

```
<name> part<number>/<maximum number>
frob9_ovn part02/03
```

I myself like the "part b", "part c" just fine. :-)

InfoSys extensions:

The first line, before the "table", may say:

```
InfoSys UUcoded file [version x.xx]
```

Where the "x.xx" is the version number (currently "2.00"). If anything else follows the line in wibbly brackets {like these}, then it denotes special file information. For example:

```
InfoSys UUcoded file [version x.xx] {encoded #1}
```

Tells the decoder to interpret type 1 encoding, if the user has the privilege for it.

Then at the bottom of the file, after the "end", you may encounter a "filedatum:" line. This gives you information on the encoded file. The layout is as follows:

```
filedatum: <type>type <attributes>attr <size>size;
```

The <type> is a three digit hexadecimal figure that maps directly onto a RiscOS filetype. For example, Ovation files are "CDD" and text files are "FFF".

The six digits of the <attributes> maps onto the RiscOS filer attributes. Here, '3' means "WR".

The four hexadecimal digits of the <size> are the filesize. You could use this to ensure all the parts were received and decoded correctly. Obviously it would appear that the size can only represent values up to 64K. This field can expand by a further digit, and indeed the newer InfoSys uses five digits. Five digits give you a range of up to 1023K, which is more than enough.

Why the old size limit? InfoSys refuses to send files longer than about 40K, after some people on Fidonet panicked over massive mailflow of InfoSys

packets. That hasn't happened yet, though. :-)

If the ";" character is not present, the line continues into extensions planned but not yet implemented. These include:

```
0000CRC
```

Where the "0000" is a four digit hexadecimal CRC value as returned by OS_CRC in RiscOS.

```
2000S
```

Where the "200" is the minimum version of RiscOS that this file requires multiplied by 100. RiscOS 3.10 is "310" etc. If the value begins with a "1", that denotes a different OS:

- 100 BBC micro/Master/6502 based
- 101 FileStore
- 102 DOS based PC
- 103 Linux-based PC
- 104 68000 Unix
- 105 80x86 Unix
- 106 RISC Unix
- 107 Apple Mac
- 108 Amiga
- 109 8-bit machine (Pet, Speccy etc)
- 110 DEC Alpha
- 111 VAX/VMS
- 112 IBM VM mainframe

And a value of "000" means it doesn't matter. Personal opinion? This addition won't take off. :-)

There. Now hopefully y'all understand a little more about UUcodes and how to code/decode them.

A newer "Internet" idea is MIME encoded (also known as base64). However I have no details on the format. And if you like this sort of thing, you could look into "Boo" or "BtoA" or "FCET" as other methods... Though FCET isn't really suitable for email as it is a continuous stream.

Finally, to answer the question of why InfoSys UUcodes are wider. Well, it makes the UUcode smaller. No, not physically. It is a psychological thing. :-)

The pedantic will be sure to point out that it really does make it smaller - you save a newline character every 18 or so lines. :-)