

LOGOV

ISSUE No 10
Christmas 1989



THE MAGAZINE FOR

MICRONET

MEMBERS



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LOG ON

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BT in Yacht Race Award

BT International has won the prestigious GPT-TMA telecommunications industry award for its involvement with the Whitbread Round the World Yacht Race.

The award, for the most innovative use of technology in international telecommunications, went to BT for a special information service on Telecom Gold giving up-to-date information about the progress of the race to race syndicates and other special subscribers. BT is also the official provider of communications to the race, and information is collected by satellite so the courses can be auto-

matically plotted back home.

But BT's involvement with the race, which is one of the world's most dangerous and exciting sailing events, doesn't stop there. Prestel's SportsEye area (*646#) carries daily reports on the race leaders, and other news, courtesy of Equity & Law, who are competing in their own right.

The race is expected to continue until May 1990, so there's still plenty of time to get caught up in the excitement of the twenty-one year old event, which arose out of Whitbread's sponsorship of Sir Francis Chichester's famous voyage around the world way back in 1966.

Merry Xmas from the Net!

Since BT has taken over Telemap, we've been taking a hard look at how we can improve the service we provide to our members. For instance, some of you will know we have contacted Micronet members by telephone to ask their opinion of what is good and what is bad about the Net.

Also, the letters that Net members have sent to the various magazines, and to myself, have all been brought into the picture we now have of just what you want from Micronet. For example, it is certainly obvious we have to improve the telesoftware service.

Remember that even if you weren't one of the hundreds of members we contacted, you could always let us know what you think by writing to me, by logging on and keying *ED# then pressing 7. I always welcome your comments and even criticism, so please do get in touch.

For the main part, we're now looking at all the information we've assembled in detail, and will soon be letting you know just how we intend to improve the service for the new decade.

However, some improvements

have already been made to our computer publications and micro-magazines. Most of the magazines now have an 'Editor's Note Pad', where the magazine editor can leave little snippets of news and product information for readers to browse through whenever they're online. Paul Vigay, the BBC/Acorn magazine editor dreamt up the scheme, and it was rapidly adopted (some might say pillaged) by the News Desk, PC Base and ST Micro.

For the second year in succession, Micronet News Desk visited the vast Comdex Fall exhibition in Las Vegas. Micronet's News and features editor, Ian Burley, sent back vast amounts of copy each day via his Cambridge Z88 and Telecom Gold, and reported daily on new products launched at what is perhaps the major computer event in the world. For those who haven't seen the stories, the first was published on page 800111111.

We're also publishing more items of general interest — applicable to the majority of computers — and have launched some new areas on the general Soft Tech database. As we go to print, there are new series on Communications (both advanced and for newcomers), and a new area of Programming Languages.

For really ambitious owners of PC compatibles and Amiga 2500 machines, as well as prospective Atari

ST owners, the Unix series on PC Base is an indispensable introduction to this highly popular multi-user operating system. The course on programming in C is also a must for those interested in writing for the more highly powered micros being launched these days. These series are also useful if you just happen to have a DEC PDP sitting around doing nothing!

Finally, as we approach 1990, I'd like to take this opportunity of thanking Micronet members for their continued loyalty, and to wish each of you a very happy Christmas and a peaceful, successful 1990.

Paul Needs,
Managing Editor
Log On and Micronet.

Commodore expert wanted

There's a vacancy for a freelance editor at Micronet: a rare occurrence! Following the departure of Commodore editor Andy Waller, Micronet is looking for a suitably qualified person to take over Andy's mantle and report on all things Commodore.

If you want the job, you'll have to have a good technical knowledge of the Commodore range, especially the Amiga but also the C64, as well as some experience of writing about computers.

Subscribers clearly have an advantage in being familiar with the system, but editor Paul Needs stresses that technical and writing skills are far more important than an intimate knowledge of the new Mailbox system.

For the successful candidate, the rewards are good: competitive pay, an exciting job with real prospects, and you'll be working from home, so no travel overheads! If you think you fit the bill, write to Paul Needs, Micronet, Dialcom House, Brindley Way, Apsley, Hertfordshire HP3 9RR, enclosing a full CV and examples of published work.

New game from Shades

Visitors to Adventure '89, the showcase for new multi-user games, had a chance to try out the latest game from 3rd Millenium, Trash. 3rd Millenium created Shades, Micronet's popular fantasy MUG, and it's hoped Trash will be available online some time in the New Year.

The game is a witty, surreal affair which casts the players as intergalactic dustmen, collecting trash from different dimensions and incinerating it to score points! It's been programmed by Matthew Ward, better known to Shades players as Ambushbug the Arch-Wizard, and uses 3MS chairman Neil Newell's Mugick system, a programming language designed especially for MUGs.

Other games on show at the Micronet-sponsored event were Shades, Gods, Mirrorworld, MUD, Wanderland, AMP and many more. The amazing Iodsawizzes, for example, is a true multi-user game running on a 48K Spectrum!

After the convention proper, a huge party was held in the grounds of Tilgates, the sumptuous home of Pippin the Arch Wizard. Two hundred guests, mainly Shades players, ate, drank and swapped tales of heroism until the small hours.

Many players elected to come in costume, portraying their fantasy game personae. The winners of the costume contest were Dillan, for his 'L-Plate Wizard' outfit, and Panda, who, naturally, dressed as a giant panda.



Micronet at Adventure '89

Immortals Hall of Fame

Players of Shades, Micronet's popular multi-user game, know that the game's greatest accolades are reserved for those players who reach the rank of Wizard or Witch.

Scoring the necessary 200,000 points is no mean feat. Log On therefore congratulates the following players, who all attained this pinnacle since August 1st this year, bringing the total up to 120 at the time of going to print.

Well done then to:

Arwen
Cosmos
Merlin
Naomi
Sharkey
Wargallow
Warlock.

May your zappers never wither and your powers never wane!



Shades can be accessed on page 8118, or by typing the keyword *SHADES#

APOLOGY: That Log On Kitten

A number of Micronet members have complained about the photograph and headline which appeared on the back cover of "Log On" issue nine.

We accept that this particular page has caused offence, even though it was not meant to. We apologise to any of our members, or indeed anyone else, who were offended or distressed by the page. We have no intention of harming cats, and would not wish for anyone else to either.

Paul Needs
Log On Managing Editor



'DIAL IN TO' DIAMOND VIEWDATA

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Information at your finger tips
24 hours a day**

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Restaurants**

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**Leisure Centres
Car Hire
... and many more**

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can also be ordered via the system.**

**Mailbox and conferencing facilities allow you
to communicate with other callers.**

**Look us up via your Viewdata
equipped TV or Computer on:**



0923-228558

It makes sense for computer manufacturers and dealers to provide as much support for their products as possible. In the old days, manuals were often incomprehensible (and sometimes ungrammatical) translations from Japanese, with poorly printed diagrams and an overly rich sauce of technical jargon.

Nowadays, as the competition becomes ever sharper, dealers and manufacturers vie to provide the most comprehensive support services. But Acorn's Support Information Database — SID for short — is one of the very first to make full use of the technology in bringing the information to the user.

Originally set up as a service to Acorn dealers, SID is now available to all Micronet members with an interest in Acorn machines. Those include the BBC B, Archimedes, A3000, and Electron.

The system runs on a network of Archimedes computers, a single machine being assigned to you when you log on through the gateway. Once in the system, you can find news and product information, telesoftware, reviews, and an internal mail system.

SID is displayed in viewdata frames which look much like any Micronet frame, but the similarity ends there. The data itself is held in compact text files on the Archimedes network, and when you call up a particular item, it converts the file to viewdata frames on the spot. This means there are very few page numbers to key! In fact, everything on the database is accessed either through keying a route number, or using keywords. A list of common keywords is given in the box.

Using SID will cost Micronet members 1p a minute on top of normal Prestel time charges. In fact, much of the information stored on SID is accessed through the telesoftware system, in the form of text files to be downloaded and read at your own leisure. These range from technical support information such as hardware specifications or pinout maps, to notes and guidelines for software authors.

Apart from the heavy stuff, SID also has a wide library of games and utilities to download, and there's a comprehensive help section in case you get lost or bewildered. Indeed, for those so lost they don't even know which planet

Acorn's SID database is the latest addition to the Micronet service. But what can you find on the other side of the gateway?

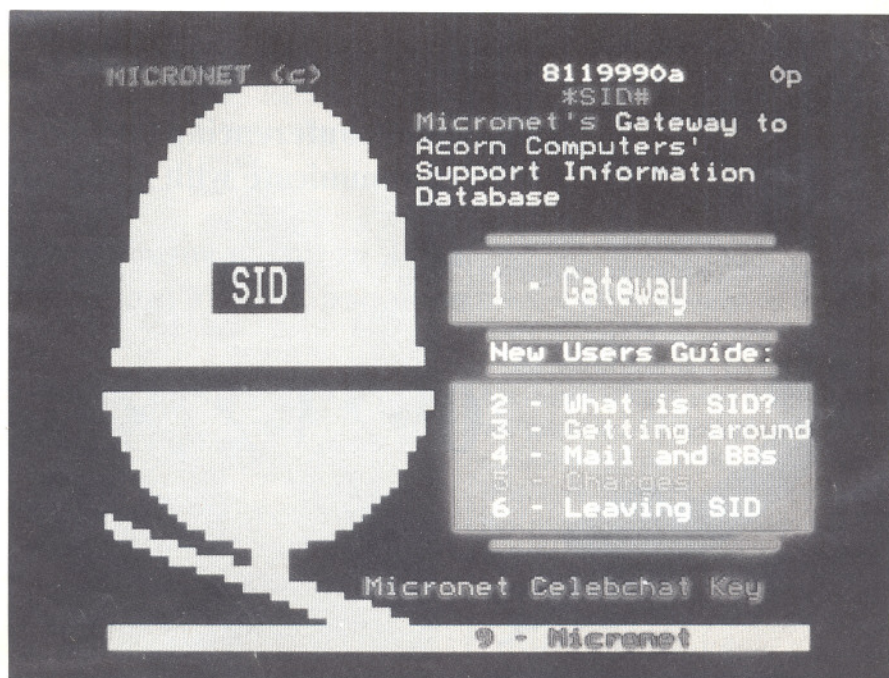
All about SID

they're on, SID has a complete magazine, Space News, which gives details of planned space exploration projects around the world, and data from the most recent Voyager and Shuttle missions.

The combination of SID, and the 'Net's own BBC micro-magazine, as well as the Beebug Sub-IP area, means that Acorn enthusiasts now have access to a tremendous range of services through Micronet, giving the lie to those who claim Acorn machines are dying out, as has so often been suggested over the years. Certainly, if you own an Acorn computer, you should take a look at SID, where you'll not only find all the technical information you'll ever need to know about your computer, but also get to meet other enthusiasts, and send queries and comments directly to Acorn itself.

Common SID keywords

- *HELP# — Help menu page
- *MENU# — The main SID menu
- *INDEX# — Gives the full list of topics by keyword
- *INFO# — Gives current usage information
- *MAIL# — Drops you into the SID mail system
- *BULLETIN# — Takes you to the SID bulletin board system
- *BYE# — Logs out of SID and back to Prestel
- *<subject># — Gives information on particular subjects, such as TELESOFTWARE.



As Prestel introduces the first online Chess tournament, Chris Bourne investigates the latest moves...

The online Chess club arrives!

Chess is one of the world's oldest games, and one of the first games to be programmed for computers. The combination of chess logic and micro-circuitry has long been a winner, and with the launch of Prestel's ChessBox, the links between the ancient game and the modern hi-tech world grow even stronger.

The ChessBox club is for everybody interested in chess, from beginners to experienced club players. Registration is free, and all members receive a club pack and newsletter with information about the area and forthcoming events.

Since the club was launched only three months ago, it's already gained over a hundred members, with more signing up every week. That's an indication of how far the image of the game has changed since the days when it was regarded as a stuffy, highly intellectual activity for passionless eggheads.

'It probably began in the early '70s' says Pam Thomas of the British Chess Federation. The Fischer-Spassky championships had a knock-on effect, and in the last few years we've seen younger players like Jonathon Speelman, Nigel Short and Michael Adams coming through.'

With players like Kasparov, Karpov, and our own Speelman virtually household names, thanks to the increased attentions of the media, chess seems set for even more growth in the years ahead. But there is still a tremendous battle for recognition, especially in terms of sponsorship from private companies, for an activity which is difficult to classify in standard media terms: is it a sport or an art or something

to do with education?

ChessBox on Prestel is helping in its own way to achieve the breakthrough. While you can use the club to find casual partners for mailbox chess, there is also a formal tournament you can enter.

It's the first officially-sanctioned chess tournament of its type, with all matches taking place through an electronic communications system. The tournament begins in January 1990 and will last for most of the year: don't be shy about entering, if you are at all interested in chess; the more players who are involved, the more successful the whole venture will be.

Apart from the official tournament, ChessMatch, the club also includes coverage of the world championship matches, and has just completed live coverage of the world semi-finals with Speelman, Timman, Yusupov and Karpov.

You'll also find news from the BCF, reviews of books and computer chess software, a weekly chess problem, and lots more. Special events are also being arranged: the first of which is an online invitation match involving Jonathon Speelman, the world championship semi-Finalist.

Micronetters will probably have a special interest in the computing side of chess. Recently Gary Kasparov trashed the US program Deep Thought, which was thought to be the first program with a real chance of defeating the seemingly invincible world champion.

Kasparov reckons computers have a 'psychology' of their own, in that a computer will pursue a particular style of play according to the basic assumptions about good and bad chess which are

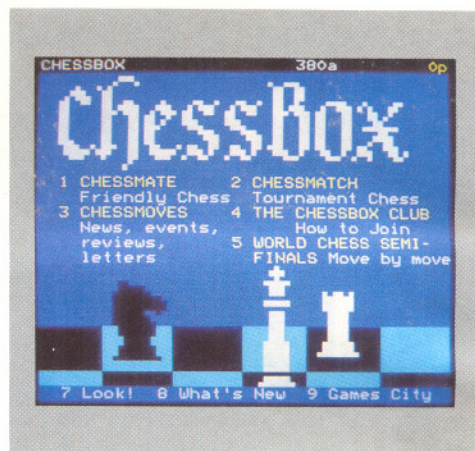
inherent in the program's evaluation techniques.

He says that playing a computer is therefore little different from playing a human opponent, in that careful study of the computer's 'style' will eventually disclose weaknesses, and preferences for a particular type of game. The computer, however, is at a disadvantage in that it finds it harder to adapt to a corresponding human style. So far, his results against computers seem to demonstrate his case, but it will not be long before chess computers can perform many billions more calculations per second, and theoretically improve their game as a result.

"Computers have certainly helped young players" says Pam Thomas; Of course, bad software can produce bad habits, especially in beginners, and ChessBox will be reviewing chess software from time to time. The best programs are excellent tutorials, however, and enable people to improve their game without the embarrassment of suffering continual defeats at the hands of human opponents!

It's important to register as a ChessBox member in order to get the full advantage of the facilities on offer. Registration is absolutely free, and is simply a matter of filling out a response frame online.

So whatever your interest in chess, whether you see yourself as a tournament player or just interested in the occasional friendly game, joining Prestel's ChessBox club is the ideal way to combine comms and chess. But don't leave it too long! The big events are starting soon, and if you want to participate, there's no time to waste!



What does a sports journalist do on his nights off? *Log On* turns a spotlight on Steve Hutchings of *The Sunday Times*.

Micronet's Midnight Hack

Steve Hutchings stumbled into Micronet in a back-to-front fashion. "The marketing was probably that anyone who joined the Net got the bonus of a modem," he said. "But I saw it the other way. I was after a cheap modem and I got a subscription thrown in as well."

A couple of years on, he is still to be found writing lengthy letters to the Cage and PC Base, and popping in to TMMC when time (or should it be *The Sunday Times*) permits.

As the assistant sports editor of *The Sunday Times*, Steve uses all the commercial, e-mail services. "But Prestel is not designed for newspapers. Imagine a reporter having to upload a thousand words frame by frame and then us having to download the report at our end."

The Net, then, is more of a hobby? "Yes, and I'm very wary about letting people know what I do for a living. Journalists have a terrible reputation. Some of it is justified, but I'd hate to think that people are wary of talking to me for fear of seeing themselves appear in a shock-horror story.

"I gave up writing a long time ago. Once, I did 500 miles to report a football match in Wigan on a freezing cold Boxing Day. Twelve hours on the road and the team I was covering lost 4-0. Who said it was a glamorous life?"

Steve is one of the "behind the scenes" staff on *The Sunday Times*, responsible for making sure that everything runs smoothly in his department — a production journalist rather than a "hack". It sounds simple but it is akin to being an air traffic controller at Heathrow because there is no margin for error.

"The high spot of my career has to be the night Frank Bruno fought Mike Tyson. I started work at 10am Saturday

and left at 6am Sunday. Twenty hours of living on your nerves. But you can't beat the buzz when you see the finished product rolling off the presses. Even

'I've got to know a lot of people on line. Sometimes I'll take the mickey, other times they'll bring me down to earth.'

though I didn't write anything there is a little bit of me in those pages."

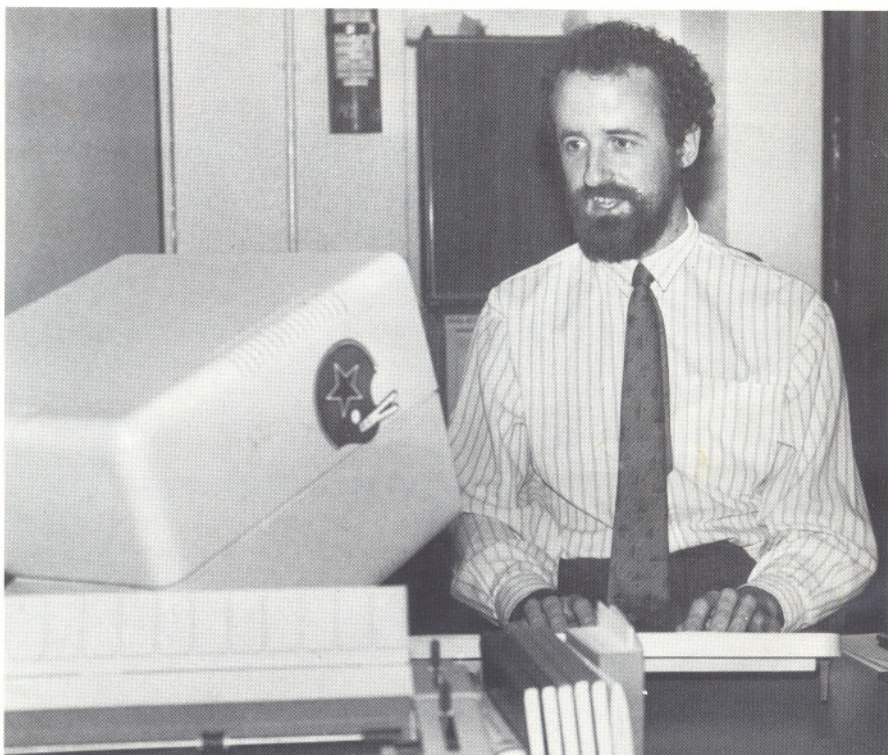
After all those hours hunched over a

screen at work why does he still log on to Micronet most nights? "Computers are a bit like newspapers — they are in my blood.

"I've got to know a lot of people on line. I've met a few of them, but others are just names on a mailbox. Sometimes I'll take the mickey out of them. Other times they'll bring me down to earth.

"Although comms is seen as a strange pursuit I like to think it keeps me in touch with the real world — an electronic version of a night down the pub. And how many pubs are open at three in the morning with people sitting there trying to write ever more complicated limericks.

"My only regret is that I don't have the time to meet more people. Of course, if I was a 'real' journalist with a limitless expense account..."



Steve Hutchings at the keyboard.

Photo: Dennis Tingay

Chris Bourne examines the warrior's role on Shades, Micronet's popular multi-user game.

A Shady way to die

Life in Shades has its ups and downs. Any multi-user game worth its salt changes continuously, as new puzzles or commands are introduced, and old ones improved or cancelled. Micronet's multi-user fantasy game is no exception, and in recent weeks the biggest changes have been to the fight system.

Keen Shadists will know that most players fall into one of two categories: the treasure hunters and the killers. T-hunters are generally peaceful by nature, scuttling around the game with huge armfuls of treasure, methodically scoring points. Killers, on the other hand, go all out for the thrills of battle, trying to dominate a game by skilful use of rusty long-sword or finely balanced blade.

Every so often, one side or the other gains an advantage, and Neil Newell, Shades programmer and all-round fun guy, chains himself to a terminal and thinks of new ways to even up the balance. The latest rule

changes are among the most radical seen in months.

In the past, fighting was an expensive business. If you were killed by another player, you lost half your points: if you started the fight and got killed, you lost the lot. Shadists call this being 'noviced', as you have to start again at the lowest level, Novice.

While fair in itself, the system did make it difficult for new players to get very far, since more experienced players, if feeling mean, could gang up on them. The new version makes it much easier to get some experience of the game before taking serious risks with your points!

Broadly speaking, the lower your character's level, the fewer points you lose if killed. Those with more than 50,000 points (Sorcerer and above) lose half their points as before: players who get this far should know how to look after themselves! If you are a level below Sorcerer, you lose 1/4 of your points, and progressively less after that to a minimum of 1/32 at Adventurer.

Likewise, if you are noviced, you lose twice the points the other guy would have lost if you had won.

This means it's now possible to fight to your heart's content and only lose a small number of points, as long as you're of a low level. To make life even more fun, the Kill Tally has been introduced, and if you type SCORE you can see how many kills you have to your credit, and how many times you have 'noviced' your enemies.

The new rules mean beginners have plenty of opportunity to learn how to defend themselves, without becoming disheartened by continually losing their points! Watch out too for Bloodbath nights, where a special game is set aside for no-holds-barred combat, with a league table of the most successful fighters.

FIGHTING TIPS FOR SHADISTS

- 1) Use WHERE LS, WHERE RAT, WHERE BLADE to keep track of the main weapons.
- 2) Avoid fighting far away from the path of the Strange Little Girl, or you may find it hard to get your stamina back afterwards.
- 3) Use STRIP and FUMBLE when your enemy has more than one weapon, STEAL when there is only one.
- 4) Stay on the move, unless you are in a safe place. Don't chat to your friends for any length of time when out in the open!
- 5) If your comms software allows you to program function keys, then use them for common fighting commands. Special Shades software to help with this is available from the Wizards Graeme, Centurion and Sinistar, if you ask them nicely!
- 6) Finally, flee before you panic, not afterwards!



Hungry Shadists at the Megameet buffet.

BLOODBATH VETERANS

Congratulations to these bloodthirsty players, who have topped the Bloodbath league.

Auntyaggy	Gabriel
Epidemic	Pyjamas
Trips	Cleaning
Tuppence	Justice

A healthy interest in computers is a fine thing, and all Micronet members share that. But do some people take it all a bit too far? We've all heard stories of pallid youths who spend their nights hunched over their computers, oblivious to everything except the flickering screen. In this light-hearted look at the more horrendous side effects of computing, you can judge for yourself how far down this slippery road you have travelled. Are you a well-balanced, healthy comms* enthusiast or a gibbering brain-blasted code junkie? Dare to take the Anorak Test and find out...

1 *Given a free choice, how would you rather spend a Friday night?*

- a) Go to the pub with your friends.
- b) Log on to Micronet.
- c) Watch TV all night.
- d) Go to bed early: you're playing soccer tomorrow.

2 *You've been online for an hour or two and you feel a bit peckish. Do you:*

- a) Nip out for a takeaway.
- b) Take an absent-minded bite from yesterday's half-eaten hamburger.
- c) Log off and cook yourself a plate of Spaghetti Bolognese.
- d) You never feel hungry when you're online.

3 *Your girlfriend/boyfriend phones and suggests going out to the cinema. What do you do?*

- a) Ask them round to your place to watch you play computer games.
- b) Cheerfully agree and suggest a few good movies.
- c) Pretend you are too tired, and log on to Micronet instead.
- d) Make sure it's a good movie before you commit yourself.

4 *You are online and chatting about a new modem you have bought. Somebody calls you an anorak. How do you respond?*

a'norak n. *skin or cloth hooded jacket for wear in polar regions; similar to garment for ordinary wear.*

a'norak n., Micronet. *person obsessed with computers and communications to the exclusion of all else.*

a) Ignore them and go on talking about your modem.

b) Change the subject: you are obviously boring people.

c) You never talk about modems on chatline anyway.

d) Ask them what modem THEY have and then slag it off.

5 *Your computer has broken down and you cannot get online. Do you:*

a) Take it to a repair shop and get it fixed as soon as possible.

b) Sit in the corner and gibber helplessly.

c) Get out a soldering iron and try to fix it yourself.

d) Cut your losses and take up a different hobby.

6 *Your best friend claims to have hacked into the NATO early-warning system. Do you:*

a) Report him immediately to the police.

b) Badger him for the codes: you want to do it too!

c) Think carefully about whether you want friends like this.

d) Exaggerate the details and tell all your friends about it.

7 *You are playing Shades, when somebody attacks and kills your character. Do you:*

a) Complain vociferously to the nearest Arch-Wizard.

b) Shrug your shoulders and start all

over again.

c) Rewrite your function key software to prevent it happening again.

d) You've never played Shades, and have no idea what you would do.

8 *You have a brilliant idea for a new piece of comms software. What do you do?*

a) Write to Micronet with your suggestion, and ask what people think about it.

b) Approach a reputable software company with your idea.

c) Forget about it — you haven't got the time to it.

d) Change your Prestel account name to RATBYTE and offer it for sale.

9 *How many hours a week do you spend on Micronet?*

a) 0—2

b) 2—7

c) 7—15

d) More than 15

10 *Which of the following (totally unjustified!) criticisms of Micronet strikes the strongest chord with you?*

a) It always clashes with Neighbours.

b) It's difficult to use.

c) There's too much about computers.

d) It doesn't let you upload ascii files at 2400 baud.

anorak rating?

RESULTS

1—12 TOURIST You may be curious about computing, but somehow the magic of the silicon chip fails to grab you. Perhaps you're reading someone else's copy of Log On? If not, then you're missing an awful lot of what happens online!

13—26 HOBBYIST Computing is a pleasant hobby to you, and you have a genuine interest in extending your knowledge. You're a little bemused by the amount of energy some people put into it though, and congratulate yourself on keeping it all in proportion!

27—39 NETTER Computing and comms are central to your life; you're an enthusiastic member of Micronet and spend plenty of time online. You're probably conscious that others don't always share your enthusiasms, but that's their business.

40—47 ANORAK Oh dear! What started as a hobby seems to have become an obsession. You live on a diet of junk food and nuggets of old solder. Your house is full of computer equipment and unusual cables. You probably haven't seen daylight in three years. But so what? As long as there's life in your keyboard, there's life in you...

Add up your scores according to the following chart:

	a	b	c	d
1	1	4	2	0
2	2	4	0	5
3	5	0	4	1
4	3	1	0	4
5	3	2	5	0
6	0	4	2	5
7	3	1	5	0
8	2	3	0	5
9	1	2	3	4
10	3	1	0	5



Win a 'quad' modem from Dataphone!

We've a marvellous prize to go with the Anorak Test: something every true comms enthusiast dreams of. Yes, a real 'quad' modem, offering every conceivable speed up to full 2400/2400 operation, with speed buffering taking you to a staggering 9600bps.

It automatically detects which baud rate and parity to use, has RTS/CTS and X-ON/X-OFF handshaking, and extended Hayes AT and V25bis command set, MNp error correction level 4 and data compression level 5.

With masses of winking lights, a built-in power supply, and even a loudspeaker control the Dataphone Pro-4, which would cost you over £400 in the shops, can be yours for free if you win our competition.

But we're not stopping there: it's Christmas after all. On our special online entry form you'll be asked to tell us what computer you have. We'll give five runners-up a piece of software for their machine, OR, if they prefer, a year's subscription to the best-selling fantasy gaming magazine, White Dwarf. Just answer the following three 'anorak' questions and complete the slogan, sending the answers in on our special online response frame.

You can find it on page 81186 of Micronet, or by keying *LOGON COMPETITION#. Only entries received via this special entry form will be valid.

- 1) What's the page number of Micronet's Soft-Tech Index?
- 2) What baud rate is represented by V23?
- 3) What is the page number of the Clubspot Main Index?

TIEBREAK: Complete the following sentence in not more than 24 words: "I'm proud to be an anorak because ..."

For the full conditions of entry, please see the list of competition rules on page 13 of this issue.



Newspapers and TV have recently been full of wild and sensational stories about hacking and viruses. Paul Needs asks if all modem owners are hackers.

Hackers are Criminals

The recent mass media coverage of hacking and viruses has been Good Dramatic Stuff, but of course, absolute nonsense. Normally respectable news agencies adopted the first principles of tabloid journalism — sensationalise the story first and use statements out of context to support your story.

I'm sure that the majority of people who use communications service are not hackers. They are not curious enough to run up huge telephone bills trying to find a way around the Prestel login page, or delve into the operating system of the Prime computers on which Telecom Gold runs.

However, there are a few who have learned a great deal about comms and operating systems by digging around various online services. There's also no doubt that amongst these knowledgeable few are some who look for ways to divert money into their pockets — in one way or another. That said, it's my opinion that most of these people haven't a hope in hell of getting anywhere — and realise it.

Likewise, there are a huge number of programmers in the world, who are trusted on a daily basis with millions of pounds-worth of hardware, software and data. Only a few 'turn bad' and decide to plant 'time-bombs' when they leave their job, or write viruses that will kill a PC's hard disk on a certain date.

It's a bit drab as far as news goes, and maybe that is why the mass media haven't presented this view of the whole hacking and virus topic.

Channel Four Independent Television's "Dispatches" programme, broadcast on October 12 this year, appeared to be more than economical with the truth to anyone with any experience in communications. During the programme, Emma Nicholson MP (author of a failed Private Members Bill on hacking) claimed "A really good hacker could paralyse the

City of London Money Markets in 20 minutes".

If this 'really good hacker' of Nicholson's example had sufficient knowledge of the systems on which the City's systems run, had telephone numbers (if they exist), identities and passwords with sufficiently high system privileges, then perhaps it could be done. As it stood, Ms Nicholson offered no real evidence to support her claim.

The other possibility, of course, is that the job could be done by an insider. This scenario is favoured by most computer security experts, and much evidence suggests it is the case in the majority of computer fraud and system damage cases.

Examples of 'hacks' given in "Dispatches" nearly all fell into this category. However, by judicious imagery and editing of interviews, the ordinary comms enthusiast nearly always takes the blame — in spite of the evidence to the contrary — when it comes to new laws that are being proposed.

The Law Commission

The recent publication of the Law Commission on hacking seems to follow the alarming trend. Criminalising hacking might be a 'right' thing to do, but many believe the proposals made to be almost unenforceable. It's all very well to give the Law the teeth to send people to jail for hacking, but somewhere in the equation you need to give the Law Enforcers the legs to catch the criminals.

Certainly, branding the curious as criminals would seem to do no good whatsoever, apart from bring a warm glow to those whose systems are insecure. It's a strange approach. In any case, a principle has already been established by the Data Protection Act, which firmly places the security of date and data systems controlling personal data in the lap of the operators.

Even Eric Howe, the Data

Protection Registrar himself recently commented "I believe it would be wrong to criminalise those who have no criminal intent and create no hazard".

Why not propose amendments to existing Acts, such as those which cover Fraud, Theft and Trespass, or the Telecommunications Act?

Of course, there IS another side to the whole debate. I certainly wouldn't be happy if Joe Hacker obtained my Prestel ID and password and sent messages all over the Net purporting to be the Editor of Micronet.

Hopefully, I and we take care not to let this happen, and change our passwords regularly. We don't use ones which are easy to guess, such as "PASS", "FRED" and "NONE", but there are people who do. If you're one, change it NOW!

Similarly, anyone who leaves passwords and access numbers on 'post-it' stickers attached to their computers are asking for trouble — no matter how carefully they chose the password. Systems that have no built-in security are simply standing up and begging to be hacked.

Aircraft

Mark Drew, the Information Services Manager of IBM UK, drew the analogy of harmless hacking being akin to one finding that someone had entered an aircraft hanger, and disturbed an engine cover. The expense, according to Drew, is incurred by having to check the engine (or computer) for damage, even if none is caused.

If it were my aircraft and my hanger, I'd want to know where my security men were when the break-in happened. Then, I'd improve security to ensure that it couldn't happen again.

My own analogy is that if you leave your car unlocked with the keys in the ignition, don't be surprised if your briefcase — or indeed the car itself — gets stolen. Incidentally, it's already against the law to steal a car ...

Win this superb NTS PC in our Xmas competition!

We've a truly red-hot competition for you this Christmas, with a stunning first prize: an XT-compatible personal computer from NTS, who've received excellent reviews for their PC range on Micronet in the past.

This is no bottom-of-the-range machine either. The machine we're giving away includes a 20Mb hard disc drive, 640K of onboard RAM, and a 5.25" 360K floppy disc drive. The Intel 8086 processor runs at a nippy 10Mhz, and the operating system is the acclaimed Digital Research DR-DOS — compatible with MS-DOS but much more advanced.

There's more. Who wants to look at Micronet in black and white? Nobody, we reckon: so we've included a full colour hi-res monitor. What sort of colour monitor, we asked ourselves? The best, of course: VGA-compatible, with a VGA colour graphics card installed in the computer to drive it.

Finally, we are also throwing in ninety quid's worth of software as an extravagant afterthought, in the form of Peter Norton Computing's Advanced Utilities software. This includes all the utilities you are ever likely to need: hard disc management, disc doctor, the lot.

This is one competition you simply can't afford to miss: around £1,400 worth of high-quality microcomputer, equally suitable for home or office use. It's compatible with thousands of software packages, from professional business applications to superb games and utilities. And it could be yours, if you enter the competition below!

HOW TO ENTER

All you have to do is answer the five questions opposite; you should be able to find most of the answers in this issue of Log On!

When you have all the answers, you must log into Micronet to send them to us: key page 81186 (or *LOGON COMPETITION#) where you will find instructions on how to do this. Only entries received via our special online entry form will be valid.

STANDARD COMPETITION RULES

- 1 The competition is open to all Micronet subscribers except employees and contractors of British Telecommunications plc, NTS plc, Dataphone, Games Workshop, Peter Norton Computing and their immediate families.
- 2 Entries are limited to one per Micronet account and all entrants must be fully paid up Micronet subscribers at the time of the draw.
- 3 All entries must be received by 12am on Monday 16th January 1989. In the event of more than one person answering all questions correctly, the judges will award the prize to the entrant who they consider to have provided the best tiebreak slogan.
- 4 The judges' decision is final. No correspondence will be entered into.
- 5 All entries become the property of British Telecommunications plc, and none will be returned.
- 6 It is a condition of entry that competitors agree to be bound by the rules.
- 7 All winners will be notified by mailbox, and the results will be published in the Spring issue of Log On.



Answer the following questions and fill in the response frame on page 81186 to be included in the prize draw.

- 1) Who is the editor of the PC Base magazine on Micronet?
- 2) What graphics standard does our competition prize support?
- 3) What is the name of Micronet's telesoftware download protocol?
- 4) Which newspaper does Stuart Hutchings work for?
- 5) What does SID stand for?

TIEBREAK: Complete, in less than 24 words, the following sentence:

'Micronet is the ultimate peripheral because ...'

.....

.....

.....

.....

ST Micro Magazine is one of the newest computer magazines on the Net. Whilst the

ST has been available for a number of years, it is only over the last couple of years that the number of ST owning Netters reached sufficient levels to justify a magazine of its own.

In the early days of the ST, representation was provided by Sixteen/ThirtyTwo, a privately run area. Sixteen/ThirtyTwo is going strong to this day, with Tony Goodman as its editor and is a friendly and chatty area with a leaning towards letters.

The first appearance of an official Micronet ST area took the form of a joint ST/Amiga area. The initial idea seemed good, as both machines share the same processor and were aimed at more or less the same market, but reality was a little different and it soon became obvious that there was a basic incompatibility problem.

Chris Lewis, a long time member of the Micronet staff, moved over from the Spectrum area and set up the new joint magazine.

By April 1989 Micronet was moving offices to Hemel Hempstead, the number of ST and Amiga owners had grown and Chris had decided that he didn't want to move with the office! The time was right for the splitting of the combined magazine into two separate magazines.

Andy Waller, who ran the Commodore area for a number of years, took the Amiga area officially under his wing, but this still left a vacancy for an editor for the newly named ST Micro Magazine.

The job was offered to David Foster, an active Netter for a number of years, who originally joined with an Amstrad CPC, but has worked his way through most computers and contributed as a freelancer to the ST/Amiga area as well as PC Base and the Amstrad CPC areas.

David lives in the north of England, in the Lake District, with his wife and two teenage daughters and nothing on earth would persuade him to move southwards. Luckily, this was no

The Atari ST is one of the fastest growing home computers around. We take a look at the ST Micro Magazine on Micronet, and how it's put together.

Inside the ST Micromag

problem, as Dave Dorn the PC Base editor had already proved that it was quite feasible to run the magazines remotely, making full use of electronic mail.

The location of the ST Micro Magazine office must be one of the most unusual of any magazine. It is based in a former pigsty (some people claim it still is one) two miles from the nearest road and seven miles from the nearest shop or Post Office. There is an old 17th Century farmhouse that goes with the pigsty though! The many carriers delivering packages containing items for review will attest to the remoteness, more than one having given up the struggle to find it and returned the goods as undeliverable!

David followed a classical route to the position of editor, via farming, hotels and a boatyard but has worked full time with computers for a number of years, doing such diverse things as programming, writing software manuals and articles for computer magazines.

ST Micro Magazine is still young, but has developed into an area with an emphasis placed on reviews and articles and its future direction is largely being guided by the response to the questionnaire which readers filled in soon after it started. It is obvious from the results that many people consider the ST to be much more than just a games machine and how right they are.

The full range of products, from Business applications and Music/MIDI software to Games and hardware are regularly reviewed, together



with a varied selection of articles on subjects ranging from MIDI to programming, DTP and Comms.

There is also a letters area, updated daily during the week and this provides a useful way of obtaining further information about products and help with problems, in addition to providing a place for idle chatter and banter.

For the future, the intention is to provide more of the same, more frequently and it is hoped that before long the Telesoftware area will be available to many more ST owners, using a variety of comms software and that much of the Public Domain and Shareware software reviewed by the magazine will be downloadable from the gateway.

Pop in and have a look at St Micro Magazine, if you don't already and feel free to leave a message in the letters area, making any suggestions as to how it may be improved.

To access the ST magazine go to page 8001021 or type keyword *ST#.

Micronet's telesoftware library includes 100s of programs you can download for your micro. Chris Bourne explains how the system works, and how you can get the best from it.

Journey to the centre of the Gateway

Computers do very little without software: and Micronet has always been about good computing. So it's not surprising that, right from the start, Micronet's been involved in the development of facilities to enable you, the subscriber, to receive computer software down the phone lines as part of the Micronet service.

The current Telesoftware Gateway has been running for just about a year now, and this article explains how it works, how to use it, and what you can expect to find on it.

Orson and the Multiplexor

The gateway runs on an Amiga 2000 called Orson, which holds all the software — a colossal 59Mb of it, about 40-50 programs for each of the main micros — and the database structure which enables you to get at it. Orson used to have a smaller sidekick called Mork, which dealt with the link to Prestel, but since Micronet and Prestel now inhabit the same building, Mork is no longer necessary.

When you go through a gateway, you are effectively leaving the main Prestel system and passing through a link to another computer. In order to control the access to the Amiga 2000, and enable a number of users to share its facilities at the same time, a device called a multiplexor is used. Patrick Reilly, who manages the system, says the mux is more intelligent than the Amiga, insofar as it has to work faster and harder just to keep track of who is doing what.

Orson then hunts for the page you've requested, finds it, and gives it to the multiplexor to pass back to you. The

Amiga 2000 system was chosen originally because, at the time, there was virtually nothing else available which could handle the task.

However, nowadays there are a number of different systems which can be used with a multiplexor, and Patrick says the gateway is under continuous development. "You may see a Telesoftware Mk II in the future, but there are no fixed dates yet. It's still some time down the line."

The software: where does it come from?

Most of the software on the gateway is PD or Shareware. PD stands for Public Domain, meaning a program is freely available to the general public, and not copyrighted. PD software is generally written by amateur programmers anxious to share their work with other computer enthusiasts, but much of it is of professional quality.

Shareware is a way of selling software, 'on trust'. The idea is that you voluntarily pay the programmers a suggested fee for taking a copy of their program. There's no obligation to pay, but if nobody does, the system will eventually die out, so don't be mean!

The rest of the software comes from subscribers. Anybody can send in a program for evaluation, and if it's good enough it will be put on the gateway. Patrick is particularly keen to receive ST and Amiga software, as very little is received from subscribers. Here's some advice if you are thinking of writing a program!

Firstly, make sure it's original. There are loads of BBC Mode 7 designer programs around already, for example.

"Utilities are nice because they are short," says Patrick, "and have some practical use too. But most of the games have already been done!"

Secondly, make sure complete instructions are contained within the program! A piece of paper cannot be downloaded at all...

For really good material, Micronet will occasionally pay out real money. Programmers are normally free to sell the software elsewhere as well, as long as it isn't to another viewdata service.

Patrick laments the fact that few subscribers send in software. He points out that there's loads of public domain software he hasn't had time to track down himself and see. So if you know of a useful or entertaining PD program which isn't already available on the gateway, let Micronet know about it!

Mysteries of the Download

Until a couple of years ago, most micros used 8-bit processors, which means each individual character in a program occupied eight bits of space in memory. Prestel, however, uses seven bits, which makes it impossible to simply store the program in its normal form.

The CET protocol, which was developed by the Net's former Technical Director Mike Brown, is a way of encoding an 8-bit program so it can be written out in 7-bit Prestel characters. Then, when you download a program, the decoder in your comms software will automatically unravel the code and store it, usually on disc, in the original form, so you can actually use it. Most comms packages, and all the ones given out by Micronet with the free modem offers, now have a CET downloader.

If you are interested in writing your own comms software — and some subscribers do! — a copy of the CET specifications can be obtained via your local library, or, if you ask nicely and enclose an SAE, from Micronet Operations itself.

16-bit machines, like the ST and Amiga, present a more difficult problem. It is easy to get an Amiga program onto Orson, since Orson is an Amiga anyway: and Micronet has a nifty piece of software which allows ST discs to be read straight onto an Amiga. But these machines have large memories, and the software is often very long.

Micronet worked with software house Y2 to develop a new protocol for these machines which not only allows the programs to be stored but also compresses them to save as much space as possible.

"We're restricted by the 7-bit system," says Patrick. "We have to convert files frame by frame — but I don't envisage a change. I much prefer looking through viewdata screens for a program than hunting for it on a scrolling menu, like most bulletin boards."

Common problems

Although downloading software on the Telesoftware Gateway is just about as simple as Micronet can make it, some people still experience problems. Because it takes several minutes to download a program there are things which can go wrong, such as a bad telephone line causing problems. Log On put some of the most common problems to Patrick.

The first seems to be that some users have trouble getting out of the gateway once they have finished!

"This is easy," says Patrick. "You can use *90# just as you would to log out of Prestel, but in this case it just takes you back to the main Prestel system."

Other ways of getting out include *QUIT# and *BYE#, as the gateway has its own keyword system. Typing *IBM# for example, will get you to an index of IBM PC-compatible software.

Then there's the problem of variable speeds of operation, which, very occasionally, can mess up a download.

"The Amiga does slow down the more people there are using it at a time. If it causes problems, try again at another time. Most downloaders try several times if they get an error, before they stop, but

Spectrum users do have some problems with speed. We hope to sort that out on a new upgrade for the gateway."

Line noise — jargon for bad telephone lines — is a semi-permanent affliction for some people, and there's not much Micronet can do about it!

"With line noise your system usually just falls over. If it is a constant problem, you should ring your BT district office about it. But line noise can also be caused by dirty sockets and edge connectors on your computer, so keep it clean!"

Patrick again suggests that trying different times of day may help, if there is a lot of traffic on your local phone network at particular times.

The main usage is between 9pm and 1am, while early evening and early morning are quiet. Weekends, however, are constantly busy.

Naturally, there's a comprehensive help area on the gateway which should sort out most problems you may encounter. But you can also write to Micronet as well. If you do decide to write, make sure you are as specific as possible about your problem!

"Most people just say 'it doesn't work', which is useless," explains Patrick. "We need to know what sort of computer you are using, which program you were trying to download, and what comms software you have. If you can include the time of day and the date, that's also a help. Some software will give you

information about a failure as well, such as how far you got through a download, or an error message: include that information when you write too."

Finally, if you simply cannot get a program to download on your machine, Patrick will, as a last resort, send you a copy if you send him a disc or tape on which to put it!

What you need to download Telesoftware

Spectrum: You need a VTX5000 modem with or without the Spectre Comms ROM. The Spectre ROM gives you a number of useful commands, but the internal VTX5000 software is sufficient.

BBC B: Any software with CET downloader will do, including the Micronet ROM.

Amstrad 6128: You need the Cage Comms ROM, available from the Amster's Cage area of Micronet (*CAGE#).

Amiga: You must have Rubycomm from Y2 software.

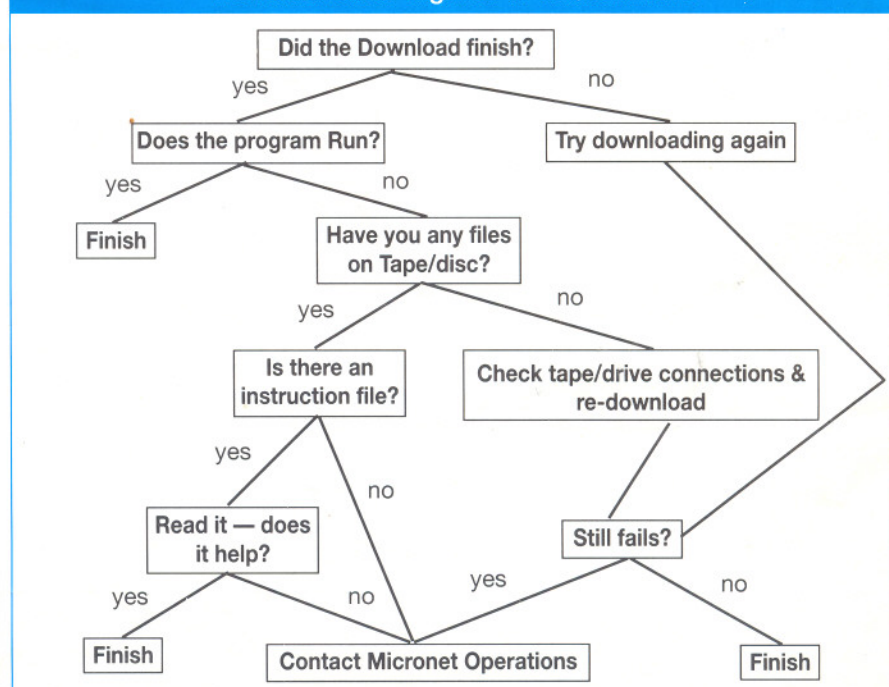
ST: You must have Rubyview from Y2 software.

Z88: Z-term from Wordmonger will do the job!

PC: Anything with a CET downloader: there are many packages.

Archimedes: Anything with a CET downloader, such as Hearsay or Communicator.

Troubleshooter's guide to telesoftware



MICRONET DIRECTORY

*All Micronet areas can be accessed directly by page number, or by entering a keyword. This is a brief selection of important keywords. For a much fuller list, see page 80005, or *M KEYWORDS#.*

*M AZ# 800046666

A - Z QUICK GUIDE: A fast-access index to all the main features of Micronet. With over 13,000 pages of information, you'll need it!

*ADVENTURE SPOT # 8105

ADVENTURE SPOT: Help and advice for intrepid adventure gamers. The area includes InShades, the popular magazine for Shades players.

*CAGE# 800934

AMSTER'S CAGE: Daily coverage of Amstrad CPC and PCW micros, with news, reviews, and comment. Also the home of the invaluable Cage Comms ROM!

*BEEBUG# 800909

BEEBUG: Still the biggest and best BBC micro user group, the Beebug area offers news, reviews, and a variety of excellent software.

*CHATLINE# 811

CHATLINES: Micronet's famous chatlines allow you to hold real-time online conversations with other members, swap gossip and make new friends!

*BAZAAR# 82899

CLASSIFIED ADS: There's always a bargain to be had in our classifieds area. Computer systems, cameras, video gear, motorbikes . . . anything!

*CLUBSPOT# 810

CLUBSPOT: Run by the Association of Computer Clubs, Clubspot hosts a wide range of mini-magazines run by enthusiasts for enthusiasts.

*M COMMS# 8008083

COMMUNICATIONS INDEX: How to get in touch with other people through Micronet: Mailbox, Telex, Interlink, Chatlines . . . it's your choice!

*M COMPLAIN# 800406006

COMPLAIN: We hope you don't have any complaints. But if you do, we want to hear them, so we can put things to rights as quickly as possible.

*M COMPLIMENT# 800406005

COMPLIMENTS: Of course, we like to hear when you think we've got it right, too; and any ideas you have for improving the services we offer!

*M NEWS# 8001110

COMPUTER NEWS: The fastest computer news service in the UK. Updated every day with the latest stories, this is one area you can't afford to miss.

*M CUG# 800652

GAY CUG: A closed user group for gay members, The Cug

offers daily news, letters, help and advice to gay men and women.

*DIALTALK# 81195

TELECONFERENCING: DialTalk is a powerful facility which enables you to talk online, publicly or confidentially, to groups and individuals.

*EDUCATION# 165

CAMPUS 2000: Prestel's comprehensive education area offers specialist services to teachers and students, as well as careers and computing advice.

*ENROL A FRIEND# 800020001

ENROL A FRIEND: Save money on your subscription by enrolling your friends as Micronet members! After all, the more folk you know online, the more fun you'll have!

*INTERLINK# 80074

TELECOM GOLD: Access BT's high-powered business network at a special discount through Micronet, and enjoy facilities such as Fax, Infomat and much more.

*GALLERY# 81122

DO IT YOURSELF: Run your own electronic magazine, and read other members' pages, in Micronet's unique home publishing area!

*CHESSBOX# 380

CHESSBOX: For the chess enthusiast, ChessBox offers you the opportunity to play Chess online, BCF approved chess tournaments, and even against grandmasters!

*INTERBUSINESS# 7007

BUSINESS ADVICE: Interbusiness is a professional service to the small businessman, offering advice on tax, law, finance and employment.

*ED# 8001170

LETTERS TO THE EDITOR: Editor Paul Needs is always ready to speak his mind, and so are Micronetters! Why not join he debate yourself?

*MAILBOX# 7

ELECTRONIC MAIL: The heart of the Prestel network is the Mailbox system. Recently overhauled, the new system makes it even easier to send your message.

*MICROMOUSE# 800951

COMMS NEWS: Steve Gold, the UK's leading comms journalist, writes exclusively for Micronet every day in Smalltalk, about the world of communications.

*MONEY EXTRA# 80096

PERSONAL FINANCE: Expert advice on personal finance, consumer rights, mortgages and tax, including the popular Legal Eagle online legal advice service.

*M MUSIC#	800989
MUSIC CITY: As computers become more and more a part of the music business, Micronet brings you all you need to know about the latest products and techniques.	
*PC SUPPORT#	800936
Daily letters, reviews and news for users of IBM and Amstrad compatible PC's. The area includes a special public domain and shareware software service.	
*1#	1
PRESTEL FRONT PAGE: The start for all your explorations of the vast Prestel database, including NewsDay, Games City, SportsEye, and Look!	
*SHADES#	8118
SHADES: Micronet's addictive and absorbing Multi-User Fantasy Adventure. Play with and against real people as you struggle to reach the rank of Wizard!	
*SOFTTECH#	8000201
SOFT-TECH FEATURES: General computing features for all machines, including comprehensive reviews of printers, modems, monitors and other peripherals.	
*SPECTACULAR#	8009121
SPECTRUM: Daily updates about all things Spectrum, from the old rubber key models to the new Plus 3. Spectacular includes special comms advice for Speccy users.	
*STARNET#	811211
STARNET: Compete against other Micronetters for control of the galaxy in this long-running strategy game. Full instructions and advice provided online.	
*M TELES SHOPPING#	811613
ELECTRONIC SHOPPING: Join the retail revolution and buy goods directly via our online shopping system. General goods as well as computer gear are available.	
*TSW#	81160
TELESOFTWARE: Hundreds of FREE programs are	

available for all the major machines on the Micronet Telesoftware Gateway. Full instructions online.

*TELEX#	8
TELEX FACILITY: Send a Telex anywhere in the world via Micronet, at a fraction of the price it would cost you if you had to buy your own machine!	
*TMMC#	00952
TMMC CLUB: The Midnight Micronetters' Club is open to all members; a social forum for meeting people on and offline, making friends, and having fun.	
*M VIRGINS#	800953
NEW MEMBERS: The Virgin User area contains simple, clear advice and instructions for getting around the system, and making the best use of it.	
*WAVEGUIDE#	800900
TV AND RADIO: All the news and gossip from the world of TV and Radio. Waveguide even brings you advance info on the plots of your favourite soaps!	
*M NEW#	80002
WHAT'S NEW: With 13,000 pages there's something new to see every day on Micronet. The What's New index tells you about the very latest updates.	
*XTRA#	40140100
ENTERTAINMENT: The original Xtra! magazine combines topical comment, music reviews, cookery and humour in one vibrant area.	
*VOLTAGE#	401012
HI-FI NEWS: Voltage brings you up to date news and reviews of hi-fi, video, TV and other consumer electronic goodies.	
*SIXTEEN#	800916
16/32 AMIGA & ST: For users of the Amiga and Atari ST computers, 16/32 offers daily letters, reviews, news and a second-hand bargain basement area.	

Contact

There are many different ways to contact Micronet, depending on why you wish to do so! Here are some of the more important response frames and telephone numbers: using the appropriate one helps us help you much more efficiently.

Machine-specific queries:

Acorn machines	*8111888#
Amiga	*8111885#
Amstrad	*8111880#
Atari ST	*8111885#
Commodore 64	*8111886#
PC compatibles	*8111882#
Spectrum	*8111888#
Z88	*8111884#

General queries:

To change account details, or make a general query or complaint about Prestel: *33333#

If none of these areas seems to suit your problem, you can always mailbox us directly on 018221122 for general enquiries or 223681485 for technical enquiries.

ALSO: For all problems, queries and assistance phone 0442 237237.

Micronet queries and problems:

To complain about Micronet:	*800406006#
To compliment Micronet:	*800406005#
Problems with Telesoftware:	*8116#
Problems with Interlink:	*811615#
Wrong routes?	*800406007#
Problems with Shades:	*8118#
Suggestions:	*800020002#
Letters to the Editor:	*81118#
Help for beginners:	*8009539#

TELESOFTWARE

TOP FIVES

*All the software below is available FREE via Micronet's Telesoftware Gateway. For details of how to download the software, and many more titles, key page 811602 or keyword *TSW#*

BBC

Memory Map by S. M. Atkinson demonstrates the 6522 VIA chips on your BBC. It displays the contents of the registers and allows you to poke new values into them, and shows you how to make use of them.

- 1 - Memory Map by S. M. Atkinson (601100098)
- 2 - TSWROM by BBC Microbase (601100105)
- 3 - Slide It by M. Webber (601100099)
- 4 - RTrace by BBC Microbase (601100106)
- 5 - AD&D2 by M. Sullivan (601100094)

SPECTRUM

McKenna's Minitel Terminal allows you to access the famous French viewdata service using your Spectrum and VTX5000, with defined keys for special Minitel commands. All you need now is enough money for those international phone calls!

- 1 - Minitel Terminal by N. O. McKenna (601200040)
- 2 - Treasure Trail by J. Theakston & S. Richards (601200047)
- 3 - Jack Kix II by A. Gaskell (601200009)
- 4 - The Cocktail Creator by Ruth James & Brian Gaff (601200052)
- 5 - Composer by D. Cooper (601200048)

AMIGA

Access! is a superb comms package offering multiple baud rates, file handling, Xmodem, macros, and many other facilities. It only offers a scrolling terminal, but it's just the ticket for exploring bulletin boards or Telecom Gold.

- 1 - Access! (601600050)
- 2 - Backcloth by Amiga Format (601600053)
- 3 - Sunriders (601600059)
- 4 - VacBench (601600047)
- 5 - VirusX (Virus Killer) (601600051)

ST

Speech is a neat little program which allows you to type in a line of text and then have your computer 'speak' it out loud.

- 1 - Speech (601700057)
- 2 - Stingray (601700054)
- 3 - Play (601700056)
- 4 - Pools by B. J. Campbell (601700028)
- 5 - FreeRam (601700058)

AMSTRAD

K. Avery's Multiple Choice allows you to create and use your own multiple choice exam. When you have finished a test, the program will tell you how many questions you got right, as well as a percentage. Then it will review the test with you. An ideal way to help your kids with their revision!

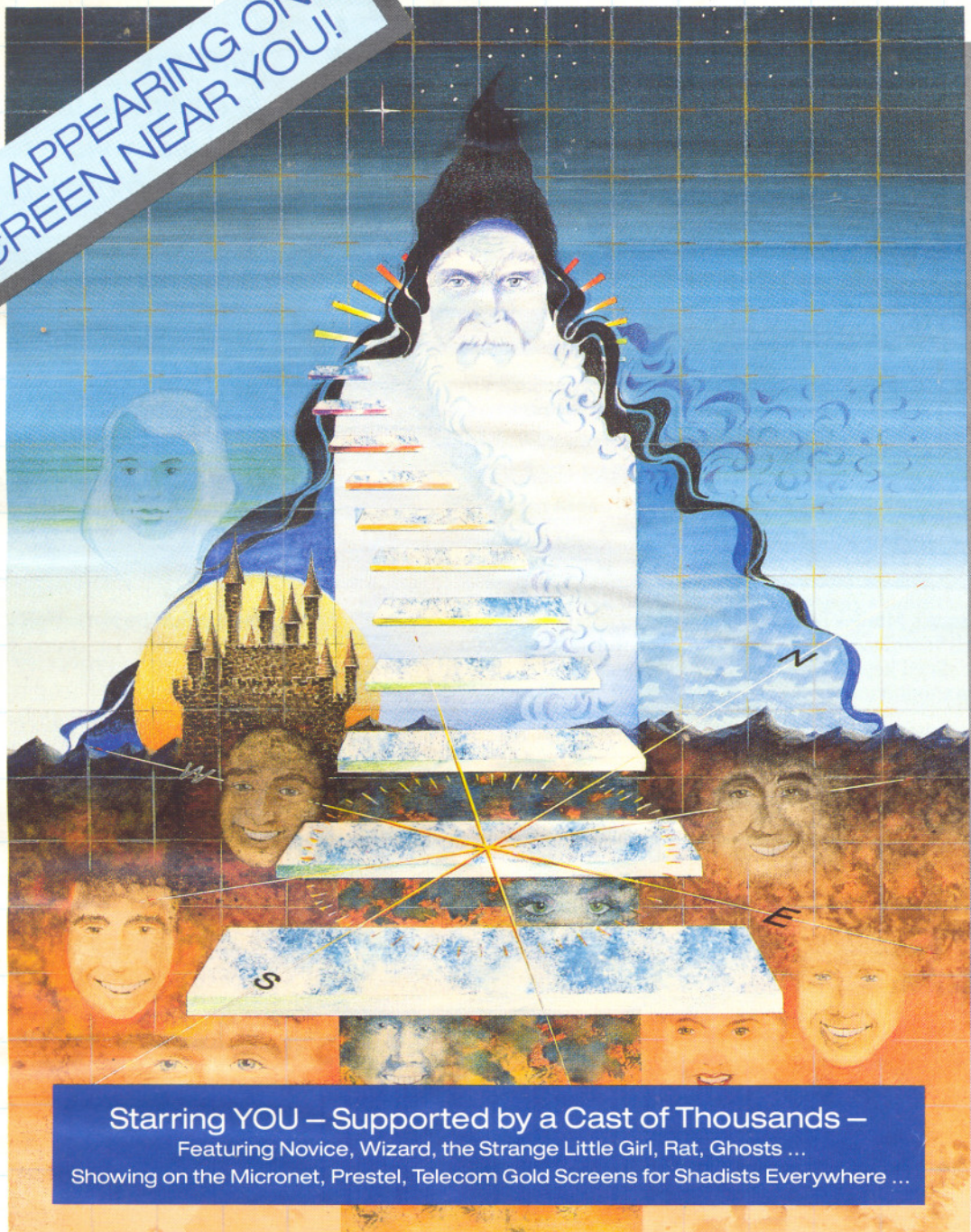
- 1 - Multiple Choice by K. Avery (601400072)
- 2 - Wordfind by A. Pegg (601400047)
- 3 - Piquet by A. Pendle (601400049)
- 4 - Small-C Compiler (601400056)
- 5 - MEX (X-Modem) (601400060)

PC

Mandle allows you to explore the mysterious, beautiful Mandlebrot Set on your PC. This extraordinary branch of mathematics has captivated researchers, produces stunningly beautiful displays, and must be seen to be believed!

- 1 - Mandle (601500043)
- 2 - Hush. zip (File security) (601500041)
- 3 - Egaroids. zip (601500043)
- 4 - PKZ101. exe (ZIP file compressor) (601500046)
- 5 - Dazzle. zip (VGA) (601500049)

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