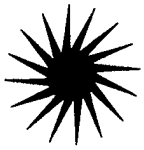


Press Information



REDIFFUSION
Computers

A Member of the Rediffusion Group of Companies

PRESS CUTTINGS

MARCH 1982

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With booming sales of videos and home computers, joining the two became inevitable. Philip Reeve looks at the interactive video's scope, from mail ordering to home safety



Michael Aldrich, md of Rediffusion, whose Teleputer combines a video with a computer to control what appears on the screen

The value of television and computers as learning aids has been apparent to teachers and trainers for some time, but until recently the potential of combining them has remained unharnessed.

Now however, with widespread use of microcomputers in business and education, and with a video boom well under way, all this is changing. Attention is turning to ways of putting these technologies to work together.

Naturally this marriage of technologies demands a new term to describe it, and one has been found – interactivity. Its meaning is relatively simple – the use of a computer to control what appears, and when, on a television screen.

The idea is for the student or viewer (interactivity is also destined for the home) to benefit from 'interacting' with what is shown on the television.

Trainers and tv producers have quickly grasped the educational potential of using the computer to help explain what appears on the screen, and to check that the student understands what is shown. They also appreciate that the

A screen romance

computer can tailor programmes to meet the needs of individual students.

In that context, the BBC's interest in the Acorn Atom computer learning project makes a lot of sense. But the real work with interactivity is coming from programme-makers in industry and computer-aided learning specialists, rather than the broadcasters. The commercial specialists are already using large numbers of video tape recorders (VTRs) for training and communications in business.

Several new systems have appeared in recent months. Considerable publicity was given to one particular system, the Teleputer or System Alpha from Rediffusion Computers, which laid claim to virtually every interactive option imaginable. Michael Aldrich, Rediffusion's managing director, wrote: 'Teleputer

videotex terminal is an example of converged technology; television, videotex, teletext, personal computing, word processing and network communications.'

The system consists of a personal computer, tv monitor, Prestel-style viewdata and comes in five models – two of which are intended for interactive video applications.

Teleputer should appeal to a number of different markets, but it leans towards the kind of large organisations which have been customers for Rediffusion's private viewdata systems in the past.

The two interactive options are intended for use with a video tape recorder or video disk. The video disk option is ruled out because no disk players are available in this country yet. As for tape, Rediffusion has had difficulty finding someone to produce software for it.

This is a snag facing all interactive systems, since there is no history of production for this new style of programme-making.

Two other interactive systems have tried to get round this snag. The Felix Learning System (as in Felix the cat or computer-aided training) has its

The computer also puts questions to check the viewer can understand what is shown

► microcomputer, TV screen and VTR in either a desktop or stand-alone model.

More importantly the maker of Felix has also scheduled a library of interactive courses for use with the system.

Meanwhile Sony Corporation has introduced a Video Responder using a VTR with a simple, programmable selector/responder and printer. Existing video programmes can be re-programmed or edited to quiz the viewer on what he or she is watching.

Sony's interest in this type of system goes beyond the Responder, since the three interactive systems described here use a VTR that was first introduced by Sony, called the U-Matic.

The U-Matic uses three-quarter inch tape rather than the half-inch tape found in home video recorders, and has a second audio track on which the computer program can be laid to control the interactive video.

Consequently the viewer can use either a keyboard or keypad to instruct the machine to run fast forward or backwards to find the most relevant piece of the programme. The microcomputer can also put questions on the screen checking that the viewer under-

stands what has been shown.

If the viewer does not understand the computer finds a section on the tape which will help solve the problem.

For instance, Felix demonstrates a programme about the Highway Code in which a car is shown being driven down a road. The viewer is then questioned on aspects of the Code that appear in the programme.

The student keys in an answer and the computer then prints out if that answer is correct or not. If correct, the tape moves on to the next section. If wrong, another piece of the tape is shown. When the programme is complete, the computer tots up the marks, and can even show the result as a graph if needed.

In another programme the student watches as a terrorist's target leaves his home. The action is then re-run, but the target occasionally overlooks the precautions that had been stressed in the first section. When this happens the student should key in a response.

If the student does so, the tape runs on. But if the student misses a mistake, then the computer runs the sound of the person being killed.

This gruesome example may sound

like a video game, but the principle of branching into different sequences depending on the viewer's reaction could have great potential for self-learning.

Even so, although such appeal is acknowledged by those in training, there has been no rush to interactive video tape systems for several reasons. Firstly, interactivity is a new use of technology which appeals to video producers and computer trainers - but neither group is at home with it yet.

Secondly, video tape poses a problem as it takes some time to access particular sections of the programme. At worst it can take 20 seconds or more. This timelag can frustrate a student - although it can be concealed by cunning use of graphics.

However this timelag problem becomes more upsetting because there is a system offering almost instant access - the video disk.

Video disk systems use a laser or stylus to read information from a specially-made disk playing at high speed. With some disk systems it is possible to access a single TV picture among the 54,000 pictures on one side in next to no time at all.

The major disadvantage however is that it is not yet on sale in this country.

Travellers to the US where video disks have been on sale for nearly two years have returned impressed, enthused and impatient. So instead of waiting for Philips or Thorn EMI to start marketing video disks for the home, as both have promised, equipment has been imported from the US to see what it can do.

In fact, it can do an awful lot - at a price. The video disk machine being imported costs about £1,100 and is made by Discovision, jointly owned by IBM and MCA.

The player boasts 1 Kbyte memory and a remote keypad to control the disk as it runs fast forward, or in slow motion, or holds a still frame, advances frame by frame and even accesses parts of the programme chapter by chapter.

Using the keypad the viewer can react to questions that have been programmed into the disk itself. An example of this basic interactivity can be seen in a pioneering trial in four Mothercare shops around the country.

Mums choose one of five products they want to know more about, press ►

Mail order and study

are two

possibilities

► the appropriate key, and watch a video demonstration of that product. The entire system is American, but the disk has been made specially for Mothercare.

More sophisticated users of video disk systems link it with a microcomputer, such as an Apple. One project uses an Apple to control a video disk about Apple maintenance.

The student can watch as the Apple is dismantled, and the procedure can be repeated. Questions appear on the screen about what should be done. The student has options to watch any part of the procedure. Using the keyboard to select the appropriate section the process continues until the Apple is in pieces.

An advantage of using a microcomputer is that material on the disk can be manipulated. With carefully-prepared disks, linked to floppy disk, an enormous range of uses becomes possible, from mail order buying or technical training to self-paced study.

It need not be an Apple that controls the disk player, nor need it be a disk

player. Even when they are available, disk-making is expensive and permanent - programmes cannot be updated.

Provided hardware and software exist to link computer and disk player or VTR and control the disk or tape, then interactive programming can operate with other microcomputers.

Engineering training projects are being carried out with an Acorn Atom and a U-Matic. In another project, it is intended to link an Atari home computer with a video disk player.

At present, outside the US interactive video is in its infancy. Video producers are experimenting with styles of programming, software houses are looking at possible applications and courseware.

Yet as microcomputers enter more

offices and homes and as the video boom continues, interactivity is likely to be heavily promoted. Certainly video disk manufacturers will be keen to sell the concept to compete with the well-established video recorders.

It is too soon however to judge whether that means interactive video is an entirely good thing, but it may prove to be a lifesaver. For a teach-yourself-first-aid disk is available in the USA showing a simulation of a man choking to death on a chunk of meat.

The screen suggests ways of saving the man's life. The viewer chooses one way and watches as, one hopes, the man is saved. One day you too may owe your life to interactive video. □

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REDIFUSION UNVEILS 'TELEPUTER' TERMINAL

LONDON, Thursday

A NEW style of information device that for the first time combines the technologies of television, personal computing, video recording and telecommunications has been launched by Rediffusion Computers Ltd.

Called a Teleputer terminal, the device is aimed initially at the rapidly developing market for business viewdata or videotex terminals but is likely ultimately to be at the heart of the home information system.

The Teleputer terminal will be the thing that takes the personal computer and videotex into the sitting room at home or into a new-style information room when the home market develops

later this decade, says the firm's managing director Mr. Michael Aldrich.

First deliveries of the new device will take place in both Britain and continental Europe early next year and later, probably through a marketing agreement with a home based company, in the United States.

Looking like a desk top minicomputer with a similar keyboard, the Teleputer can, with very little instruction, be used as a computer terminal, word processor, data processor, graphics processor, computer assisted learning station or system, publications system, batch ter-

minal for sending information to another computer, videotex or viewdata terminal, management work station, technical and professional work station and a television set.

The system used on the Teleputer, designated by Rediffusion as System Alpha, can be configured for specific use as five models, simply as a viewdata/videotex terminal with or without broadcast television, as a terminal with editing facilities for the preparation of viewdata/videotex pages by professional information providers, as a personal computer with access to viewdata/videotex, as a computer with video cassette recording facilities and/or video disc.—LPS

ADVANCED SEMICONDUCTOR PLANT OPENED

LINCOLN, Thursday

A PLANT for the development and manufacture of high technology integrated circuits and microwave devices has been opened in eastern England by Marconi Electronic Devices Limited (MEDL). Costing around 15 million pounds sterling, the plant, which will employ about 500, is believed to be the most advanced of its kind in Europe.

Half the production is expected to be used in advanced

defence equipment and half in the telecommunications equipment. The plant is part of MEDL's ten-year expansion plan in the specialist semiconductor, power and microwave device market in Europe and considerably to expand their share of the American market.

Together with other MEDL plants it will manufacture Europe's largest range of semiconductor devices and assemblies plus specialised and advanced micro-electronic hybrid thick film circuits.—(LPS)

HEALTH
AND
SCIENCE

24 MAR 1982

ITAP report calls for cable policy

ANNOUNCING its new report on cable systems the government's Information Technology Advisory Panel stressed that government must announce a policy on cable standards by the end of the year if the UK industry is not to be swamped by overseas competition.

The Information Technology Advisory Panel (ITAP) represents the voice of industry rather than

the rarified voice of Whitehall, with panel members such as Ivor Cohen, the managing director of Mullard, and Mike Aldrich, managing director of Rediffusion Computers. Panel members stressed that if the decision was left any longer than this the coming of the next election could cause an additional delay.

Perhaps the most attractive aspect of the report lies in the conviction that investment in cable systems can be wholly from the private and not the public sector.

Franchises on a regional basis are expected to attract local finance. The report estimates that it would cost about £2.5bn to provide cable services to half the homes in the country.

The present restrictions on programming should be lifted (apart from decency/sedition requirements) with cable operators setting up a self-regulatory body.

Design standards should be established before the end of the year. The system must be able to support interactive services and link with BT's packet-switching service (PSS).

On a controversial note the report says that the splitting of regulatory responsibilities between the Home Office, the Department of Industry and British Telecom could hinder developments here.

Cable systems are seen as a means of enhancing rather than opposing the recently announced direct broadcasting by satellite, providing cheaper access to satellite transmissions than with aeri-

Cable tv could aid dp

The go-ahead for cable tv could provide a big boost for Britain's computer and consumer electronics industries, the Government has been told by a team of its own experts.

The Information Technology Advisory Panel told Mrs Thatcher that the development of cable television would enable more people to work from home 'aided by the decreasing cost of

microelectronics, the growing popularity of home computers, the development of combined computer/viewdata terminals and so on.'

The panel pointed out that information could be transmitted far faster along cables than it could down a telephone line.

In particular, cable would open up the huge world potential in office technology systems, similar to broadband technology which was the only system that could cope with high data rates.

'The creation of a United Kingdom cable industry producing standard systems would provide major opportunities for United Kingdom computer and office system industries.

'The cable systems themselves would offer a substantial market for the computer industry. For fail-safe operation, each would require two computers to control the transmissions and operate subscriber billing. Total expenditure might be £100 million, split between hardware and software elements.'

The report was drawn up by M. J. Aldrich, managing director of Rediffusion Computers, C. A. Davies, managing director of Information Technology Ltd and C. N. Read.

Ministers are planning to take a quick decision this year as requested by the panel, and introduce legislation in the Queen's Speech in November.

TELEX
THE BROADCAST REPORTING SERVICE
REPORT

THE CABLE REVOLUTION

For : AEBERHARD AND PARTNERS LIMITED

MR. D. CURRER

Prog: JIMMY YOUNG

Service : RADIO 2

Serial: 031440/BB

Date: 23.3.82

Time: 1000

Duration: 7 minutes 40 seconds

VIEW

JIMMY YOUNG:

Now I don't suppose you could imagine the time would ever come about when you'd be able to sit at home and do your shopping, book your holidays, find out about local events, watch any film you choose, vote on local issues, all via the telly. Well that's the prospect of a new world of information opened up by the Cable Television revolution. Now as a result of a report by the Government's Information Technology Advisory Panel, that dream could be turned into reality within the very next few years. If the plans get the government's backing, the whole cost of the revolution will be paid for by private industry. Well on the line to me now, a Member of the Advisory Panel, just reported to the government Mike Aldridge. Good morning Mike.

MIKE ALDRIDGE:

Oh good morning Jimmy.

J.Y.:

How likely is it do you think that this plan will actually become a reality?

M.A.:

Well I think certainly the ball is firmly in the government's court now. Yesterday the Home Secretary announced that a small team was going to be set up to look at some of the implications for broadcasting of this new cabling revolution. What we've actually asked for is that by the middle of 1982 the government should announce the broad outline of its policy towards cable systems, so that we can get all the investment going and all the planning of the new systems.

J.Y.:

Well according to the press this morning they do seem to be quite keen.

M.A.:

Well the benefits to Britain of this kind of revolution are really fantastic. A lot of investment, a lot of jobs, a lot of new benefits for the consumer and really a major step in moving us into the 21st century.

J.Y.:

You see Mike, for the benefit of people who don't know about cable television, when you say a revolution I mean it is just that it's not just the question of ah, we've got another channel to watch programmes on, it's considerably more than that?

M.A.:

Yeah, it's really, it's like almost a hundred years ago when we started to pipe water and gas and electricity into the homes. It's new kinds of services pumped into the home that are going to really affect our standard of living in the next century.

J.Y.:

Right, now what about, will everybody be able to get this or is it just only the people in the large cities who'll be able to receive cable television?

M.A.:

Well in doing our planning and working out some of the financial implications we looked at cabling half the country which is the urban areas, the cost of doing that, somewhere between £2¹/₂ and £3 billion. To cable for the suburban areas, which would cover about 75% of the population would obviously cost more and maybe put the total bill up to about £4 billion.

J.Y.:

So is it likely that it would perhaps start with just urban areas?

M.A.:

I think it would start with the urban areas and then go suburban and for the people in the rural areas, of course, they've got the new direct broadcast satellite systems that are coming along, the BBC has announced that it's going to be broadcasting from satellite by the mid 1980s and even if you're a crofter in the North of Scotland you should be able to receive those.

J.Y.:

So there's no question of there being, so to speak, a split nation, I mean those who would just get the public networks, BBC and IBA, and those who can get those networks plus the private cable company?

M.A.:

No, I don't think there's any possibility of a split nation, I think the implementation of these cable networks around the country will be you know piecemeal affair, it will start in certain cities and certain towns and over a period of probably 5 or 10 years, you know, it will grow and they'll start to link them into other kinds of services.

J.Y.:

You see, all this stuff, Mike about sitting at home and being able to do your shopping, book your holiday, call the bank and so on, I mean it sounds like another world really doesn't it?

M.A.:

Well that's what I said, it's the beginning of the 21st century. That's what it's going to be like.

J.Y.:

Now where's the revenue coming from to finance all of this?

M.A.:

From the private sector Jimmy. The sums have been done and again it goes back, if you go back 100 years to the water and the gas and the electricity, they were put in by private companies, people who wanted to invest in their locality to provide new services, and we certainly see no reason why exactly the same kind of investment can't take place to bring in these new cable systems, so that local groups are set up to instal cable systems, local consumers will pay for the service, it's going to be a very localised affair.

J.Y.:

Right, what about advertisements? Would you see it carrying advertisements?

M.A.:

Yes I think there is a good market for advertisements, particularly local advertising, you know, the local butcher or baker who wants to advertise his services, the local plumber, it's an ideal medium for that kind of advertising. It's not a terribly good medium for the kind of national advertising that you get on things like the independent television at this time.

J.Y.:

Now who's going to control the content of the programmes and what goes into the home, who do you see controlling that?

M.A.:

Well I think there are two issues. I think the first issue is really the sort of basics level, you know, quite clearly I don't think the majority of people in this country would put up with say any kind of pornography going into the home, I mean I certainly wouldn't have any coming into my home. Obviously we don't want anything that offends, you know, we want impartiality. I think there are a certain number of basic things that have to be done, but thereafter I think the services that are provided should be according to what the consumer requirements are. So I would see an authority just laying down some basic rules to say now look, you know, these are the things that you must stay in line with and, you know, you must not do certain kinds of things.

J.Y.:

Now what do the existing media think about all this Mike, one thinks of the BBC and the IBA and I suppose, to some extent local newspapers perhaps?

M.A.:

Well dare I say, Jimmy, they're rather mixed reaction really. In some areas that they can see that this new kind of communication medium would pose a threat to them. In others and certainly some of the more imaginative people, they can see tremendous new opportunities and I've said at the press conference yesterday it's a bit like the beginning of the printing revolution. In the year 1500 there were three printers in England and there was enormous argument as to whether there should be any more or whether if having any more it would create abuses and all those other things. Well last year in England we printed over 200 million books, you know the revolution came a long way it took quite a few hundreds of years. I think this new revolution is going to go a long way but it's going to be much much quicker.

J.Y.:

Now you've urged the government to act quickly before we miss the telecommunication bus, now how quickly is quickly?

M.A.:

Well we've set a very very tight time scale for government. We're asking for a policy statement by the middle of 1982 and for them to work out the regulatory issues, you know, what they want to regulate and how by the end of the year, and the government response has really been very good. They are moving very fast, they can see the benefits of it and you know something to happen in three months in government's terms is almost instantaneous.

J.Y.:

Well it's a fascinating subject Mike and we shall be hearing more I've no doubt. Nice to talk to you on the programme.

M.A.:

Thanks very much Jimmy.

J.Y.:

Thank you very much indeed. That's Mike Aldridge, as I say he's a member of the Advisory Panel who've just reported to the government on which as you've heard just then the would be and looks like being, television revolution.

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Extract from
Guardian, London.

23 MAR 1982

Cable means more to see on TV—and more holes in road

IN ECONOMIC terms, Britain needs to be rewired to provide a powerful multi-communications network reaching every home—and, ideally the sooner the better. In social terms, that post-industrial process requires measured debate, because it involves foundations decisions about the potential changes in control of new sources of information and communication—let alone about the quality of everyday TV.

The report of Mrs Thatcher's advisory panel on information technology (Cable Systems, HMSO, £3.60), published yesterday, gives much more attention to the urgency of the first factor than to the importance of the second.

The panel argues for a private enterprise expansion of local cable TV networks—each network having monopoly control over its programmes—as the road to a "wired society" in Britain. In doing so it uses two paradoxes:

ONE: Although the true advantage of a total network is in the new services of the near future (like home banking, shopping or working from the TV screen; instant electronic newspapers; and possibly direct and immediate democracy through home voting) the initial financing of cable networks "will depend on none of these things but upon estimates of the revenue from additional popu-

lar programming channels." TWO: Although interlocking high-capacity networks are essential for the new industries of information technology, past policy decisions have resulted in Britain's small cable TV industry shrinking instead of expanding. (The report says the industry could die by 1986 under its present restrictions).

The panel—consisting of four high-tech industrialists, one academic, and one research head—says it cannot stress too highly the need for speed. "The formulation of broadcasting policy in the past has been a protracted process, with major inquiries extending over three or four years and consultations then occupying a similar period. This is wholly inadequate for the present situation: a delayed decision is, in this case, the same as a negative decision."

The "very tight" timetable proposed is for basic decisions this summer, and a set of standards agreed by the year's end. That, the panel argues, would enable big-town cable networks to be ready in time to synchronise with direct broadcasting by satellite, due to begin in 1986; allow British technology to provide the services; a voiding massive imports; and save the existing cable TV industry.

The panel also puts that in a political context. The prospective operators and investors must have sufficient

planning time "before a change in government policy can occur." Unless the process is under way before the next general election, "there is in our view little prospect of a modern cable industry being established in the UK."

Panel members insisted yesterday that the point had nothing to do with party politics. Mr Charles Read, director of the Inter-Bank Research Organisation, who headed the work on the report, said it was solely a question of "cutting the period of uncertainty" for entrepreneurs, caused by delays in an election period.

He said the proposals were founded on a consensus of what was good for the country—"We think there is such a broad consensus that it would cost £2.5 billion to provide the urban areas of Britain—half the population—with multi-channel cable services. That calculation is based on the bizarre maximum assumption that no agreement is reached with the (so far) nationalised British Telecom to use its under-pavement ducts and that therefore all the pavements will have to be dug up, and new wayleaves negotiated.

In advocating no call on public funds for this, the panel says its investigations have shown that private sector finance will be forthcoming—but only if the Government lifts the constraints and allows "a full range of programmes and services to be provided on



The logo of the Government's Information Technology Year campaign

already approved 13 pilot schemes for subscription TV by cable, serving about 110,000 people, but the report says those trials are three years too late. Although it would be "more comfortable" to follow the timetable envisaged for the trials, that would "almost certainly mean abandoning UK cable developments to overseas interests."

of the cable systems themselves—particularly if they used the British technology of cheaper house connections, whereby each group of 50 to 100 subscribers is served by a local switching point, rather than the "tree" structure common in the US, whereby more costly and powerful cable go right to the home.

Cable decisions, now, it argues, would mean that British cable industry would be ready to meet all these mass-production opportunities alongside a major UK market in 1984 to 1987.

On the question of preserving quality, the report genuflects to "the traditions, standards, and reputation of our broadcasting services. We national assets which we must preserve. But it adds that technological developments and a rising public demand for changes in entertainment and information services "mean that the broadcasting world is changing."

History shows, it says, that care taken by successive governments can ensure that the concerns about quality are met. Over-the-air TV will remain the backbone of broadcasting for many years—particularly in rural areas. Cable would allow more firms to participate in TV advertising locally. Commercial sponsorship of programmes should also be considered locally—"we see no reason why it should not result in high quality programmes, just as the commercial A.D.N.S. has done."

body to be the "broadcasting authority" for cable and a working group representing cable operators, the electronics industry, and British Telecom to define the technical standards — "consistent with commercial viability" — and thereby allowing national linkages.

Today in Britain about 2.6 million homes — 14 per cent — receive their TV by cable. About 1.5 million are connected to the services of 440 commercial operators; the rest use systems operated by local authorities, housing associations, and the like. It is estimated that cables pass near a further two million homes. However, many of those cables are so old that they can transmit only four to six channels.

By contrast, cable serves 35 per cent of homes in West Germany, 37 per cent in France, and more than 50 per cent in Belgium, the Netherlands, Denmark and Canada. In the United States, where cable is expanding fastest, the percentage last year was 22.4.

The Home Office has

ing 15 to 24 channels at first — should begin via copper co-axial cables because the more powerful fibre optic cables (replacing electricity with laser-light signals, pulsing along half-inch glass strands) are as yet too costly for providing the final links to homes.

Some systems now being planned in the US will carry 100 different services and the report points out that these services involve a dialogue between the home and central computer information banks based on the British invention of videodata. Yesterday one panel member, Mr Mike Aldrich, managing director of Rediffusion Computers, added the additional irony that the original US cable networks were also supplied by Britain in the late 1940s.

The report envisages a business as well as home market for wider cable networks, because they could carry electronic mail and other computer data at a much faster rate than today's phone lines can.

about the "spectacular" growth in cable systems linked to satellites in the US since the lifting of restrictions in 1975 and about the spread of push-button direct democracy through the use of two-way cable in some cities to provide instant referendums.

The panel complains that the recent Home Office study on direct broadcasting by satellite gave insufficient recognition to the parallel opportunities of cable. That study was "too optimistic" about costs to the consumer, and the panel estimates that the initial cost of a small dish aerial to receive satellite TV direct would be about £400 — plus £100 for installation.

It says that decoders enabling TV sets to receive the more extensive cable services would cost £200 to £250 at the start, dropping to £40 to £80 in mass production.

The report says there would be significant export markets, given the high reputation of UK broadcasting and information services. There could also be exports

the report accepts that it sanguine conclusions on these issues, run counter to "accepted wisdom" but say the Government should view the question in the light of cable as an opportunity, not as a threat. Nevertheless, opts for a regulatory structure.

"It could be argued the since cable offers so much choice in programming the need for regulation disappears. This would put the cable medium on a par with the printed word. We doubt whether such an approach would find favour, mainly because cable systems are local monopolies.

Finally, the report adds the widespread theme that the Government needs to change its own machine to cope with the new and converging demands of information technology. The panel complains that the Home Office, the Department of Industry and British Telecom can all be concerned in licensing on system.

Peter Lary

UK telecoms net to bring £10bn boom

By Caroline Shaw

The Government is considering proposals to transform the UK telecommunications network, in one of the most massive industrial investment programmes ever undertaken.

A report for the Cabinet Office, by the Information Technology Advisory Panel (Itap), proposes a £10 billion investment over 10 years from the private sector to rewire the UK. Coaxial cables or optical fibres will be used to carry business and consumer telecommunication-based services to the office and the home.

Itap has estimated that if its plans are acted on the direct market for equipment and services will total £3 billion or more.

For the terminal manufacturers it will open up the possibility of supplying every home in the country. There are untapped opportunities for value-added services being added to the network, and cable manufacturers too will profit.

Mike Aldrich, managing director of Rediffusion, who served on Itap told *Computing*: 'Most of the equipment will probably come from around two dozen major UK companies.'

Already the major UK cable manufacturers have plans to dramatically increase production of optical fibres and conglomerate BICC is talking to



Mike Aldrich: most of the equipment should come from about two dozen major UK companies

GEC about the possibility of sharing BICC's new factory being built in Deeside, North Wales — which will have a capacity in excess of 50,000 kilometres of fibre a year.

Oliver Johnson, managing director of GEC's Wire and Cables Group, told *Computing*: 'At the moment we are producing 7,000 kilometres of optical fibre a year. We have new plant installed and on order which within two months could raise our output to 25,000 kilometres a year.'

Whether the project goes ahead is ultimately a political decision, with the Government deregulating the market and issuing licences to all companies which want to provide a service. The report stresses that time is of the essence and has laid down a strict timetable for action to be completed during 1982.

The report proposes the cable systems to be in place to coincide with the introduction in 1986 of direct broadcasting by satellite, which will beam

two new tv channels.

The report states that if new cable systems can be operated by then, they will provide subscribers with cheaper access to satellite transmissions and offer an incentive for cable connection.

Initial revenue will come from cable tv and other entertainment services.

A three man committee of inquiry has been set up by the Home Office to examine the implications of the study and report back by September.

Computer is aid to business

COMPANIES previously neutral to technology in a strategic sense — finance, insurance, distribution and marketing companies — are now seizing on "information technology" as a competitive weapon.

So said Mike Aldrich, managing director of Crawley-based Rediffusion Computers, addressing the Info '82 Conference in London, the first major conference covering IT in Information Technology Year.

"An enterprise that gets the customer 'on the system' effectively locks out competitors," he said, adding that "it cannot be coincidental that whole industries are moving in this direction."

Most businesses today could not function economically without computers but, to date, except in some specialised areas, computers had been used for tactical reasons — to control overheads, produce accounting information, maintain personnel functions and suchlike.

Today, spurred by developments such as corporate videotex systems, business was awakening to the competitive advantages that technology could confer in the marketplace.

With private videotex systems, which link the familiar TV set to computers, organisations had begun to "create new electronic communication links with customers, agents, distributors and clients," he said.

Chains

"By putting the customer on-line to the corporate database, enterprises have cut long-winded communications chains, speeded up vital communications, become more reactive, to and supportive of customer needs and saved money by externalising their own labour costs."

Mr. Aldrich pointed out, however, that companies seeking to use information technology as a competitive weapon should first of all understand that technology. He listed three rules for success.

First, top management "must be fluent and comfortable in technological topics," meaning that they had to have technical education. Second, management would have to show itself capable of choosing technologically based projects that would serve to enhance "strategic position in chosen fields".

"The leverage possibilities of using information technology to differentiate products and change market positioning are often substantial," he said. "Delivering old movies by videocassette, for example, created new markets for old products."

The third rule identified by Mr. Aldrich was the need for the "systems and structures of the company to be tightly coupled to provide connection between business and technological decision-making."

One thing was certain, however: business ignored technology at its peril. "The demise of the analogue watch industry is a good example of the sword of Damocles approach to technology," Mr. Aldrich remarked.

Extract from
Exeter Express & Echo, Devon.

23 FEB 1982

High-tech knowledge

Everything on everything from robots to architecture — that's the proud boast of Plymouth Polytechnic which is holding an Information Technology Exhibition in June.

The show, which will run from June 2 to 4, will be part of Information Technology Year — I.T. '82 — a national event supported by the Government and some of the biggest names in advanced communication.

The polytechnic says the exhibition aims to bring together major users of information technology in an effort to publicise the

significance of this growth industry.

Among those taking part will be British Telecom, Plessey, Rediffusion, Diattech, the I.B.A., and the B.B.C., and the exhibition will be opened by Mr Michael Aldrich, managing director of Rediffusion Computers.

Running with the exhibition will be a series of lectures and films demonstrating information technology in the fields of communications, robotics, office automation, word-processing, architecture, and building industry.

The first two days of the show will be reserved for visitors from industry and commerce.

Extract from
Bristol Evening Post

22 MAR 1982

CABLE TV URGENT, SAYS REPORT

TIGHT time-tabling for the introduction of cable television was urged today by Government advisers.

An advisory panel report says that half of Britain's urban homes could be provided with cable service at a cost of £2,500 million, which should come from private business.

Panel chairman Mr Charles Read, director of Inter-Bank Research Organisation, told a press conference that he hoped the Government would recognise an urgent need to give the go ahead and for technical design standards to be set by the end of the year, for cable operation by 1986.

Benefits

Mr Read said that the introduction of cable systems was "highly desirable and inevitable."

Benefits would include subscription television and local programmes of minority interest, with possibly 24 different channels.

Panel member Mr Mike Aldrich, managing director of Rediffusion Computers Ltd, said: "There will not be a licence to print money."

"There will be a good return over the years — but not a bonanza."

Cable — Government told to move before it's too late

Whitelaw sets up policy inquiry

THE likelihood that Britain will establish a widespread cable system became clearer at the beginning of this week with the publication of a report on cable systems, prepared by an advisory panel set up by the Prime Minister last summer, and by an announcement by the Home Secretary, that he is setting up an inquiry into the broadcasting policy implications of cable technology.

The recommendations of the advisory panel are clear: that if Britain does not clarify its intentions for establishing cable within the next year, we will miss the boat in an economic and industrial sense, and the introduction of direct broadcasting by satellite, planned for 1986, could be seriously affected.

The report adds that the experiments into subscription television via cable, which were authorised by the Home Secretary in the spring of last year, came three years too late. Some of the experiments, which are for two years, have not yet begun.

Although the advisory panel says that it has not been able to explore some of the issues involved in cable in depth, because of pressure of time, it does not, for example, reckon that cable will have a detrimental effect financially, on the BBC. In contrast, it could enhance the Corporation's use of DBS.

The likely effect on ITV and Channel Four is less clear, says the report, but it notes that in America the growth of cable systems has been accompanied by a rise in advertising income for the national networks.

The Information Technology Advisory Panel, which compiled the Cable Systems report, was appointed in July last year to advise the Prime Minister and government on all aspects of information technology, and, in the words of Mrs Thatcher, "to ensure that Government policies and actions are securely based on a close appreciation of market needs and opportunities."

Six people sit on the panel: M.J. Aldrich, managing director of Rediffusion Computers; I.H. Cohen, managing director of Mullard; C.A. Davies, managing director of Information Technology; D.F. Hartley, director of Cambridge University Computing Service; C.N. Read, director of Inter-bank Research Organisation; and C.G. Southgate, chief executive, Computer Services Division, British Oxygen Company.

The study on which the report is based was done by a working group from the panel, but the whole panel endorsed the report.

The panel says it is convinced that there are "powerful economic and industrial arguments for encouraging cable systems in the UK," and stresses that, "given the right conditions, these could be entirely financed from private sources".

The timing of introducing cable on a large scale is, however, crucial, and the report says more than once that, "a delayed decision will be the same as a negative decision."

To this end the report recommends

that the government should make clear the broad outlines of its future policy toward cable systems by the middle of this year.

Detailed proposals on administration and regulation of any cable systems should, the report feels, be announced by the government no later than early next year.

It is the institutional and regulatory aspects of cable that the inquiry announced by the Home Office at the

*continued on
next page*

Government urged to decide about cable

from previous page

beginning of this week will deal with particularly. The Home Office has stipulated that the inquiry must make its recommendations by the end of September of this year.

The frame of reference the inquiry must take is, in the Home Secretary's words, "the Government's wish to secure benefits for the United Kingdom which cable technology can offer and its willingness to consider an expansion of cable systems which would permit cable to carry a wider range of entertainment and other services (including, when available, services of DES), but in a way consistent with the wider public interest, in particular the safeguarding of public service broadcasting; to consider the questions affecting broadcasting policy which would arise from such an expansion, including in particular the supervisory framework."

Chairman of the inquiry is to be Lord Hunt of Tanworth, a former secretary to the Cabinet, but the two other members of the inquiry have yet to be named.

In its introduction to the Cable Systems report, the Information Technology Advisory Panel says that although some of the topics covered by the report need further, urgent examination, the Panel felt the report should be published to stimulate and inform the debate on cable systems.

On the day the report was published, Monday, one initial reaction came from the BBC, although it said it would hope to give a considered response to the report "in due course."

Issued by Bill Cotton, the BBC's director of programmes and director of development, the statement said that:

"The BBC obviously welcomes any technological development in the field of broadcasting, not least because we support the electronic industry in Britain.

"Nevertheless, we must have reservations about the implications for the licence paying viewer in Britain who could be deprived of the sporting events, films, and the big occasions that he has

always traditionally enjoyed.

"We will obviously be studying the full implications, including financial arrangements."

The Information Technology Advisory Panel begins its report with a review of the present UK situation, saying that the relay of conventional broadcast services via cable has in general no future, because the reception of the three channel's broadcasting signals is so good, the initial reason for introducing cable is defunct.

"The viability of cable systems has therefore fallen," continues the report, "and the major commercial companies are expecting to move into substantial deficit in the next few years".

This could lead to a loss of perhaps 5,000 jobs over the next few years.

On the relationship between DES and cable the report points out that in America the relationship has been, "close and supportive," and "to the benefit of both."

In this country, the success of DES will probably depend on cable, says the report, and the Home Office report on DES, published last year, did not pay sufficient attention to this, the panel believes.

Not only would cable reception of satellite services be cheaper than installing a dish aerial, says the report, but it would be easier; there may be some difficulty in mounting aerials and angling them correctly.

More positive, says the report, is the argument that DES services will provide cable systems with the extra programming they need, and provide an incentive to potential cable subscribers. If commercial cable systems were to close, adds the report, "a significant group of potential DES subscribers, who could obtain the service at relatively low cost, will be lost."

Central to the future position of cable, though, says the report, is the freeing of cable companies from the obligation to relay BBC and ITV, and from this year, Channel Four.

Existing cable systems, which often

only have four channels, could only be an interim measure to allow companies to use their present equipment.

"We would expect all new systems to have ample capacity for conventional broadcasts, while existing limited capacity systems would be progressively renewed," the report says.

Cable would not pose a threat to the BBC licence-system, says the report, because although some licence-payers would object to paying the fee if they did not watch the BBC, the BBC would be, "failing the public if its programmes appealed to only a small minority."

The panel adds that "we expect the terrestrial services of the BBC and IBA to provide the backbone of broadcasting for many years -- particularly in rural areas where they may (with DES) be the only service that can be received."

The British policy of avoiding putting two commercial channels in competition for the same source of revenue will be difficult to sustain as the number of channels increases, says the report.

If this happens it could ultimately lead to a decline in revenue and therefore in standards, says the report, but on the other hand, cable would enable more firms to advertise on television and could stimulate the market.

"It is not clear that the introduction of cable systems would necessarily have a large adverse effect on the advertising revenue base of off-air commercial television services," the panel says.

The Cable Systems report by the Information Technology Advisory Panel is a 54 page booklet. Its eight chapters are on: The UK situation; future potential; overseas developments; relationship between cable systems and DES; economic and industrial considerations; implications of cable for television broadcasting; other implications; and conclusions and recommendations.

The report invites comments, although it says that government departments with responsibility for areas covered by the report will be consulted.

Cable Systems is published by H.M.S.O., price £5.50.

ITAP report

A brave new world for cable

INTERNATIONAL PRESS-CUTTING BUREAU
Lancaster House,
70 Newington Causeway, London, S.E.1

Extract from
Broadcast, London
29 MAR 1982

BRITAIN BY 1984 will end up with the most sophisticated, modern TV cable communications system in the world, if the Information Technology Advisory Panel's report is taken up by the Government. But the recommendation to cable Britain NOW and the satellite announcement four weeks ago is not being sold as an enhancement of broadcasting but as a boost to British industry generally. Into the bargain, the viewer of these new media is promised specialised programmes and a wealth of other services, paid for to the tune of £2.5 billion from private sector sources.

The heavily leaked ITAP report, officially published last week, was drawn up at the Prime Ministers personal request. It proposes an initial 30 channels developing into an all-purpose medium carrying a wide range of new services including an interactive network enabling subscribers to transmit as well as to receive information. It also argues that Direct Broadcasting by Satellite (DBS), due to start in Britain in 1986, will build up an audience much faster if it is fed into a cable system rather than subscribers having to go to the trouble and expense of installing their own rooftop dish aerials. A small aerial is estimated to cost about £400 plus £100 for installation. The decoders enabling the TV sets to receive the more extensive information would, with mass production, cost some £40 to £80.

The report states that the necessary investment "to get the country back on its feet" could easily be raised from the City and would create a new industry

with a one billion dollar annual turnover. Any delay now would have the same effect as a negative decision. "We must allow British technology to provide and develop the services", said chairman of the six man think tank, Charles Read. "Government and broadcasters should view cable as an opportunity not a threat. Cable should be a complement to off-air broadcasting not a competitor."

What excited this panel is the development of a two-way communications system, equivalent and superior to the American system which will be developed and manufactured here and be ready to export around the world. "If you don't lead, you won't succeed", said Read.

Interestingly though, the report says that one advantage we have in exporting this developing cable technology is Britain's already high reputation in broadcasting and information services. "This is a national asset which we must

preserve. "But our brief was to propose a plan which would create an environment for encouraging cable systems. We did not have the time or resources to go into the deeper issues. These will be handled by the appropriate bodies.

It is estimated it will cost £2½ billion to provide cable TV to half the population of Britain. This figure is based on the cost of digging up pavements, laying new ducts and negotiating new wayleaves. The panel suggests that an "interconnection not an integration" be developed with British Telecom. The report did not cost any BT involvement in setting up a UK cable system." It could be cheaper but then that depends on what British Telecom charges the cable operations," commented Read. "British Telecom has a very important role to play but not necessarily a dominant one in terms of technical design and standards".

British Telecom, by the way, is the only organisation authorised by law to lay cable where it chooses without having to obtain wayleaves from the local authorities. The company is reported to feel that the ITAP did not pay enough attention to the relationship between cable TV and its own local phone network. The ITAP panel insists that cable television should develop from a series of local franchise holding

continued on page 4

operators not, it stresses, as some sort of public utility.

The Post Office Engineering Union also feels it has been left out, saying the panel is trying to shut out public involvement in the systems.

Today some 2.6 million homes receive television by cable (14% of the population) but those cables are so old they can transmit only four to six channels. The proposed cable system will be based on copper coaxial cables with trunk roots utilising the more expensive and sophisticated fibre optic lines, still in the development stages.

Cable TV is an established feature in America with systems carrying up to 100 channels. But development in the field of additional services has been more pedestrian there.

What future subscribers are promised in Britain from the early days, via instantaneous two-way contact between the home and a central computer information bank, are services for fire and burglar alarms; control of heating systems; remote meter reading; shopping; banking and even betting, from the home; opinion polling; video games; electronic mail; interactive computer-assisted learning; general videotex information; software support to home computers; access to national and international communications and wideband business communications. A tall order technically and from the community who will have to programme the services!

But a quick decision to act is of the essence says the report. "The opportunities offered to the UK will be irrevocably lost if our timescales are not met," said Read. "We all believe cable is inevitable and feel we should take advantage of its opportunities rather than let cable just come along and happen to us."

The tight schedule includes policies being made by the middle of the year, technical standards set up by the end of '82 - which include the removal of the restrictions on what is transmitted. "We take a pretty liberal outlook on

what is transmitted and believe it should be done without constraints apart from the obvious ones like decency and selection". And everything must be in the pipeline before the next general election which "is always a time of uncertainty. In the next 18 months, we'd like to see the entrepreneurs get a good start."

The report proposes the setting up of a statutory body which should be the broadcasting authority for cable.

On the question of preserving the quality of British broadcasting, William Whitelaw announced immediately after the report was published that a three-strong team will inquire into how public service broadcasting can be safeguarded when cable TV becomes widespread. This will be led by Lord Hunt of Tanworth, a former Cabinet Secretary.

Included on the committee agenda will be a debate on whether or not the 'must carry' regulations whereby services are required to carry all UK broadcast channels will continue; what sort of supervisory framework is desirable; the degree of control exercised by cable operators over programming; whether a distinction should be established between the owner of cable systems and suppliers of programmes; whether advertising should be allowed to cream off the big feature films and sporting events; how rules regarding pornography might be enforced and whether cable companies should create their own programming or simply broadcast other people's material. Hunt's report is due by the end of September.

Fear that cable will destroy the quality of programmes was voiced at the news conference. "More does not mean better!" said one of the few broadcasters there. "We may end up encouraging just junk programmes". Read reminded the assembled journalists that in America a better class of programmes is found on local stations and on cable rather than on the national networks. "As we start with a higher quality of programmes on our networks, I do not see any reason why our quality should be diminished."

The ITAP report speculates that

specialised channels would include those for ethnic groups; different age groups like children, old people, and for people with impaired hearing. Local channels would offer local and national government information, 'what's on', consumer information and programmes by and about community groups.

But despite reassurances, the fact remains that by removing the restraints imposed by our scarcity of channels, broadcasting as we know it will change. And the panel does agree some restraints might be necessary. "I do not believe it will be difficult to regulate cable. The industry has offered to be self-regulatory", said Read, perhaps naively believing that a commercial element will necessarily regulate programmes to the acceptance of our broadcasting tradition and trade union acceptance. However, the report indicates that it might be enough in the end for a cable operator, if he misuses his system, to face having his licence withdrawn. It does not say, however, by whom.

The panel consisted of four hi-tech industrialists, one academic and one researcher. They were Mike Aldrich, MD, Rediffusion Computers; Ivor Cohen, MD, Mullard; Tony Davies, MD, Information Technology; Charles Read, director, Inter-Bank Research Organisation; C Southgate, chief executive, Computer Service Division, British Oxygen Company and Dr David Hartley, director, Cambridge University Computing Services.

They collectively bowed to an accusation that they had self-motivated vested interests: "We were asked to pool our technical knowledge. Of course we all hope to make money out of this, but so does the country", said Read. "We carried out no research with the public. I think it is a waste of time to knock on a door and ask if someone wanted a product he or she does not even know exists at some unknown price. Instead we went to the people who knew about cable. They and the City believe it is viable. Ours has been an entrepreneurial decision and as such there is always risk." - S.F.

INTERNATIONAL PRESS-CUTTING BUREAU
Lancaster House,
70 Newington Causeway, London, S.E.1

Extract from
Electronics Times, London.

25 MAR 1982

Whitelaw's response delights Government technology advisors

The Government's information technology advisors are delighted with the speed with which the Home Secretary has responded to their recommendations on recabling Britain.

Only hours after publication of their report recommending that the Government should remove all restrictions on cable broadcasting to give the industry the opportunity to launch a £2.5 billion programme to recable Britain's cities, William Whitelaw announced he was setting up a committee to review the issues and report by the end of September. It will be chaired by

by Joan Gray

Lord Tamworth.

Charles Reed, chairman of the Inter-Bank Research Organisation and of the Government's Information Technology Advisory Panel, told Electronics Times: "It's excellent that they're getting on and thinking about the implications. It's exactly what we wanted them to do. We're not disappointed because they've got to look at all the issues."

Mike Aldrich, managing director of Rediffusion

Computers and another member of the panel, echoed Reed's glee.

The report recommended that the Government should agree on its policy and the standards for cable broadcasting by the end of 1982, so that cables could be in place by 1986.

The Information Technology Advisory Panel emphasised that not a penny of public money would be needed. It would all come from private investors — provided the Government lifted the present constraints on what can be shown on cable tv.

If the restrictions are lifted, viewers will be able to receive a range of cable and satellite tv programmes. Cables will also make possible such services as home banking and home security.

One reason the panel is recommending an early Government decision is to make sure as much of the business goes to British companies as possible.

It could have a major impact on jobs. The panel's report suggests that if the present restrictions on the cable industry are removed, it will save the jobs of the 5000 people already employed by the cable companies, and help preserve 20 000 jobs in colour tv manufacture in Britain.

INTERNATIONAL PRESS-CUTTING BUREAU
Lancaster House,
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Extract from
Infomatics Daily Bulletin, London.

23 MAR 1982

Government committee outlines cable plans

The Government-appointed Information Technology Advisory Panel published its recommendations for putting cables round Britain, and reckoned it would cost £300 to put each home on the network. The intention is to build up the use of home terminals for shopping and banking, and the panel (which includes Rediffusion's Mike Aldrich and ITL's Tony Davies) wants a policy decision from the Government by the middle of the year, and technical guidelines by the end of 1982. This will give UK industry time to gear up for a major installation programme to coincide with the Direct Broadcasting Satellite service due to start in 1986. The panel reckons that the investment needed to wire up half the homes in the UK with co-axial cable - and fibre optic cable when the technology gets cheaper - will be around £2,500m, the bulk coming from the private sector. Justifying the expense, the panel reckons the market for equipment and ser-