

PUBLIC TELETEXT LICENCE APPLICATION: ORACLE (SECTION A, B & C)

SECTION A

CHARACTER OF THE LICENSED SERVICE

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SECTION A — CHARACTER OF THE LICENSED SERVICE

ORACLE Teletext has been the media success story of the past decade. A success marked by a rapid growth in readership and in services offered. Although it now approaches maturity, the medium faces enormous challenge and opportunity over the coming decade.

ORACLE, with support and encouragement from the IBA and now the ITC, has been at the forefront of the development of this new medium since the first broadcasts of teletext in 1975. The list of our company's achievements include the world's first regional teletext service, a wider range and depth of services available than any other teletext service, a number of firsts in the field of subtitling for the deaf and hard of hearing, the world's first enhanced page indexing and the first financially viable commercial teletext operation.

ORACLE now provides more services on more pages than any other teletext service in the world. Public appreciation of ORACLE is indicated in readership ratings of 6.5 million adults for an average of 16 minutes each day (NOP), and in the trust our readers place in our independence and impartiality. ORACLE is now read on a daily basis by more people than read any other daily newspaper except "The Sun" and "The Daily Mirror" and by more than read the BBC's Ceefax.

Teletext is a real-time medium where the quality of decisions made, of stories written, of design and layout and of opportunities responded to, are all running against time constraints which require second-by-second response. Quality in this context can only be achieved with a team of people properly equipped, trained and managed to meet the unique challenges of the medium. We submit our plans and our team as being ideal to tackle those challenges.

Quality further requires the management of the complex relationship between scarce transmission resources, delivery speed and the quantity of information that can be provided. This is a management skill in which ORACLE has an unparalleled track record.

In order to achieve the success of our service, we have developed software systems that are now in use by the majority of teletext operators around the world, exclusive software which provides us with unique capabilities in the provision of regional, television listing and advertising services and a system which offers the most sophisticated and flexible input to the largest number of editing terminals in use by any teletext broadcaster in the world.

FOREWORD

Yet at the same time as winning new readership to a completely new medium ORACLE has also provided the world's only model of a commercially independent teletext operator able to enter the new licence period on the financially secure base of its advertising revenues.

In doing all this ORACLE has gathered together a team of people dedicated to the medium: it is a team whose skills, talents and experience represent the most significant gathering of teletext expertise anywhere in the world.

In the next ten years ORACLE will face challenges for readership from new teletext services and it will have to ensure that the quality of its services are more than a match for them. It will also have to ensure that the technology which it and the teletext set manufacturers employ will meet the readers' requirements for a fast, well-presented service. ORACLE is prepared to meet those challenges.

Having taken teletext from childhood to healthy adolescence ORACLE submits its bid to be allowed to continue to serve the readership and to take teletext on into its maturity. Our proposals contain the same mix of continuity and innovation that has marked ORACLE's progress through the past 17 years.

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SECTIONS A, B AND C

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THE BACKGROUND TO OUR PROPOSALS

As with any new medium, the early years of teletext were characterised by a general enthusiasm for and interest in the technology, in the means of delivery of teletext, the wonders of the receiving equipment and the relevance of the whole to Information Technology.

While the form of our medium is important, ORACLE's approach is that it is and will be the content of the services we offer which will ensure the continued success of teletext with our readers and potential readers.

It is the quality of our journalism, the ability of our editors to plan a broad and popular mix of service and the maintenance of that quality of service which will determine the long term viability of the medium and our company's role in its growth.

Teletext is a unique combination of capabilities which takes aspects of other media and combines them to create a completely new medium: its ability to update material instantly mirrors the flexibility of radio; the advantages of presenting what readers want and when they want it derives from newspapers; the range of services it can offer mirrors magazines. Teletext combines these with the advantages of association with, and instant distribution by, the medium of television.

THE ELECTRONIC NEWSPAPER

ORACLE applies the medium's unique advantages to our simple and basic philosophy — that we provide an electronic newspaper. Ours is an ever changing newspaper that is never out of date.

Our newspaper has no deadlines, it is always available and it is free to the reader. Flowing from this analysis of our strengths we have ensured that this proposal puts emphasis on the quality of staffing and service, that we propose a service which is on offer at all times and with very few variations and that we eschew any attempts to begin to charge our readers per view or per minute.

Our success or failure as a newspaper which is "reprinted" every minute of every day will be based upon decisions taken by our journalists and managers every minute of every day.

Our proposal is for a newspaper every aspect of which is supervised, commissioned, sub-edited and edited by ORACLE. As our detailed statements on sources of information make clear, we have ensured that the sources for our entire service are the best of their kind.

In short we shall be acting as any other newspaper — making our own decisions based on our experience, research, skills and traditions in order to satisfy our readership.

INTRODUCTION

INDEPENDENCE

One of the greatest strengths of ORACLE'S service has been and will be its independence and impartiality. While it is obvious that these qualities are enshrined in the ITC Codes under which we shall operate, the pursuit of them and our commitment to them has been crucial in the growth in appreciation of our service by readers. Research (see Appendix B Credibility of ORACLE versus newspapers) shows that our strict neutrality and independence of approach has important benefits in the perception of our service vis à-vis national newspapers.

Independence of **operation** is also an important aspect of independence. ORACLE'S editorial, engineering, sales and management team is focused entirely and solely on the production of our teletext service. We are, and will continue to be, housed in offices separate from those of any other medium.

This independence allows full concentration upon the requirements and development of our medium. Other teletext services around Europe suffer where they are integrated into television company operations. They find their editorial or engineering demands continually sinking to the bottom of priority lists.

There is a further danger that association of teletext with television operations causes damaging loss of staff morale where television so often is seen as the "glamorous" option — and teletext as the "backwater". We believe our medium is a medium in its own right and as such deserves the application of dedicated teletext skills and talent.

DIVERSITY

ORACLE'S watchword is diversity. We have pursued a policy which has led to the provision of services as diverse as motoring, pet care, recipes and services for deaf readers, for very clear reasons of editorial prudence. The readership for each of the "specialist" services that we offer is comparable in each case to that for specialist print magazines and is in many cases higher than for the best-read magazine in its category.

ORACLE is proud of, and we assign a large part of our resources to, services such as news, sport and weather pages. However, we do not believe it is in the readers' or our own interests to extend their number at the expense of a diversity of service. Whilst it is true that they are the most popular services that ORACLE provides and that no teletext operator could expect to provide a popular and acceptable service without them, it is a specious proposition to deduce from this that:

- (1) more space devoted to the "bankers" and less to the diverse services will result in larger audiences. There is no evidence that the

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extension of these services would do very much more than increase the confusion caused through unwieldy news or sports indexes overburdened with material. It is almost certainly the case that such unwieldy services would result in less effective, less clearly targeted editorial which would attract fewer readers.

This is well understood in television where, although Coronation Street consistently maintains its position at the top of audience ratings, no successful format would propose only, say, soap operas. It is similarly true that newspapers provide chess columns, theatre reviews, etc. rather than simply the statistically supreme reader services.

- (ii) that these services in themselves provide a rounded service. For the past seven years ORACLE has followed a policy to extend the diversity of our service in order to offer readers not only the most popular pages, but also at the same time, to provide a number of discrete magazines which have done so much to widen the appeal of the medium (see Appendix D for research on the success of our appeal to "minority" readerships). The provision of a wide range of services is vital in order to bring into readership and enjoyment of teletext the "majority of minorities" that makes up our nation.

ORACLE will continue to provide a diverse service.

INTERACTION

Teletext is not a naturally "warm" medium and it is our task to make the reader feel welcomed by and drawn into it.

ORACLE actively seeks to involve readers in our service. Every day we print letters from them under eight different subject categories. We receive and publish other material sent in by children and music fans. We normally run five separate write in or phone in competitions each week. We involve readers in our phone in polls on matters of political or social interest and, for children and teenagers we provide phone-in quizzes. The editorial features department alone receives an average of 4,500 letters and competition entries each week.

The involvement of our readers and their identification with ORACLE is very important: it was their support for the concept of public service teletext which did so much to convince the Government to allow it to form part of the Broadcasting Act. In the increasingly competitive 90s their identification with us will be vital.

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RESEARCH

Research plays an important part in our editorial success and in the launch and development of new services. Through National Opinion Polls (NOP), ORACLE conduct over 40,000 interviews a year with householders (with reports for internal and external use available to the company every six months) designed to track readership size and its usage of our various sections. In addition this research provides important attitudinal research on perception of important elements of our service such as its impartiality.

Alongside this large scale research, a sub group of between 1,000 and 1,200 readers each year is interviewed in even more detail to track individual page use and attitudes, especially to new services.

This research forms, and will form, an important tool in our tracking of the success or failure of services and objectives we set. As with all research it is important to analyse results over a period of time and against previous data. Our cumulative research portfolio now covers 10 years of research into our service (details of the various research reports which are available and its methodology and sourcing are provided in Appendix A).

A SERVICE FOR THE NATION

We are looking ahead to a decade which will take teletext into the homes of over 70% of households. We aim to be providing a service that is accessible to, useful to and entertaining for each potential reader.

As the number of teletext sets installed increases there will be a gradual change in the nature of our potential readership. In socio-economic terms, in age grouping and in geographical location it will come increasingly to match the population profile as a whole.

This is not a matter of going "up market" or "down-market" but of seeking to engage and inform all potential readers. We believe that the service proposals we make in this document will form the essential basis on which to reach, and win the readership of, the majority of the nation's population over the licence period.

It may be instructive to note the research findings (Appendix D) which compare our current readership with the UK's population profile. This research indicates that our readership is currently slightly higher on the socio-economic scale and slightly younger than the population as a whole.

FREE TO USE

A vital aspect of the proposition that teletext services make to their readers is that they are free to use. In combination with a commitment to high quality of services this has been the pre eminent factor in the increase of popularity of our service and in the sales of teletext sets.

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ORACLE has no plans either to reduce our proposed service or to deny the introduction of enhancements to our service in order to transfer revenues to us through subscription (or "conditional access") services. Furthermore, the transmission capacity thus used would, of necessity, reduce the capacity allocated to a service for all readers in order to offer a service to a few readers.

It is our view that such developments would mark a radical break with the essence of the appeal of teletext.

COMPETENCE

Teletext has only been in existence as a service for 17 years, and in that time it has undergone numerous changes and developments. Even without the challenges of new media and demographic change, teletext services will have to continue to adapt and revise their services to match the exciting developments new technology will provide.

ORACLE has achieved a host of world firsts: the first regional service and regional syndication service, the first discrete two channel service, the first real-time subtitling service, the first interactive teletext quizzes and phone ins, the first remote direct teletext editing input, the first Fasttext service, the first design and open transmission of Level 2 pages, the first regional teletext news service, the first full-time in-house graphics design department. . . We look forward to the many challenges and many "firsts" of the next ten years.

Our proposals will in themselves mark a terrific leap forward in services and quality of service.

We have a team with the necessary talent and skill to meet not just the challenges of 1993 but of each day and week beyond that. It is a team with over 225 years' collective experience in the medium.

THE FUTURE

ORACLE is an active member of the EBU Teletext Group and was a founder member of the UK Teletext Group, formed in 1990. Its aims are both to provide a forum for liaison between the retail and manufacturing side of the teletext industry and the broadcasters and to encourage the further development of both services and teletext set technology.

The group's strategy is to encourage the rapid introduction of much enhanced teletext set page memory in order to deal with the problems of delivery speed and means of access. Following a successful Forum held in September 1990, our initiative was adopted by the EBU Teletext Group which invited a joint ITC/ORACLE/BBC presentation to be made to

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representatives of European teletext broadcasters and set/chip manufacturers in Montreux in June 1991.

ORACLE will continue to support all initiatives and provide all necessary additional services for the rapid introduction of much enhanced page memory sets (informally defined as sets able to store above 200 pages of teletext).

To that end we wish to indicate that, within the licence period, we may wish to add a Magazine Inventory Page service to enable enhanced memory sets to manage our "databases". We further indicate that, while the current set population is best served by the indexing, routing and positioning of pages we offer below, the introduction, in large volumes, of enhanced memory sets will enable us to advance proposals for an increased number of pages to be offered across some or all of the magazines that are available for use by the Public Teletext Licence holder within access time constraints and policy (laid out under A.10 page 195).

INNOVATION AND CONTINUITY

The challenge of our growing medium, and its editorial and technological innovations, leaves no room for complacency.

ORACLE, in cooperation with the Press Association, is currently putting into effect a project which will allow our journalists and editors, for the first time in any teletext environment, complete strategic and tactical control of teletext page editing. The project will allow computer automatic and assisted page creation and will cut minutes from the current time delays in news distribution. The TITAN (Teletext Input Tracking and Networking) system and the exclusive arrangement for its development which we have with PA is evidence of our continuing commitment to innovation.

At the same time we believe that ORACLE has established a contract of expectation with millions of readers and we have carefully arranged our proposed service so as to continue to provide them with the services they have shown they appreciate.

AIMS

These will be our aims:

- (i) to deliver the best teletext service -- anywhere;
- (ii) to increase daily and weekly readership by at least the same percentage increase as in the teletext set count each year;
- (iii) to provide a service which appeals to a full range of age and interest groups;
- (iv) to ensure that we continue to encourage teletext set sales and replacement set sales;

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- (v) to encourage the rapid introduction of enhanced memory teletext sets;
- (vi) to maintain an impartial and independent tradition;
- (vii) to provide on ITV and Channel 4 a teletext service that will enhance the associated reputation and image of those channels.

A.1 PROPOSALS FOR THE SERVICE

The applicant should give details of the types of information which he proposes to include in his service, taking account in particular of paragraphs 68-75 of Part II which provide a description of the minimum amount of specific types of information. The details should be given in two separate sections which are clearly labelled — one for non-regional information and the other for regional information. In each of these sections and for each strand of information which the applicant intends to provide, he should state:

- (i) the type and content of the information;
- (ii) the number of main pages which he intends to include in the service (see note (2) below for variation during the course of the day or week and as between regions);
- (iii) the way in which the information will be integrated into the service as a whole, and also sign-posted for the purpose of access, taking account of the needs of viewers who may be interested in specific types of information.

Our detailed proposals for the ORACLE service follow. For convenience there is a consideration on indexing and routing at the end of the section. We also provide a complete list of pages by strand and a full page index proposal for the first quarter of 1993, together with a summary table of main pages by strand (page 81).

Unless otherwise stated all readership figures are based on the most recent National Opinion Poll (NOP) research on ORACLE readership (January - June 1991).

A.1 NON-REGIONAL INFORMATION

(1) NATIONAL AND INTERNATIONAL NEWS — 23 MAIN PAGES

BACKGROUND

ORACLE will provide the "ultimate news service" as an integral part of its "ultimate newspaper". Teletext's unique advantages are demonstrated in their purest form in the updating of fast-moving news stories. There is nothing like a national crisis to highlight teletext's ability to deliver the latest news, second by second.

ORACLE aims to be first with the news. We are working to reach a point where no other medium can consistently match our speed and reliability. The quality of our news writing coupled with an unbiased presentation will combine to form a product on which the public depends.

Teletext is a medium which will be disseminated directly into the majority of homes, therefore we believe the news service should be readily comprehensible by a broad section of the population. It has to be clear, concise and designed to give news stories their correct weight and impact.

ORACLE has a much respected tradition of impartiality. We do not seek to dramatise or colour the public's perception of news events in the way the visual impact of television influences its delivery of the news. Teletext allows the news to speak for itself. Readers rely on ORACLE for an objective presentation of the news and we have the experience to tackle the daily challenge of fulfilling this responsibility.

In order to prepare ourselves for the licence application, to meet the opportunities offered by technological improvements and to keep our service ahead of all competitors in the next decade, ORACLE has, for the past two years, been studying its requirements for news (and sport and financial) coverage.

NEWS COVERAGE FROM JANUARY 1993

The philosophy behind the new ORACLE news operation is:

- (i) that ORACLE's news delivery will be at least five minutes faster than is currently achieved by ITN. A properly organised and equipped newsroom will provide readers with a much faster service, clearly presented and correctly indexed.
- (ii) that a dedicated, independent teletext news team will be far better suited to the task of making our news the best, fastest and fairest. A specially recruited teletext news team will be far more motivated than a department which is part of a much larger television-orientated organisation whose members may regard working on teletext as an inferior posting.

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- (iii) that, as an electronic newspaper, ORACLE should be responsible for the operation of its own newsroom.
- (iv) that we should take full advantage of the technological advances in software and hardware to automate or semi-automate editorial processes. TITAN (described in detail below) is a software package that is being developed exclusively for ORACLE to achieve this.
- (v) that we go straight to the sources of news stories and use TITAN to create teletext-ready pages directly from newswires which are instantaneously indexed in all appropriate slots.
- (vi) that we should develop a system that gives priority to the "lead" story, places it at the head of page numbering and adjusts indexes in accordance.

ORACLE AND ITN

Given ORACLE's aspirations to broadcast the most rapid, accurate, reliable, impartial, concise and comprehensible news service, we have concluded that our current relationship with ITN is neither suitable nor sustainable for the next decade and beyond.

ORACLE has always pursued a policy of continually seeking ways of improving our product. We believe we should never feel completely satisfied and complacent. We regard this as a healthy and progressive attitude. In the past we have attempted to communicate this philosophy to ITN but have met with a disappointing lack of understanding and responsiveness.

ITN is a prestigious television news organisation and its ethos and background is in the visual/verbal presentation of news. Television news presentation and collection requires concentration on "getting the pictures and the sound" and getting the story right to specific and periodic deadlines. Teletext news requires instant and constant access to the "meat" of news stories as they break and then develop — ORACLE never "goes to bed" but faces second-by-second deadlines.

Analysis of the sources for the material received by us from ITN reveals that an extremely high proportion (more than 95%) is received by ITN from sources other than its own reporters or journalists. The material is received predominantly from news agencies.

We have therefore concluded that the best way forward is to establish our own newsroom and go directly to the news sources.

In order to put our newsroom in control of our news service rather than leave it in the position of simply re-typing news agency material, we have formed a unique contractual relationship with the Press Association.

ORACLE AND THE PRESS ASSOCIATION

The Press Association is the national news agency for the United Kingdom and the Republic of Ireland. It has a staff of some 250 journalists supported by over 1,000 freelancers reporting from the UK and around the world. It produces over 400,000 words of news and features every day and provides services to almost every daily and Sunday newspaper, national and provincial, and to each of the Broadcasting organisations. In addition, its services are available throughout Europe via satellite distribution.

ORACLE and the Press Association have signed a ten year agreement with the following main provisions:

- (i) The Press Association will supply a comprehensive "teletext-ready" service of national and international news stories, sports results, stories and tables, and City reports, data and news (and consequent indexing and headlining) based on PA's own sources, in addition to material supplied by Reuters, Associated Press, The Sports Network, Cable News Network and other associated news sources. The agreement covers all current and planned material and makes full allowance for respecification at any time in the future. This fully comprehensive service is exclusive to ORACLE.
- (ii) We have jointly agreed to build the necessary computer system, TITAN, both to accelerate the editing processes involved in creating this "teletext-ready" material and to allow the ORACLE newsroom to review rapidly and transmit (or re write or "spike") material received. This arrangement is exclusive to ORACLE.
- (iii) PA will continue to provide the ORACLE newsroom with the "traditional" news feeds (stored and displayed on our newsroom computer system) to enable the ORACLE Newsroom to cross-check the "teletext ready" stories received against the standard length stories and to initiate stories we consider relevant which have not been supplied "teletext-ready".
- (iv) There will be continual and high level consultation throughout the day (and at weekly/monthly formal meetings) to ensure that our newsroom is receiving the material it requires.
- (v) Where the ORACLE Newsroom considers a story to be (for whatever reason) in need of improvement, it will either be:
 - (a) Re-written by ORACLE based on the "newswire" material or on our own sources.
 - (b) Re-written by the ORACLE Unit at PA on request.

NON-REGIONAL INFORMATION

- (c) Improved by reference back to the original PA editor/journalist/reporter where the detail required is not available from any of the provided material ("teletext ready" or "traditional").
- (d) Improved by ORACLE staff journalists using their own contacts and then represented to the newsroom.

The ORACLE/Press Association Newsroom

ORACLE and the Press Association have been planning a joint news operation since June 1991. Work is continuing throughout this licence application procedure period to ensure that all aspects of the operation including the completely new and advanced software and hardware that will be required, is in place by July 1992. (Full details are contained under A.7 and A.9 below.)

The Newsrooms at both ORACLE and the Press Association will be creating and editing material using a new computer system, TITAN, which will enable the rapid creation and editing of teletext material and which will give to ORACLE's Newsroom full, final and swift editorial control functions.

The material for Newsroom consideration will be provided in a "teletext-ready" format by the Press Association. PA is deploying a dedicated team of 16 which will be responsible for ORACLE news. The ORACLE Unit will be based at PA's Headquarters and sited in the main editorial area.

The Unit will, in addition to creating the "teletext-ready" material for consideration by the ORACLE Newsroom, be available to the ORACLE Newsroom to answer requests for re-writes, further information on stories or for the purposes of commissioning stories from the Press Association field reporters and correspondents.

The ORACLE Newsroom team of eight will be responsible for the provision of the news service and for its style, accuracy, impartiality, independence and authority. They will have final control of all material.

This arrangement for a complete "teletext-ready" comprehensive service by the Press Association is exclusive to ORACLE and marks a first for such a development anywhere in the world.

We believe the utilisation of ORACLE's broadcasting skills and the stamping of news coverage with ORACLE's unique presentation style, combined with the news gathering skills and respected traditions and authority of the Press Association will make an unbeatable news team.

How TITAN works

Once the PA Unit has selected a story for ORACLE, it will be transferred across a data link into the TITAN computer system and dropped into one of a number of pre defined templates

This avoids rekeying and ensures that page presentation conforms to the established editorial styles. Computer assisted editing functions enable rapid sub editing to be performed so that the copy will fit into the given teletext page constraints.

To complete the page, a catchline and the story priority will be specified and all the indexes associated with it appropriately adjusted. Thus a lead story will go to the "top" of the news page set, all following stories will move down and all indexes will be correspondingly adjusted. Any frame which has been replaced by a new story can be brought back onto air in a new position, edited further to become a "brief" or stored for future reference. This enables us to be a truly constantly changing newspaper with our "front page lead" followed by stories in order of priority.

This compares favourably with current ITN working practices where copy arrives on newswires, is assessed by a Sub-Editor, typed by a Keyboard Operator (often dictated by the Sub), checked by a Sub-Editor and then allocated a page number. When the page goes to air, indexes 101, 118 and, on a lead story, pages 100 and 150 are then manually updated.

The ORACLE/PA Formula: News Flow and Editorial Control

The Press Association has conducted trials producing a dummy service using a pilot operating system which has convinced us that normally the "teletext ready" material will be truly teletext-ready and suitable for immediate transmission. At the ORACLE newsroom it will be read by a Sub-Editor in the same way that any copy originated by one person is always checked by a second and will then go straight to air. Under normal circumstances news stories will go to air quicker by five minutes than under our current arrangement with ITN. This is because the news stories will be delivered in teletext style by PA thus cutting out the re-keying entailed in the ORACLE/ITN operation.

The ORACLE newsroom will have ultimate editorial control but it will only be necessary to hold up the transmission of news stories originated by PA in exceptional circumstances. On the occasions that a Sub-Editor does hold a story in order to work on it, priority control systems will operate to ensure that new stories are diverted to other Sub-Editors and that the News Editor is automatically alerted to the situation.

NON-REGIONAL INFORMATION

The End Product

The relationship with PA and our new working methods will again put ORACLE in the vanguard of the development of the medium. For the first time in the world a teletext service will have direct "on-line" access to "teletext-ready" news material, will be able to edit, control and add to that material and be in a position to create a much higher quality news service at greater speed than has until now been thought possible.

Style

ORACLE's style dictates that news stories will be of three or four paragraphs, presenting the facts and their significance, and that only in unusual circumstances will they be carried across into multipages.

The ORACLE Style Book will be updated to cover all changes to ITC Codes and ORACLE's responsibilities, and will be made available to the ITC for its information. The Style Book will form the basic definition of style and content requirements for the entire service and will be made available to all sources providing on-line services to our News and Features Departments.

CONTENT

The news service will consist of:

News Headlines

This is the "front page" of the news section. It will present a prioritised current news agenda.

News Index (2)

A complete list of current news stories in numerical order.

News Stories

The TITAN system will allow news to be presented in a prioritised numerical order so that our lead story always appears on page 103 and so on down the sequence.

World News

A multipage presentation of news items from around the world allowing us to present a wide range of international news. Generally two stories per page will be presented.

News In Brief

A multipage presentation of the less significant stories of the moment. Generally these will be on the lighter side of the news and the layout will be of two stories per page.

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Rest of the News

A multipage presentation of full page stories which, although of interest, do not merit a place in the single news story page allocation yet would not benefit by being sub-edited into News In Brief.

Newsround (2)

A complete presentation of all the news stories currently "on-air" which allows the reader easily to "browse" through the news.

Newsflash (2)

A brief caption presentation of the latest significant story presented as it breaks. (Further details of newsflash policy are presented under A.2 — page 100.) It will appear on both ITV and Channel 4 transmissions

NUMBER OF PAGES

ORACLE will provide a total of 23 main pages of high quality national and international news as a minimum of service.

This total will be increased during periods of heightened news interest through the re-allocation of the Special Sport Event pages (up to 10 main pages). Such periods are characterised as specific ad-hoc newsworthy events such as the Gulf War and the abortive "Soviet" coup and periodic constitutional or institutional events such as General Elections, Referenda or Summit meetings.

AVAILABILITY AND PAGE VARIATION

The news pages will all be available throughout the transmission day and in all regions of the country, in line with our policy of providing a comprehensive service which takes full advantage of the "free to use — whenever you wish" proposition of the medium.

INTEGRATION WITHIN THE SERVICE

Recognising the importance of our news service, we shall continue to present it as a vital part of the mix of our newspaper and one whose unique ability to present a written presentation of "real-time" news is of paramount importance.

The news pages will be indexed within the overall indexing policy detailed on page 77. More specifically, but not exclusively, they will be included:

- (i) in the Main Indexes (pages 100 and 400);
- (ii) in the alphabetical indexes (199 and 699);
- (iii) in the printed form of index provided directly to readers on request and as part of manufacturer or retailer documentation;

NON-REGIONAL INFORMATION

- (iv) in cross references from other subject categories, specifically (but not exclusively), the Regional News Headlines, the Plus Index and the City News Indexes;
- (v) in Fastext routing, policy for which is detailed on page 78; and
- (vi) in a cross-indexing structure which will provide a prioritised News Headlines page and numerical News Indexes, which will allow readers to select their preferred method of news selection.

(2A) SPORT — 49 MAIN PAGES

BACKGROUND

ORACLE Sport pages have consistently been in the top three most read sections of our service and are read by 3.25 million adults each day.

In Sport the advantages of our medium give us an enormous lead over all others. With the right organisation and the best sources, ORACLE can deliver results, half-time scores, match reports, league tables and end-of-over cricket summaries within seconds, and present the information in written form so that sports fans can find the sport they want and the result they are waiting for, when they want them. Sport fans want their results "now" and they demand accuracy.

The aim of ORACLE's Sport services will be to match those demands of speed and accuracy with a new combination of staffing skill, computer power and direct access to sources that takes them into the realms of "real-time" sport coverage.

In combination with instant delivery of results and reports we intend to add more "colour" to our sport reporting. Our newsroom sport editors will be briefed to draw in comments and reactions from the leading players and figures in sport.

The diversity of the sport played, watched and followed in the UK dictates that a large number of main pages be allocated to Sport coverage. We have concluded that an increased use of multipaging of information so as to present, say, coverage of a number of sport within one set of multipages would not generally be popular with readers and we have therefore allocated 49 pages to the sport service.

CONTENT

In accordance with the considerations about our future newsroom provision and the development of the TITAN system (detailed above — page 15) and especially given the need to avoid all of the unnecessary duplication of effort that our current "third-party" arrangement with ITN creates, ORACLE will be establishing an in-house newsroom which will be responsible for the provision and supervision of all sport material.

We shall be shaving an average of five minutes as compared with our current arrangements, from the time taken between sport results, reports and summaries becoming available to the Press Association and their publication by ORACLE.

ORACLE and the Press Association have reached agreement on a completely new and exclusive arrangement for the delivery and creation of

NON-REGIONAL INFORMATION

Sport coverage that in effect places the ORACLE reader closer to the sources for results, reports and sport news than ever before.

The Press Association will establish within its Editorial Operations floor at its Fleet Street Headquarters a specialised unit for the provision of sport material to ORACLE. Working under the PA/ORACLE Sport Editor, the unit will be in direct contact with the PA Sport Desk which will feed all results, reports etc directly to the Unit, where they will be automatically formatted for ORACLE use and despatched on-line to ORACLE in teletext format.

The Press Association has a peerless record in Sport reporting. Its football reporters, for example, generate instantaneous updates of scores for all FA and League matches in England and Scotland relayed directly to the PA Editorial floor. On Saturdays these scores and results are relayed direct to the BBC for instant display on screen during Grandstand; they will in future also be relayed as quickly to ORACLE.

ORACLE and the Press Association have been in discussion about the facilitation of this arrangement for some time. Work is now underway (and has been since October 1991) for the creation of our ground breaking computer processing and interfacing system, TITAN. Its major functional advantages in the area of Sport coverage are:

- (i) that where material is of a tabular or a regular formulation the TITAN computer system will preformat currently provided PA material into teletext format for instant delivery to ORACLE. This applies particularly to football scores, league tables and results in the first instance but Automatic Data Entry (ADE) will allow its application to all "objective" sport results and tables.
- (ii) that computer assisted teletext formatting will provide the ORACLE Unit at PA with the computer's "best" format which is of "objective" material and of a size or arrangement which requires minimal intervention for format by a sub-editor, thus freeing the sub-editor to spend precious seconds only on essential keying tasks.
- (iii) that once prepared by PA the "teletext ready" material is "delivered" to the ORACLE newsroom which then may exercise its option to transmit material immediately, to "sub" it further, and/or call for a re-write.
- (iv) that the ORACLE newsroom will be provided with complete strategic and tactical control of the Sport service. It will be able to accept material, re-write it (where necessary by cross reference to the "newswire" PA and other newswires available to them via our newsroom computer system), reject it or "re-commission" it from PA.

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This system will enable us to eliminate entirely all of the unnecessary "double keystroking" of material which is both time consuming and inefficient, and which creates errors.

(Further strategic analysis of the ORACLE and Press Association arrangement is contained above under A.1 National and International News — page 13. Further technical details of the TITAN System are contained within A.9 Premises And Equipment — page 180.)

CONTENT

ORACLE sport will provide, in season and where applicable, coverage of the following sports:

Association Football:

News reports, transfer news
Match previews, weekend team news
Fixtures (day, kick-off times)
Football League Divisions 1-4 and Scottish League tables
Latest Scores
Half-time scores
Full-time scores (including Saturday classified)
Pools news/check
Attendances
Pools tips

Cricket:

News reports
All Minor, County and Test (UK & International) matches
Team lists
Scoreboards (every 5-8 minutes and at lunch, tea and close)
Championship tables
Fixtures

Rugby League/Union:

Fixtures
Results
Tables

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Results Fixtures and News for:

American Football	Chess	Skiing
Angling	Cycling	Snooker
Athletics	Darts	Speedway
Badminton	Golf	Squash
Basketball	Gymnastics	Table Tennis
Bowls	Hockey	Tennis
Boxing	Ice Hockey	Water Skiing
Canoeing	Motor Sport	Yachting

General

Letters
Sport Celebrity Interviews/Profiles

Special Events:

Special sport events such as the World Cup for Rugby Union or Football, the Olympics, Golf Tournaments, Wimbledon, etc. require additional coverage, and more detail than usual.

We have reserved in our page allocation ten pages within the Sport section for coverage of this type of event.

Where there is no special event that demands such coverage, the additional ten pages will be used for further generic sport coverage.

There will be occasions when this section of pages will be reallocated to National and/or International News.

NUMBER OF PAGES

The total number of main pages to be allocated to Sport will be 49.

The precise allocation of pages to sport is not predictable. However the allocation of pages will follow the pattern of popularity (and more especially the spectator popularity) for each sport and therefore, during their relevant seasons, Association Football and Cricket will be indexed separately and provided with a larger share of pages. This allocation will be followed by that for Rugby League and Union and so on.

There will be variation of page allocation within a year, week and day to reflect the changing seasons and level of interest in each sport.

AVAILABILITY AND PAGE VARIATION

All pages will be available during all television transmission hours for the relevant channel.

INTEGRATION WITHIN THE SERVICE

The Sport pages will be indexed within the overall indexing policy detailed on page 77. More specifically, but not exclusively, they will be included:

- (i) in the Main Indexes (pages 100 and 400);
- (ii) in the alphabetical indexes (199 and 699), cross indexed by major sport categories;
- (iii) in the printed form of index provided directly to readers on request and as part of manufacturer or retailer documentation;
- (iv) in cross references from other subject categories, specifically (but not exclusively), the Racing Headlines Page and the Regional Sport News page (where available);
- (v) in Fastext routing, policy for which is detailed on page 78.

NON-REGIONAL INFORMATION

(2B) RACING — 30 MAIN PAGES

BACKGROUND

Horse and Greyhound Racing are the two most time-sensitive leisure pursuits. Readers are seeking up-to-the-second information on all aspects of the sport.

ORACLE has proved itself to be the ideal medium in the provision of real-time racing services.

Daily readership for Racing pages is over 1.75 million, more than three times the combined daily readerships of "The Sporting Life" and "The Racing Post".

This proposal offers the provision of a full Racing news, declarations, form guides, results and comment service.

CONTENT

The service will consist of:

Main Index

Today's/tomorrow's meetings:

Runners, riders, weights, draw

Tomorrow's declarations

Racing news/reports

Race results

Racing Diary

TV Race guide

Going guide

Form guide

Tipster

Steamers guide

Greyhounds: fixtures/results

Comment

NUMBER OF PAGES

We propose to offer 30 main pages of racing coverage with no variation as to allocation except for seasonal changes in the type of racing covered.

AVAILABILITY AND PAGE VARIATION

All pages will be available during all transmission hours of the relevant television channel.

NON-REGIONAL INFORMATION

INTEGRATION WITHIN THE SERVICE

The Racing pages will be indexed within the overall indexing policy detailed on page 77. More specifically, but not exclusively, they will be included:

- (i) in the Main Indexes (pages 100 and 400);
- (ii) in the alphabetical indexes (199 and 699);
- (iii) in the printed form of index provided directly to readers on request and as part of manufacturer or retailer documentation;
- (iv) in cross references from other subject categories, specifically (but not exclusively), the Sport Index and Regional Sport page;
- (v) in Fasttext routing, policy for which is detailed on page 78.

NON-REGIONAL INFORMATION

(3) WEATHER — 5 MAIN PAGES

BACKGROUND

Weather forecasts rank fourth in popularity with our readers who appreciate access to forecasts which are regularly updated and available to them whenever they wish. They are read by 2.9 million adults each day.

We believe our sources are of the highest quality. The chief source is the Meteorological Office. Our arrangement includes service from a dedicated unit based within the main Forecasting Room at the Met's Headquarters in Bracknell, who are supplied with forecasts and data from offices and data providers around the UK and the world. All weather material is supplied on-line which allows for extremely fast delivery from source to reader (Further details on sources for weather are provided under A.7).

Forecasts and reports received will be supervised by our editorial staff.

CONTENT

The services offered within this section comprise:

National Caption Maps

The caption maps are designed to provide a synopsis of the national weather pattern. Areas of different weather type are signified by colour variations and a short text synopsis is colour coded to each area.

The two maps that are included at any one time cover the present and the following time periods as "Today", "Tonight" and "Tomorrow".

The maps are prepared and relayed to ORACLE three times each day at 05:00, 12:00 and 17:00.

Four Day Weather Forecast

A national written synopsis of the national weather pattern for "tomorrow", "the day after" and the next two days specifically produced for ORACLE by the London Weather Centre and then prepared in ORACLE format by the Bracknell ORACLE editing unit (see A.7 for further details).

This forecast is written and published twice each day at 05:00 and 17:00.

World Weather Reports & European Weather Forecast

Daily temperature and conditions reports for 56 key locations around the world issued at noon local time and updated at approximately 14:00 British time.

A general forecast issued daily at approximately 02:00 for the following 24 hours, with a forecast for the weekend appearing each Thursday and Friday.

NON-REGIONAL INFORMATION

Shipping Forecast

An important aid to all working and leisure sailors, the Shipping Forecast covers all the UK shipping areas with a 24-hour forecast of sea, visibility and wind conditions.

The forecast is written and relayed to ORACLE four times each day at 00:00, 06:00, 12:00 and 18:00.

Skiing Reports

A seasonal service (between mid-December and April each year) of reports from the major European and American ski resorts together with more detailed reports for the Scottish resorts. Each report includes information on piste conditions, snow depths, access roads, current weather and prospects.

NUMBER OF PAGES

The non-regional weather service will occupy five main pages.

AVAILABILITY AND PAGE VARIATION

These pages will be available throughout the relevant transmission hours for the ITV television signal.

The Skiing reports service is a seasonal provision.

INTEGRATION WITHIN THE SERVICE

The Weather pages will be indexed within the overall indexing policy detailed on page 77. More specifically, but not exclusively, they will be included:---

- (i) in the Main Indexes (pages 100 and 400);
- (ii) in the alphabetical indexes (199 and 699);
- (iii) in the printed form of index provided directly to readers on request and as part of manufacturer or retailer documentation;
- (iv) in cross references from other subject categories, specifically (but not exclusively), the Regional News Headlines page, the Holidays Index and from Road, Air and Rail News pages;
- (v) in Fastext routing, policy for which is detailed on page 78;
- (vi) in a cross-indexing structure which will allow readers to "tour" through the weather pages without necessary recourse to the Weather Index.

NON-REGIONAL INFORMATION

(4) TRAVEL — 4 MAIN PAGES

BACKGROUND

The Travel section of ORACLE is currently read by 450,000 adults each day. Our aim is to provide information which is of use to people who are reading material before they leave their home or office at the start of a journey.

The flexibility of our new computer systems and distribution networks means that each of the pages offered under this category can be provided on a discrete region by region basis whenever necessary.

CONTENT

National Trunk Road/Motorway Report

This page will present information on roadworks, incidents and severe weather conditions affecting the UK's major routes. It is designed as a service to drivers planning longer journeys. It is updated 24 hours a day.

Eurowatch

Launched in June 1989, Eurowatch is a comprehensive service of information to drivers planning journeys to Europe. It includes information on routes to the major ports on both sides of the English Channel, adverse sea/weather conditions, petrol prices in Europe and notice of any special events across Europe that might affect road journeys. It is updated 24 hours a day.

Rail News

Information about major alterations to planned British Rail services and to adverse conditions affecting their stations. This material will be provided by ORACLE's newsroom between 06:00 and midnight every day.

Air News

Information about major alterations to departure or arrival schedules from/to major UK Airports, together with information about adverse conditions affecting airports or air traffic control.

NUMBER OF PAGES

Four main pages are offered under this category.

AVAILABILITY AND PAGE VARIATION

The pages will be available during all relevant transmission hours. There will be no variation in page allocation.

NON-REGIONAL INFORMATION

INTEGRATION WITHIN THE SERVICE

The Travel pages will be indexed within the overall indexing policy detailed on page 77. Specifically, but not exclusively, they will be included:

- (i) in the Main Index (pages 40 and 460);
- (ii) in the subject Index (pages 59 and 699);
- (iii) in the print edition, where provided directly to readers on request and as part of the retailer documentation;
- (iv) in cross reference to other subject categories, specifically (but not exclusively), the Regional News Headlines page, the Holidays Index and where relevant from News pages and/or Sport pages;
- (v) in Fastext routing, policy for which is detailed on page 78.

NON-REGIONAL INFORMATION

(5) FINANCIAL & BUSINESS MATTERS — 36 MAIN PAGES

BACKGROUND

ORACLE's City pages currently attract a daily readership of 1.07 million adults. This compares favourably with the "Financial Times" which has a daily readership of 612,000 (National Readership Survey July 1990-June 1991).

The services and information provided by our City pages (and in combination with our personal finance and news coverage) are an important element in generating an "informed market", which is vital to the concepts of popular capitalism and more especially to wider share and other financial instrument ownership.

ORACLE's City pages are a vital source of information to the enormous number of private and semi-professional investors and to managers of medium-sized businesses — and it is information we are committed to providing free of charge.

ORACLE faces a continuing struggle between the need of our readers for instant and understandable information and the paradoxical attitude of some financial institutions that the information they control should be sold at very high prices. Our view is that only by providing as much information as possible at no cost to our readers, will modern popular capitalism be able to function in matters of finance and business.

We have ensured that the techniques and technology we employ will allow us to provide "real-time" services wherever possible and as soon as some of the sources of information allow us. We therefore wish to continue to review and upgrade our information sources throughout the licence period.

Our arrangement with the Press Association will allow us to shave minutes from the current delivery speed of news information provided under this category.

CONTENT

Our City pages will offer the following services:

City Headlines, Index and Data

We shall provide a "front page" designed to combine the headline data and news in addition to a guide to all other City services. The data will include a minute-by-minute FT/SE quote together with the £/\$ rate, the £/DM rate and a Dow Jones quote. The headlines presented will act as an agenda of all the most important financial, national and international news factors affecting markets.

NON-REGIONAL INFORMATION

Share Prices

We shall offer 400 company share price quotes (including the top 100) every one and a half hours during International Stock Exchange trading hours. During trading hours each price quote will be accompanied by a "Change On Day" indicator. Each weekend the indicator will be for the "Change On Week". We shall also provide information on price affecting conditions such as dividend announcement, suspension, etc.

Stock Market Summary

During trading hours an hourly summary and interpretation of ISE activity and price movements. After hours a summary of the day is presented.

Shares on the Move

A two-hourly listing, during trading hours, of the major price (by percentage) moves on the ISE. A daily summary will follow the end of trading.

FT/SE and FT-30 Summary

Hourly summary tables of FT/SE and FT-30 indices together with trade volume totals.

Exchange Report

An hourly summary of the key pound and dollar exchange rates together with a commentary on key factors affecting the exchanges.

Exchange Rates

A full presentation of the pound and dollar rates against all major currencies with future prices. Updated every two minutes.

City News

City sentiment and performance is informed and affected by a very wide range of events and expectations. At any one time the City news agenda might contain stories drawn from almost any of our sources; the stories may be as diverse as speculation about a takeover through to adverse weather affecting business prospects.

Our brief is to present those news stories accurately and authoritatively and faster than any other medium.

International News

Closely related to our City News and heavily cross-indexed from it, the International City News coverage aims primarily to report the news that is directly affecting overseas markets.

NON-REGIONAL INFORMATION

World Markets

Data and reports from the world's leading markets. These will include reports and commentary on the markets in Tokyo, Hong Kong, Singapore, Sydney, Paris, Frankfurt, Zurich, Dublin and New York.

Company Reports

Immediate publication of the key numbers from company final and half year reports together with commentary assessing the figures.

NUMBER OF PAGES

Thirty-six main pages are proposed under this heading. An allocation of an additional four pages which are relevant to this subject is made as follows: News Index, Newsround, Tourist Rates and World Clock. These are included under other subject headings.

AVAILABILITY AND PAGE VARIATION

All pages provided will be available throughout the transmission times of the relevant television channel.

World financial markets are moving ever closer to seven day a week activity. However, for some time, there will continue to be an opportunity to allocate pages from the City pages to review, preview and reflect on major market activity.

At weekends the City Reports section will provide a preview of expected results, data and events.

All normal weekday data services will provide Friday close information with, where specified above, a summary of moves on the week.

We shall also provide a Market comment, Sunday paper financial/business coverage review, a City diary column and a review of the week around the world.

INTEGRATION WITHIN THE SERVICE

The City pages will be indexed within the overall indexing policy detailed on page 77. More specifically, but not exclusively, they will be included:

- (i) in the Main Indexes (pages 100 and 400);
- (ii) in the alphabetical indexes (199 and 699);
- (iii) in the printed form of index provided directly to readers on request and as part of manufacturer or retailer documentation;
- (iv) in cross references from other subject categories, specifically (but not exclusively), the Personal Finance (Your Money) Index page and the News Headlines page;
- (v) in Eastext routing lists which is detailed on page 78.

(6) PERSONAL FINANCE — 9 MAIN PAGES

BACKGROUND

"Your Money" is ORACLE's Personal Finance magazine. It is aimed at individuals who, although they have a less technical or professional interest in the "City" services we offer, take an interest in obtaining the best information on which to base personal financial decisions.

It is our editorial policy that this section is written as non-technically as possible and in terms that can be easily understood.

The flexibility and speed of update of the medium is especially important in the area of personal finance where, for example, high interest savings accounts can be launched and taken off the market within days and where low interest fixed-rate mortgages can be "sold out" within hours. Our readers are better informed of all dynamic personal finance news, and more quickly, than by any other source.

CONTENT

Each of the pages offered within the "Your Money" section proposes the following services:

Daily News

Published every weekday at 17.15, Daily News presents an average of four pages of personal finance news each day. It provides a complete summary and interpretation of all the City, political and foreign news stories that will affect or inform the individual's decisions in this sphere, together with news reports on the major developments (new products, impending rate or condition changes, etc.) in the financial services sector.

Each weekend the most significant news and information of the week is presented as an eight to ten page "round-up" for those who might have missed the service during the week, together with a list of the week's largest Premium Bond winning numbers.

The material is sourced from news agencies, directly from financial services companies and from material initiated and researched by the Editor.

Mortgages

A seven- to eight page presentation of the best of mortgage offers currently on the market, categorised as "Best Three/Four Offers", "Top Building Societies", "The Top Banks" and "Fixed or Capped Rates". The pages are changed as necessary.

NON-REGIONAL INFORMATION

Interest Rates

A nine- to ten-page presentation of the best institutional investment rates available. These are categorised as "30 Day Notice Accounts", "Monthly Income", "Building Society Instant Access", "60 to 90 Day Notice Accounts", "Term Accounts", "Interest Bearing Cheque Accounts", "Tessas" and "Guaranteed Income Bonds". The pages are changed as necessary.

Personal Finance News Features

These are event-driven analyses of current issues in personal finance. This is a twice weekly column.

Tax Rates

This is a five page summary of the main details of current personal taxation rates and regulations. Together with rates which are usually set annually, there is a monthly revision of the Capital Gains Tax indexation for the past two months.

Letters

Each weekday the Editor provides clear replies to three or four letters from readers. The responses are researched by the Editor and based on the best advice available from the relevant institutions or government departments and our consultant.

Trusts/Pensions

A ten-page presentation of the best Trust/Pension performers in these categories: "UK General Funds", "International Growth", "European Growth", "Japanese Funds", "Far East", "All Trusts", "Unit Trust Sector Averages", "Managed Funds", "UK Equity", "International Equity", "All Funds" and "Pension Sector Averages".

National Savings Investment Rates

A four page presentation of current National Savings Rates categorised as, "Tax Free", "Gross Interest", "Index Linked" and "Others" (currently Children's Bonus Bonds).

NUMBER OF PAGES

Your Money will consist of nine main pages.

AVAILABILITY AND PAGE VARIATION

There will be no variation in the allocation of pages. The pages will be available throughout the relevant television channel's transmission hours.

INTEGRATION WITHIN THE SERVICE

The Your Money pages will be indexed within the overall indexing policy detailed on page 77. More specifically, but not exclusively, they will be included:

- (i) in the Main Indexes (pages 100 and 400);
- (ii) in the alphabetical indexes (199 and 699);
- (iii) in the printed form of index provided directly to readers on request and as part of manufacturer or retailer documentation;
- (iv) in cross references from other subject categories, specifically (but not exclusively), the City News Headlines page and the Supplement Index;
- (v) in Fastext routing, policy for which is detailed on page 78.

NON-REGIONAL INFORMATION

(7) TV LISTINGS - 8 MAIN PAGES

BACKGROUND

In common with all newspapers, the Television Listings section of ORACLE is an important part of our service to readers. Its importance in relation to ORACLE is enhanced by our ability to offer a dynamic service which is able to take account of programme detail amendments right up to transmission time. TV listings attract the highest readership of any section on ORACLE - over 4 million adults each day. ORACLE offers a complete listing service for all terrestrial channels (Channel 5 listings will be added when its service is operational) and for BSkyB services.

The terrestrial listings cover programmes to be transmitted "Today" and "Tomorrow", the satellite listings are for "Today". Our research and experience suggests that this coverage, in the context of the restrictions on content which an acceptable delivery speed dictates, is the best possible format for our readers.

We propose to upgrade the listings to include a brief programme description for each peak hour (18:00 - 22:30) programme on the terrestrial channels together with brief descriptions for peak-time BSkyB films.

The pages cover a full day of television programming and are re-configured during each day so that only programmes which are yet to appear are listed and those that have already appeared are removed.

We will be launching an additional service under the heading "Now And Next On TV". This will provide a listing of programmes on all channels for the "next three hours". This shortened form of guide will allow television viewers quickly to compare the offerings of all channels on one page number.

We will continue to provide immediate response to programme schedule amendments received from television companies. Our arrangement with the Press Association will allow us to cross check from their own television schedule information.

CONTENT

The pages offered under this category are:

TV Guide index
BBC1 today
BBC2 today
Channel 4 today
Now And Next On TV
BBC1/BBC2 tomorrow

NON-REGIONAL INFORMATION

Channel 4 tomorrow
Satellite TV today

NUMBER OF PAGES

The TV Listings section will consist of eight main pages.

AVAILABILITY AND PAGE VARIATION

There will be no variation in the allocation of pages. The pages will be available throughout the relevant television channel's transmission hours.

INTEGRATION WITHIN THE SERVICE

The TV Listings pages will be indexed within the overall indexing policy detailed on page 77. More specifically, but not exclusively, they will be included:

- (i) in the Main Indexes (pages 100 and 400);
- (ii) in the alphabetical indexes (199 and 699);
- (iii) in the printed form of index provided directly to readers on request and as part of manufacturer or retailer documentation;
- (iv) in cross references from other subject categories, specifically (but not exclusively), the Plus Index Page and the main Regional Index;
- (v) in Fastext routing, policy for which is detailed on page 78.

NON-REGIONAL INFORMATION

(8) PLUS — ENTERTAINMENT — 10 MAIN PAGES

BACKGROUND

Plus is aimed at entertaining and informing our readers on a wide variety of topics. The magazine is designed to allow them to take part by way of their letters, phone polls and a problem solving service. Entertainment is provided by horoscopes, a competition, and television-related features. Current affairs are reflected in our Letters, Newspaper Review and Comment pages.

CONTENT

Russell Grant's Stars

Our horoscopes are updated every day at 17:00 for the next day and are written by Russell Grant, TV's most famous astrologer.

Letters to the Editor

A daily edition of letters from our readers giving them the chance to have their say on the news of the day. They are invited to write, fax or use our 24-hour-a-day answerphone service. If a major story occurs, we are able to get our readers' views on air in minutes. For example, views on the Budget are taken live and broadcast within half an hour of the Budget speech ending.

TV Letters

Readers are invited to write, fax or call with their comments on TV programmes, which are published daily, Monday to Friday. At weekends, our TV columnist, Sam Brady, reviews the week on television.

TV Plus

Daily news from the television world including information on new programmes, personalities and television-related issues.

Newspaper Review

A lively look at the first editions of the next day's newspapers, broadcast from 23:00. It covers how the papers are dealing with the issues of the day and looks at some of the exclusive stories.

Comment

A weekly look at a topical issue. We invite people in the headlines to have their say. This will include politicians and others involved in the issues; all material will be sub edited and monitored to ensure that balance, within this page, is maintained over a period of time.

NON-REGIONAL INFORMATION

Phone Poll/Live Phone-In

Readers are invited to call and vote on a major talking topic, often discussed on the Comment page and in our letters pages. We also conduct live phone-ins on this page, which involve readers being able to talk to experts on a topic. We will be running at least two careers phone-ins each year.

Problems

A daily column which offers readers the opportunity to write to us with their problems. Our panel of experts offer advice on sexual/emotional problems, bereavements, legal, DSS and medical enquiries, careers, the paranormal, dentistry and health and beauty. Answers appear on screen together with referral to organisations which can offer further help.

Competition

A twice weekly popular general knowledge prize competition.

NUMBER OF PAGES

The Plus section will consist of ten main pages.

AVAILABILITY AND PAGE VARIATION

The pages will vary in application as specified above and will be available throughout the relevant transmission hours of ITV.

INTEGRATION WITHIN THE SERVICE

The Plus pages will be indexed within the overall indexing policy detailed on page 77. More specifically, but not exclusively, they will be included:

- (i) in the Main Indexes (pages 100 and 400);
- (ii) in the alphabetical indexes (199 and 699);
- (iii) in the printed form of index provided directly to readers on request and as part of manufacturer or retailer documentation;
- (iv) in cross references from other subject categories, specifically (but not exclusively), the Lifestyle Index, the News Index during the currency of the "Newspaper Review" column and from the TV Listings Index;
- (v) in Fastext routing, policy for which is detailed on page 78.

NON-REGIONAL INFORMATION

(9) REVIEWS — 10 MAIN PAGES

BACKGROUND

ORACLE's current Reviews section attracts a daily readership of 547,000 and a weekly readership of 1.78 million adults.

The brief is to provide reactions to and information about a wide range of culture and the arts from the standpoint of the individual who enjoys reading or theatre — but not from the viewpoint of the professional reviewer or art critic who so often simply loses interest in the enjoyment of the arts and concentrates on negative or comparative criticism.

The section aims to provide reviews of theatre, television, films, literature and classical music. It also provides charts which are, for many people, almost as important as reviews in choosing what to see or read.

CONTENT

Reviews News

Arts and showbusiness news, new films, plays and books previewed.

TV Review

A daily, usually single page, critical review of one of last night's major television programmes written by our TV reviews team.

New Films

All the week's movie releases critically reviewed with a star rating.

Top Ten Films

A quick synopsis of the top ten films currently to be seen in local cinemas.

Video Reviews, News and Charts

Reviews of the latest videos for rent or sale, together with news of forthcoming releases and the MRIB top ten videos for sale and for rent.

Book Reviews and Charts

A weekly mix of new hardback and paperback reviews. Our selection is designed to appeal to the interested reader of both fiction and non-fiction. The book charts are for top paperback and hardback books, provided by MRIB.

Theatre Reviews

A review of each West End first-night performance together with reviews of all major provincial openings.

NON-REGIONAL INFORMATION

West End Theatre Synopses

The category, plot and recommendation for every current West End theatrical presentation.

Classical Music Reviews and News

News and reviews of the latest classical music recording releases and news of major artists and orchestras and their tours.

NUMBER OF PAGES

The Reviews section will consist of ten main pages.

AVAILABILITY AND PAGE VARIATION

There will be no variation in the allocation of pages. The pages will be available throughout the relevant television channel's transmission hours.

INTEGRATION WITHIN THE SERVICE

The Reviews pages will be indexed within the overall indexing policy detailed on page 77. More specifically, but not exclusively, they will be included:

- (i) in the Main Indexes (pages 100 and 400);
- (ii) in the alphabetical indexes (199 and 699);
- (iii) in the printed form of index provided directly to readers on request and as part of manufacturer or retailer documentation;
- (iv) in cross references from other subject categories, specifically (but not exclusively), the What's On Index, Beat Box (reference to classical music reviews), Album reviews and The Supplement Index;
- (v) in Fastext routing, policy for which is detailed on page 78.

NON-REGIONAL INFORMATION

(10) BEAT BOX — ROCK & POP MUSIC — 10 MAIN PAGES

BACKGROUND

Beat Box attracts a weekly readership of 1.13 million making it the best-read UK pop and rock magazine.

It is unique in being the only daily rock and pop magazine in the UK. During the course of a week it covers all facets of the music spectrum including World music, Dance music, Heavy Metal and Jazz.

Taken as a whole, Beat Box aims to inform and entertain anybody with an interest in rock and pop music.

CONTENT

The content of Beat Box will be:

Key Notes — Music News

A daily presentation of the latest rock/pop news with gossip, reviews of live shows and occasional competitions.

Letters

A daily forum for lively debate on music issues.

Single Reviews

Daily reviews of the latest singles releases. Each Sunday this column presents a listing of forthcoming releases.

Album Reviews

Daily reviews of new albums released. Each Sunday we report on the forthcoming releases and on Monday we look back at a "classic" album tracing its development and impact.

Fanzine

Twice weekly reader access page where readers get the chance to read what other fans think. Featuring album, video and live show reviews.

Section 6

The latest on specialist music including World music, Jazz and Heavy Metal.

Star Bitz!

Interviews with the big names in pop and rock.

National Gig Guide

An alphabetical listing of major bands and artists with details of their tour itineraries. Tour details will be published as soon as they are available making this page a vital source for all rock and pop fans.

NON-REGIONAL INFORMATION

Charts

The Network Chart of best selling albums and singles (cross promoted from the Radio Network Chart Show) with a series of specialist charts for independent music, metal, dance and for compact discs.

NUMBER OF PAGES

The Beat Box section will contain ten main pages. The pages will be available throughout the relevant television channel's transmission hours.

AVAILABILITY AND PAGE VARIATION

No variation in page allocation is proposed except for the weekend changes in content of the Album and the Singles Review pages.

INTEGRATION WITHIN THE SERVICE

The Beat Box pages will be indexed within the overall indexing policy detailed on page 77. More specifically, but not exclusively, they will be included:

- (i) in the Main Indexes (pages 100 and 400);
- (ii) in the alphabetical indexes (199 and 699);
- (iii) in the printed form of index provided directly to readers on request and as part of manufacturer or retailer documentation;
- (iv) in cross references from other subject categories, specifically (but not exclusively), the Buzz (teenagers) Index page and Reviews Index page;
- (v) in Fastext routing, policy for which is detailed on page 78.

NON-REGIONAL INFORMATION

(11) DIVERSIONS — LEISURE — 10 MAIN PAGES

BACKGROUND

A magazine dedicated to major hobbies and leisure interests. It is aimed at enthusiasts of the various activities bringing them lively reports, news and information on their particular hobbies. It attracts a weekly readership of 1.65 million (a more detailed breakdown of Diversions column readerships is presented in Appendix D).

CONTENT

Motoring

A twice weekly survey of the world of motoring, including a look at new motoring products, safety on the road, new models and all the motoring stories.

Car Review

A weekly car review. Our journalists will test cars and report on all aspects of them.

Gardening

News, views and helpful seasonal tips for the ardent gardener and keen beginner.

Angling

News, views, events and competitions are reported three times a week with regular weekly contributions from experts on coarse fishing, fly fishing and sea angling.

Mindbender

A complex puzzle compiled by the high IQ organisation Mensa to test the brainpower of real puzzle buffs.

Puzzle

A daily puzzle including mathematical and word puzzles and general knowledge quizzes. Answers will be provided on a "reveal" facility.

Crossword

A daily crossword with solutions provided on a "reveal" facility.

Chess

Reports from the major tournaments from Britain and around the world. We will be first with all news and reports and include moves from the biggest games. The column will also include chess problems and answers.

NON-REGIONAL INFORMATION

Bridge

News and views about this popular pastime from across the country with reports on the biggest tournaments, together with Bridge puzzles and answers.

NUMBER OF PAGES

The Diversions section will consist of ten main pages.

AVAILABILITY AND PAGE VARIATION

There will be no variation in the allocation of pages. The pages will be available throughout the relevant television channel's transmission hours.

INTEGRATION WITHIN THE SERVICE

The Diversions pages will be indexed within the overall indexing policy detailed on page 77. More specifically, but not exclusively, they will be included:

- (i) in the Main Indexes (pages 100 and 400);
- (ii) in the alphabetical indexes (199 and 699);
- (iii) in the printed form of index provided directly to readers on request and as part of manufacturer or retailer documentation;
- (iv) in cross references from other subject categories, specifically (but not exclusively), the Lifestyle Index and the Supplement Index;
- (v) in Fastext routing, policy for which is detailed on page 78

NON-REGIONAL INFORMATION

(12) THE SUPPLEMENT — EDUCATION/LEISURE — 10 MAIN PAGES

BACKGROUND

Our Supplements are designed to provide informed comment and news on a variety of specialist subjects. The brief is for clear, concise coverage of each topic to allow those who take an informed interest in any of the particular subjects to keep abreast of major developments and issues.

Science and Technology

A weekly round-up of all that's new in science and technology. New inventions and topical developments will be covered, especially computer technology.

Wine

Weekly wine news and tastings with recommendations, together with readers' letters and personal selections.

Food

Restaurant reviews and news combined with news on the latest trends and issues.

Property

A weekly round up of property news including interesting properties on the market, price trends, planning issues and new developments.

Medicine

Aimed at doctors and related professions, the column will cover medical news and views, new products, diagnoses, plus special features on the hot medical topics of the week.

Law and Lawyers

A weekly roundup of the main news in legal circles including a review of major cases, analysis of new legislation, sentencing policy and topical issues. The column will be aimed at lawyers, solicitors and related occupations.

Environment

A weekly round up of environmental news plus a more in-depth study of a particular environmental issue.

Education

A weekly column of news and informed comment on all education issues. Subjects covered will include all aspects of teaching in schools, colleges, universities and polytechnics.

NON-REGIONAL INFORMATION

Careers

A look at a different career every week including qualifications needed and how to get into it. There will be special features about the jobs market generally with advice and tips on interview technique and career planning.

NUMBER OF PAGES

The Supplement section will consist of ten main pages.

AVAILABILITY AND PAGE VARIATION

There will be no variation in the allocation of pages. The pages will be available throughout the relevant television channel's transmission hours.

INTEGRATION WITHIN THE SERVICE

The Supplement pages will be indexed within the overall indexing policy detailed on page 77. More specifically, but not exclusively, they will be included:

- (i) in the Main Indexes (pages 100 and 400);
- (ii) in the alphabetical indexes (199 and 699);
- (iii) in the printed form of index provided directly to readers on request and as part of manufacturer or retailer documentation;
- (iv) in cross references from other subject categories, specifically (but not exclusively), the Lifestyle Index, Jobfinder, Community Action Index, the School's page and the City Index;
- (v) in Fastext routing, policy for which is detailed on page 78.

NON-REGIONAL INFORMATION

(13) BUZZ — TEENAGERS' MAGAZINE — 10 MAIN PAGES

BACKGROUND

Buzz is the only daily teenagers' magazine and is read by more than half-a-million people each week.

CONTENT

Stop Press

Daily news and gossip covering pop, TV, film, the environment — everything of interest to teenagers.

Write On

Daily readers' letters/phone and fax messages page.

Help!

A daily problem page dealing with readers' sexual, emotional, educational and career problems together with answers to questions about stars and celebrities. Problems are answered by qualified social workers and always refer readers on to organisations which can offer further advice and help.

Buz Stars

A weekly interview and profile of a celebrity with, at the weekend, an astrological forecast for the week ahead written by Jacqui Deevoy.

Pen Pals

The UK's only daily pen pals service. It receives over 1,000 requests for pen pals each week. All letters are opened and reviewed for their suitability before despatch to those who have requested them.

Youth TV

A daily preview/review of television with star and programme profiles.

Debbie's Diary

Every day our fictional heroine, Debbie Slater, shares the latest extract from her diary. It deals with life's joys and pains for a young woman growing into adulthood. Published every day and available between 21:00 and 05:00.

FX

A daily computer news and reviews service including computer games charts for all popular formats.

Prizeblitz

A weekly competition together with general knowledge phone-in quizzes each Tuesday and Thursday at 18:30.

NON-REGIONAL INFORMATION

NUMBER OF PAGES

The Buzz section will consist of ten main pages.

AVAILABILITY AND PAGE VARIATION

There will be no variation in the allocation of pages. The pages will be available throughout the relevant television channel's transmission hours.

INTEGRATION WITHIN THE SERVICE

The Buzz pages will be indexed within the overall indexing policy detailed on page 77. More specifically, but not exclusively, they will be included:

- (i) in the Main Indexes (pages 100 and 400);
- (ii) in the alphabetical indexes (199 and 699);
- (iii) in the printed form of index provided directly to readers on request and as part of manufacturer or retailer documentation;
- (iv) in cross references from other subject categories, specifically (but not exclusively), the Rock and Pop Index;
- (v) in Fastext routing, policy for which is detailed on page 78.

NON-REGIONAL INFORMATION

(14) KIDS — CHILDREN — 10 MAIN PAGES

BACKGROUND

Children, virtually from the age at which they first acquire literacy and numeracy, are naturally drawn to teletext and its bold colours, its association with television and its openness to experimentation.

As a matter of policy, ORACLE has taken the needs of the younger audience seriously since a coherent editorial strategy was established in the late 1970s. Simply stated, children not only deserve provision of services because they are part of our community but also because satisfaction with teletext now will inevitably lead them on to become fluent users of our service as they grow. We believe that the fruits of this policy are now showing in beneficial gains both for our readership and the overall sales of teletext sets.

Our "Kids" section is designed as a package that provides fun, games, competitions and interaction together with an introduction to new ideas and information that we consider to have educational benefit. The emphasis throughout is on involvement and interaction.

ORACLE Kids is the only daily magazine for children in the UK. Its target group is children between the ages of seven and eleven years. (Readership figures for this group are presented in Appendix F.)

CONTENT

The proposed content for this section is:

Index

The index is in "presenter" style with a graphic of our Kids' Editor with a speech bubble telling children what is in today's edition, wishing happy birthday to a selection of ORACLE Kids and drawing attention to any special events of the day.

Haunting Times

A daily strip cartoon featuring a team of Ghosts at work on their own newspaper and facing the same trials and tribulations of daily life as do our young readers.

Jokes

A daily compilation of jokes from contributions by readers.

Julie's Jokes

Compiled from jokes and artwork in teletext format submitted by readers.

NON-REGIONAL INFORMATION

It's (Monday-Sunday)

A daily column of topical information, facts and suggestions for activities. Topics range from information about Diwali to letters from children about the dangers of fireworks. At weekends the page will provide short stories.

555 Magazine

A daily column entirely by children and featuring information about the day's "duty-editor", his/her likes and dislikes and their puzzles and jokes for other readers.

Telly Talk

Background information on children's television programmes with interviews with children's television celebrities. The material is published at 18:00 each day to provide, where appropriate, a look ahead to tomorrow's television for children.

About Animals

A daily column covering pet problems and queries answered by qualified vet Joanne Arbuckle, together with news about animals and animal events.

School's Cool

A weekly presentation of material produced by schools or classes as a group including their views, puzzles, news and suggestions.

Kids' Quiz

A live phone-in quiz which runs every weekday evening. The readers are asked to phone in their responses to general knowledge and other questions which appear on the screen just as the phone lines are opened. As far as we know this is the only example of such interactivity in teletext anywhere in Europe.

At weekends the Kids' Quiz becomes a write-in competition.

NUMBER OF PAGES

The Children's section will consist of ten main pages.

AVAILABILITY AND PAGE VARIATION

No variation in page allocation is proposed. It is important to note that a key element in the unique proposal that teletext makes to readers is that services are always available whenever readers want them.

Appendix G demonstrates that use is made, by both adults and children, of ORACLE pages throughout the day. This, coupled with the enormous difficulty in explaining a "multiplexed" service in on-screen or written indexing, strengthens our case against split page usage. The pages will be available throughout the relevant television channel's transmission hours.

NON-REGIONAL INFORMATION

INTEGRATION WITHIN THE SERVICE

The Children's pages will be indexed within the overall indexing policy detailed on page 77. More specifically, but not exclusively, they will be included:

- (i)** in the Main Indexes (pages 100 and 400);
- (ii)** in the alphabetical indexes (199 and 699);
- (iii)** in the printed form of index provided directly to readers on request and as part of manufacturer or retailer documentation;
- (iv)** in Fastext routing, policy for which is detailed on page 78.

NON-REGIONAL INFORMATION

(15) LIFESTYLE — LEISURE — 10 MAIN PAGES

BACKGROUND

A magazine designed to appeal to people at home during the day, particularly housewives/husbands.

CONTENT

Consumer News

A daily round-up of all the latest consumer news. At weekends we investigate readers' complaints about services/goods and try and help them.

Best Buys

Latest prices on top-selling items from the major supermarkets. Also including a weekly fresh food price survey.

Supermarkets

A weekly commentary on the best bargains at the big stores.

Health Check

Daily news about health and fitness including tips on a healthier lifestyle. Readers letters will be answered weekly.

Baby and Childcare

A weekly column that helps parents to get the most out of parenting. Including product news (baby care and toys), latest child care theories, advice on diagnosing childhood ailments and tips on encouraging early development.

Recipe

A daily recipe. The recipes will often be themed across weeks and will include vegetarian cuisine.

Homestyle

A weekly look at new products for the home and tips on decorating and enhancing the home.

Knitting

A weekly guide to knitting techniques, fashion, new materials and patterns. Readers' queries are also answered by our expert.

Daily Soap

Park Avenue, the first soap opera ever on teletext, appears daily at 17:00 with the latest news of the neighbourhood that never ceases to grip our readers' imaginations.

NON-REGIONAL INFORMATION

NUMBER OF PAGES

Lifestyle will consist of ten main pages.

AVAILABILITY AND PAGE VARIATION

There will be no variation in the allocation of pages. The pages will be available throughout the relevant television channel's transmission hours.

INTEGRATION WITHIN THE SERVICE

The Lifestyle pages will be indexed within the overall indexing policy detailed on page 77. More specifically, but not exclusively, they will be included:

- (i) in the Main Indexes (pages 100 and 400);
- (ii) in the alphabetical indexes (199 and 699);
- (iii) in the printed form of index provided directly to readers on request and as part of manufacturer or retailer documentation;
- (iv) in cross references from other subject categories, specifically (but not exclusively), the Diversions Index, the Supplement Index and Reviews Index page;
- (v) in Fastext routing, policy for which is detailed on page 78.

(16) FORETHOUGHT — RELIGION — 1 MAIN PAGE

BACKGROUND

ORACLE has provided a daily religious inspirational page since the early 1980s.

The provision of the material became formalised in 1984 through arrangements with the British Churches Teletext Project. The nominated provider of the material was equipped with a suitable teletext editing terminal allowing on-line delivery of the copy.

The flexibility that this mode of input provides has been fully exploited. During Lent in 1986, 1988 and 1990 the content of the pages was related directly to inter-church discussions prompted through local radio. The resulting salient quotations were relayed immediately to ORACLE's Forethought pages at various points in the discussions — day and night.

In 1988 the material was provided on-line direct from the Lambeth Conference, with immediate synopses of debates and speeches relayed more quickly than via any other medium. A similar arrangement operated for the 1991 "Churches Together In England" conference.

CONTENT

ORACLE's Forethought page consists of a minimum of two linked frames.

The first carries seasonal or topical material, book reviews, extracts from poems or thoughts sent in by readers — all with a religious view.

The second is inspirational and spiritual in tone and provides verses from the Bible which are either commented upon, linked to other verses or expounded upon to make them clearer to modern-day readers.

NUMBER OF PAGES

Forethought will consist of one main page.

AVAILABILITY AND PAGE VARIATION

No variation in page allocation is proposed. It will be available during all the relevant television channel's transmission hours.

INTEGRATION WITHIN THE SERVICE

The Forethought page will be indexed within the overall indexing policy detailed on page 77. More specifically, but not exclusively, it will be included:

- (i) in the Main Indexes (pages 100 and 400) "promotional" flashes on average twice each fortnight and on at least one occasion each Saturday or Sunday in that fortnight;
- (ii) in the alphabetical indexes (199 and 699);

NON-REGIONAL INFORMATION

- (iii) in the printed form of index provided directly to readers on request and as part of manufacturer or retailer documentation;
- (iv) in Eastext routing, policy for which is detailed on page 78.

NON-REGIONAL INFORMATION

(17) EARSHOT — MAGAZINE FOR THE DEAF AND HARD OF HEARING — 1 MAIN PAGE

BACKGROUND

The deaf and hard of hearing community numbers almost 4.4 million adults of whom some 1 million are profoundly deaf (NOP). Clearly, they benefit from the entire teletext service which provides access to written real-time information. Our subtitling services and our relationship with the community led us to launch a weekly magazine for the deaf and hard of hearing in 1983. It is now the country's leading forum for communication between and to deaf and hard of hearing people and leading organisations in the field such as the RNID (which uses Earshot to inform readers of vacancies and activities) and the British Deaf Sports Association.

It has proved to be a popular service and has expanded from a weekly edition in 1983 to tri-weekly today. It currently receives sponsorship from the Worshipful Company of Information Technologists.

CONTENT

The service consists of up to ten multipages of news, letters, events and job opportunities of particular interest to the deaf and hard of hearing community published three times a week.

NUMBER OF PAGES

One main page is offered under this heading.

AVAILABILITY AND PAGE VARIATION

There will be no variation in page allocation. The page will be available throughout the transmission hours of the relevant television channel.

INTEGRATION WITHIN THE SERVICE

The Earshot page will be indexed within the overall indexing policy detailed on page 77. More specifically, but not exclusively, it will be included:

- (i) in the Main Indexes (pages 100 and 400);
- (ii) in the alphabetical indexes (199 and 699);
- (iii) in the printed form of index provided directly to readers on request and as part of manufacturer or retailer documentation;
- (iv) in cross references from other subject categories, specifically (but not exclusively), the Community Action Index and the ITV Subtitling page;
- (v) in Fastext routing, policy for which is detailed on page 78.

NON-REGIONAL INFORMATION

(18) HOLIDAY NEWS/INFORMATION — 3 PAGES

BACKGROUND

ORACLE Holiday editorial attracts over 1.5 million readers each week.

CONTENT

Holiday News

A weekly round-up of news about holidays, written for non-professional travellers and holidaymakers. The pages include news about destinations, news about new or special offers from transport or holiday companies, news about medical or other alerts and occasional information and tips about holidays written by our readers.

Travel/Holidays Feature

Generally a longer piece about a holiday destination or holiday type, the feature aims to provide useful information about prices, health matters, currencies and useful tips on enjoying the location.

Tourist Exchange Rates

A daily listing of major holiday destination currencies against the pound. The rates are those available to personal customers in High Street banks.

NUMBER OF PAGES

Three main pages are offered in this category.

AVAILABILITY AND PAGE VARIATION

The pages will be available at all times with no variation in allocation.

INTEGRATION WITHIN THE SERVICE

The Holiday pages will be indexed within the overall indexing policy detailed on page 77. More specifically, but not exclusively, they will be included:

- (i) in the Main Indexes (pages 100 and 100);
- (ii) in the alphabetical indexes (199 and 699);
- (iii) in the printed form of index provided directly to readers on request and as part of manufacturer or retailer documentation;
- (iv) in Fastext routing, policy for which is detailed on page 78.

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(19) OTHER MATERIAL — 14 MAIN PAGES

Main Index (2)

Miscellany Index

ORACLE — How To Complain/Competition Rules/Copyright

This page will provide addresses of the organisations to which various complaints should be directed, a statement of copyright and of the main rules affecting competition entries.

Newsflash Ghost Page

The Ghost Page provides the page 150 newsflash facility on Channel 4 transmissions. This page is not included in our page strand analysis (Annex D1).

Engineering/Teletext Installers' Test Pages (4)

Text Engineering test pages and "Clock Cracker".

ITC Occasional Announcements

This page will be made available to the ITC as necessary.

User Guides (2)

ORACLE feels it is important to provide new teletext set owners/renters with the basic information on how to use teletext and more specifically ORACLE. The User Guides therefore provide a "friendly" introduction to use of the service.

A-Z Indexes (2)

World Clock

An automated presentation of times around the world updated each minute. It is currently sponsored by British Airways.

NUMBER OF PAGES

There will be fourteen main pages under this category.

AVAILABILITY AND PAGE VARIATION

There will be no variation in the allocation of pages. The pages will be available throughout the relevant television channel's transmission hours.

INTEGRATION WITHIN THE SERVICE

The Miscellany pages will be indexed within the overall indexing policy detailed on page 77. More specifically, but not exclusively, they will be included:

(i) in the Main Indexes (pages 100 and 400);

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- (ii) in the alphabetical indexes (199 and 699);
- (iii) in the printed form of index provided directly to readers on request and as part of manufacturer or retailer documentation;
- (iv) in Fastext routing, policy for which is detailed on page 78.

A.1 REGIONAL INFORMATION

(1) REGIONAL NEWS — 8 MAIN PAGES

BACKGROUND

The time is now ripe for the full network launch of a regional teletext news service on ORACLE and the service we propose is to be in every sense "the best of its kind".

ORACLE has, in association with TVS, been providing a regional teletext news service for the TVS region since 1986. It was launched in order to provide us with the experience and understanding of the difficulties and opportunities presented by regional news.

We have used the TVS service as a test-bed for our training techniques for regional newsroom journalists, for our supervisory responsibilities and, most importantly, in collaboration with the Head of News at TVS, for the editorial parameters that will be required as we develop the regional news network.

Research we have conducted with NOP in the TVS region shows that regional teletext news is a valued service. Considering the difficulty we faced in indexing a single regional news service from our nationally available pages the service is also very popular (see Appendix J).

Our major conclusion is that a well-written, properly resourced and managed regional news service will enhance our service dramatically.

The further expansion of regional teletext news has been undeniably hampered by the uncertainties about future responsibilities and financing (and indeed about whether there was to be a future) that have affected both television and teletext over the past two and a half years. Those uncertainties are now behind us all.

In preparing our proposal we analysed various options for regional news provision. These are:

- (i) All news material generated by each ITV newsroom, under the supervision of the regional News Editor and staff and sent on-line to the ORACLE computer system for transmission (the TVS model);
- (ii) A feed from each ITV company's newsroom computer system (all but HTV operate on such systems) to a national or supra-regional hub where the material is prepared for transmission as teletext stories;
- (iii) A fax copy of each company's regional news bulletins sent to the hub or hubs (described above) for preparation;
- (iv) Use of a central source for the material such as a news agency;
- (v) Provision by other media and especially regional/local radio stations or newspaper groups.

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We eliminated (v) because no newspaper or radio groups have adequate regional coverage that matches our transmission regions or our requirements for speed or volume of material.

Similarly (iv) news agencies could not assure us of suitable quality and throughput of material.

The Press Association was more especially considered as a potential provider of such a service. The Press Association is the pre-eminent source of national news material to the media (and already has an agreement with ORACLE for a comprehensive "teletext-ready" and newswire feed). However in the regional news context different considerations apply.

Whereas the Press Association would expect to receive nationally significant news information from its sources as a matter of priority, in the case of stories or leads which are of regional interest, it is the case that regional news agencies or individual sources will call such stories in to regional media (always including the regional ITV newsroom) first in virtually all cases. This is because: (a) the regional media are more likely to be interested in such material; and (b) once a story is passed on to PA it is generally seen to have little further "sale" value in that the story will be immediately available to all regional newsrooms who are PA subscribers.

Therefore, although in the case of national/international news we have established that the national news agencies form the source of more than 95% of all our current national/international news material, in the case of regional news material we expect a maximum of only 5% of material to be sourced from the national news agencies.

We have analysed the output of our TVS teletext news service over the last three months of 1991. We found that of an annual grossed-up total of 4 100 stories that appeared on the TVS regional news pages, only 130 were based on Press Association material. Thus only 3% of the stories were based on Press Association material and 97% of the material was sourced from TVS' own reporting teams and from regional news agencies and individual sources.

We next ran trials of methods (ii) and (iii). These proved that in some cases a fair representation of the material within any company's bulletin could be gathered and created as teletext by centrally or "supra-regionally" employed journalists who would be working from a faxed or VDU distributed display of the bulletin. However, this method is seriously flawed and may cause legal and/or compliance problems because:

- (i) A faxed copy of any company's bulletin may not contain all that was broadcast (verbally/visually) within that bulletin. There may be live "inserts" which would not be contained in the copy or late

REGIONAL INFORMATION

adjustments made by the editor during the broadcast. The same cases apply to on-line delivery of newsroom computer system output.

This could easily lead to such a service either missing an important story (or its important details) which was broken live during a bulletin or falling into legal jeopardy where a live insert had conditioned the intro/outro to a story.

- (ii) The journalists involved in producing the teletext material would not be aware of the cultural/political/economic factors which affect regions differently and which are reflected in the regional news agenda.
- (iii) Response times to news stories and updates to stories would be unacceptably long. Breaking stories will not be entered into the newsroom computer system for some minutes after they have been gathered and even then not generally in a form which would enable a remote user of that system to understand them fully. Reliance on faxed bulletins makes the time delay even worse.

The conclusion of our investigation has been that the best method to provide our regional news service is by arrangement with each ITV regional newsroom for the provision of an on-line regional news service produced and supervised by each ITV newsroom.

In considering the ITV company newsrooms as the source for our regional teletext news service we also considered the matter of "exclusives".

It might be thought that ITV newsrooms will have a unique tendency to avoid the publication of any "exclusives" as part of a regional teletext news service until after such "exclusives" had been broadcast as part of their television news service. However, it is true that this consideration applies to all other possible sources for a regional teletext news service (whether a newspaper group, radio station or national news agency) each of whom face similar considerations in the protection of their "exclusives".

In the case of PA it should be noted that regional newspapers hold the majority of its shares and that regional newspapers would not be expected to be keen to allow a regional teletext news service provided by their own company continually to publish their own "exclusives".

Furthermore it should be noted that if we were to accept that each of the possible sources for regional teletext news will withhold "exclusives" from teletext publication until after their use in the "primary" product (newspaper or television) then the fact that regional television news provides far more "editions" of regional television news each day than

REGIONAL INFORMATION

newspapers print new editions, then it is clear that regional television newsrooms would move "exclusives" to teletext publication far more quickly than a newspaper or newspaper controlled organisation.

The ITV newsrooms know their regions better than any other news organisation. Their sources and their journalists understand and live in the regions they serve, they have a better grasp of the regional news agenda and they each have high reputations for the quality of their news services (ITV regional news programmes consistently gain higher audiences than similar BBC programmes).

The ITV newsrooms generate a high proportion of regional news through their own sources and reporters, indeed they are generally at the top of stringers' contact lists and so are the first with a large number of breaking stories. These contacts also allow them easily to increase the number of stories available for the regional teletext service.

The many unique advantages of providing regional news services from ITV regional newsrooms more than outweigh the possible disadvantage that teletext might attract a lower priority in a television newsroom than do television services.

The TVS newsrooms have, in fact, a highly supportive attitude towards regional teletext news, and the positive response to our proposals from the regional ITV companies suggests that this attitude will be shared in every newsroom.

ORACLE'S REGIONAL NEWS SERVICE

In each ITV region of the network ORACLE will provide a regional news service of the highest quality. Each will be created, supervised and transmitted from the appropriate ITV regional newsroom and under the same understanding of ITC Codes and compliance considerations that will regulate their television broadcasts.

The regional news service will be developed under the guidance of ORACLE's Regional News Launch Editor, David Morris-Jones. David is currently the Head of News for TVS which has been providing a regional teletext news service for ORACLE since 1986. In December 1991 he introduced the first direct interface between a newsroom computer and ORACLE's regional teletext computer system. Previously, as the BBC's Editor, Wales News and Current Affairs, he established Britain's first regional teletext news service. David's experience and talents in regional teletext news provision will be invaluable to ORACLE for the launch of these services.

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The technical arrangements for the service (detailed under A.9) will allow regional newsroom staff journalists/editors to create all the necessary teletext material without the need to move to a specialised teletext editing terminal. We shall provide an "interface" between each newsroom computer system (except for HTV Wales and West which currently do not have such a system) and the ORACLE regional computer system in order to avoid unnecessary rekeying of material, to improve the speed of reaction to stories and to allow journalists to avoid the unnecessary use of two different keyboards.

Each regional news service will be monitored by the ORACLE newsroom through direct on-line links.

Below we present the basic specification of the service in each region:

SPECIFICATION:

1. A high quality teletext formatted service of news and sport covering the region.
2. The regional news pages will be available 24 hours a day and will be updated between 09:30 and 22:30 (Monday to Friday) and 09:30 and 18:30 (weekends). In our view the major requirement of the early morning reader is for a quickly delivered and up-to-date presentation of travel news, weather forecasts and of national and international news. This is confirmed by our research. (These areas have therefore been allocated the necessary resources to provide such services.) The regional news headlines will therefore during the hours 06:00 to 09:30 carry a higher than normal profile indexing of weather, travel and national news pages.
3. Frequency: A minimum of four complete updates/verifications at 09:30, 12:30, 17:30 and 22:30 each weekday with three updates/verifications (excluding 22:30) on Saturday/Sunday. In addition, individual stories will be amended/removed as necessary throughout the day. After the last verification/update each day the service on-air will constitute a review of the day's regional news.
4. Content: The material will consist of one headline page on 201 followed by single page news stories on pages 202-206. If possible, page 207 will consist of a multipage of "News In Brief" or "News Around The Region". Sport will appear on page 208 with a multipage of up to seven pages where appropriate. On Saturdays an expanded allocation of pages will be made available for sport, up to a maximum of four main pages out of the total of eight regional news pages.

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5. ORACLE is fully aware of its responsibilities as the publisher of the material, and our duties under all relevant ITC Codes and guidelines.

ORACLE's technical configuration will allow our newsroom to oversee and to amend/reject any material which is in breach of relevant ITC Codes. This will be achieved by means of a two-way computer link between our central computer and each of our regional computers.

Regional news supplied will be subject to all relevant editorial checks by each ITV newsroom to ensure compliance with relevant legislation and with ITC guidelines on impartiality and balance.

NUMBER OF PAGES

A total of eight main pages are offered under this heading.

AVAILABILITY AND PAGE VARIATION

No variation in the allocation of pages is proposed. The pages will be available throughout the relevant television channel's transmission hours.

INTEGRATION WITHIN THE SERVICE

The Regional News Pages will be indexed within the overall indexing policy detailed on page 77. More specifically, but not exclusively, they will be included:

- (i) in the Main Indexes (pages 100 and 400);
- (ii) in the alphabetical indexes (199 and 699);
- (iii) in the printed form of index provided directly to readers on request and as part of manufacturer or retailer documentation;
- (iv) in cross references from other subject categories, specifically (but not exclusively), the National News Headlines, the News Index and ITV Listings;
- (v) in Fastext routing, policy for which is detailed on page 78.

(2) REGIONAL WEATHER INFORMATION — 1 MAIN PAGE

BACKGROUND

Weather forecasts rank fourth in popularity with our readers, who appreciate access to forecasts which are regularly updated and available to them whenever they wish.

The regional weather forecast is the most read of the weather pages and together with the severe weather warning service will form the flagship of our weather service.

The source of the material will be the Meteorological Office. Our arrangement with them includes service from a dedicated unit based within the main Forecasting Room at the Met's Headquarters in Bracknell and supplied with forecasts and data from offices and data providers throughout the U.K. (Further details on sources for weather are provided under A.7.)

Forecasts and reports received will be supervised by our editorial staff.

CONTENT

Regional Weather Forecast

A separate forecast is provided for each of the ITV regions. In a number of cases larger regions are "split" over two multipages to offer improved forecasting. The "split" areas are:

- Yorkshire Television area: (a) Humberside, Lincolnshire, Yorkshire
(b) Nottingham, Derbyshire
- Central Television area: (a) West Midlands
(b) East Midlands
- TVS area: (a) Southern area
(b) South East area
- HTV area: (a) Wales
(b) West
- STV area: (a) Central Fife and Lothian
(b) Lochaber and Strathclyde

These forecasts are written and transmitted to ORACLE three times each day at 05:00, 12:00 and 17:00.

Severe Weather Warning

A severe weather warning will be issued when appropriate and will present warnings of fog, heavy rain, gales and snow. Any danger of structural

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damage will also be indicated. The severe weather warning will be issued separately and where appropriate for each ITV region.

NUMBER OF PAGES

The Regional Weather Service will consist of one main page.

AVAILABILITY AND PAGE VARIATION

The page will be available throughout the relevant transmission hours for the ITV television signal.

The Severe Weather warning is an "as necessary" service which will be "multipaged" to the regional weather forecast when required.

INTEGRATION WITHIN THE SERVICE

The Regional Weather Service page will be indexed within the overall indexing policy detailed on page 77. More specifically, but not exclusively, it will be included:

- (i) in the Main Indexes (pages 100 and 400);
- (ii) in the alphabetical indexes (199 and 699);
- (iii) in the printed form of index provided directly to readers on request and as part of manufacturer or retailer documentation;
- (iv) in cross references from other subject categories, specifically (but not exclusively), the Regional News Headlines, the Holidays Index and from Road, Air and Rail News pages;
- (v) in Fastext routing, policy for which is detailed on page 78;
- (vi) in a cross-indexing structure which will allow readers to "tour" through the weather pages without necessary recourse to the Weather Index;
- (vii) whenever necessary the regional weather and/or severe weather warning page will be referred to from the body copy of the National and/or Regional News Headlines.

(3) REGIONAL TRAVEL INFORMATION — 1 MAIN PAGE

BACKGROUND

ORACLE will be launching a regional road news service for each of the ITV regions (except the Channel Islands) based upon the unique information sources available to us from the Automobile Association and provided through a new computer interface which will provide instant delivery of road news as it becomes available to any of its regional or national centres.

We have listed Rail News and Air News under the non-regional material heading. This is because these areas of travel information very often have significance to more than one ITV region. However, it should be noted that our computer systems will allow either of the pages to carry regional or partially regional specific information, when appropriate. It should further be noted that, in addition to the sources of information listed in A.7 page 142, our editorial and computer arrangements will provide us with information on travel from the Press Association and from ITV regional newsrooms, when appropriate.

CONTENT

Regional Road Reports

A 24-hour-a-day service of reports covering roadworks, traffic incidents and adverse weather conditions in each separate ITV region.

NUMBER OF PAGES

Regional Travel Information will consist of one main page.

AVAILABILITY AND PAGE VARIATION

There will be no variation in the allocation of pages. The page will be available throughout the relevant television channel's transmission hours.

INTEGRATION WITHIN THE SERVICE

The Regional Travel Information pages will be indexed within the overall indexing policy detailed on page 77. More specifically, but not exclusively, they will be included:

- (i) in the Main Indexes (pages 100 and 400);
- (ii) in the alphabetical indexes (199 and 699);
- (iii) in the printed form of index provided directly to readers on request and as part of manufacturer or retailer documentation;
- (iv) in cross references from other subject categories, specifically (but not exclusively), the National Road page, the Regional News Headlines the Regional Main Index and the Weather and Travel Headlines page;
- (v) in Fastext routing, policy for which is detailed on page 78.

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(4) REGIONAL EVENTS — 10 PAGES

ORACLE has been providing regional events information under the title "What's On" since October 1985 when we launched our regional services. The concept of regional events listings within a national "newspaper" service was new to the media in 1985, although it is a model now copied by several newspapers. The service has recently been significantly improved to offer the start times for cinema films. What's On is read by 1.9 million adults each week.

The flexibility of our medium allows us to update information immediately where events become "sold out", are cancelled or amended or where new concerts etc. are announced. It is an advantage we intend to continue to exploit.

The material for "What's On" will be produced by a team of six ORACLE staff who have between them 37 years' experience in teletext editing with ORACLE.

The service is free to all contributors and decisions on the inclusion of listings are made on editorial criteria generally of good taste, relevance to readers in each region and significance of the event.

The service provides discrete regional listings and its service areas match those of the ITV regions.

The complexity and quantity of events material that this department handles led to the development of a purpose built database handling system, "Whatsnew", by ORACLE Engineering Department. This system allows events information of all categories to be entered, stored and then prepared automatically for transmission, freeing the staff from the task of repeated colour and layout formatting. The system also runs a purpose built gazetteer which matches every town in the UK to its ITV region (and those it borders). A fuller technical description of this system forms part of A.9 on page 177.

The information and contacts generated by the "What's On" Department are used to produce the "National Gig Guide" (listed under "Beat Box" — page 42) and the weekly Top Ten Film Guide (listed under "Reviews" — page 40).

CONTENT:

Each of the pages offered within "What's On" proposes the following service:

Local Theatre

This is a weekly listing of all productions in the region together with some significant future productions. Local amateur companies' productions are

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also included where space allows. Box office telephone numbers are provided.

Jazz, Folk, Rock and Pop Music

An alphabetical listing by town of all significant music events including venue address, box office telephone numbers and start times. Updated three times each week.

Cinema

An alphabetical listing by town of all cinemas in the region and including details of films, classifications, start times and box office telephone numbers.

NUMBER OF PAGES

Regional Events will consist of ten main pages.

AVAILABILITY AND PAGE VARIATION

No variation in the allocation of pages is proposed. The pages will be available throughout the relevant television channel's transmission hours.

INTEGRATION WITHIN THE SERVICE

The Regional What's On pages will be as indexed within the overall indexing policy detailed on page 77. More specifically, but not exclusively, they will be included:

- (i) in the Main Indexes (pages 100 and 400);
- (ii) in the alphabetical indexes (199 and 699);
- (iii) in the printed form of index provided directly to readers on request and as part of manufacturer or retailer documentation;
- (iv) in cross references from other subject categories, specifically (but not exclusively), the Reviews Index and the Regional Index;
- (v) in Fastext routing, policy for which is detailed on page 78.

REGIONAL INFORMATION

(5) ITV PROGRAMME LISTINGS — 3 MAIN PAGES

BACKGROUND

The regional ITV programme listings are the most popular pages of what is the best read section on ORACLE. They provide a full 24 hour listing for the relevant ITV company in each region and are produced, supervised and equipped under the same arrangements as for all other TV listings (detailed on page 36).

Television viewing is the nation's top leisure activity and coverage of it constitutes an important part of all major regional newspapers. Our ability to update and amend our TV listings instantly allows us to offer a superior service to that which readers in any ITV region would be able to obtain from any other medium.

CONTENT

The service will consist of:

- ITV Programme Schedules for today
- ITV Programme Schedules for tomorrow
- ITV Subtitling for the Week Ahead

NUMBER OF PAGES

ITV Programme Listings consist of three main pages.

AVAILABILITY AND PAGE VARIATION

There will be no variation in the allocation of pages. The pages will be available throughout the relevant television channel's transmission hours.

INTEGRATION WITHIN THE SERVICE

The ITV Programme Listings pages will be indexed within the overall indexing policy detailed on page 77. More specifically, but not exclusively, they will be included:

- (i) in the Main Indexes (pages 100 and 400);
- (ii) in the alphabetical indexes (199 and 699);
- (iii) in the printed form of index provided directly to readers on request and as part of manufacturer or retailer documentation;
- (iv) in cross references from other subject categories, specifically (but not exclusively), the Plus Index;
- (v) in Fastext routing, policy for which is detailed on page 78.

(6) REGIONAL COMMUNITY ACTION — 4 MAIN PAGES

BACKGROUND

ORACLE has been providing a Community noticeboard and social action television back-up service for most ITV regions since 1985. This material is provided to us by the Community Education Officers (or close equivalent) of, and for, the Scottish, Ulster, Tyne Tees, HTV (West and Wales), Central, Anglia, TSW, TVS and London (Thames/LWT) television areas.

Much of the material they provide, in our view, forms a legitimate part of the content of ancillary services and for that reason we do not propose to duplicate it. (Further consideration of Ancillary Service Teletext is provided on page 203.)

In 1988 we added the Jobfinder service in collaboration with the Employment Service.

Our proposal under this heading is to provide those areas of community action which we feel are a continuing and necessary part of the public teletext licensee's remit.

CONTENT

The service will consist of:

Jobfinder

The ORACLE Jobfinder service is a collaboration between ORACLE, the Employment Service and a number of ITV companies (in Northern Ireland a similar arrangement is organised with the Department of Economic Development and Ulster Television). It was officially launched by the then Secretary of State for Employment, Norman Fowler, in 1989.

Its purpose is to provide regionally based information on specific employment opportunities, training opportunities and business development schemes. Its aim is to reach out to the many people who are unaware of the vacancies and schemes available to them and to reassure the unemployed that there continue to be opportunities for them.

Jobfinder consists of 50 pages of material in each region, usually made up of 30 pages of vacancies and 20 of "gateway" (schemes and courses) information.

As well as being published on ORACLE, the pages are also currently transmitted as programmes by all ITV companies except Thames/LWT, Anglia, Channel and TVS. Central and Yorkshire provide Jobfinder programmes under a separate arrangement with the Employment Service.

The material is produced by the Employment Service's ORACLE Jobfinder Unit based in Sheffield. A team of seven plus manager is employed exclusively to create and to administer the ORACLE service.

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In Northern Ireland the material is assembled by the D.E.D. and created as teletext by the Education Department of Ulster Television.

The technical arrangements for the service (detailed in the Technical Plan) allow the Jobfinder Unit constant access to the ORACLE service which enables amendments or deletions to material whenever necessary.

Our arrangement with the Employment Service allows us continuing editorial control of the material.

Preliminary objective research by ORACLE shows a weekly readership of just under one million for the Jobfinder pages while the Employment Service's own evaluations have encouraged them to continue their support of the concept.

We are currently training all the ORACLE Jobfinder staff in teletext graphics, and the Employment Service is now mounting an awareness campaign for the service.

Social Action

This will consist of a multipage of up to 25 frames designed, on a region-by-region basis, to provide information about and requests for help/volunteers from groups involved in charitable and/or socially purposive action.

Material under this and the subsequent "Action" headings will be vetted in strict accordance with the relevant ITC codes.

Environmental Action

This will consist of a multipage of up to 25 frames designed, on a region-by-region basis, to provide information about and requests for help/volunteers from environmental action groups.

Action Events

This will consist of a multipage of up to 25 frames designed, on a region-by-region basis, to provide information about events organised by groups falling within categories defined in the above two sections. Events organised by these groups which seek public support for fund-raising events will be published.

NUMBER OF PAGES

Regional Community Action will consist of four main pages.

AVAILABILITY AND PAGE VARIATION

These pages will be available throughout the transmission hours of the relevant ITV company and its transmitters.

INTEGRATION WITHIN THE SERVICE

The Regional Community Action pages will be indexed within the overall indexing policy detailed on page 77. More specifically, but not exclusively, they will be included:

- (i) in the Main Indexes (pages 100 and 400);
- (ii) in the alphabetical indexes (199 and 699);
- (iii) in the printed form of index provided directly to readers on request and as part of manufacturer or retailer documentation;
- (iv) in cross references from other subject categories, specifically (but not exclusively), the Environment, Education, Earshot and Careers pages;
- (v) in Fastext routing, policy for which is detailed on page 78.

INDEXING AND ROUTING

(a) For single page, non-Fasttext uses

Indexing:

Our research and experience indicates that by far the two most important determinants of public appreciation and usage of teletext services are the speed of delivery of pages and the ease of access to pages. These considerations are central to the presentation of our service suggested in the following schedule of pages.

ORACLE has experimented with a number of alternative indexing structures, chiefly the indexing system described as "Newspaper Format". This places all indexes to sections at the front of the entire teletext magazine (ie News Index on 101, Weather Index on 102, Sport Index on 103, etc.). Although this system has the advantage of allowing very flexible page allocation, and offers all the services headlines within the first ten pages, we found considerable reader confusion was caused by it.

The current indexing system by which pages are offered in groups and multiples of ten was adopted in 1985. This "Decade" structure allows the reader rapidly to "learn" index numbers and offers a ready guide to where all related pages in subject groups will be found.

Experience also leads us to avoid wherever possible unnecessary "gaps" in page usage. Readers find it hard to accept that, say, pages 180 to 189 are not in use and will attempt, to no avail, to dial up pages which are not in use and which, they conclude, indicates a malfunction in their teletext set or our service computer.

Routing:

Our house style on routing between pages and services is that at the base of all pages (or directly above any advertisement "fractionals") an "in-house routing" bar appears. It refers readers back to the index page for the section which they are currently reading, and forward to the next page in the numerical sequence of pages. For example, the "in-house-routing" bar on page 223 (ITV Listings) will be:

TV Index ..220

Channel 4 TV ..224

This house rule is broken only where the page content makes such additional material impossible in Football League tables.

INDEXING AND ROUTING

(b) Fasttext routing

Background:

ORACLE was the first teletext provider in the world to recognise the advantages provided by the enhanced routing system known as Fasttext. Fasttext allows an extra row of text to be displayed on each page (and transmitted as Packet 24) and, by colour coding this text, for a row of coloured buttons on the handset to be used to "auto-dial" page numbers (and transmitted as Packet 27).

In association with increased page memory in teletext sets, this facility has provided readers with a much enhanced means of access to pages and, in many cases, the "illusion" of virtually instant access to those pages. Fasttext is transparent to non-Fasttext sets.

ORACLE launched its Fasttext service in January 1987. Fasttext sets now account for 43% of all teletext sets installed.

ORACLE intends to continue to provide a Fasttext service throughout the licence period.

Basics:

Packet 27 allows for five page numbers to be specified by ORACLE as the Fasttext links for any given page.

The first four correspond to the Red, Green, Yellow and Cyan prompts displayed on-screen from Packet 24, and the colour-coded buttons on the reader's remote control.

The fifth page number specified in Packet 27 is designated "Index", but is not displayed on-screen. The reader's remote control has a button marked for this additional link (either "Index" or "i" or "I").

Usage:

When an ORACLE page is called up, the decoder on the Fasttext set will respond to the contents of Packet 27 by acquiring and storing those pages specified. This varies from set to set — older sets will only acquire and store the first three linked pages, and autodial the Cyan and Index pages. Larger memory sets will acquire and store more than this.

A Fasttext link can then be selected from those displayed. The selected page will be displayed with its own Fasttext, allowing further choices to be made.

Fasttext allows and encourages readers to move from one section to another (and from page to page) easily and efficiently.

Structure:

To allow readers to make the greatest possible use of Fastext, and to make usage as easy and interesting as possible, a basic structural model was devised when the ORACLE Fastext service was first launched.

The essential characteristics are:

- (a) From a section index, links are to:
 - the following pages within the section;
 - the preceding section index;
 - a related section; and
 - the preceding highest level index.
- (b) From a page within a section, links are provided to:
 - the following pages within the section;
 - a related section; and
 - the section index.

However, it is desirable to be able to modify this basic structure to allow for short-term special features or to highlight specific pages. The flexibility of the ORACLE Fastext service allows for this.

Maintenance:

A primary requirement is to maintain consistent Fastext links within multipage sets, sections, magazines and transmission channels.

Maintenance of Fastext links is achieved using programs which scan transmission magazines, identifying pages which either do not contain Fastext data, or have incorrect data.

Current programs scan 19 transmission magazines containing approximately 6,000 pages in 15 minutes.

Editing:

Fastext editing is centralised to ensure consistency of style and structure across the entire ORACLE service under the supervision of Richard Shipp as Fastext manager.

Fastext can be edited either page by page, or by bulk update from a single standard editing terminal.

Updates are always made to transmission pages to ensure that the Fastext associated with each page is current and up-to-date.

**PROPOSALS FOR THE SERVICE
SUMMARY TABLE**

Information Strand	Number of main pages		Cross References
	Non Regional	Regional	
News	23	8	
Weather	5	1	
Sport	79	0	
Travel	4	1	
Financial/Business	47	0	
Arts and Leisure	62	14	
Children	11	0	
Education	18	5	
Religion	1	0	
Other	14	0	
Total Pages allocated	264	29	

Note: A full list of individual pages from which this table is extracted, together with references to relevant explanation of content, is provided in the following Table.

STRAND ANALYSIS**Detailed Information****Strand Analysis****Page Ref****Regional****News**

Headlines	16	
News Index (x 2)	16	
News Stories (x 13)	16	
World News	16	
News in Brief	16	
Newsround (x 2)	17	
Newsflash (x2)	17	
Rest of the News	17	
Regional News Index	61	•
Regional News Stories (x 7)	61	•

Weather

Weather (and Travel Index)	26	
Weather Maps	26	
Four Day Forecast	26	
World Weather Reports & European Forecast	26	
Shipping Forecast	27	
Regional Weather Forecast/ Severe Weather Warning	67	•

Sport Excluding Racing (x 49) 19

Racing (x 30) 24

Travel

National Roads (Trunk Roads & M-ways)	28	
Regional Roads	69	•
Rail News	28	
Air News	28	
Eurowatch	28	

STRAND ANALYSIS

Detailed Information

Strand Analysis

Page Ref

Regional

Financial & Business

City Headlines/Index	30	
Share Prices (x 4)	31	
London Stock Market	31	
Shares on the Move	31	
FT-SE and FT-30 Index summary	31	
Exchange report	31	
Exchange rates	31	
City News Headlines/Index	31	
City Stories (x 9)	31	
International News Headlines/ Index	31	
International News (x 2)	31	
International Markets (x 3)	32	
Company Reports Headlines/Index	32	
Company Reports (x 9)	32	
Personal Finance Index	33	
News	33	
Mortgages	33	
Interest Rates	34	
News Feature	34	
Tax Rates	34	
Letters & Answers	34	
Unit Trusts & Pension Funds	34	
National Savings Investment Rates	34	
Property	46	
Tourist rates	58	

STRAND ANALYSIS**Detailed Information****Strand Analysis****Page Ref****Regional****Arts**

Reviews Index	40	
Reviews News	40	
Reviews	40	
Television	40	
Theatre	40	
Films	40	
Top Ten Films	40	
Video Reviews, News & Charts	40	
Books Reviews & Charts	40	
West End Theatre Synopses	41	
Classical Music News & Reviews	41	
Rock & Pop Index	42	
News	42	
Reviews — Singles	42	
& Albums	42	
Readers Reviews & Reports	42	
Music Columns	42	
Network Chart	43	

Leisure

Plus Index		
Russell Grant's Stars	38	
TV Letters	38	
TV Plus	38	
Newspaper Review	38	
Prize competition	39	
TV Listings Index	36	
BBC1 today	36	
BBC2 today	36	
ITV today	72	•
Channel 4 today	36	
Satellite today	36	
BBC1 & BBC2 tomorrow	36	
ITV tomorrow	72	•
Channel 4 tomorrow	36	
TV Now and Next	36	

STRAND ANALYSIS

Detailed Information		
Strand Analysis	Page Ref	Regional
Leisure (cont.)		
Regional Index	70	•
Regional Events Index	70	•
Regional Theatre Guide	70	•
Regional Jazz & Folk Music	71	•
Regional Rock & Pop Music (x 2)	71	•
Regional Cinema Guide (x 5)	71	•
Regional ITV Subtitling for the week	72	•
Rock & Pop		
Letters	42	
Star Bitz	42	
National Gig Guide	42	
Holiday News	58	
Holiday Feature	58	
Skiing Reports (seasonal)	27	
Buzz Index	48	
News for Teenagers	48	
Letters (Teenagers)	48	
Star Interviews & News	48	
Youth TV	48	
Debbie's Diary	48	
Computer news, reviews & charts	48	
Prize competitions	48	
Diversions Index	44	
Motoring	44	
Car Reviews	44	
Gardening	44	
Angling	44	
Mindbender	44	
Puzzle	44	
Crossword	44	
Chess	44	
Bridge	45	

STRAND ANALYSIS

Detailed Information	Page Ref	Regional
Strand Analysis		
Leisure (cont.)		
Lifestyle Index	53	
Recipe	53	
Homestyle	53	
Knitting	53	
Park Avenue	53	
Wine	46	
Food & Eating Out	46	
Children		
Children's Index	50	
Cartoon — Haunting Times	50	
Jokes	50	
Graphic Jokes	50	
Children's News	51	
Children's Own Magazine	51	
Children's TV	51	
About Animals	51	
School's Cool	51	
Tea-Time Quiz	51	
Pen Pals	48	
Education		
Letters to the Editor	38	
Comment	38	
Live Polls	39	
Problems	39	
Community Index	73	•
Regional Jobfinder	73	•
Regional Community Action		
Noticeboard	74	•
Regional Community Action		
Events	74	•
Regional Environmental Action		
Noticeboard	74	•

STRAND ANALYSIS

Detailed Information		
Strand Analysis	Page Ref	Regional
Education (cont.)		
Help! (problems)	48	
Baby and Childcare	53	
Consumer News	53	
Health Check	53	
Best Buys	53	
Supermarket Round-up	53	
Supplement Index	46	
Science & Technology	46	
Environment	46	
Medicine	46	
Law & Lawyers	46	
Careers	47	
Educational Courses & Training	46	
Earshot	57	
Religion		
Forethought	55	
Other		
Main Index (x 2)	59	
Miscellany Index	59	
Complaints/Copyright & Competition Rules	59	
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A.2 NATIONAL AND INTERNATIONAL NEWS

The applicant should state how he intends to satisfy the requirement that a sufficient amount of news items should be of high quality and deal with both national and international matters.

HIGH QUALITY

Ensuring that news, both national and international, is of "high quality" is as the ITC has stated "a matter which cannot be reduced to a single formula". Before any organisation can make commitments to a high-quality news service it must ensure that all the elements necessary to allow the provision of such a service are in place and that, in each case, they are "the best of their kind". The elements which are central to our commitment to high-quality news provision are:

Sources

Our news service will be based on material provided by the Press Association which in turn will be based on its own material and that from Reuters and Associated Press. Each is a source of excellence in its own field.

We shall in addition be commissioning and receiving material through our own team of journalists.

Resources

Our in-house newsroom team of eight journalists will be supported by a dedicated Press Association ORACLE News Unit based on its editorial floor at its Fleet Street Headquarters. Production of the teletext-ready material by PA will involve a total of sixteen staff.

The staff involved at both offices will be using the purpose-built TITAN system which will provide the most powerful editing support and flexibility any computer system has yet offered teletext editors.

The initial editorial team will consist of David Klein for ORACLE and Roger Macdonald and Neil Williams for the Press Association.

Specification

ORACLE's specification for news provision has as its basis that it should be of the highest quality and that it should be impartial and independent in accordance with our responsibilities and our own policy. Day-to-day operation will be under the supervision of the Editorial Director and the News Editor and will be in accordance with ORACLE style and policy.

NATIONAL AND INTERNATIONAL NEWS

Our agreement with the Press Association enshrines the stipulation that all teletext-ready material that is supplied will be in accordance with all relevant ITC Codes.

History and Tradition

ORACLE has by history and tradition a commitment to high-quality independent news provision. News is a vital element in our success and its appeal to readers is built on the widespread perception of its independence and high quality. ORACLE is therefore able to commit itself to a high-quality news service.

Research and Consultation

ORACLE continuously monitors the reaction to and appreciation of its services through research which is used to inform editorial management. News provision is monitored for size of readership together with tests of appreciation of its impartiality. This policy will continue.

In order to allow constant monitoring of quality, time will be set aside for meetings of journalists and editors in our own newsroom. Formal arrangements have been agreed between ORACLE and the Press Association for regular meetings and discussions that will enable quality to be maintained. A direct voice and computer link will be established between the ORACLE newsroom and the PA ORACLE Unit and there will be weekly and monthly formal meetings to review the quality of the service.

Training

All staff appointed to the ORACLE newsroom will, as a minimum:—

- (i) be NCTJ trained.
- (ii) have at least three years' relevant newspaper newsroom experience.
- (iii) will receive training, and annual retraining, in ORACLE editorial style and policy and operate within the relevant ITC Codes and Guidelines.

This policy will also be followed for the staffing of the Press Association ORACLE Unit.

NEWS VALUES

The news that is presented at any time will, naturally, reflect the overall news agenda of the moment. The controlling considerations in establishing this agenda will be:

- (1) A commitment to and understanding of the ITC's requirements for news values to be independent of and impartial towards proprietorial, political, economic or social interests.

NATIONAL AND INTERNATIONAL NEWS

- (ii) An awareness of ORACLE's unique advantage in the perception of the impartiality and independence of its service by readers. Comparing ORACLE and newspapers, 59% of teletext householders are more likely to believe ORACLE and only 4% are more likely to believe newspapers (see Appendix B for further details). The independence and impartiality of our service is a vital element in our unique "proposition" to our readers and it is a commitment which informs our entire editorial philosophy and day-to-day operations from training to editing.
- (iii) An appreciation of the necessity to avoid an ethno-centric approach to the allocation of space to international as opposed to national news coverage. It is difficult to define a maximum allocation of space as between international and national news coverage but as a minimum ORACLE will provide five main pages of international news coverage with a guaranteed place for "World News", providing a main page with additional multipages as required.
- (iv) ORACLE's news service provides the "meat" of the news story. Our style and policy dictates that the story is presented as concisely as possible and wherever possible within one single main page. Our role is to present a real time assembly of the up-to-the-minute news stories and to allow our readers to use the information presented in order to form their own value judgements.
- (v) ORACLE provides readers with the essential news agenda. It provides them with an easy to access service (all of the news service is indexed and accessible from a single index) which can be read within a reasonable time.
- (vi) We must take care to ensure a proper balance between our ability to update news and redraft our news agenda instantly with the individual's requirement that we reflect the "news of the day". A reader who wishes to use our news service just once a day to read the day's news should be properly catered for at the same time as readers who wish to follow the news updates throughout the day.

NEWS EDITING PLANS

ORACLE's news service will be equipped, staffed and briefed to provide readers with instant updates, re-writes and background to news items of worth as and when they "break".

We have spent two years analysing the necessary organisational and staffing arrangements that are required to meet our exacting demands and the exciting capacity of the medium to provide instant updates.

NATIONAL AND INTERNATIONAL NEWS

We have defined our minimum updating standard (that is, in cases of electrical, electronic or communication failures) as being a complete review and verification of all news material every thirty minutes. Both our newsroom and the PA ORACLE Unit will have the necessary back-up equipment to allow them two separate methods of news editing and there will be a complete and separately sited back-up computer database and transmission computer with separately routed communications links.

ORACLE will, therefore, meet the ITC's minimum criteria for news updating between midnight and 06:00.

Under all normal circumstances, however, we shall be editing and presenting all news-worthy material as and when it becomes available, 24 hours a day.

PROVISION FOR NEWSFLASHES

We shall provide a newsflash service on page 150 on both ITV and Channel 4 (as at present).

The newsflash will provide a short (no more than five line) synopsis to television viewers with a teletext set of any information of significance. The newsflash will not be over used nor will it simply be an indication of the latest story received by the newsroom.

The initiation of a newsflash will be on the basis that the information it contains would be of interest to any individual who is concerned to be kept in touch with the most important items of news, sport, City, weather or travel information that are of general interest and of such significance that they constitute a "lead" or major story.

The change in our arrangement for news provision will allow us to provide a more rounded newsflash service than in the past. Our newsroom staff will be briefed to include weather and travel information in their consideration of material worthy of constituting a newsflash. Newsflashes will, however, be biased towards news stories.

Where sport results are provided and the games reported on are to be televised later (on any channel) then these will be "concealed" in the initial display to allow those who do not wish to know a particular score or result to avoid seeing it. Those that do want to know the result will press "reveal".

We have assessed the benefits and disadvantages of splitting our newsflash service into, say, three or four pages providing a newsflash, a sportsflash, a Cityflash, a weatherflash, etc. as does Ceefax. Although such a split of service might enable a wider agenda of material to be provided under each heading, we have rejected this approach. Although an individual might, while watching a television programme, want to be

NATIONAL AND INTERNATIONAL NEWS

informed of, say, any important travel news it is not possible or credible to assume that he/she is therefore uninterested in a major breaking story announcing, say, the date of the next General Election. We are not able to second-guess convincingly, therefore we shall offer one newflash on each channel and, again, accept that it is our responsibility as an electronic newspaper to provide readers with a comprehensive newflash service.

A.3 REGIONAL INFORMATION

The applicant should add here further details about how he will satisfy the requirement that the service is to include a sufficient amount of information which is of particular interest to persons living within different areas for which the service is provided.

In April 1984 ORACLE became the world's first teletext operator to launch a regional teletext service. We have seven years' experience in the editorial and technical skills which such a service demands and the evidence of its popularity in readership ratings is positive.

ORACLE intends to provide, as part of our newspaper, a range of regional services designed to appeal to and cater for people living in each of the ITV regions.

Our ability to cater for regional needs and interests in thirteen separate areas of the UK is a quality of service that print newspapers will be unable to match.

Proud though we are of the regional services we are offering, we intend that they shall be so much a part of the whole service, so well integrated and closely indexed as part of that whole and of the same quality as all our other services, that readers will not notice that, where they require it, the service they are reading is produced specifically for their region. When they read the News Headlines on page 101 they will be directed on to Regional News -- which will cover their own region; when they look at road news it will cover roads in their region and so on. We do this because it is our view that regional coverage is something our readers should expect rather than be surprised by or of which they should be reminded.

The national and regional research we have undertaken through NOP shows that the regional services we currently provide across the network, and those we plan to extend across the network, are popular with our readers. Research conducted in the TVS region shows a high spontaneous awareness and readership of the TVS News and the Community Action pages. National research shows a consistently high readership for regional weather forecasts, for regional ITV TV listings and for What's On.

In order to ensure that our regional services continue to provide a high quality of service which matches the needs of the regions they serve, we shall maintain our commitment to regular and widespread research of those services (through NOP, twice each year). We will, as we do now, use

REGIONAL INFORMATION

that research as guidance to editorial management in refining and developing the service.

Our improved technical arrangements will put us in permanent two-way communication with each of our regional computers, so that we can print and reprint our service throughout the day and supervise each one to ensure its quality.

In each and every case our services will be specified, supervised and edited with a view to providing each region with a properly targetted view of the region under each of the following categories:

REGIONAL NEWS

As we detail above (A.1 — page 61) we have carefully examined the options presented to us for the provision of regional news. We have decided that the balance of advantage in terms of quality of services lies in favour of ITV regional newsrooms.

The ITV newsrooms know their regions better than any other news organisation, their sources and their news journalists understand and live in the regions they serve, have a better grasp of the regional news agenda and they have a regional reputation for news (ITV regional news programmes consistently gain higher audiences than similar BBC programmes) and they have staff reporters out and about in their region each and every day.

We shall ensure that the regional news services will, in each case, provide a fair balance of coverage from around the region and will include a "regional round-up" multipage of shorter news stories to broaden coverage further.

WEATHER

The Meteorological Office and ORACLE have long joint experience in providing forecasts for each of the ITV regions. We have split some regions in order to improve the focus of the forecast areas.

Forecasts for different regions will be provided by the relevant Regional Forecasting Centres (these are listed on page 141). The speed and flexibility of the Met. Office's communications links, in combination with our high speed distribution network will mean that material written in, say Leeds, for the regional weather forecast for the Yorkshire Television region can be delivered to ORACLE via the Met Office's Bracknell Videotext Unit, checked by ORACLE and be "on-air" in the Yorkshire Television region as fast or faster than by any other medium (and, because, it has been properly checked and subbed, at higher quality).

REGIONAL INFORMATION

Severe weather warnings are designed to provide a separate, region by region, service of vital concern to every individual in each given region.

TRAVEL

The Regional Road Report for each region will be based on reports and information from regional police forces, local and regional authorities and utilities, from members of the Automobile Association and from the AA's own patrol drivers.

The information will be collated by Roadwatch Units in Glasgow, Leeds, Manchester, Birmingham, Cardiff, Exeter, Bristol and London.

The AA's sophisticated communications and computer systems will allocate material into "packages" relevant to each ITV region and deliver it to the London Roadwatch Unit for a final check. The material will then be despatched to ORACLE and sent for transmission within a few seconds.

The AA and ORACLE are working together on the computer interface that this service requires and test transmissions of material have been completed. ORACLE will ensure that all the regional road reports will be relevant to the region they serve by providing the AA with our gazetteer to all towns and the ITV regions in which they are located (which we produced originally for use by our What's On team) and specifying that their service conforms to it.

WHAT'S ON

ORACLE first launched a form of the What's On service in 1979 and in 1985 it expanded to provide the separate regional services that have proved so popular with readers (1.9 million readers each week).

The sources for events listings information in each region are a mixture of national and regional organisations and a central unit for the production of these listings therefore avoids considerable duplication of effort.

The What's On department of ORACLE has developed thousands of contacts with events organisers and venues throughout the UK. In some cases, such as cinema chains, material which is of relevance to a number of or all regions is despatched to us and can be checked with a single national source. In many others we contact or are contacted by organisers of events of relevance to only one region.

In order to handle events material more efficiently ORACLE has developed purpose built software which enables our What's On Department to ensure that the correct material is published in the relevant region on the relevant days ("Whatsnew" is detailed in A.9 page 177). This system also incorporates a gazetteer which identifies each town in the UK with the ITV transmission area in which it is located.

REGIONAL INFORMATION

In order to ensure that people living close to transmission area borders are adequately catered for we list some events in the services for two (or occasionally three) regions.

In each region the exact balance of interest in the various leisure time activities that we list will, of course, vary. In each case the content of the What's On section will reflect these variations in the number of multipages allocated to each subject heading.

COMMUNITY ACTION NOTICEBOARD

The Community Action Noticeboards service will allow us to reflect a range of social and environmental activities within each region and to inform people of a wider range of local activities than is possible for services which serve generic tastes such as Cinema which require comprehensive listing.

Our Community Action services will allow us to focus the attention of the whole of each region upon activities occurring in, generally, single locations within the region and which might interest large numbers of people across the region or on single issues which have relevance to people across the region.

The Community Action services and, within them the Jobfinder pages, will be specifically targetted at the region they serve.

ITV LISTINGS

The provision, on a region-by-region basis, of ITV programme listings together with a listing of subtitling schedules for the week ahead is an important element in our regional service.

In each region of the UK television viewing is the most popular leisure time activity and ORACLE will provide a complete guide to the ITV company programme schedules.

As we enter a new era for subtitling in which teletext subtitled programmes will vary more and more widely between regions we regard the provision of a regional list of subtitling for the week ahead on ITV as an important service to the deaf and hard of hearing.

THE CHANNEL ISLANDS

The Channel Islands area as a whole does vary in important respects from others especially in its dependence on air and sea transport and its small geographical size.

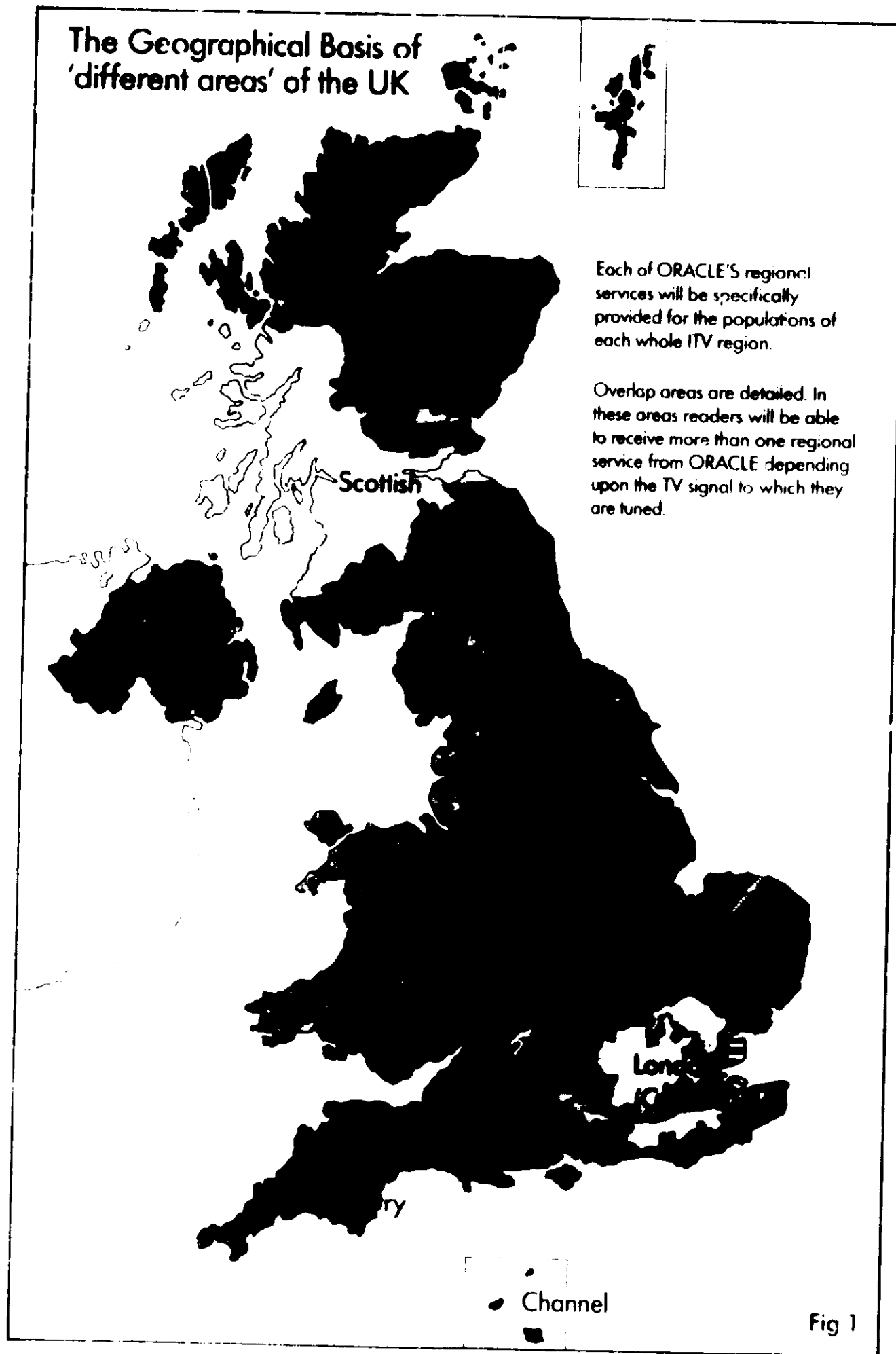
These factors have been borne in mind in this proposal and in the Channel Islands our service will include additional air flight and sea transport information and will provide information on events in the region down to a much more local level than is possible in any other regions.

REGIONAL INFORMATION

MAP OF ORACLE REGIONAL SERVICES

On the following page we provide a map of the various regions in which we propose to provide a separate regional service. These all coincide with the post-1992 ITV regions.

A.3 Regional Information



A.4 DIVERSITY IN THE SERVICE

The applicant should add here any additional information as to how he intends to satisfy the requirement that the service, taken as a whole, includes a sufficient amount of information (other than news) which is calculated to appeal to a wide variety of tastes and interests.

As an electronic newspaper we aim to cover all the subjects that would be found in a print newspaper and its supplements. The simple fact of the matter is that the public has a broad range of interests which it is our aim and public teletext's duty to satisfy.

In this proposal, ORACLE is offering a diverse and rounded electronic newspaper designed to inform, entertain and educate a very wide range of interest, age and socio-economic groups. The diversity of our proposed service is no mere window-dressing. We regard diversity as the life-blood of the growth, popularity and long-term success of the medium.

Every newspaper should take pride in and pay special attention to the quality of its news services. ORACLE certainly does. In our case we shall also be paying special attention to those aspects of our newspaper which set us apart from the others; our impartiality and speed being the foremost.

No newspaper, however, would take either the popularity of its news pages nor its journalists' or management's enthusiasm for news services as sanction to allow it to neglect the necessity to offer a rounded "package".

Whereas we can expect a very high proportion of our readership to require news, weather forecasts and sports news, there is a vast array of other subjects that discrete sub-groups of readers expect public teletext to present. The quality of content and presentation of news feature material must be as high as that for news, sport and City services.

Nor can diverse subjects be properly treated if only a token allocation of pages or resources is provided.

The creation of a successful newspaper, and its long-term popularity, depends upon making the right decisions about its overall appeal — this requires a team used to editing and creating (in television terms, scheduling) a whole newspaper. Our success over the past decade is evidence of our skills in this area.

A proper mix of services can be created and can be successful across the entire range of services. ORACLE is doing it today. ORACLE now consistently beats Ceefax for overall daily and weekly readership and in readership for news sport and City pages and in readership for features and

DIVERSITY

news feature pages. Our research further indicates that readers prefer ORACLE because of, not despite our diversity. Our positioning as a diverse medium vis-à-vis Ceefax and the success that positioning has brought us in higher readership than Ceefax, demonstrates a clear preference for a diverse service.

Furthermore, we have established readership levels for our diverse range of features "magazines" which attract very high readerships in comparison to print magazines in the same category.

Our newspaper will contain a mix of the "lead" services and of features material, in line with that of similarly positioned "mid-market" national newspapers. News, sport, City, weather and travel pages will form 56% of the total number of main pages we provide (52% if weather and travel are excluded).

This mix is not only popular with our current readership, it is a vital element in ensuring the long-term success of teletext. A well rounded service such as ours will draw readers in to a wider and wider use and appreciation of teletext.

Here is a list of some of the diverse groups that our service shall be serving:

Anglois; book lovers; rock fans; the retired and soon-to-retire; semi-professional and private investors; chess players; movie-goers; rock music fans; competition entrants; letter writers; amateur cooks; lawyers; teachers; environmentalists; sea-farers; horse racing fans; holidaymakers; gardeners; bridge players; astrology followers; children; teenagers; soap opera fans; video renters; theatre goers; medical interest groups; wine drinkers; community groups; the deaf and hard of hearing; classical music lovers; small investors; sports fans and knitters.

A.5 ORGANISATION AND STAFFING

The applicant should describe the intended organisation structure of the applicant body, identifying key posts, named post holders (where possible) and numbers of staff to be employed to provide the service. Applicants must describe the quality and calibre of key executives, including all known executive and non-executive Directors, related to the tasks they will undertake. A diagram of the management reporting structure should be provided, as well as a general organisation chart indicating the distribution of functions within the organisation.

The Board of ORACLE Teletext Limited comprises the Chairman, the four executive directors and four non-executive directors drawn from the shareholders. The Board meets bi-monthly to discuss issues which require resolution and approval at Board level, and the management accounts.

Internal management matters are raised at monthly Executive Committee meetings at which all departments are represented at management level. The management structure is shown in Schedule A5/1.

BOARD

██████████ — Chairman

██████████ was the first Chairman of ORACLE, appointed in 1980. He subsequently resigned in 1982 but was re-appointed in 1984.

His entire working life has been spent in the media: first in the Press, joining ITV in 1958 as Sales Director of Tyne Tees Television, then becoming a Director of Yorkshire Television in 1968, Director of Trident Television in 1970, and Managing Director of Tyne Tees Television in 1974.

He has held various other Directorships in associated media companies and was a member of the Cable Authority from 1984 to 1990.

██████████ — Managing Director

██████████ has been Managing Director of ORACLE for six years, and has guided the company from substantial losses to a position of sustained profitable growth.

ORGANISATION AND STAFFING

His early career was based in the entertainment industry through appointments as Sales and Marketing Director and Business Affairs Director of major record companies.

He has broad general management experience with particular strengths in corporate strategy, marketing and finance. He has a Masters Degree in Business Administration, is a Chartered Management Accountant and a member of the Chartered Institute of Marketing. He is a member of the Worshipful Company of Information Technologists.

██████████ — Sales Director

██████████ has been Sales Director of ORACLE since 1986, and was previously Sales Manager for four years. He has overall responsibility for the sales and production departments and, under his guidance, sales targets have consistently been achieved or exceeded.

He has extensive media sales experience, having worked in this environment since 1973. Before joining ORACLE in 1982, he was responsible for new business development at London Weekend Television, and subsequently Senior Sales Executive at Southern Television.

He spent the first 10 years of his working life in the Royal Navy, reaching the rank of Lieutenant specialising in Nuclear Submarines.

██████████ — Editorial Director

██████████ has an appreciation of all facets of the provision of teletext services, and has worked for ORACLE since 1978. Having joined initially as a journalist and researcher, he was promoted to Marketing Manager in 1981. ORACLE's successful features output has been under his direction since 1982 when he was appointed Editor. His contribution was recognised in 1986 by membership of the Board.

Before joining ORACLE, ██████████ previously worked for three years on the Presfax launch for BBC Presentation.

He graduated in Modern History & Politics and has a Post-Graduate Certificate in Education.

██████████ — Financial Director

██████████ joined ORACLE in 1988 as Financial Director.

He worked previously at Courage Ltd for two years as a financial analyst at their London headquarters, and spent the following two years as the assistant to the Managing Director of the P&O overseas property portfolio.

After graduating from Bristol University, he joined KPMG Peat Marwick in 1980 and qualified as a Chartered Accountant in 1983 concentrating on auditing and tax matters.

ORGANISATION AND STAFFING

██████████ — Non-Executive Director

██████████ is Chairman of TSW. In addition, he has also been Chairman of the Independent Television Association and Deputy Chairman of Channel Four, and is currently the President of ACT, a body which comprises the main commercial television systems throughout Europe.

Having held various BBC advisory appointments earlier in his working life, he has since held key positions in Independent Television over the past ten years.

██████████ — Non-Executive Director

██████████ joined Border Television in 1982 shortly after the station opened, and is its Deputy Chairman, Managing Director and Controller of Programmes. He has been a member of the ITV Association for eight years.

Previously at the BBC, he was Head of Secretariat, serving the Board and Board of Management at Broadcasting House. He had earlier been BBC Regional Television Manager for the north east and Cumbria, and News Editor North in Yorkshire.

He currently chairs the ITV Selection Panel for the Prix Italia. He is also a founder of CIRCOM Regionale, the European regional producers' organisation and received the Beffroi d'Or from the French Prime Minister for his European broadcasting work. He was awarded the Council of Europe Flag of Honour, Newcastle, for inter-city European cooperation. He received a Royal Television Society award for services to Broadcasting in the North in 1990.

██████████ — Non-Executive Director

██████████ joined Thames Television as a Management Accountant in 1971, later being appointed Deputy Director of Finance and then Director of Finance in 1985. He chaired the Network Finance Committee from 1982 to 1984 and later the Finance Work Group, responsible for setting up the current financial arrangements for networking introduced in 1988.

He is a member of many industry committees, including the Finance and General Purposes Committee of the ITV Association.

██████████ — Non-Executive Director

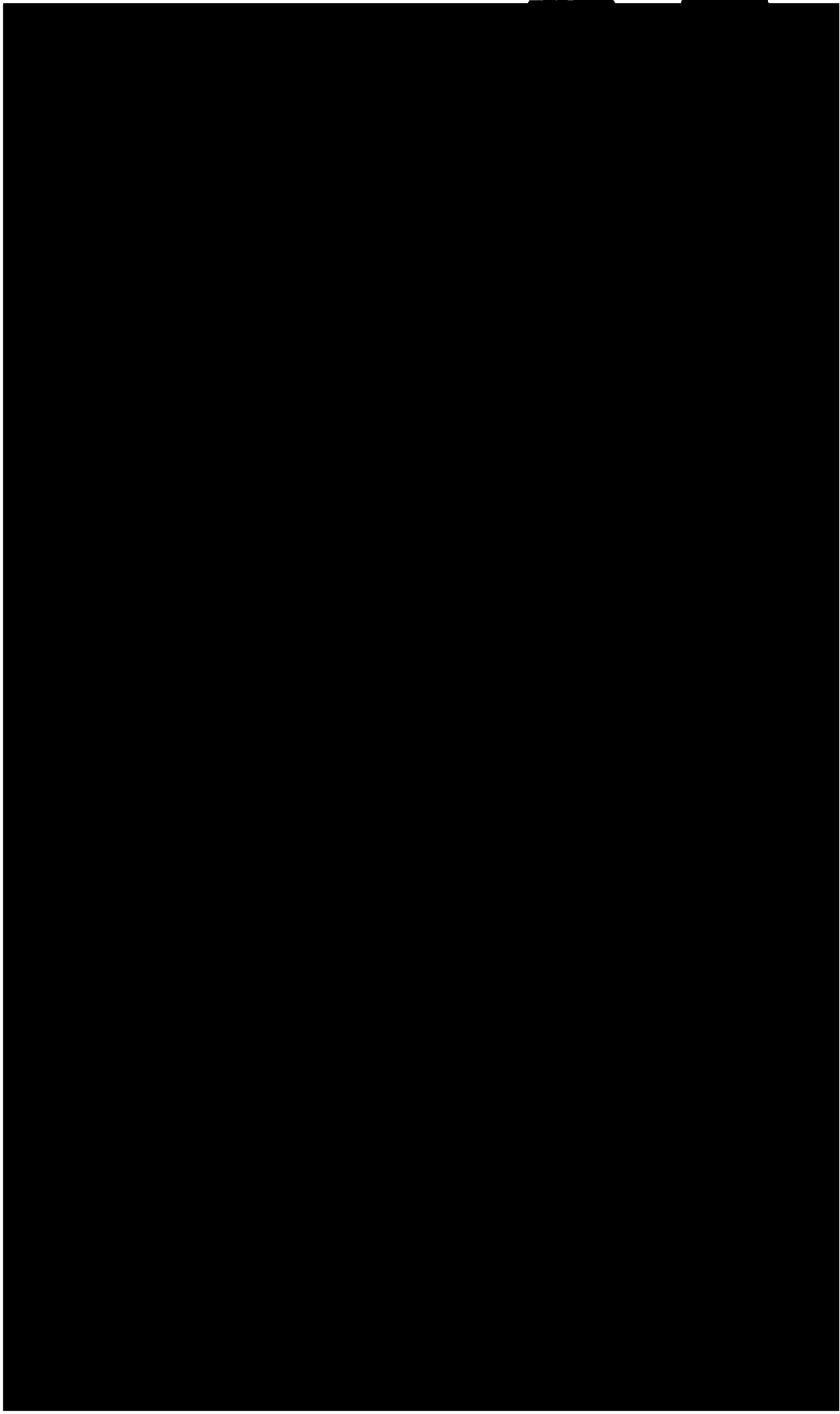
██████████ is Deputy Chairman of LWT (Holdings) plc, and Chairman of the LWT Group operating subsidiaries: London Weekend Television Ltd, LWT International Ltd, LWT Programmes Ltd and the London Studios Ltd.

ORGANISATION AND STAFFING

After working with the BBC since 1952 as a producer-director, [REDACTED] moved to ITV with Associated Television in 1957. He left production for an executive position as Head of Features and Light Entertainment with ABC Television in 1960, and was promoted in 1961 to Controller of Programmes.

He was the first winner of the Society of Film and Television Arts (later BAFTA) Production Award in 1957. He was also a founder-director of Thames Television as Director of Programmes, and a founder-non-executive director of Channel Four.

ORGANISATION AND STAFFING



ORGANISATION AND STAFFING

SALES (10 STAFF)

The department is responsible for selling teletext advertising space to clients and advertising agencies. Schedule A5/2 shows the departmental organisation of the Sales and Production departments.

██████████ — Sales Director (see Board)

██████████ on — Sales Manager

██████████ has been Sales Manager since 1987, having initially joined ORACLE as Sales Executive in 1984.

He has worked closely with ██████████ to ensure the success of the sales team selling display and national classified advertising for which he is responsible.

PRODUCTION (9 STAFF)

The department is responsible for checking advertisement copy and controlling advertising pages. Advertising copy compliance, and queries and complaints regarding on-screen advertising are also dealt with by the department management.

██████████ — Production Manager

██████████ joined ORACLE as a keyboard operator in 1984, and joined the sales department in 1986. She was promoted to Production Manager in 1988.

She is responsible for compliance with the ITC Advertising and Programme Sponsorship Code, and the aspects of the Teletext Code relevant to the department.

Her previous employment includes four years at BT, Exchange Telegraph and Morgan Grampian dealing with various aspects of Prestel.

MARKETING (2 STAFF)

Department responsible for the marketing, promotions, PR and research functions of ORACLE.

██████████ — Marketing Manager

██████████ joined ORACLE as a Marketing Executive and was promoted to Marketing Manager in 1983.

Having gained three years' work experience in Canada in media, sales and publicity, Catherine returned to the UK to work for Butler Dennis & Garland as an Account Executive. She subsequently moved to DJ Edelman where she worked as a Senior Account Executive on the ORACLE account before leaving to work for ORACLE directly.

ORGANISATION AND STAFFING

EDITORIAL (33 STAFF)

The Editorial department is responsible for all of ORACLE's news and features output. The structure of the department is shown in Schedule A5/3.

██████████ — **Editorial Director (see Board)**

As Head of Department, ██████████ oversees the Features and News sections.

News Editor — **to be appointed**

The News Editor will be responsible for 7 ORACLE newsroom staff, who will also provide the City and Sports services.

██████████ — **Features Editor**

██████████ joined ORACLE in January 1988 as a Sub-Editor, with additional responsibility for the day-to-day output of a major editorial section. He was promoted to Features Editor in March 1991 in recognition of his contribution to the editorial aspects of the service. In addition to managing the journalists, sub-editors and admin assistants who make up the Features department, he is also responsible for the day to day compliance of the editorial material with the relevant ITC Codes and legislation.

He has seven years' previous experience editing and sub-editing a variety of local and national newspapers.

ADMINISTRATION (11 STAFF)

The department has responsibility for the financial, personnel and compliance functions. The structure of the department is shown in Schedule A5/4.

██████████ — **Financial Director (see Board)**

██████████ — **Personnel Officer**

██████████ joined ORACLE in 1989. In addition to general recruitment and employee relations, she has developed a training strategy, including the provision of in-house courses.

She studied Managerial & Administrative Studies at the University of Aston, with her placement year spent concentrating on graduate recruitment at Mobil North Sea Ltd. Following two years at Crosfield Electronics focusing on recruitment, graduate and managerial career development, and personnel policy in the R&D department, she was seconded to a multi-unionised site in 1988.

She is a member of the Institute of Personnel Management.

ORGANISATION AND STAFFING

TECHNICAL (11 STAFF)

The department is responsible for maintenance, upgrades and future expansion of the company's computer hardware and software communications equipment, and comprises a team of maintenance engineers and a software development department. It also liaises with the ITC, ITVA and industry on technical matters. The structure of the department is shown in Schedule A5/5.

— Head of Technical Services

Following five years maintaining DEC computer equipment, specialising in data communications, [REDACTED] joined ORACLE in 1985 as a Senior Electronics Engineer. In 1990 he was promoted to Supervisory Engineer and to Head of Technical Services the following year.

He passed City & Guilds in Radio, TV and Electronics, and Digital Techniques, and graduated in Computer Engineering from the Control Data Institute.

SUBTITLING (23 STAFF)

The Subtitling department responsible for all ORACLE subtitling output for ITV Features and News, and Channel 4 News. For the purposes of this proposal, we do not include the staff of our subtitling department in our analyses of staff numbers and costs under Section D.3.

— Subtitling Editor

Following 7 years in the engineering, entertainment, drama and presentation departments at LWT, [REDACTED] joined the Editorial Department at ORACLE in 1982. She was promoted to Subtitling Manager in 1987 and became Head of the Department in 1989.

She attends the Heads of Presentation Planners meetings to receive advance notice of the television schedules, and also liaises with the Deaf Broadcasting Council to maintain links with the hard of hearing community.

TRAINING & DEVELOPMENT

ORACLE attempts to promote employees to senior positions within the company whenever a relevant opportunity arises. To this end, a regular analysis of training needs is undertaken to assess both current requirements and development opportunities.

A combination of external training and specially designed in-house courses are used, depending on the type of need and the availability of appropriate in-house resources.

ORGANISATION AND STAFFING

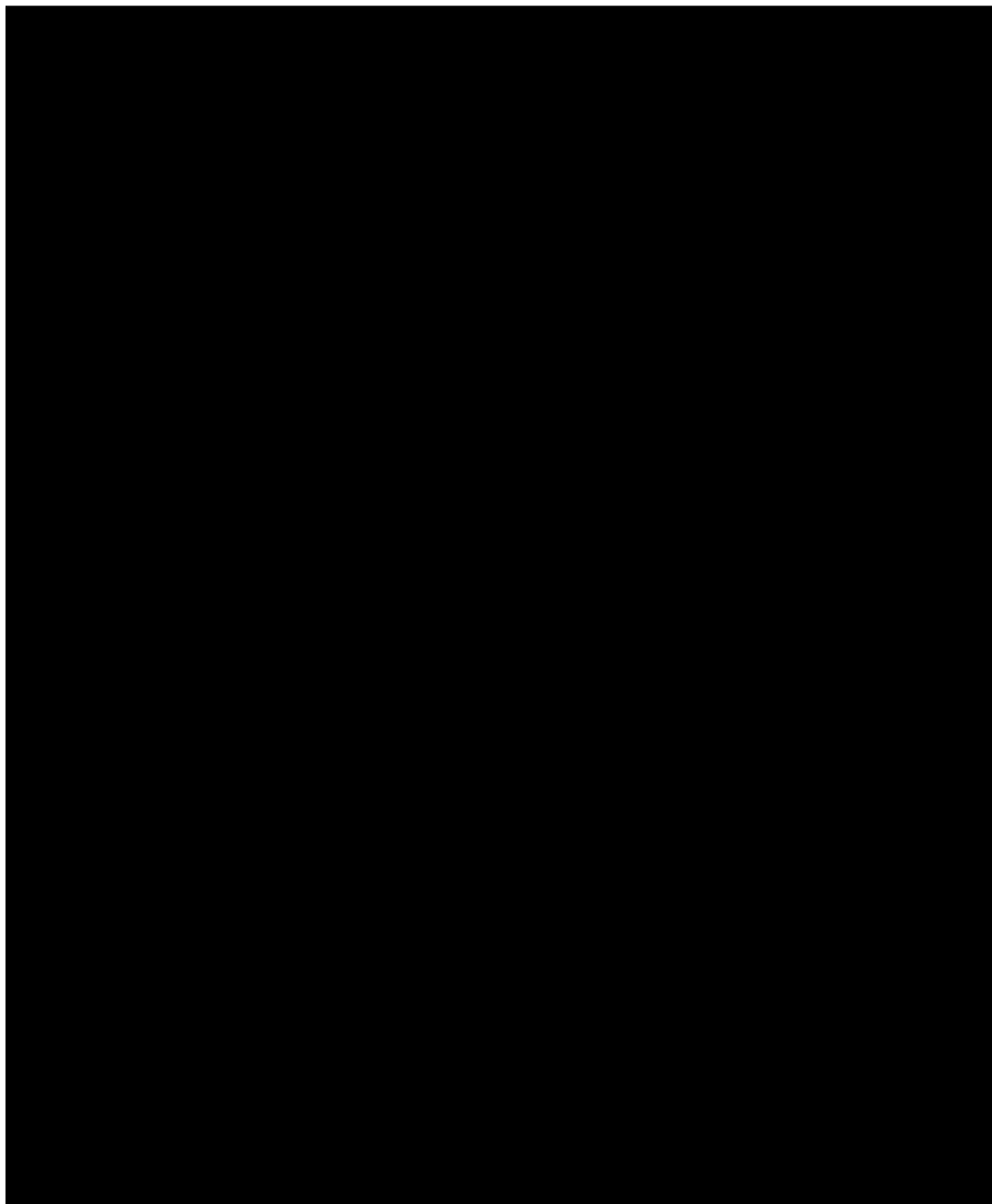
All such courses are carefully evaluated to ascertain their success in meeting the identified need, and to establish any further requirements.

The company has a formal induction programme to familiarise new employees with both new skills and essential information, including compliance and legal considerations.

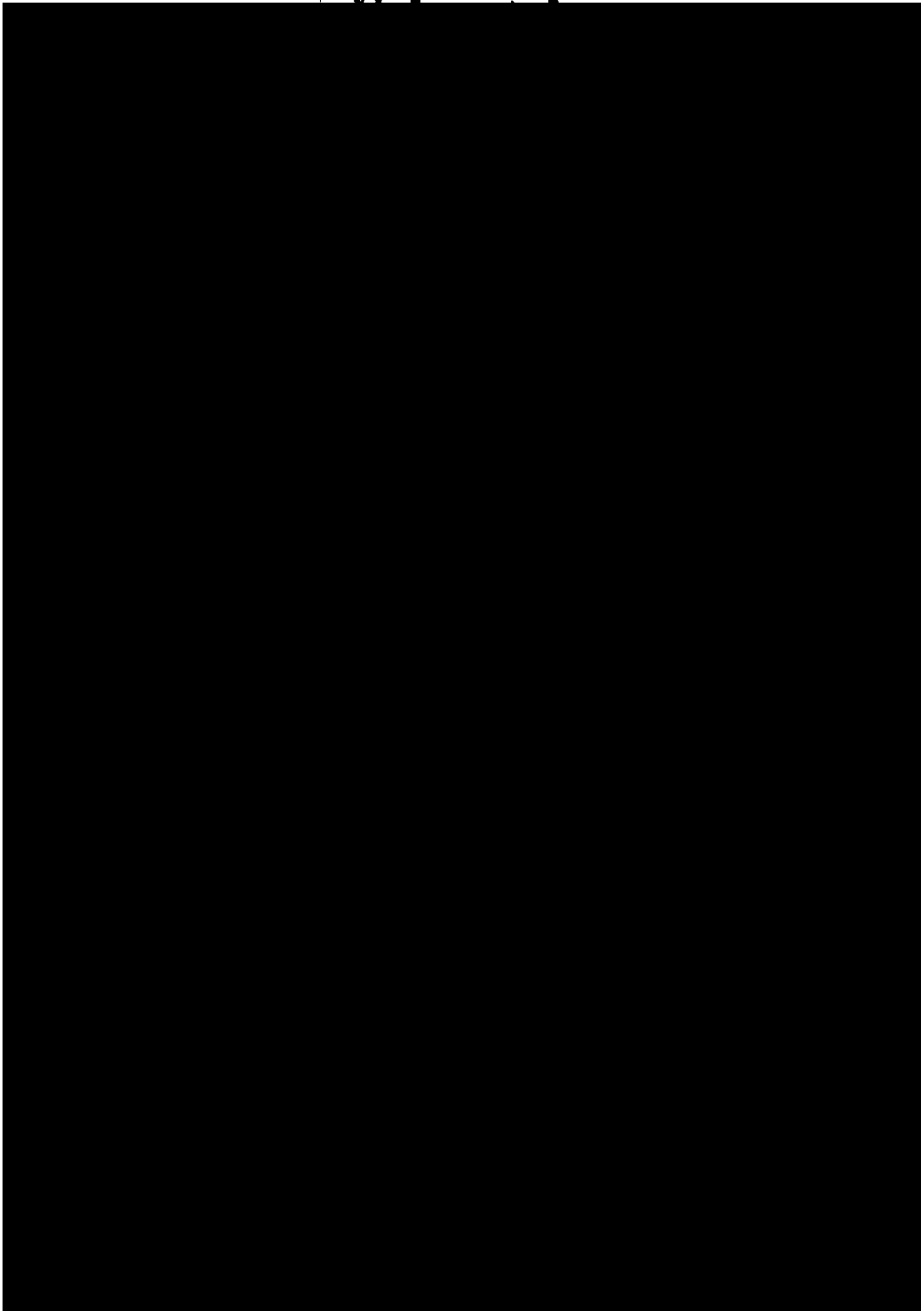
Professional study is encouraged by the company and, whenever possible, employees are given assistance to complete further qualifications.

In recognition of the need to keep abreast of developments in this field, the company holds membership of the Industrial Society — an independent, self-financing organisation with charitable status which aims to increase the involvement of people in their work.

ORGANISATION AND STAFFING

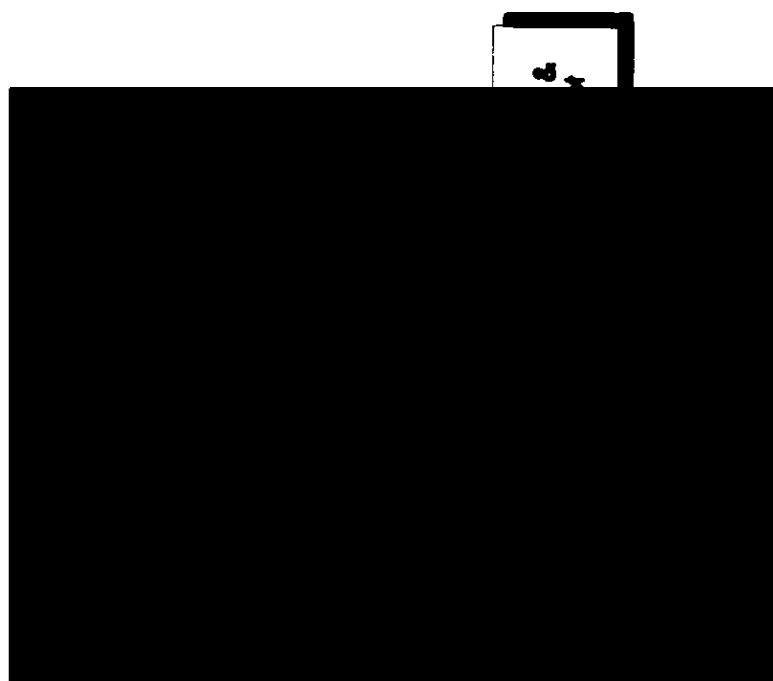


ORGANISATION AND STAFFING



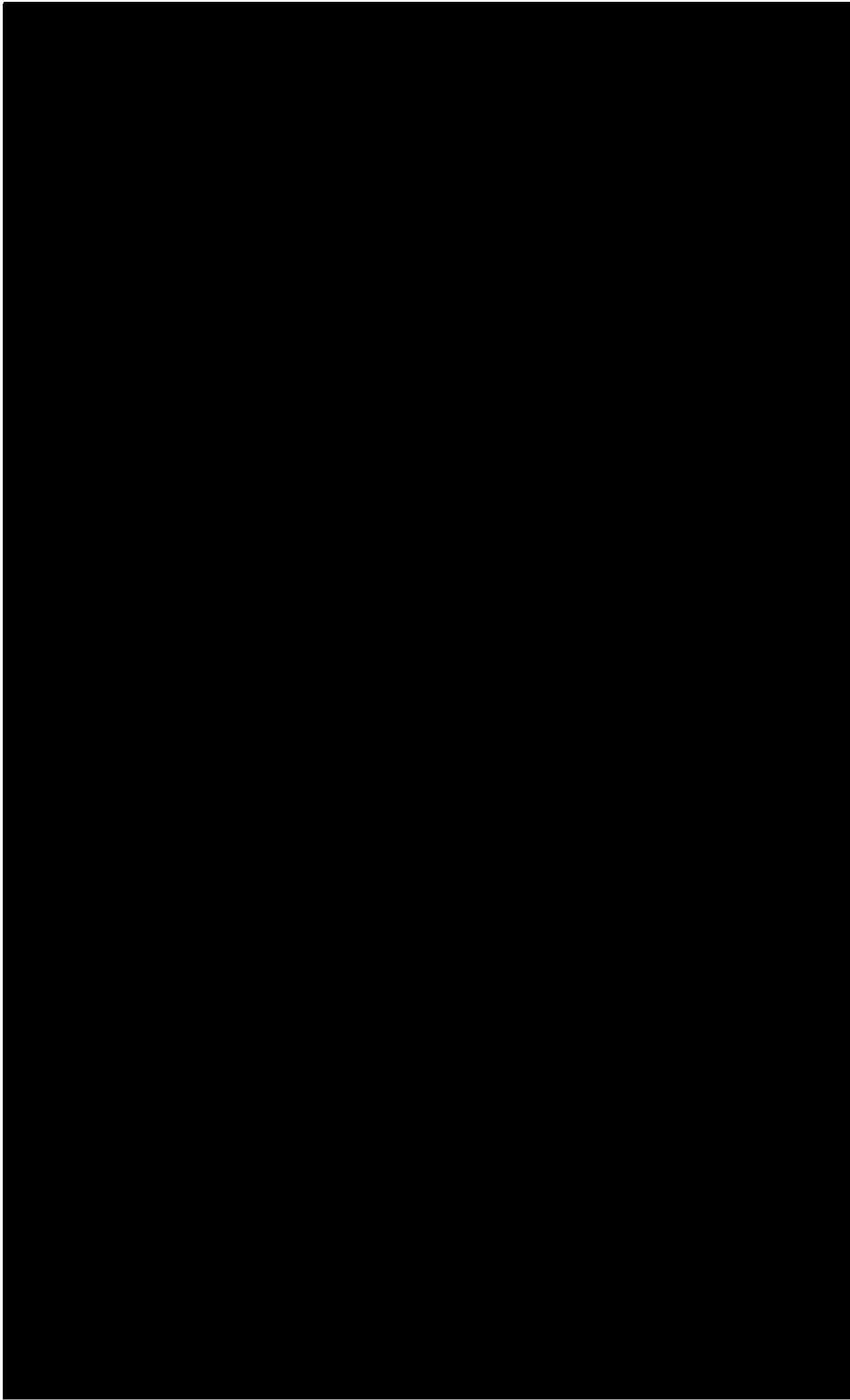
ORGANISATION AND STAFFING

**Schedule A5/4 -
Financial &
Administration
Departments**



ORGANISATION AND STAFFING

**Schedule A5/5 -
Technical
Department**



A.6 COMPLIANCE

The applicant should describe in detail the arrangements he will make for compliance with the Teletext Code and any directions given by the ITC and with the conditions of the licence. He must also state:

- (i) how the organisation of compliance will be arranged in terms of the structure described under A.5 above;

ORACLE Teletext will be incorporating additional procedures to those already in place to ensure compliance with changes to relevant legislation, the conditions of the licence and the ITC Codes and Guidelines, and to respond efficiently to queries and complaints raised by the public.

Christopher O'Connor, the Company Secretary, as a member of the ORACLE Board will act as Compliance Officer and as such, will be responsible for ensuring that:

- Copies of all applicable legislation, and ITC Codes, Guidelines and directions are readily accessible, and that updates of the documentation are circulated to relevant department managers.
- If required, to provide further guidance to department managers regarding compliance with the above, including reference to the company's lawyers, if necessary.
- The conditions applicable in the Broadcasting Act 1990, the Public Teletext Service Licence and any "D" Notices are complied with.
- The subject of compliance is raised as an agenda item at Board meetings.
- Complaints to all departments are centralised and stored on paper.

Schedule A6/1 shows the organisational structure related to compliance. Day-to-day compliance is the responsibility of the department managers, who also ensure that their staff are familiar with those aspects of compliance relevant to their department. Any compliance query raised which is unresolved by the department manager is referred to the appropriate director. If the query remains unresolved at this stage, the Compliance Officer will make the final decision, having referred the matter to the Board if considered necessary.

The following ITC Codes are those relevant to teletext:

ITC Public Teletext Code

Relevant departments:	Editorial/Production/Sales
Day-to-day compliance:	News Editor, [REDACTED] [REDACTED]
Director responsible:	[REDACTED] [REDACTED]

COMPLIANCE

ITC Programme Code, including Code on Impartiality

Relevant department: Editorial
Day-to-day compliance: News Editor & Robbie Burns
Director responsible: [REDACTED]

ITC Code of Advertising Standards and Sponsorship

Relevant departments: Production/Sales
Day-to-day compliance: [REDACTED]
Director responsible: [REDACTED]

ITC Code of Programme Sponsorship

Relevant department: Editorial
Day-to-day compliance: News Editor [REDACTED]
[REDACTED] David Klein

ITC Rules of Operation for the use of CCIR Teletext System B

Relevant department: Technical
Day-to-day compliance: [REDACTED]
Director responsible: [REDACTED]

ORACLE has a long record of compliance with the ITC Codes relevant to teletext, particularly regarding Advertising Standards. The ORACLE Production department has singular experience in the detail of teletext advertising, including familiarity with some 50 different statutes affecting teletext advertising.

ORACLE deals with a much higher number of individual advertisers than do ITV companies. We have all the necessary systems and staffing in place to deal with the resultant copy clearance and supervision workload.

The full resources of the ITVA Copy Clearance Secretariat are available to us. We now use the Secretariat for advice on all new categories of advertising and those covering any potentially sensitive products or categories. We use the advice of the Secretariat to supplement our in-house copy clearance procedures. Our current arrangements with the ITVA for Copy Clearance will continue under a new licence.

The ORACLE advertising rate card incorporates terms and conditions which allow us to suspend or remove advertising which does not comply with relevant codes or about which a high level of complaint is received.

ORACLE's policy is to ensure that all new members of staff are aware of the requirement to comply with the above Codes and legislation, and this therefore forms part of the initial induction process.

Further training on the Codes and day-to-day procedures for compliance will be given to all editorial, sales and production staff. Department

managers and their deputies will be given comprehensive training in all aspects of the Broadcasting Act, the Teletext Licence and ITC Codes and Guidelines.

All directors and department managers are members of the Executive Committee, chaired by the Managing Director, which meets monthly to discuss inter-departmental issues and compliance details.

A report containing contributions from each department is circulated prior to the meeting, outlining the points to be discussed. This report therefore also includes any legal and regulator matters the Compliance Officer feels appropriate to bring to the attention of the Executive Committee.

All managers responsible on a day-to-day basis for compliance in their particular area of operation have the authority to ensure immediate implementation during office hours. Each department manager has a deputy who is able to act with equivalent authority in the manager's absence.

In addition, the company will be operating a 'Duty Manager' rota to ensure that any urgent compliance matters raised outside office hours can be dealt with. A copy of this rota will be supplied to the ITC. The newsroom will be the initial point of contact for such compliance issues and will be responsible for locating the Duty Manager.

The company has access to independent expert advice for the assessment of medical, scientific and technical advertising claims.

ORACLE has initiated procedures to ensure that documentary and other evidence is immediately available in support of any advertisement claim.

The Technical department follows the guidelines set out in the ITC Rules of Operation for the use of CCIR Teletext System B. Backing-up procedures will be carried out at a remote site using a backup link.

(ii) the procedure he intends to adopt to handle complaints from the public;

Queries and complaints are the responsibility of the relevant department. All letters are acknowledged and are answered by the department manager or deputy. If an issue is raised which suggests that the conditions of the licence or relevant legislation have been infringed, the reply will advise the reader that they have the right to refer the matter to the ITC, the BCC or BSC and their addresses will be supplied.

In addition, ORACLE will be adding to its service a page or pages explaining to readers their rights and means of complaint regarding material on ORACLE.

COMPLIANCE

Telephone calls are passed to the appropriate department. If the issue is of sufficient complexity, the caller is asked to send a written complaint to the department manager.

All calls and letters are logged. A summary of all logged communications are circulated to department managers on a weekly basis.

ORACLE will also be installing a Minicom textphone at its premises to enable queries and complaints from the hard of hearing to be handled. This facility will be able to record and print messages received.

All transmission fault reports are received soon after they have occurred, or in advance if an outage is scheduled. All such information is logged in the technical department's log book, in case of query or complaint regarding the system. The NTL transmission performance figures are also circulated to ORACLE.

Full records of complaints will be retained for two years.

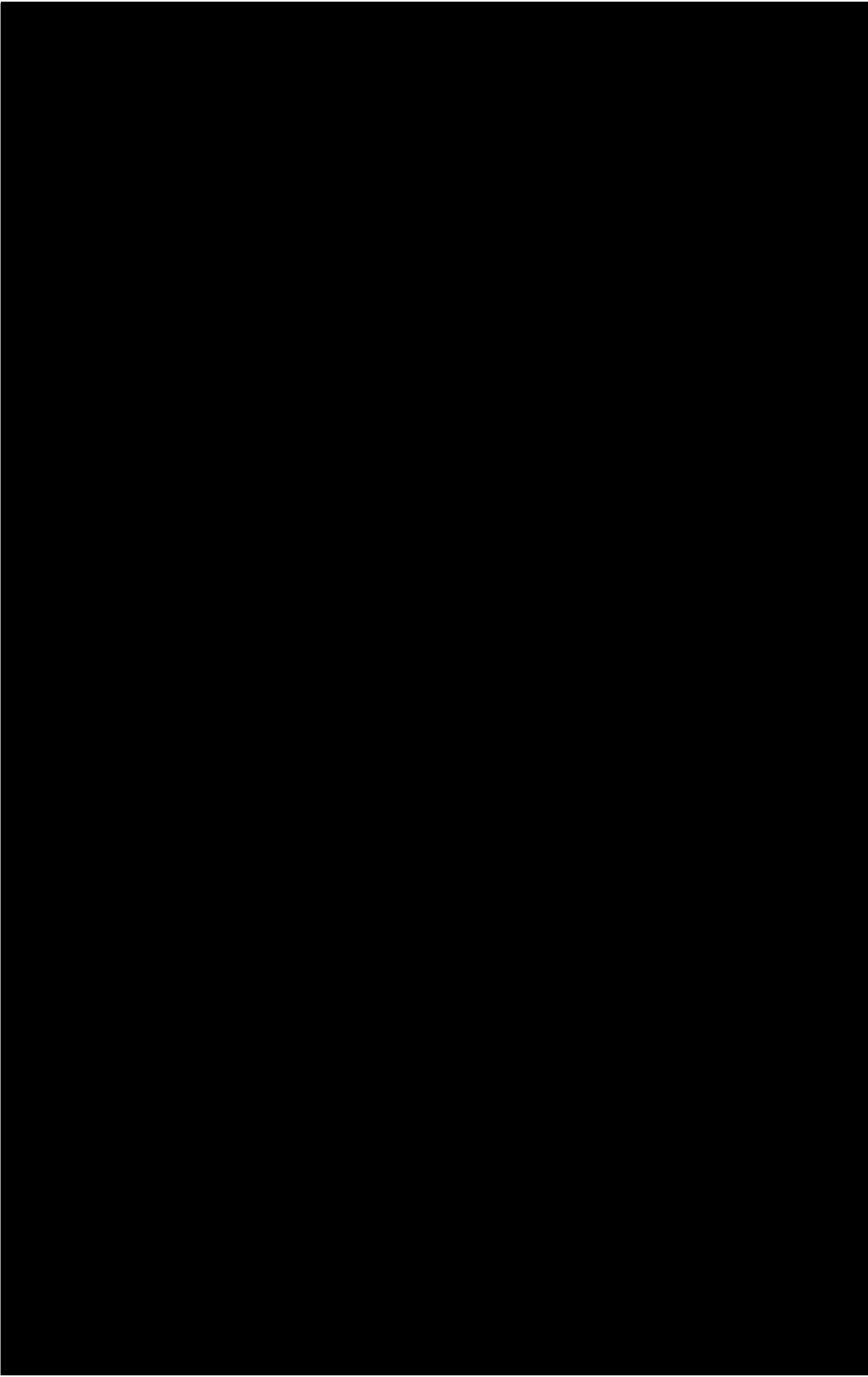
All transmissions are recorded on videotape on a daily basis and retained for 90 days in case of an advertisement claim or a query regarding editorial content. Regional material will be similarly recorded from December 1992.

All financial advertisements are retained in the form of hard copy for 90 days.

(iii) in the event that sub-licensing is agreed by the ITC, the arrangements which will be put in place to ensure that the ITC's Codes and any directions are complied with by the sub-licensee.

ORACLE Teletext does not intend to sub-license any part of its service.

**Schedule A6/1:
Departmental
Compliance**



A.7 INFORMATION SUPPLY

The applicant should indicate in as much detail as possible the sources from which, and the arrangements under which, the information strands which constitute central elements of the proposed service described in the responses to A.1-A.4 will be provided.

BACKGROUND

The essence of the electronic newspaper that ORACLE runs and here proposes to continue is of a fully edited service. We intend to be staffed and organised as an electronic newspaper. **This implies that we shall be directly responsible for the entire content of ORACLE at all times.** All material that is received from the diverse sources detailed below will be directly commissioned, specified, supervised, sub-edited and edited by ORACLE editorial staff. It is for reasons of maintaining the quality of our edited newspaper that we do not propose to offer any sub licensing proposals.

The various means which are described for the delivery of the material from outside individuals and organisations reflects our continuing commitment to improve the efficiency and speed of delivery of material.

Our specification of the source of supply for the material that will make up the ORACLE newspaper is simple; the source must be the best of its kind available.

All contributors and potential contributors are made aware of our requirements, which include compliance with ITC codes, although ORACLE will remain, in every case, responsible for all matters of compliance.

NEWS

(i) National and International News

ORACLE's national and international news service will be provided on a 24-hour-a-day basis by ORACLE staff. It will be based on a special service provided by the Press Association and on a "traditional" newswire feed of material from The Press Association, Reuters and Associated Press which will be stored and displayed on a newsroom computer system.

The Press Association

ORACLE and the Press Association have concluded a ten-year contract for the provision by PA of a "teletext-ready" service of national and international news which will also include suggested indexes, headlines, page references and page headings.

INFORMATION SUPPLY

This service will be created at the Press Association and supervised and sub-edited at ORACLE using a completely new computer system, TITAN, which will allow much improved speed of news provision. The TITAN computer system is being designed and implemented by a joint PA/ORACLE project team.

The Press Association ORACLE Editing Unit will be based on the main editorial floor at the Press Association. It will have access to all of the sources currently available to our ITN news unit. These are:

- All Press Association feeds
- Reuters news agency feeds
- Associated Press feeds

The Press Association is a completely independent news agency founded in 1868 and employing over 250 staff with material provided by over 1,000 freelancers reporting from the UK and around the world. It is highly regarded for its speed and accuracy of reporting. Its reporters are widely respected and always in the best position to gather news first and fast.

(ii) Regional News

ORACLE will be responsible for all material generated under this heading. Technical arrangements will allow our Headquarters staff direct on-line access to view, edit or exclude any of the material.

ORACLE has received offers of service from the following companies for the regions specified below (in each case the service will be provided from the relevant company's main newsroom and under the overall management of the Head of News/News Editor):

East of England:

Anglia Television Ltd
Anglia House
NORWICH
NR1 3JG

Borders:

Border Television plc
Television Centre
CARLISLE
CA1 3NT

East and West Midlands:

Central Independent Television plc
Central House
Broad Street
BIRMINGHAM
B1 2JP

Channel Islands:

Channel Television Ltd
The Television Centre
St Helier
JERSEY
Channel Islands

INFORMATION SUPPLY

North Scotland:

Grampian Television plc
Queen's Cross
ABERDEEN
AB9 2XJ

West/Wales:

HTV
Television Centre
Culverhouse Cross
CARDIFF
CF5 6XJ

London region (weekends):

London Weekend Television Ltd
London Television Centre
Upper Ground
LONDON
SE1 9LT

Central Scotland:

Scottish Television plc
Newcaddens
GLASGOW
G2 3PR

West:

West Country TV

The service from West Country Television will be provided from their Plymouth based newsroom — the exact location of which is yet to be finalised.

Yorkshire:

Yorkshire Television Ltd
Television Centre
LEEDS
LS3 1JS

We have yet to come to final arrangements with the following companies. We hope to do so in the near future.

Northeast:

Tyne Tees Television Holdings plc
Television Centre
City Road
NEWCASTLE UPON TYNE
NE1 2AL

Northwest:

Granada Television Ltd
Television Centre
MANCHESTER
M60 9EA

Ulster:

Ulster Television plc
Havelock House
Ormeau Road
BELFAST
BT7 1EB

INFORMATION SUPPLY

London region:

Carlton Television
15 St George Street
LONDON
W1R 9DE

Carlton have indicated a willingness to provide a service, from the joint Carlton/London Weekend Television regional newsroom, if our application for the Public Teletext licence is successful.

South of England:

Meridian Television
(exact location to be decided, but to be in Southampton)

SPORT

(i) National Sport News and Results

ORACLE will be staffed and equipped to provide editorial control, sub-editing and database management of all material under this heading.

The sport desk will receive material from these sources:

- (a) The Press Association will be providing a 24-hour-a-day service of "teletext-ready" sport material which will include suggestions for placement, indexing, routing and graphic headings which are prepared to templates and style determined by ORACLE. Editorial control will be exercised through the use of the TITAN system (see above page 15 and below page 180 for further detail).
The Press Association has an unrivalled reputation in sports results and sports news coverage.
- (b) The ORACLE sport desk will have separate access to the "raw" newswires available via ORACLE's newsroom computer system.
- (c) Racing material will be provided in the same way save that declarations will continue to be received via a direct link from Wetherby's and racing results will continue to be provided from William Hill's Leeds Offices via high speed data links.

(ii) Regional Sport News and Results

Material under this heading will be provided by the newsrooms of each ITV licence-holder for the relevant ITV region. Further details are provided above under "Regional News".

WEATHER

(i) The Meteorological Office

The Meteorological Office currently supplies, on a direct and exclusive contract, all of ORACLE's weather services and we shall be contracting

them for the continuation of that service after 1992 except, possibly, skiing reports and for regional weather services in the Channel Television Region.

The Met. Office is an Executive Agency within the Ministry of Defence, responsible to the Secretary of State for Defence. With 2,400 employees it is the largest and best equipped forecasting organisation in the United Kingdom.

The material for ORACLE is produced within the Central Forecasting Room at the Met. Office's Bracknell Headquarters. A team of four videotext editors is responsible during any one day for the provision of the material.

Regional forecasts are written at the relevant Met. Office Regional Weather Centre and then transmitted to Bracknell for teletext formatting. The Met Office has Regional Weather Centres at Aberdeen, Belfast, Birmingham, Bristol, Cardiff, Glasgow, Kirkwall, Leeds, London, Manchester, Newcastle, Norwich, Nottingham, Plymouth, Southampton and Sella Ness, Shetland.

The Met Office service to ORACLE is managed by Iain A. Macdonald, senior market manager in Commercial Services Division. Iain has 34 years' experience with the Met. Office in a wide range of disciplines. Day-to-day technical and operational issues are handled by the Videotext Officer of the Central Forecasting Unit.

(ii) Grampa Communications

Grampa Communications was formed in 1986. The company provides news and information services only. It has a full-time staff of seven which increases to nine/ten during the skiing season.

Grampa Communications is a totally independent company which commissions its own reporters in skiing resorts in Scotland, Europe and America. The reporters are usually ski instructors, guides or weather station staff. A few work with tour operators. None has a commercial interest in exaggerating conditions and all have satisfied Grampa that they are capable of meeting an acceptable standard of reporting.

Grampa's "snow desk" operates seven days a week from 05.30 to 19.00 in Aberdeen during the skiing season. There are usually 50 reporters or more sending in reports to the office where a team of five reporter/linguists compile the information.

Grampa Communications supplies ORACLE with information for 56 resorts comprising: snow depth on lower and upper slopes, the date of the last snowfall, the temperature/weather that day, the lifts open/closed that day, a brief weather outlook and a comment on conditions.

INFORMATION SUPPLY

All information is supplied on-line to ORACLE thus ensuring the latest available information is displayed. Information on each resort is updated at least once every 24 hours.

(iii) Channel Television

Channel Television will provide regional weather forecasting services for the Channel TV region based on material received from the Jersey Meteorological Office.

TRAVEL

(i) National and Regional Road Reports

Road news material will be provided to ORACLE by the Automobile Association. The AA has been a trusted provider of such information to ORACLE since 1974.

The information will be provided by the AA's Roadwatch units around the country and collated and managed centrally by the AA Roadwatch unit at Stanmore in North London, which will also add further information to reports where necessary.

Roadwatch employs 47 full-time and 50 freelance broadcasters/information officers. The Roadwatch units are based at London, Birmingham, Bristol, Cardiff, Exeter, Glasgow, Leeds and Manchester.

They receive information from the Police, local authorities, service companies and from the AA's own patrols.

The material will be provided through an interface between ORACLE and AA computer systems. The AA's computer system is networked through the AA's X.25 voice/data network. Compilation and formatting of the information for ORACLE will be automated but will be presented to AA Roadwatch staff before despatch to ORACLE.

(ii) Rail News

Rail travel news will be compiled in-house based on information disseminated by British Rail through their own Videotext service available on Prestel, and by phone contact with regional BR Press Offices. ORACLE newsroom staff will be responsible for assessing the value of the information made available by BR and for presenting this material in a coherent format.

Information on services currently provided by BR Operations Control Centres around the country includes the following:

(a) Network SouthEast:

Fenchurch Street to Southend

Liverpool Street to East Anglia

INFORMATION SUPPLY

Kings Cross/Great Northern services
St Pancras/Moorgate/Thameslink
Euston to Watford/Northampton
Marylebone to Aylesbury/High Wycombe
Paddington to Reading/Newbury/Oxford

(b) InterCity and Regional Services

Paddington to West of England/South Wales
Euston to West Midlands/the North West and Glasgow
St Pancras to East Midlands and Sheffield
Kings Cross to Leeds/the North East/Edinburgh
Scottish InterCity to and from England
South Yorkshire to South Humberside and Lincolnshire

(c) Scottish Services

Strathclyde local services
Edinburgh/Fife/Tayside services
Central Scotland/Aberdeen/Highlands services
Edinburgh to/from Glasgow

(d) Anglo European Services

Liverpool Street to Harwich
Harwich to Hoek van Holland
Victoria to Calais

(iii) Air News

The Air News service will be compiled in-house using the appropriate source of information for each major UK airport.

There are no uniform sources of information for airport or flight information, therefore air travel news will be researched and presented by ORACLE Newsroom staff. Data which is available via computer interface will be incorporated into the service, together with material gathered by fax and telephone which will require manual input.

The sources identified as willing and able to supply air news, both airport news and flight information, are:

- (a)** the British Airports Authority which within itself has different levels of information dissemination support, ranging from a fully automated computer database, Flightfax, covering Heathrow, to simple telephone contact with some Scottish airports. (Computerised flight information systems for most BAA airports are being developed and many will be on-line by the end of 1992). Airports controlled by the BAA are: Heathrow, Gatwick, Stansted, Southampton, Glasgow, Edinburgh, Aberdeen and Prestwick.

INFORMATION SUPPLY

- (b) local authority controlled airports: Belfast, East Midlands, Leeds, Luton, Manchester and Newcastle. These airports vary in the level of information services they can provide, ranging from an on-line computer database in Manchester to a phone/fax system in Belfast.

(iv) London Area Travel News

Travel information for the London area is directly supplied to ORACLE on-line by the Travel Information Service of London Regional Transport. Pages are updated at least every half hour 24 hours a day.

London Regional Transport's information sources are:

(a) Tubes

The Train Control at headquarters sourced from individual Line Controllers.

(b) Buses

- the Bus Controller at Baker Street
- the Tendered Bus Division of London Regional Transport
- other Tender services operators

(c) Docklands Light Railway

- the DLR Control Room at Poplar

(v) Channel Islands Travel Information

(a) Air News

Air communications are a vital part of the transport infrastructure of the Channel Islands. Channel TV will provide Air news services to ORACLE for the Channel TV area.

The source for the information will be Jersey Airport. The material will be provided by a direct data link between Jersey Airport and ORACLE's Channel Islands computer system.

(b) Ferries and Shipping

Second only to air communications, sea transport is another important element of the Islands' transport system.

The material will be provided by Channel TV based on material provided by the Jersey and the Guernsey Harbour Boards.

FINANCIAL AND BUSINESS MATTERS

ORACLE will be staffed and equipped to provide editorial control, sub-editing and database management of all material under this heading.

The City desk will receive material from these sources:

- (i) The Press Association will be providing a 24-hour-a-day service of "teletext-ready" City material which will include suggestions for placement, indexing, routing and graphical headings which are prepared to templates and style determined by ORACLE. Editorial

control will be exercised through the use of the TITAN system (see above page 15 and below page 180 for further detail).

- (ii) The ORACLE City desk will have separate access to the "raw" newswires available via ORACLE's newsroom computer system.
- (iii) The Stock Exchange will continue as the source of share price information via an on-line link into ORACLE to enable share price page updating at the specified times.
- (iv) Barclays Bank will provide an on-line service of exchange rate information updated whenever necessary and within thirty seconds of any changes occurring.
- (v) The Stock Exchange TOPIC service (to which ORACLE provides a service of news, business, weather and travel information) will be used as a source of information for the City desk.

PERSONAL FINANCE — YOUR MONEY

The material under this heading will be generated by ORACLE.

Additional material is provided on a freelance basis by [REDACTED] and [REDACTED]

[REDACTED] is former Deputy Editor of the "Daily Telegraph's" personal finance section and is a regular contributor to the personal finance pages of other newspapers, especially "The Financial Times".

Data for the section is provided by: MoneyGuides, the Inland Revenue, Micropal.

TV LISTINGS

The material under this heading will be generated by ORACLE.

The television listings and associated subtitling lists are compiled on the basis of schedules received from the Press and/or Schedules office of each ITV company and from the BBC, Channel 4 and Sky.

All amendments to schedules after the issue of these initial "Press" schedules are received or researched via direct lines of communication with each of the Schedules/Press offices.

The senior Schedules Officer is [REDACTED] who has worked for ORACLE in this position for seven years. All schedules are checked by sub-editors before transmission.

The schedules are provided by ORACLE with full copyright authorisation arrangements with the relevant licensing bodies.

PLUS — ENTERTAINMENT

The material under this heading will be produced by ORACLE.

Russell Grant will provide horoscopes.

INFORMATION SUPPLY

The Problem Panel will include [REDACTED], a solicitor, [REDACTED], an expert on DSS matters, [REDACTED] a qualified social worker, [REDACTED], a careers officer, [REDACTED], a beauty therapist, [REDACTED], a qualified dentist, [REDACTED], a qualified GP.

REVIEWS — ARTS

The material under this heading will be produced by ORACLE.

Additional material is provided on an occasional basis by freelance contributor, [REDACTED] who is Classical Music Editor of "Time Out", a theatre critic for "The Times" and was a judge on the panel of the 1990 Perrier Awards.

Television reviews will be provided by [REDACTED], [REDACTED] and [REDACTED]

Video and Book charts will be provided by MRIB.

BEAT BOX — ARTS

Material under this heading will be produced by ORACLE. Additional material for Section 6 is provided by [REDACTED], freelance World Music columnist, Sven, Dance music columnist, and [REDACTED], the widely respected Heavy Metal and hard rock columnist.

The Chart material is provided under contract from MRIB who also provide charts to the ILR Network Chart Show.

DIVERSIONS — LEISURE

Material under this heading will be produced by ORACLE.

Additional material provided will be commissioned from these freelance contributors:

[REDACTED] will provide material for the Motoring column. [REDACTED] is a full-time motoring journalist working for Auto Express.

[REDACTED] [REDACTED] will provide material for the Gardening column. [REDACTED] is a renowned amateur gardener.

[REDACTED] will provide coarse angling coverage. [REDACTED] also writes a weekly column for "Angler's Times".

[REDACTED] [REDACTED] will provide sea angling coverage. Mike also writes for "Shore Fisherman", "Boat Fisherman" and "Angler's Mail".

[REDACTED] will provide fly fishing coverage. Dave is a fly fishing expert and appears on radio and in print.

[REDACTED] [REDACTED] will provide both reports and problems to our Bridge column. [REDACTED] is ranked top bridge player in Wales and regularly represents his country at international level. He is editor of the "International Bridge Press Association Bulletin".

INFORMATION SUPPLY

██████████ will provide Chess problems. ██████████ is editor of the "British Chess Magazine".

Puzzles will be provided by arrangement with MENSA and with Pennine (a specialist puzzle agency).

Crosswords are compiled by ██████████, a specialist crossword compiler.

THE SUPPLEMENT — EDUCATION/LEISURE

Material under this heading will be produced by ORACLE.

BUZZ — TEENAGERS' MAGAZINE

Material under this heading will be produced by ORACLE.

██████████ will provide material for the astrology column.

Computer charts will be provided by arrangement with Gallup.

KIDS — CHILDREN'S MAGAZINE

Material under this heading will be produced by ORACLE. Additional material will be provided ██████████, a qualified vet.

LIFESTYLE — LEISURE

Material under this heading will be produced by ORACLE. Additional material provided will be commissioned from these freelance contributors:

— ██████████ will provide daily recipes material. ██████████ is a fully trained home economist who provides columns to a number of magazines including "Essentials".

██████████ will provide material for the DIY/Home Decor column. ██████████ is the editor of "Build It!" magazine and a regular freelance columnist in the field.

— ██████████ will provide material for the Knitting column. ██████████ is the author of over 15 knitting books, including "The Oracle Book Of Knitting" and regularly appears on television programmes in her capacity as a knitting expert.

FORETHOUGHT — RELIGION

Material under this heading is provided by the British Churches Teletext Project. The Editor of the material which they provide is the Reverend ██████████, an Anglican Incumbent. He read English and Theology at Oxford and studied for the priesthood under Robert Runcie, then Principal of Rippon College, Cuddesdon.

INFORMATION SUPPLY

EARSHOT — MAGAZINE FOR THE DEAF AND HARD OF HEARING

Material under this heading is provided by [REDACTED]. Deaf himself, [REDACTED] is one of the country's best-known teachers of sign language and lip-reading. He has been writing Earshot for over seven years.

HOLIDAY NEWS/INFORMATION

Material under this heading will be provided by ORACLE.

REGIONAL EVENTS — WHAT'S ON

Material for this section will be generated by ORACLE.

The material for this section is drawn from every major theatre, cinema and cinema groups; music venues from public houses to the major tour venues; clubs; council information departments; tourist boards and from individuals involved in organising events. We have agreements with the Cannon/MGM, Odeon, Showcase, UCI and Apollo groups which help ensure the ready supply of information from their individual cinema managements.

The "What's On" department each week receives over 650 letters and 500 telephone calls with events information. Wherever necessary individual venues are contacted by "What's On" staff to confirm details.

CHANNEL ISLANDS EVENTS INFORMATION

This material will be provided by Channel Television for the Channel TV area.

JOBFINDER

The material is produced by the Employment Service's ORACLE Jobfinder Unit based in Sheffield. A team of seven plus manager is employed exclusively to create and to administer the ORACLE service.

In Northern Ireland the material is assembled by the Department of Economic Development and created as teletext by the Education Department of Ulster Television.

Our contractual arrangement with the Employment Service allows us continuing editorial control of the material.

COMMUNITY ACTION SERVICES

Material under this heading will be the responsibility of ORACLE and will be based on material provided by The Resource Base (formerly TVS Education).

The material will be provided by a team of two editorial assistants managed and supervised by the Managing Director, [REDACTED]. Material which will form the basis of the services will be solicited from a wide variety of sources. During the pre-launch phase of the service, one

INFORMATION SUPPLY

additional senior officer will be appointed to the team to be responsible for establishing the contacts with the necessary community, environmental and charity groups.

CHANNEL ISLANDS COMMUNITY ACTION SERVICES

This material will be provided by Channel Television for the Channel Television area.

A.8 SUB-LICENSING

Against the background of the information supplied in paragraphs 97 and 98 the applicant should describe any plans he has for sub-licensing any of the capacity provided.

In line with the statements of policy made above and especially ORACLE's commitment to provide a completely edited and supervised service we do not propose to sub-license any of the capacity.

A.9 PREMISES AND EQUIPMENT

The Applicant should state the location (or locations) from which he (or any sublicensees) would operate, including any premises to be used for the provision of information to different areas. He should also indicate any equipment intended to be used to facilitate the provision of the service.

PREMISES AND EQUIPMENT

INTRODUCTION

ORACLE Teletext currently holds the franchise for provision of teletext services on ITV and on Channel 4. Our description of the provision of premises and technical equipment therefore has two aspects: facilities and technical arrangements used for the current provision of the service, and facilities and arrangements planned for use under a new licence.

In order to demonstrate ORACLE's technical competence in the provision of both national and regional teletext services to the standards required by the ITC, we shall describe current arrangements in some detail since many of the existing and proven skills, techniques and methods will be carried forward.

Nevertheless, ORACLE is committed to continuing to improve the quality and reliability of the arrangements for service provision. This commitment is expressed in two ways. Firstly, we intend to acquire new premises from which to provide the service. This will enable us to house all of our staff in one building — and also to take the opportunity to furnish a completely new computer room from which to provide the new service. Secondly, we are examining new methods of data distribution by which ORACLE information can be acquired from and passed to the ITV regions and Channel 4.

In the following sections, we therefore seek to describe the arrangements for service provision in the context both of our current equipment and expertise and also our future plans.

PREMISES

(i) Current premises

ORACLE currently operates its national and regional teletext service from the following three sites:

ORACLE Headquarters:	Craven House, 25-32 Marshall Street, London W1V 1LL
Editorial offices:	5-7 Carnaby Street, London W1V 1PG
Subtitling offices:	55 Great Marlborough Street, London W1V 1DD

Dispersal to three sites has resulted from the consistent and steady growth of the Company since it started commercial operations at Craven House in 1981. The setting up of our specialised editorial and subtitling offices has enabled resources to be focused on the specific needs of each site. It is, however, recognised that a more ideal arrangement both in terms

PREMISES AND EQUIPMENT

of staffing and equipment would be to house the entire ORACLE operation in one building, with suitable provision for off-site backup arrangements. ORACLE therefore plans to move to a new, single-site, self-contained building by the end of 1992.

(ii) Future premises

New offices will be selected to house ORACLE staff, equipment and the computer systems necessary for the provision of the service. Arrangements will be made to ensure that not only is a first-class technical environment provided, but also that staff are offered an environment which is healthy, pleasant and safe in which to work. Therefore the new premises will have the following minimum specification:

- raised flooring systems where necessary, with suitable provision for cable trunking and ducting and special provisions for the computer room
- air-conditioning throughout, with ingress of fresh air through filtering and heating or cooling apparatus
- access to all data and video circuit connections that are necessary for the provision of signals to and from the BT Tower and other sites
- a secure and separate area for all central computer systems, with air conditioning, environmental control, security locking, smoke detectors and a high standard of technical installation with filtered mains supplies
- provision for the siting of a backup power generator capable of sustaining a minimum service in the event of a partial or total mains failure
- facilities for disabled members of staff and visitors, including lifts, ramps where necessary, toilet provisions and any necessary special desking arrangements
- a high standard of general architectural and building finish, including sensitively designed lighting arrangements suitable for those working with VDUs
- high-quality office furniture and chairs to ensure staff comfort

ORACLE has had an in-house Health and Safety Committee since 1986 which has had a strong influence to date on provisions for a healthy and safe working environment, and will continue to do so. The Company has a health and safety policy which acts as a charter for the setting of standards, and elected representatives on the Committee are able to raise matters for discussion on the request of any member of staff. ORACLE will comply with EC directives 90/270/EEC relating to VDUs, and 89/391/EEC relating to Health and Safety at Work.

PREMISES AND EQUIPMENT

The new offices will be in London and within ten miles of our current site. To effect a smooth transition of engineering facilities, such premises will be set up with duplicates of all current video and data circuits. The technical equipment will then be transferred gradually so that the two sites are running in parallel by the time of the eventual switch-over.

(iii) Regional premises

Regional news information to be offered by ORACLE will be provided by a number of ITV regional companies. We believe this arrangement will provide a high quality regional service, both in technical and editorial terms. In each case, the service will be provided from the regional company's main newsroom under the overall management of the Head of News or News Editor:

East of England:

Anglia Television Ltd
Anglia House
NORWICH NR1 3JG

East and West Midlands:

Central Independent Television plc
Central House
Broad Street
BIRMINGHAM B1 2JP

North Scotland:

Grampian Television plc
Queen's Cross
ABERDEEN AB9 2XJ

Northwest:

Granada Television Ltd
Television Centre
MANCHESTER M60 9EA

Borders:

Border Television plc
Television Centre
CARLISLE CA1 3NT

Channel Islands:

Channel Television Ltd
The Television Centre
St Helier
JERSEY
Channel Islands

Wales/West:

HTV
Television Centre
Bath Road
BRISTOL BS4 3HG

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London region:

London Weekend Television Ltd
London Television Centre
Upper Ground
LONDON SE1 9LT

Central Scotland:

Scottish Television plc
Cowcaddens
GLASGOW
G2 3PR

Northeast:

Tyne Tees Television Holdings plc
Television Centre
City Road
NEWCASTLE UPON TYNE NE1 2AL

Ulster:

Ulster Television plc
Havelock House
Ormeau Road
BELFAST BT7 1EB

Southwest:

West Country TV
(The service from West Country Television will be provided from their Plymouth-based newsroom, the location of which is yet to be finalised.)

Yorkshire:

Yorkshire Television Ltd
Television Centre
LEEDS LS3 1JS

We have yet to come to final arrangements with this company, but we expect to do so in the near future:

South of England:

Meridian Television
(exact location to be decided, but to be in Southampton)

PREMISES AND EQUIPMENT

ENGINEERING BACKGROUND

The following sections describe the current and future technical arrangements relating to ORACLE's teletext service provision. In order to provide a context in which these may be assessed, a description of ORACLE's key role in the evolution of the current technical arrangements is provided, coupled with a statement of our general engineering policy. This background material demonstrates our commitment to development and innovation as well as to technical quality and reliability.

(i) Background

ORACLE has been at the forefront of teletext development since the medium itself was first transmitted in the mid-1970s. Our engineering staff have been a key driving force behind software and hardware innovations which are now widely regarded as essential aspects of teletext production facilities. Without this key input based on our extensive practical teletext experience and our vision for ground-breaking methods to increase efficiency, teletext preparation systems would not have developed as rapidly during the last decade as has been the case.

Our tradition is of demanding as much as possible from technology to obtain the best possible result for our readers. This has been achieved through a combination of in-house development, and close liaison with Softel Ltd — both in joint projects and in commissioning new systems and techniques. We retain the commitment to ensuring that the medium meets the needs of the information society of the 1990s and beyond.

(a) Teletext developments

The first experimental broadcasts of ORACLE signals, in April 1973, were transmitted as a 50-page teletext magazine in the London area. The digital signal which carried the information was to the bi-phase 2.5 Mbit/s standard. Then, as now, the teletext system employed a fixed coding format. This was a deliberate decision to improve the ruggedness of the system.

Technical experimentation and development continued, and by 1976 a comprehensive Level 1 Broadcast Teletext Specification had been agreed and published. This included contributions from engineers at the IBA, London Weekend Television, BBC and BREMA, and formed the basis of the transmission of our public service.

Level 1 teletext has been in public service in the UK since these first teletext transmissions. Seven foreground and eight background colours are available, and a block mosaic facility is provided for graphics. There are now some optional extensions for linked pages, basic page check word,

PREMISES AND EQUIPMENT

programme or network label and data for equipment control, including time and date in Coordinated Universal Time (UTC). ORACLE has consistently been involved in the provision of test transmissions to assist in assessment and standards-setting, and now provides these extended services as part of its normal transmissions.

In addition to the capability of Level 1, Level 2 teletext provides for multi-language text and a wider range of display attributes, which may be non-spacing. There are sixteen colour shades available, which may be redefined on a page basis. Since 1980, Level 2 features have been experimentally prepared and transmitted by ORACLE in parallel with Level 1 pages, to maintain downward compatibility with Level 1 decoders. The pages are able to be successfully decoded at both levels. ORACLE is actively engaged in encouraging television manufacturers to produce Level 2 teletext receivers for the domestic market, and is committed to the preparation and transmission of Level 2 teletext in the future.

Since the 1976 specification was published, proposals for higher-level teletext up to Level 5 have been agreed. ORACLE has again assisted with test transmissions where appropriate, though the introduction of these services depends on enhanced decoder production and marketing.

It has recently become possible to increase the number of Vertical Blanking Interval (VBI) lines used for teletext to 12 line-pairs per picture (lines 7 through 18, and 320 through 331). Tests will soon be in progress using one and a half more line-pairs per picture: lines 6 and 319, and 318.

ORACLE has a history of pioneering new ideas in teletext. Fasttext is one such example, where ORACLE commissioned and helped to specify and test the necessary software to allow a comprehensive Fasttext teletext service to be offered.

(b) Relationship with Softel Ltd

Softel Ltd and ORACLE have had a very close and mutually beneficial relationship during the 8 years since Softel's formation. This began in 1984 when ORACLE commissioned Softel to implement the world's first truly regional teletext service. Since then, Softel's wider client-base has also benefited from other ORACLE initiatives, for example in the development of automatic data-feed handlers by which Share Price pages are produced, and in engineering monitoring pages.

ORACLE commissioned Softel software which has also led the way includes Packet 8/30 transmission, Level 2 page editing and transmission, encrypted page-based data broadcasting, real-time subtitling of the news, split-regional subtitling using line 335 and more recently test transmission of Programme Delivery Control (PDC) information on ITV and Channel 4.

PREMISES AND EQUIPMENT

ORACLE's teletext system has grown to become the biggest in the world, comprising 12 central networked systems and a further 13 systems in the regions and supporting 96 user ports. This has given Softel a test-bed and showcase for software and equipment which has formed the basis of most of the major teletext installations worldwide. These include Denmark, Sweden, Ireland, Holland, Germany, Turkey, Belgium, Australia and Malaysia.

ORACLE's considerable investment over the years in extending Softel's SIGNET teletext applications software has undoubtedly helped all of these users worldwide, and also ensured that the UK has remained the centre of worldwide teletext expertise.

Softel Ltd is an effectively managed company and of sound financial basis. We have every reason to believe it to be a secure and, indeed, rapidly expanding company.

(ii) Current procedures

(a) Engineering policy

ORACLE engineering has consistently maintained a strict policy of backup redundancy. Most of our equipment is duplicated in order that full backup measures are instantly available should an important system fail. Most of our data-circuits, remote editing terminals and modems are also installed in pairs. Should there be a failure or a communications problem, an engineer can quickly switch to the standby configuration while the fault is diagnosed and rectified.

This policy is employed not only in-house but also at the premises of external information providers. Any faulty equipment is returned by courier to ORACLE's headquarters and either repaired or replaced with a spare within 24 hours of receipt. For less serious problems, ORACLE engineers are available by telephone during on-site coverage hours to liaise with external information providers.

(b) Teletext systems maintenance

ORACLE's engineering strategy is one of self-maintenance. All of the installed computer hardware is maintained in-house by our engineering team which is also responsible for first line operational maintenance. A comprehensive set of spares is kept for all of the major pieces of equipment — including the in-house, off-site backup and regional computer systems.

For hardware maintenance and first-line SIGNET support, our team of five shift engineers has been carefully selected from the mini-computer maintenance industry. Their specialised training and experience is essential in order that main system computer faults can be identified and

PREMISES AND EQUIPMENT

dealt with promptly, efficiently and professionally. Four of the five engineers have Digital Equipment Company (DEC) training and experience.

The shift engineers are also all trained in our teletext application software and are all competent users of our operating systems which are RSX11M+, VMS, and MS-DOS.

We have a continuous training programme which provides other relevant courses as required. These have included DEC maintenance courses, advanced MS-DOS, programming, timecode and PAL, data communications, PC maintenance, networking, visits to TV company Master Control Rooms (MCRs) and to National Transcommunications Limited (NTL) Regional Operations Centres (ROCs).

The maintenance shift works on a basic coverage window of between 07:00 and 23:00, every day of the year (from December 1992, the shift will be extended to cover the hours between 06:00 and 00:00). Each day comprises two shifts of 12 hours, providing a good overlapping period during the middle of the day. This allows for handover between the shifts, as well as ensuring adequate coverage for the busy period during the working day.

Outside the normal coverage hours, two BT voicebank numbers are available for emergency engineering support, and these have been circulated to individuals and organisations who may need them. The voicebanks alert [REDACTED], our Engineering Supervisor, or [REDACTED], our Head of Technical Services, by means of BT RadioPagers. Both have a PC-based terminal available at home for remote access, and can also provide telephone support and, if necessary, alert Softel Ltd.

Specialised software maintenance for the main teletext database and transmission systems is provided by Softel Ltd. We have set up special arrangements with them to provide us with remote on-line software support during office hours.

Outside these hours we can use a RadioPager number to alert three members of Softel Ltd support staff simultaneously in the case of a serious problem. In addition, the ORACLE Duty Engineer will place a message on our special monitoring page on ITV. The Softel support staff are equipped with terminals at home, giving them remote access to our main systems for purposes of diagnostics and problem-solving. When one of them has received the pager alert, they place a confirmation response to the problem message on the special ITV page.

ORACLE pioneered the technique of using a teletext page which can be monitored by engineering staff to provide a current status report on the

PREMISES AND EQUIPMENT

teletext storage and insertion computer network, including the regional systems. This page is radiated within ITV national magazine 3 but is aliased to another page number so that viewers are not confused by it. The information contained in this page is a valuable aspect of our remote maintenance and monitoring facilities.

(c) Diagnostic and monitoring equipment

ORACLE is committed to ensuring that the signals leaving its teletext insertion equipment conform fully to the technical standards for CCIR Teletext System B. Accordingly, the engineering team has at its disposal a wide variety of test equipment, including:

- 1 x Rhodes & Schwartz digital teletext analyser
- 2 x Tektronix 1481R waveform monitors
- 2 x MAGNI WV560/1 waveform monitors
- 3 x Softel SE3020 teletext decoders (Level 1)
- 1 x Softel SE3025 teletext decoder (Level 2)

Additional more general-purpose equipment used to assist in hardware maintenance and signal monitoring includes:

- 1 x Halcyon 801B data-scope
- 1 x Tektronix 2445A oscilloscope
- 1 x Tektronix 466B oscilloscope
- 1 x Optex AVTC20 portable timecode generator/reader
- 1 x Lindos LA1 audio signal generator
- 1 x Labgear CM7091 colour bar generator
- 1 x Cox 153 PAL encoder

There are two fully equipped laboratory workshops at the disposal of the engineering team and the contract wireman.

(d) In-house software support

Our in-house team of three software development and support staff is responsible for all software aspects of our other in-house specialised teletext and general office information systems, including software creation or purchase, installation, basic training and maintenance. Hardware support is provided by our shift engineers, and we ensure that compatible spare equipment is always available.

Again, the policy is to acquire in-house skills which reflect the specialist environment of the teletext production offices as well as the more general nature of office information systems support. The in-house team is able to focus on the specialist requirements in a unique way by having direct access to the editorial staff who are producing the service.

PREMISES AND EQUIPMENT

This has proved invaluable over the years in designing techniques to increase both efficiency and life.

Further details of in-service development projects and new research and development will be given in a later section.

PREMISES AND EQUIPMENT

EQUIPMENT AND SERVICE PROVISION

(i) Current main teletext software

ORACLE currently has in place a sophisticated computer network which is used to facilitate the provision of the service and to provide the necessary levels of backup and redundancy. During 1992 we intend to replace our main database handling computer systems with new state-of-the-art equipment. The project will be undertaken in progressive stages in order to allow fallback to our current systems wherever new software and/or hardware requires on-site testing and acceptance checks. We therefore describe both our current and proposed main systems.

ORACLE uses the Softel SIGNET teletext application software. This software is in operation in 25 teletext installations worldwide. New releases of SIGNET software are supplied and installed when appropriate.

SIGNET provides a full range of database management facilities, with page storage in magazine structures capable of holding up to 1000 pages each. This provides both for transmission and preparation storage, enabling editors to work off-line on features copy for the future. Page linkage management enables multi-page sets to be created and amended, with sophisticated control of timing between updates. Other transmission sequencing control facilities allow for selected pages such as indexes to be repeated out of sequence more frequently than the normal transmission cycle. Fastext information is able to be defined and transmitted, along with other hidden packets as detailed below:

Packets 24	— Fastext display information
Packets 26	— PDC or Level 2 attributes
Packets 27	— Fastext linkage information
Packets 28	— Level 2 attributes
Packets 8/30 Format 1	— Network ident and time
Packets 8/30 Format 2	— PDC control

Facilities exist within the SIGNET system for data protection and archiving, as detailed in a following section.

(ii) Current main teletext hardware

Please refer to diagram Figure 2 in conjunction with the detailed descriptions provided in this section.

(a) Database storage

Our current teletext editing terminal server and page database storage provision is based upon three Digital Equipment Company (DEC) model PDP 11/44 computers, with a fourth PDP 11/44 available as a hot standby

PREMISES AND EQUIPMENT

for any of the other three. The SIGNET systems software runs under the DEC operating system RSX11M+ version 3.0.

Two of the three in-house database computers (styled TS1 and TS3 in Figure 2) act as the main terminal server systems for local editing terminals, external contributors and automatic data feeds. The third computer (styled TS4) acts as a central page despatching system, ensuring that pages are transferred on to the appropriate database and insertion systems. The fourth system, labelled TS2, acts as the hot standby for any of the other three PDP 11/44s, as previously described.

Each of the PDP 11/44 machines is configured with 4 Megabytes (Mb) of system memory, and a 400Mb Winchester hard disk drive. Systems TS1, TS2 and TS3 each have 48 serial RS232 asynchronous ports for connection to terminals, modems or data feeds. These ports are wired into a purpose-designed RS232 switching system, so that any individual port or group of ports can be rapidly switched from either terminal server computer to the backup system if required.

The database computers are interconnected by means of a 10BASE5 Ethernet backbone running under the raised computer room floor, using the DECNET network operating system. Connections to the Ethernet cable are achieved via DEC H4000 transceivers.

(b) Teletext data insertion

For insertion and distribution of the ORACLE teletext data signal we employ four DEC model PDP 11/73 systems (styled ITV-1, ITV-2, CH4-1 and CH4-2 in Figure 2); two for ITV insertion (one main and one backup) and two for Channel 4 insertion (one main and one backup) respectively. Each of these systems contains 4Mb of system memory and all have 30Mb Winchester hard disks.

These insertion systems are also connected to the main 10BASE5 Ethernet backbone via DEC H4000 transceivers. Each pair of insertion systems receives across the Ethernet only the relevant pages for their respective transmission channel.

The ORACLE teletext data signal is generated by means of a dedicated Softel Teletext Inserter, which is an interface installed on the Q-bus (ie. data bus) backplane within each of the four insertion computers. This produces a PAL television waveform containing a teletext data signal in the VBI which conforms to CCIR Teletext System B standards.

In order to protect against failure of an insertion system, there is an automatic "watchdog" alarm which monitors insertion output on either of the ITV or Channel 4 insertion systems. This Softel Alarm Decoder detects if no time increments are present in the teletext row 0 of a selected

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magazine for 7 consecutive seconds, and if so triggers an internal relay which activates an engineering pager system. The Alarm Decoder signal can also be used to switch the main teletext output feed to the standby computer should the main insertion system fail.

(c) Off-site backup provisions

Two off-site database/insertion computers have been provided as backup in case of loss of use of the ORACLE headquarters building for any reason. These are both DEC model PDP 11/73 computers (styled C43 and IT3), each configured with 4Mb of system memory with a 440Mb Winchester hard disk on C43 and a 70Mb Winchester hard disk on IT3. Each of these systems is capable of inserting teletext data on up to 16 VBI line-pairs per picture. The two systems are linked together locally using 10BASE2 Ethernet, the DECNET network operating system and DEC DESTA transceivers.

These backup systems are currently housed at ITN's premises in Gray's Inn Road, with convenient access to the BT Tower. They are connected to our main Ethernet via Spider Systems Ltd R180 Local Area Network Bridges, and British Telecom 64K kilostream circuits (one main, one standby). The Spider Bridges conform to IEEE 8802.3 specifications and are highly intelligent devices, appearing totally transparent to the DECNET network operating system at either end.

ORACLE's entire teletext database is mirrored on all four PDP 11/44 database computers and also on one of the two PDP 11/73 off-site back-up systems (C43). When a page is updated on one main system, the update is copied across the Ethernet to all other main database systems. All pages are also copied to the C43 off-site backup system, and ITV-related pages to the IT3 off-site backup system.

The backup system C43 not only contains a completely up-to-date copy of our entire teletext database, but is also capable of inserting either the ITV or Channel 4 magazines. The IT3 system contains a backup of the ITV database, and is also capable of insertion should this be required.

ORACLE pages can be directly updated using editing terminals on either of the two off-site backup PDP 11/73 systems; such updates are automatically sent to our main database computers at Craven House. There is an RS232 switcher between the two off-site PDP 11/73 systems to allow for switching of editing terminals from one computer to another should one of these backup systems fail.

Encrypted data for the Subscriber's User Group service is received from DEC VAX computers based at the premises of Data Broadcasting

PREMISES AND EQUIPMENT

International (DBI) at Egham, by means of further Spider Systems R180 LAN bridges and BT 64k kilostream circuits.

A main connection is made to the 10BASE5 Ethernet backbone at Craven House, and a backup connection to the 10BASE2 offsite backup Ethernet linking IT3 and C43 at Gray's Inn Road.

(d) System clocks

In order to provide reliable and accurate time information to the public as part of the ORACLE teletext service, the system clock on one of the PDP 11/44 database systems is updated by a European Electronic Systems (EES) radio clock, which decodes the 60KHz Rugby time signal. The clock outputs a binary coded decimal signal which is read by an interface on one of the PDP 11/44 database systems. This system then distributes the time across the DECNET network to all of the other systems every ten minutes.

In the event of failure of the EES radio clock, or unavailability of the Rugby signal, the main system clocks free-run at mains frequency and can be corrected manually if necessary.

(e) System protection

All of the teletext database storage and insertion computers at ORACLE's headquarters are housed in a purpose-fitted computer room, which has a raised floor, controlled environment, smoke-detectors and security locking. All equipment connected to our main computers is fed from a filtered technical mains supply. This removes any mains "spikes" or surges and also minimises the possibility of earthing problems.

The main system computer room contains a humidifier and two Denco heavy duty air conditioning units (on a full 24 hour maintenance contract), with a further Hitachi cartridge unit to act as a backup. If the computer room temperature rises above 20 Celsius, an alarm unit triggers our own locally installed pager system, so that one of our shift engineers is able to take immediate remedial action. The computer room is provided with smoke detectors both in the ceiling and under the floor.

All user access to the database systems is controlled by means of password-based restrictions.

(iii) Current regional systems

(a) Regional teletext service

ORACLE's regional teletext computer systems are currently based on DEC model PDP 11/23+ computers, running the DEC RSX11M+ operating system with SIGNET teletext application software from Softel Ltd (Figure 3, Page 189). These systems currently have 0.5Mb system memory

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and 10Mb Winchester hard disk drives. They are capable of inserting up to 6 VBI line-pairs per picture. A system is (or will be in the case of new ITV licence holders) installed at each ITV company regional headquarters.

The regional databases contain the full regional magazine 2, and a non-broadcast control magazine. Each system contains a serial multiplexer supporting up to 8 RS232 communications ports. One port is currently used for communications from the main despatching system (normally TS4) at ORACLE Craven House, others will be used in the future to support local page origination terminals.

The ORACLE main despatching computer system communicates with the regional systems by means of dedicated dial-up PSTN lines and Racal MPS1222 V.22 modems. The regional systems are "bulk updated" overnight (usually between midnight and 04:00) with a complete replacement of certain sections such as TV schedules, TV Plus and Jobfinder. Further amendments to these pages and others occur as required during the day, again using dial-up PSTN lines.

The 4 VBI line-pairs per picture of regional magazine data are generated by the regional PDP 11/23+ systems using internal Softel Teletext Inserters. This data is bridged onto one channel of the transmission Insertion Test Signal (ITS) inserter at the regional company, using a VG Electronics Ltd (VG) 1003 databridge owned by the ITVA.

National teletext data from ORACLE arrives on the incoming video network and is regenerated and fed into a second ITS inserter channel using a second VG 1003 databridge. The ITS inserter places both groups of teletext data lines onto the station video output feed. The combined signal, containing 12 VBI teletext line-pairs per picture and the transmission picture feed, proceeds from the ITS inserter to the station's outgoing video circuit.

This combined output signal then passes on to the National Transcommunications Ltd (NTL) transmitter network via the local Network Switching Centre and onwards to the transmitters.

The regional PDP 11/23+ computers are all maintained by DEC on a guaranteed 4 hour call-out response contract. Should one of the regional systems become non-functional, a backup signal is provided on the network from ORACLE's main insertion system utilising the same 4 regional VBI line-pairs (i.e. lines 7-10 and 320-323). Under normal circumstances these lines from the ORACLE inserters contain a backup networked magazine 2 which is replaced at the TV company ITS inserter by the regional teletext lines.

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As all of the regional magazines are stored on our main database systems, we are able to copy any selected regional magazine onto the backup network magazine. The TV company with a faulty regional system then merely has to ensure that the ITS inserter is temporarily reconfigured to pass the network backup lines, thereby inserting the full 12 VBI line-pairs being radiated from our main insertion computer.

Our shift engineers liaise with all regional ITV, Channel 4 and S4C Master Control Rooms (MCRs), as well as the four NTL Regional Operations Centres around the country, for performance monitoring and fault investigations. We also receive facsimile reports from NTL regarding all transmitter work around the country, and these are logged daily by our technical co-ordinator. Should calls be received from members of the public regarding reception problems, this information enables us to diagnose the possible cause more readily.

(b) S4C service

We currently facilitate the transfer of material from Intelfax Ltd to S4C in order to allow the insertion of the correct material for the "SBECTEL" service provided on magazine 4 in the S4C transmission area.

We receive the SBECTEL S4C magazine 4 from four editing terminals at Intelfax using serial data links carried by a BT 64K kilostream circuit. Our main system automatically routes these pages to S4C-owned Softel DEC PDP 11/53 and PDP 11/73 combined database and insertion systems at S4C's premises in Cardiff.

The communications link between our main system and the S4C master computer uses a serial RS232 9600 baud asynchronous ASTET protocol via a BT 9.6 kilostream link. (ASTET is a specialised page transfer protocol with built-in error detection and retry facilities, using software handshaking). A dial-up backup modem is available in case of communications circuit failure. The S4C master system duplicates received SBECTEL pages onto the second system which acts as a hot standby.

The S4C SBECTEL magazine 4 is databridged onto the network signal carrying ORACLE magazines 5 and 6 originating from Craven House. S4C is responsible for maintaining this arrangement.

We assume that the arrangements will be helpful to S4C in the future should they wish to continue to provide a similar service as an "Ancillary Service".

(iv) Future main teletext software

ORACLE has selected the Softel Vortex as its new main teletext application system. Vortex is a new-generation page storage, management and

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insertion environment, which incorporates new ideas and features to support teletext production. It conforms to the CCIR Teletext System B Specification for Levels 1, 2 and 3.

ORACLE is committed to full implementation of the advanced Vortex features for editorial support. These include direct management of multi-page sets as complete displays, page-library management, improved Ethernet terminal interfaces, improved database handling tools, and archiving facilities. The prototype sales accounting feature will also be assessed in relation to our needs.

While the Vortex system architecture offers advanced and powerful features, there is a simple-to-use interface from PC editing terminals to the facilities for page editing, management, protection and control. Vortex is a highly modular system, which offers flexible configuration and ease of future expansion.

The editing system is the central storage area for teletext pages and insertion control. Overall, teletext storage is organised into the main magazine database, a reference library, and an archive of inserted pages. A separate database is provided for advertising pages and control of placement, scheduling and even billing of advertising space. There are various supported editing terminal protocols - ASTET, Logica and Elite.

The size of the database can be up to 100 magazines of 1000 or more pages each. Each magazine contains 100 "displays", with from 0 to 99 pages in each display. Composite magazines may be compiled which consist of pages from any location in the database. There is a library facility with common areas for items such as standard headers and trailers, plus local storage areas for each user. The library is limited only by the disk space made available to it.

A copy of all inserted pages is maintained on a daily basis within an archive. Numerous previous versions of a page may be readily accessed. A major feature of the Vortex system is the provision of centralised control from a dedicated system manager's workstation — to allow enhanced system management, fault investigation and backup/restore functionality.

Teletext magazines are held in self-contained VMS files, which can be handled with standard operating system commands. There are also system and engineering monitoring facilities which are supported by standard operating system commands and utilities. All elements of the system have a standby provided, which is kept consistent with its corresponding "live" version.

Built-in security measures have been included to allow such features as page locking (to prevent simultaneous updates to the same page), and

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command and page access restriction (according to the user categories configured by the system manager). The system configuration is readily expandable to allow for more terminals, more users and more magazines.

Combining our own customisation work on the Vortex system and developments on our own PC-SPRITE editing terminals ensures that we shall be offering an unrivalled, state-of-the-art teletext production system.

(v) Future main teletext hardware

A prototype Vortex system has already been installed at Craven House, running on a DEC VAX 4000 in our computer room. Tests and experimental analyses are being run prior to the initiation of the full acceptance and installation programme. The new system is currently being integrated with the existing ORACLE network of DEC computers.

Our current single Vortex system contains a 1 Gigabyte Winchester hard disk — compared with 400Mb Winchester disks on our current SIGNET systems. The system memory is 8Mb.

We are in the early stages of implementation of this new system, and eventually intend to install a fully-functional multi-computer Vortex network in our new premises. The completed configuration will consist of three DEC VAX 4000 computers linked by 10BASE5 Ethernet running DECNET under the DEC VMS operating system. One VAX will act as a main system, one as a page despatcher, and one as a standby. Should there be a Vortex computer failure, there is provision for automatic switching to the standby system. Our existing SIGNET system will also still be available as a transitional back-up.

Similar provisions to those pertaining in our current equipment configuration will be made to ensure the reliability of the database preparation, storage and transmission equipment and associated peripherals. Off-site backup will again be provided, with computer equipment to be installed at the premises of the Press Association in Fleet Street or at LWT's South Bank studios, linked to the new ORACLE headquarters by means of Spider Systems LAN bridges and BT 64K kilostream circuits. Protection of the main computer equipment will again be assured by means of a purpose-designed computer room with environmental control, security locking, and smoke detection apparatus. Figures 4 and 5, Pages 191 and 193, show diagrams of the transitional and final arrangements for our future main computer network.

(vi) Future regional teletext systems

As with our main computer systems, we plan to upgrade our regional computer network to enable us to provide the new services we propose and

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to provide all of them with improved speed, capacity and efficiency. We plan to upgrade our regional systems during the course of 1992, and we describe here our proposed new regional configurations. Please refer to the sections describing our current regional system for current configurations.

(a) Hardware and software upgrades

During 1992, we intend to upgrade all of our regional computers to increase memory, disk storage and processor speed, as detailed below:

- all DEC PDP 11/23 processors to be upgraded to PDP 11/53 or PDP 11/83 (this upgrade involves a single circuit board change)
- system memory to be correspondingly upgraded to at least 2Mb from the current 0.5Mb
- current 10Mb Winchester hard disk drives to be correspondingly replaced with 30Mb drives
- DEC RSX11M+ operating system to be upgraded from version 3 to version 4.1

Maintenance contracts with DEC will need slight adjustment to take account of these configuration changes. Liaison procedures with television company MCR staff will be unchanged.

(b) Communications link upgrades

We are also proposing to use a more rapid data communications network (9600 baud as opposed to the present 1200 baud) between ORACLE headquarters and the regional systems. This will also allow for "backward linking" so that any regional information updated locally will be transferred back to our main systems at ORACLE headquarters. This offers both regional editorial control and information backup and archiving facilities.

The improved data communications provisions are described in section B.1, page 215.

(c) Regional news services

Our new PC-SPRITE teletext editing terminals provide an interface to electronic newsroom computers. This enables text received from a newsroom computer to be converted into teletext automatically, slotted into a page template and passed to the teletext database computer for direct inclusion in the insertion sequence.

Using a PC-SPRITE in each regional company as a transfer gateway, newsroom staff in a regional news office can therefore prepare pages for ORACLE using their normal news editing terminals and without needing to be extensively retrained. It is intended to extend this facility to all regions

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during 1992, thus ensuring a high-quality regionally-edited news service for ORACLE readers.

The material for the regional news services will be fed directly into the relevant regional computer system. Our improved data communication system will allow immediate despatch of this material back to our headquarters computers, allowing supervision of each regional news service by our central newsroom. For further details, see section B.1, page 215.

(vii) Software developments

ORACLE has a history of successful in-house software development projects which complement the provision of the teletext service by providing support for page production, specialised services, transaction bookings, and general office services. Research and development have been and will be conducted to make service provision more efficient, and to continue to improve on the high standards of quality so far attained. A major joint project with the Press Association is under way to secure a high-quality and responsive service of news, sport and City information for the new licence period.

(a) In-house projects

During the past 7 years, in-house projects have included the following:

- development of the SPRITE, a specialised teletext page-editing terminal for in-house use and for external information providers
- automatic handling of a data feed from the Stock Exchange to produce share price listings pages
- specialised database systems for sales transaction booking and accounting, regional events guide pages, regional classified advertisement pages, film review pages and cinema listings pages
- easy to use, more regionally specific severe weather warning system
- day-to-day maintenance of main system command files to provide timed control of page transfers, peripheral service interfaces, system-resident software etc.
- specialised market research analysis software
- selection and installation of in-house office network for wordprocessing, accounting, financial analysis, marketing reports and graphics, information databases, purchase ordering etc.

Much of this work has included not only systems analysis, design and development but also writing user manuals, installation, training, and ongoing support. The team remains committed to continuing this work

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into the future. Projects either under way or planned for 1992 and beyond include:

- liaison during development of the TITAN Page Creation and Management System jointly with the Press Association and a third-party software house (see details later)
- specialised PC-based monitoring decoder to aid our engineers in the detection and resolution of transmission problems
- enhanced graphics input facilities using scanner, graphics tablet and camera image digitiser technology
- further enhancements to sales order booking system to facilitate automatic control of on-air advertisements
- PC-based data-feed handlers which will be able to update pages automatically or with editorial assistance
- improved TV schedule database handler on PC to provide interface to external sources, especially for Programme Delivery Control and to provide control for "Now & Next on TV" pages
- improvements to our TV film previews database for more automation and improved library/indexing/archiving
- future plans to investigate new page transmission cycle/access time improvements (for example, Vorkopfseilen and magazine shuffle techniques)

(b) Specialist editing terminals

First-generation teletext editing terminals were expensive and cumbersome systems incorporating an editing keyboard and separate character generator, and providing minimal on-board intelligence past the basic page-editing features.

Between 1984 and 1989, a series of successively more refined page-editing terminals, known as SPRITE and based on the Acorn Microcomputer motherboard, were developed in-house at ORACLE. These were produced and sold commercially under licence by Softel Electronics as the SE3010, and adopted for most ORACLE editorial staff and external information providers.

SPRITE terminals were designed to speed up page preparation by offering advanced features to assist the editor. For example, regularly used system commands are pre-programmed, multiple page memories are available, key sequences can be memorised, and facilities exist for built-up graphics lettering to be entered with single keypresses using a user-defined font. External information providers were equipped with SPRITE terminals to enable them to deliver pages to ORACLE using disks, modems or leased lines.

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In line with modern trends in computer technology, SPRITE has now been transferred across to a PC platform, and is capable of operating stand-alone or in a network environment. Further developments to increase the power and efficiency of the terminal are under way, including graphics images scanners, data tablets, advanced image production facilities, and higher levels of teletext.

PC-SPRITEs will be linked directly to the new Vortex host system using a DEC Pathworks 10BASE2 Ethernet network to speed up page transfer and to overcome the disadvantages of serial RS232 communications links. The aim is to continue the trend towards decentralised page processing by building more intelligence into the editing terminals rather than having to rely solely on the central host system.

The Personal Computers running PC-SPRITE will not be dedicated to teletext editing, but will be used for a variety of other office applications, such as word processing and databases.

We have ensured that our own software development team will be involved in further developments to PC-SPRITE in the future, under the guidance of Andrew Lambourne, our consultant Systems Analyst, who designed the original system.

We shall be equipped with thirty PC-SPRITE editing terminals by 1993.

(c) Interfaces to automatic datafeeds

ORACLE has successfully pioneered the technique of creating high-quality teletext pages automatically by means of specialised data-feed handlers. A number of projects have been implemented, and work continues on new systems for the future.

British Airways

During 1983, ORACLE commissioned the development of a direct data link to the British Airways network control computer FICO. This system was designed to maintain automatically a series of flight arrivals information pages, initially for Heathrow and later for regional UK airports. The service proved to be popular with the public, and clearly demonstrated the value of direct data links to create pages of tabular information.

A pair of BT 4-wire leased lines and modems provide a main and backup link to the FICO computers at Heathrow. The flight information from these computers is fed directly to a pair of Northstar Horizon computers (main and backup) installed at Craven House. The information is then compiled using page templates and sent to the main database system via two ASTET serial RS232 links (main and standby).

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Stock Exchange

Building on the concept embodied in the British Airways link, a second data link was established to the Stock Exchange Computer Readable Service (CRS), carrying the Broadcast Hotline of changes in share prices. Using dedicated software and new techniques for page templating, pages listing current share prices were updated automatically. Previously, this operation had been performed manually.

Automation not only increased the frequency of updates which was possible, but greatly increased the practical portfolio size. Currently, around 385 share prices are listed over 4 source pages, with updates every 90 minutes. The CRS feed from the Stock Exchange connects via main and backup modems and leased lines directly to our main database computers using a serial RS232 port and is received and converted to teletext pages by software. A project is under way to transfer this software from the main systems to dedicated PCs, and to enhance its functionality.

Barclays Bank

The techniques developed for the share listings pages were subsequently applied to a further link to Barclays dealing rooms in London. Foreign currency exchange rates and Bank rates are received over leased line circuits, and used to create listings pages automatically, with updates every two minutes.

Future automatic page creation

Further links of this kind are planned for the future. As well as fully automatic page creation, techniques are being developed to enable less precisely specified data feeds to be used. These techniques will be particularly valuable for the new sports services being proposed in conjunction with the Press Association. Direct information feeds from the PA information database will be processed by dedicated software to enable up-to-the-minute sports information to be provided using the TITAN system.

(d) Computer databases

Another ground-breaking step taken by ORACLE has been the design of software to produce sets of teletext pages from information held in locally-maintained computer databases. This greatly increases the flexibility and reliability of page maintenance, since the software interface allows page-sets to be created at will in response to user-specified search parameters. The skills of the editorial staff can thus be focused on information gathering and editing into ORACLE style, while the database computers handle the routine tasks of storage, retrieval and reporting on the data.

In this way the editorial technology moved forward from a simple page-oriented editing system, and ORACLE is now able to maintain and deliver detailed and accurate information from dedicated databases in a format which is consistent and therefore easily read.

Regional Events Guide - What's On

The first database system of this kind was REGIS — the Regional Events Guide Information System. This has now been upgraded and renamed "Whatsnew". Using this system, a country-wide database of forthcoming events is maintained, and can be compiled into multi-page sets in the "What's On" sections of the regional ORACLE magazines. The system is multi-user, and runs on a PC Ethernet network so that information may be shared by the whole What's On editorial team.

At the heart of the system is a gazetteer of every town in the UK, cross matched to the ITV regional transmission footprint. Alongside this is a file of every venue in the country for which information has been received, containing its name, address and telephone number.

When information is received about theatrical, musical or other local events, it is entered via a suite of programs, the format of which varies with the category. For example, musical events generally list the date and artiste on a single line, whereas theatrical events include performance time, ticket prices and a short description of the event and/or its stars.

The programs record the category of the event, the town (and hence the region(s)), the venue, the date(s) and the details of the event itself. On request, the system will collate, compile for teletext format and then despatch to the relevant ORACLE pages the previously entered events information for specified regions under the specified categories for a given range of dates.

All pages can be manually reviewed by the operator before the command is given to copy them to on-air pages, allowing fine adjustment to be made if necessary.

TV Schedules system

A further database-oriented page creation system designed and commissioned by ORACLE stores, compiles, presents in teletext format and then manages in real time the television listings information presented on the ORACLE service. TV schedules are stored for up to 2 weeks in advance, and are entered into the system by a specialist operator in the editorial department.

Upcoming schedules information is maintained using a sophisticated and user-friendly database management interface, and produces TV listings pages on a daily basis. Page management is continued throughout the day.

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with out-of-date pages being removed once all programmes have been shown. Extensions to this system will allow for "Now and Next on TV" pages.

The TV Schedules software runs on two DEC microVAX 2000 computers styled MV1 and MV2 in Figure 2 (one main, one standby), linked together by 10BASE2 Ethernet. The main system is dynamically backed up to the hot standby.

The system automatically formats data for the entered schedules into teletext pages and sends any relevant pages to the main DEC systems via the Ethernet. From there, the TV guide pages are despatched on to the insertion computers and regional systems. During any given day, the TV schedule computer automatically removes pages from the on-air multi-page sets as their displayed schedule times expire.

(viii) External information providers

ORACLE receives a number of pages from external information providers. Provisions for the reliable supply of this material are detailed below.

(a) Terminal-based

A number of external information providers use SPRITE terminals and prepare batches of pages for transfer to ORACLE either on disk or using modem links. Sophisticated password protection allows access only to designated pages.

As mentioned previously, engineering policy is for any faulty equipment to be returned by courier to ORACLE's headquarters and either repaired or replaced with a spare within 24 hours of receipt. For less serious problems, the engineers are available by telephone during on-site coverage hours to liaise with external information providers.

(b) Viewdata-based

A pioneering technique we initiated in the late 1980s enables our teletext database software to receive and convert Viewdata format pages using the Prestel Bulk Update protocol. Our system can interface directly with any external VideoText provider using this software, by means of a dedicated modem and serial RS-232C data port.

We currently use this method to interface to Wetherbys for racing declarations, and to the Meteorological Office for national and regional weather forecasts.

Due to the operational complexity of issuing severe weather warnings on ORACLE, software has recently been developed to facilitate its more efficient provision, again using VideoText information transfer.

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(c) Jobfinder system

The Jobfinder system in Sheffield, running on a Softel-supplied DEC microVAX 2 computer, communicates with our main system via a 9600 baud serial RS232 port using the ASTET protocol. A BT 9.6K kilostream circuit links the Sheffield site to ORACLE.

Should the kilostream communications link fail, the Jobfinder system will automatically switch to a backup 1200 baud 4-wire leased line between the two sites. A further means of backup is available using a 1200 baud dialup modem and PSTN line. This kilostream link and backup mechanism was initiated by ORACLE Engineering, as part of our policy of backup and redundancy.

The Jobfinder computer sends bulk page updates for all regions to ORACLE's headquarters at the end of each working day, between 17:00 and 19:00. Control flags are set manually to determine which regional systems are to be updated. The information is passed to the regions during our regional bulk update from the main computer system at 03:00 the following morning.

(ix) In-house software systems

ORACLE has a sophisticated range of office software systems to support its operation. Many of these applications are installed on a PC office network as described in the following sections.

(a) Office PC network

Since its first installation in 1985, ORACLE has been extending and enhancing its office network and currently has 33 networked PCs linked by 10BASE2 Ethernet.

The computers on the network range from Olivetti 286-based monochrome systems to our current company standard Compaq 386-based VGA colour systems. All networked PCs have access to Epson dot matrix printers and Hewlett-Packard laser printers.

The network software, chosen especially for its easy to use icon-based interface, provides ORACLE with an operating environment which is straightforward to learn and use. It links users within the Administration, Accounting, Sales, Production, Engineering, Subtitling and Editorial departments, allowing them to share data and services where required. Full data protection is implemented where necessary, and a constant data backup and archive routine is maintained. All shared-resource servers throughout the network are shadowed by backup servers, minimising both down time and the potential loss of information that might be caused by hardware failure.

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All new software applications are thoroughly tested and checked for computer viruses before they are released for use on the network and full support is provided by our in-house software support staff. Training sessions on applications are also run when required.

A variety of application software is available on the network, including wordprocessing, an accounting system, spreadsheets, database ordering systems, centralised telephone lists and outside data links to services such as Prestel via modems.

(b) Advertising booking system

TACS is an in-house computer software system running on networked PCs and is designed to administer advertising on ORACLE by booking advertising space, printing order confirmations, producing allocation and sales reports, generating invoices and passing data to the accounting system with which it integrates.

Because ORACLE advertisers require rapid response to requests for booking and amendment, the system has been designed to minimise the time required to answer queries, and to be as flexible as possible in making changes.

TACS was the first teletext advertising control and booking system ever designed. It provides ORACLE with the strategic and tactical information and control that plays a vital part in securing revenue and complying with relevant ITC codes.

(c) Stand-alone PC systems

ORACLE also has dedicated standalone computers for developing software in both "C" and Dataflex, desktop publishing, producing graphics and presentation material and for running our in-house film previews management system.

(d) Teletext graphics origination

Teletext graphics are currently prepared in-house with the aid of a camera and digitiser interface. Using this method, images may be scanned onto a teletext terminal screen and then edited by our graphics artists. The completed page can then be saved onto the main database and archived onto floppy disk. ORACLE has a specialised graphics design team of two.

(x) Future provision of News, Sport and City services

ORACLE and the Press Association (PA) have, since June 1991, been discussing the ideal form of computer system necessary to allow delivery of "teletext-ready" news, sport and City material much faster and more efficiently than is possible under our current arrangements. This led in

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November 1991 to the establishment of a joint project to specify, design, build and implement a new computer system, which we call TITAN.

TITAN will be operational by July 1992 and will allow a full parallel test service of news, sport and City information from PA to be available on-line to ORACLE by the end of September 1992 for testing and fine tuning.

Coupled with our newly installed Vortex system, TITAN will give ORACLE the leading edge in teletext production in the 1990s and beyond.

(a) TITAN research and development

The key issues being addressed in TITAN development are advanced techniques for copy production and page management with a view to further enhancing our speed and efficiency in service delivery. Our consultant Systems Analyst, Andrew Lambourne, was tasked with specifying these new techniques for the joint project with the Press Association.

Rather than depending on a series of low-level commands to manage pages on an individual basis, the new system will allow higher-level control by means of windowed screens in which page-sets and occupancy of on-air page slots are shown in overview. Graphical user interfaces will be used to control the assignment of new copy to on-air page slots, giving a more intuitive and efficient control mechanism. Provision of a current transmission overview will enhance service management by providing editors with at-a-glance information on page content, currency and cross-linkage more readily than is currently possible.

Computer-assisted index-page maintenance will reduce the amount of manual overhead in page updating, thus increasing the throughput and flexibility of page movements in key areas such as the news and sport services. This is intended to lead to a more dynamic and responsive service, making best use of the teletext medium.

Another development which builds on ORACLE's long experience in page production will address the problem of editing material which is spread over more than one page. In this case, information-oriented rather than page oriented editing techniques are being developed, with the facility to easily reassemble and scroll through multipage copy.

Development of our new TITAN page creation and management system is being coordinated by the Press Association to the detailed ORACLE specification. Close liaison with the external software development house, likely to be Abacus Software Ltd, will be maintained by our consultant Systems Analyst and our engineering team to ensure that the project is completed on target with the required functionality.

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Abacus Ltd have eight years' experience in the VideoText systems marketplace, and have a successful multi-user VideoText product. Our in-house software engineering staff will be involved in management, configuration and monitoring of the new TITAN system once it is delivered.

(b) TITAN editorial input

TITAN has been designed to act as an interface between the PA Tandem SII database computer used for information gathering, and the Vortex system used by ORACLE for teletext storage and transmission.

Sub editors in the PA ORACLE Unit will trawl the PA news database computer for new stories. Material selected for ORACLE will be sub-edited into one of a number of pre-defined page templates and submitted via a PA filing editor to an ORACLE review editor for final checking prior to being put on air.

This minimises rekeying and ensures that page presentation conforms to the established editorial styles. Computer assisted editing functions will enable rapid sub-editing to be performed so that the copy will fit into the given teletext page constraints.

Additional information will be added to the copy, specifying the catchlines for index pages, and the priority of the story. Style control information is stored as part of the template, and guides the conversion of the copy into a teletext format, complete with a logo as appropriate.

Further software is provided for computer-assisted maintenance of index pages once new copy has been assigned to a given on-air page number. This will also enable the editor rapidly to adjust the balance of the headlines index to appropriately reflect the news events.

Any page which has been replaced by a new story can be brought back onto air in a new position, edited further to become a "brief" or stored for future reference.

Other specialised software will deal with automatic updating of certain sports information pages, providing for an accurate and up-to-the-minute service with the minimum of time-wasting "re-keying" of information. Again, indexes can be adjusted automatically based on manual assignment of page titles.

(c) TITAN page management facilities

TITAN provides highly efficient Page Management tools which allow new copy to be put on air with the minimum of delay. Facilities include computer assisted maintenance of index pages, and the automatic insertion of cross references. Both of these features significantly reduce

the editorial operations necessary to create and maintain a service of up-to-the-minute teletext news.

Completed pages are passed to the Page Management System (PMS) for a final assessment and assignment to on-air pages. The PMS is designed to assist editorial staff in assembling individual teletext pages into a properly indexed and cross referenced subset of the ORACLE database. It will reduce the editorial workload, speed up the delivery of new pages to air, and improve the quality and responsiveness of the news service.

Using normal page-editing terminals to handle indexing and cross-referencing involves a significant extra workload, since creating a typical news page may also necessitate modifications to indexes and other news pages. Under the current service configuration, the main news headlines are replicated on five multipages, each with a different fractional advertisement. The news index also carries story titles, and the lead story may be "spotted" on the main index. This can mean updating a story headline on three pages if a news page is altered. Further updates will also be required if other pages are to cross-refer to the new item.

One implication of the current system, which the PMS will solve, is the tendency not to bring the lead story to the "top" of the news page set, simply due to cumbersome operations required to exchange pages and keep indexes up to date. The PMS is designed to take charge of "slot management" by allowing copy to be moved freely between transmission page slots and automatically making changes to indexes and cross-references.

Another important function of the PMS is to allow new copy to be reviewed by a chief sub-editor before being released to air. It achieves this by providing for "proposed updates" to be collected and reviewed on a separate terminal. Editors can elect to take control of sections or groups of pages, selectively routing page updates onwards for review or directly to air as required.

In summary, the functionality of the PMS is as follows:

- manual assignment of new copy to on-air page number(s)
- automatic creation/updating of index and newsfile pages
- automatic insertion/updating of cross-reference numbers
- rapid redistribution of copy between on-air pages
- provision for final review before releasing pages to air

(d) Newsroom computer system

In parallel with the provision of teletext pages from PA to ORACLE as described above, ORACLE is to install a dedicated newswire monitoring system. This will enable current events to be followed independently by

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ORACLE editors so that they are able to make informed decisions about the mix of news presented on the service. A PA News Concentrator will be installed at the ORACLE headquarters site. This is a PC-based network, enabling newswires to be monitored and the information stored and accessed as required.

(xi) Backup, archiving and compliance

A complete teletext database copy of all of our on-air, control and storage magazines is performed automatically each night onto the local 400Mb Winchester hard disk on the standby PDP 11/44 database computer system. A weekly backup of the database is also performed onto TK50 tape cartridges. These cartridges are stored off-site. We shall extend the duration for which this backup is retained to 90 days by using additional TK50 tape cartridges.

We shall be implementing a system to archive our regional output using the proposed new data communications network to pass locally entered information from the regional teletext computer systems to the main ORACLE systems.

Our Vortex system in conjunction with our new regional distribution and communications system allows for full 90-day archiving of all material transmitted and amended. This information can be accessed either in page form or as printouts as required, under the control of the system management staff.

We currently record all VBI insertion output (with the exception of the regional signals) using standard VHS VCRs and tapes. This is achieved by the use of three Softel SE3042s, which decode the VBI of the video input signal and slow the data rate down by a factor of five. This speed is low enough to enable data recording by a normal VHS VCR. To replay a tape, the recorded signal must go through the reverse process, and the speeding-up facility is also a function of the SE3042 units.

We currently store up to 60 days of our transmission for each channel, and shall extend this to 90 days' worth of transmission to meet new ITC Codes.

There are also automatic printouts of pages updated by ORACLE Production, Editorial and some external contributors' editing terminals. These printouts are in computer-form format, printed from DEC LA120 printers, and are normally retained for twelve months.

(xii) Subtitling systems

ORACLE has been involved in teletext subtitling from the start. Since the first subtitling broadcasts in 1979 we have not only provided a subtitling

PREMISES AND EQUIPMENT

service for ITV and then Channel 4 but we have also funded and encouraged research and development.

Between 1979 and 1983, ORACLE co-funded research at Southampton University which led to the formulation of subtitling guidelines for ITV and to the design of a second-generation subtitling system, the NEWFOR. This system led the field in terms of efficiency and ease-of-use, and was manufactured under licence by VG Electronics and sold worldwide. NEWFOR also led the way to real-time subtitling for live programmes. The Royal Wedding of 1981 was the first major live public event to be subtitled in this way for the benefit of the deaf and hard-of-hearing audience in the UK.

In July 1987 ORACLE launched the first real-time news subtitling service in the UK. The news subtitling department provides subtitles for the ITN News at 5.40, the Channel 4 News at 19:00, the ITN News at 12:30, News At Ten, First Tuesday and This Week.

ORACLE is currently planning a programme of systems replacement and upgrade to meet the vastly increased demand for subtitling that will occur over the next ten years.

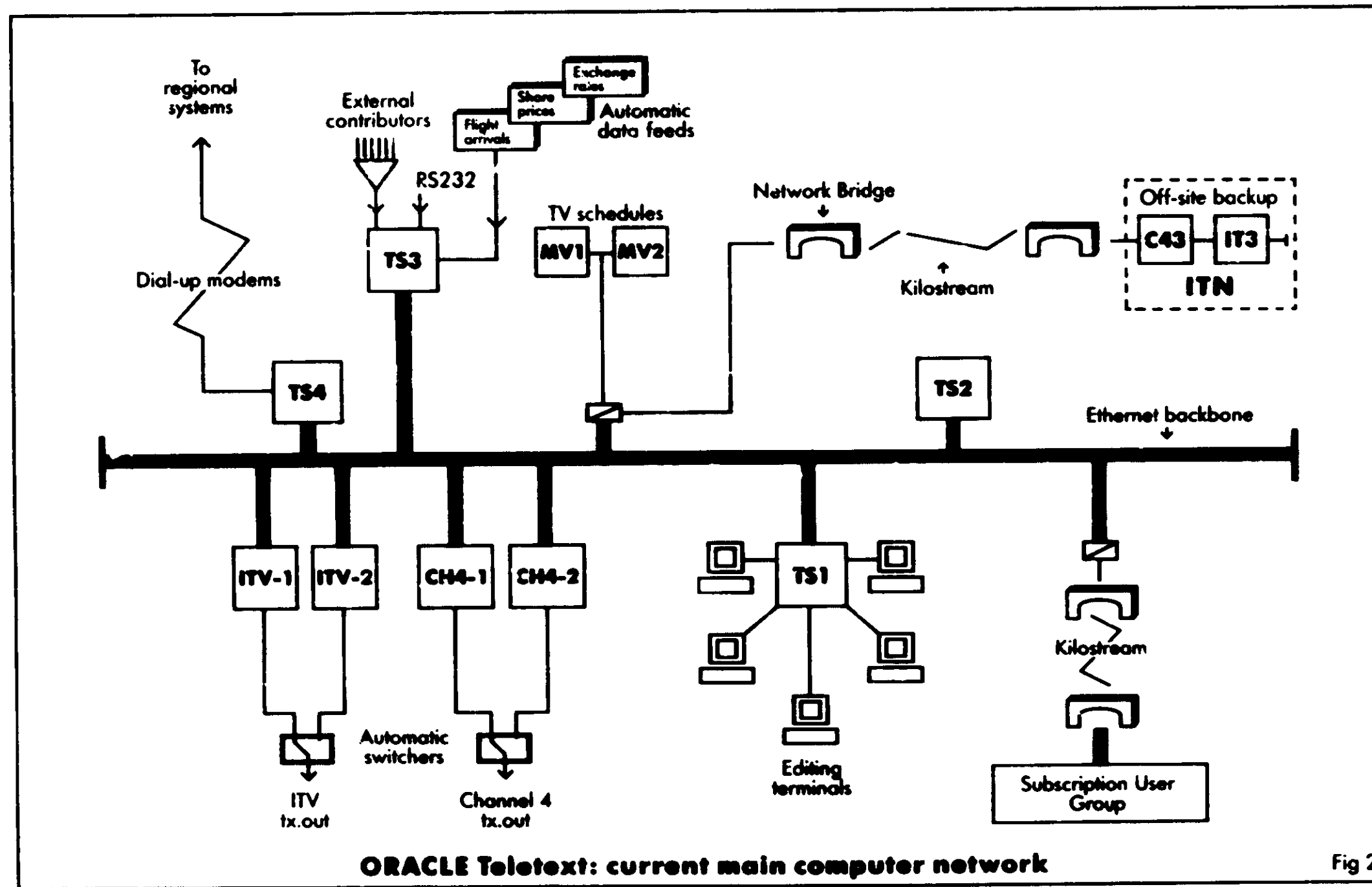


Fig 2

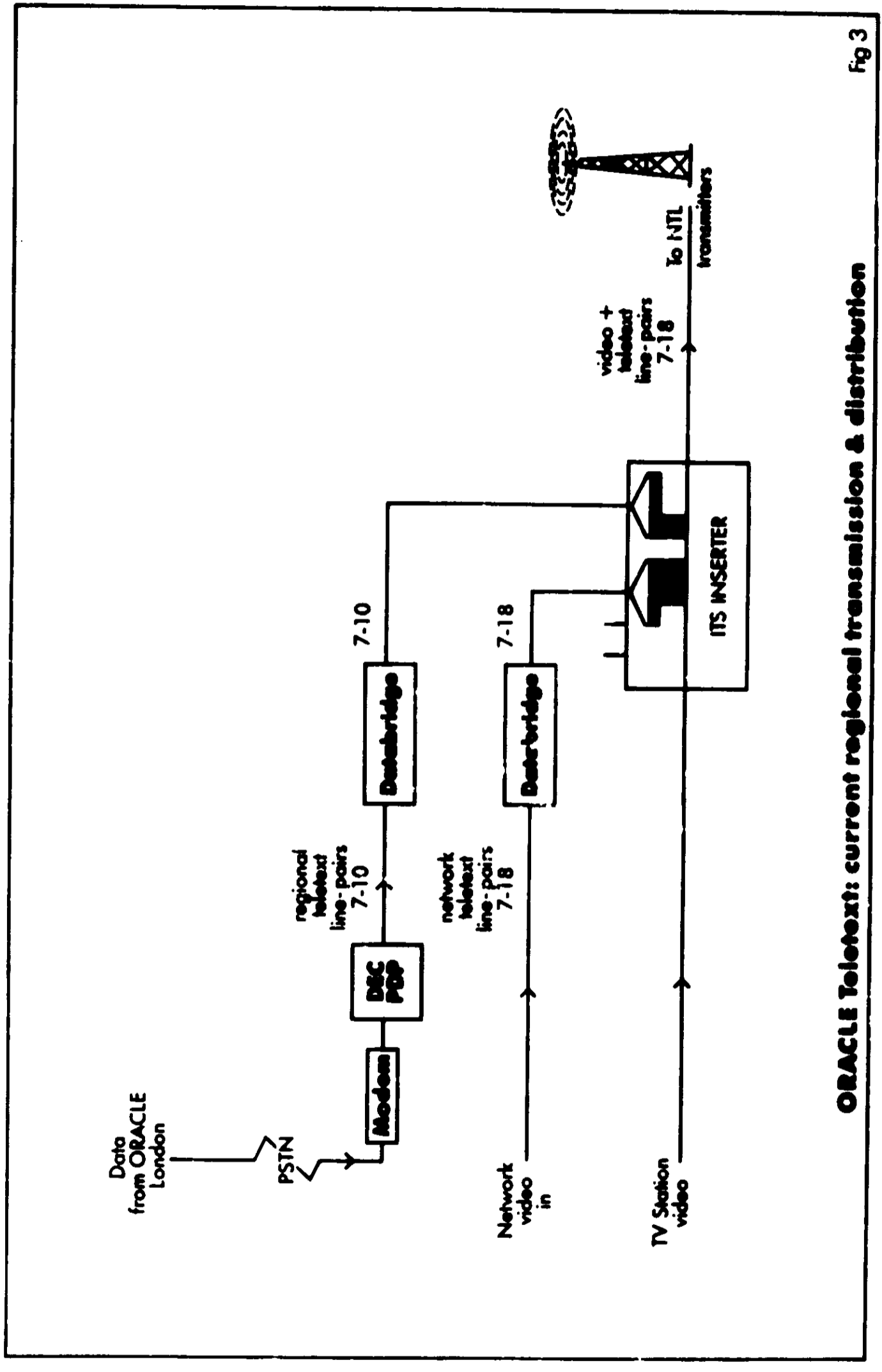
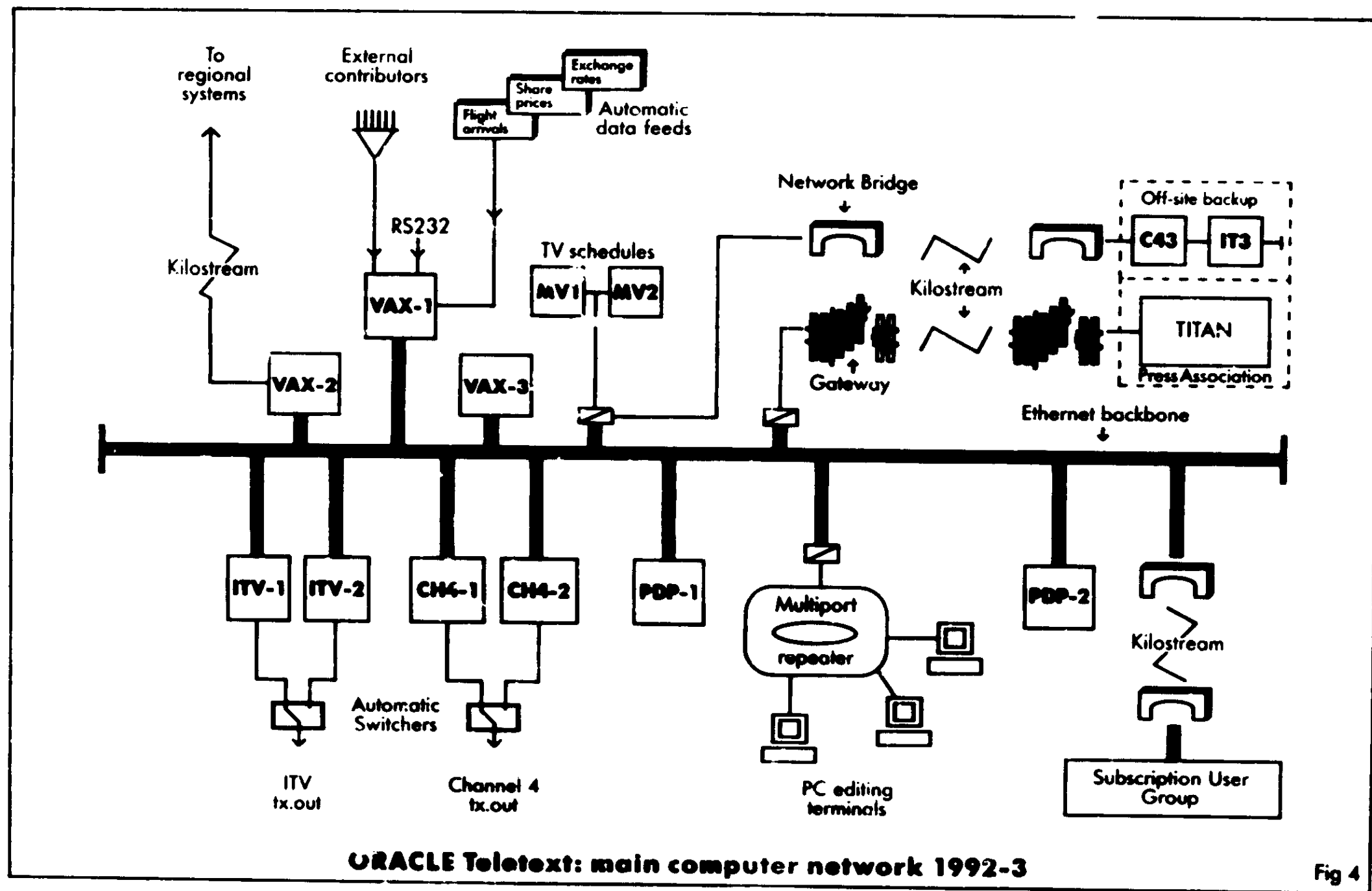


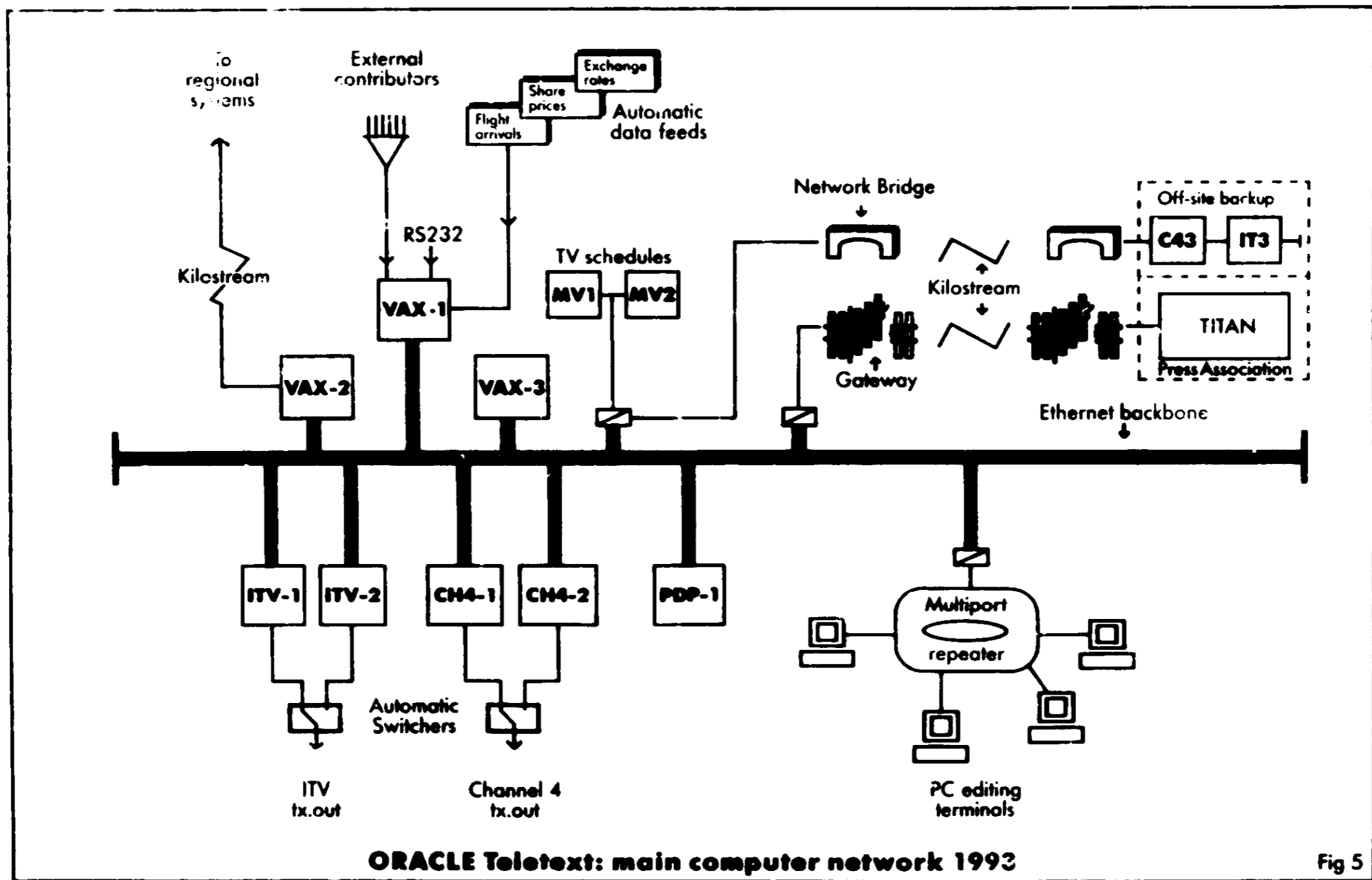
Fig 3

ORACLE Teletext: current regional transmission & distribution



ORACLE Teletext: main computer network 1992-3

Fig 4



A.10 ACCESS TIME

The applicant should state his policy on access time (i.e. the time it will take viewers to access the various pages in his service) and what assumptions have been made about access time in allocating capacity to the different strands in the service.

The balance between content and access time is crucial to the success or failure of a teletext service. In survey after survey ORACLE has found access time to be a major negative factor in the readers' appreciation of teletext. On the other hand, reducing the scale of service so as to provide very fast access times would result in loss of readers because the resulting service would contain too few pages.

ORACLE's consistent policy has been to find an optimum balance between the factors affecting access times for different pages, and to adjust transmission parameters to give the best possible service. This balance has to be struck within the constraints dictated by the technical standards for teletext transmissions, the number of available Vertical Blanking Interval (VBI) lines, and the capabilities of in-set decoders.

Over the past decade ORACLE has been in the enviable position of being able both to improve access times and increase the service content through the allocation of more transmission capacity. The ITC's support in this matter has been an important ingredient in the success of teletext and ORACLE.

That era has now ended. From our current transmission capacity of 12 line pairs per picture per channel (on ITV one line-pair is allocated to subscription user group transmissions) we must now assimilate an allocation of 7.5 VBI line pairs per picture per channel.

We have therefore very carefully had to match readers' demands for a continuing scale of service with the reduction in transmission capacity the new licence offers.

ASSUMPTIONS IN ALLOCATING TRANSMISSION CAPACITY

Our essential assumption in preparing our plans has been that the heterogeneity of our readership makes it difficult to decide which particular profile of pages they will wish to access at any time.

We further believe that readers find a widely varying access time to various pages disturbing. They cannot see why the pages they might wish to see are transmitted less frequently than others. Many will feel that there

ACCESS TIME

is a malfunction either in their set or with the teletext service. The culture of a screen based service such as ours is that users expect service delivery within a predicted time window.

For these sound editorial reasons we do not propose to offer a service which provides certain pages, or blocks of pages, only at certain times or on certain days. We also do not propose to allocate a varying number of transmission lines to different magazines during the course of the day or week. Ceefax provides a demonstration of the confusion that such allocation of capacity can create.

Nor do we propose to offer an ever changing menu of services available from day-to-day, as between weekdays or weekends or during the course of single days. The essence of teletext's appeal to its readers is that services are available to them free and whenever they want to read them.

Although our proposal and page index presentation does not include allocation for advertising we have assumed here that, within each of the four magazines which we propose to use for our service, all page space up to the allowed proportion of capacity will be allocated to advertising pages. Therefore our calculations assume full 100 page magazines in each case.

ORACLE proposes to allocate the 7.5 VBI line-pairs per picture available on ITV as follows:—

Magazine 1 4 line-pairs

Magazine 2 3.5 line-pairs

A similar arrangement is proposed for Channel 4:

Magazine 5 4 line-pairs

Magazine 6 3.5 line-pairs

Assessment of access time for sets equipped with a single page store/display (for which any teletext service must be modelled), is a fairly simple matter. A simple model of the insertion process, which ignores the need to leave a field-interval between row 0 and the rest of a page, and which assumes each page to be of fixed size (24 rows plus 2 Fastext packets), gives the following:—

$$\text{Average access time (seconds)} = \frac{1}{2} \times \frac{\text{no. of pages in magazine}}{(\text{no of tx lines} \times \frac{50}{26})}$$

where a tx line is a VBI teletext line pair present in both fields of the picture frame (e.g 1 line-pair = line 18 + line 331).

ACCESS TIME

Current "natural" average access times (ie the average access time excluding page transmissions "out-of-sequence") on this basis are:

Magazine 1	6.4 seconds
Magazine 2	4.1 seconds
Magazine 3	6.7 seconds
Magazine 4	4.1 seconds
Magazine 5	6.0 seconds
Magazine 6	4.5 seconds

The "natural" average access time for the proposed service after 1992 are:

Magazine 1	6.5 seconds
Magazine 2	7.4 seconds
Magazine 5	6.5 seconds
Magazine 6	7.4 seconds

OUT OF SEQUENCE PAGES AND ADDITIONAL PACKETS

The simple formula presented above neither takes account of out-of-sequence (OSQ) pages which are transmitted at a fixed rate, nor of the fact that most teletext pages contain a variable number of blank rows (which do not need to be transmitted assuming the clear-bit is set in the header row 0).

A number of pages which are of clear benefit to readers for indexing purposes or are of universal interest, merit out-of-sequence transmission.

ACCESS TIME

We propose to provide these pages on an out-of-sequence basis with the following average access times:

News Headlines	(3.5 seconds)
Newsflash	(3.5 seconds)
News Index	(3.5 seconds)
Regional News Headlines	(3.5 seconds)
Sport Index	(3.5 seconds)
TV Listings Index	(5 seconds)
Weather/Travel Index	(5 seconds)
City Index	(3.5 seconds)
Share Price Listings	(4 pages at 5 seconds)
Racing Index	(5 seconds)
Holidays Index	(5 seconds)
What's On Index	(5 seconds)
Community Index	(5 seconds)
Your Money Index	(5 seconds)
Children's Index	(5 seconds)
Diversions Index	(5 seconds)
Reviews Index	(5 seconds)
Rock and Pop Index	(5 seconds)
The Supplement Index	(5 seconds)
Lifestyle Index	(5 seconds)

In addition, and within the parameters of ITC Advertising Codes, we assume that up to 32 interleaved advertisements will be included in the transmissions (8 per magazine).

The calculation in the case of interleaved advertisements is complicated by the fact that they always occur within a multipage set of pages; we have therefore assumed them to be part of a four page multipage.

Taking into account the above considerations we present a formula for average access times (described in Appendix K):

Average access time (seconds)

$$= \frac{1}{2} \times \left[\frac{(p - q) + \left(\frac{1}{m_1} + \frac{1}{m_2} + \dots + \frac{1}{m_r} \right)}{\left(\frac{50 \times v \times e}{26 - b} \right) - \left(\frac{1}{d_1} + \frac{1}{d_2} + \dots + \frac{1}{d_n} \right)} \right]$$

Where p = no. of source pages in magazine

q = no. of OSQ pages in magazine

m_r = size of multipage set containing r th interleaf

v = no. of VBI line-pairs per picture

e = efficiency factor (see below)

b = average no. of blank rows per page*

d_n = display interval of n th OSQ page (seconds)

- * Random sampling of ORACLE's current services shows an average of 2.2 blank rows per page.

Apart from specifying that one VBI line contains one packet, the Level 1 teletext specification requires a field-period to be left between transmission of row 0 of a page and transmission of succeeding rows in order to allow in-set decoders time to clear their memory. If a row 0 uses the available control-bit to issue a page-clear instruction to the decoder, then it is not necessary for blank rows to be transmitted. Depending on individual page sizes, numbers of blank rows and number of VBI lines available, the requirement to leave a field interval following row 0 causes inefficiency in transmission.

An efficiency correction factor is needed to allow for these unusable rows. This factor does not obey a linear relationship to the number of teletext lines used for transmission of a magazine and has to be calculated by considering a spread of page sizes. We have calculated that for 3.5 or 4.0 line-pairs per picture, the efficiency factor is 0.94 (ie only 94% of transmission capacity is usable). Note that the losses are higher as more lines are used for transmission (for example, if we were to transmit a magazine using 7.5 line-pairs per picture, only 86.5% of transmission capacity could be used).

Broadcast service information (packet 8/30/1 and packet 8/30/2) will have the same effect, in the worst case, as a single OSQ page transmitted every 5 seconds.

We can therefore present the sampled average access times for our current services as follows:

Magazine 1	7.7 seconds
Magazine 2	6.6 seconds
Magazine 3	7.1 seconds

ACCESS TIME

Magazine 4 6.7 seconds
Magazine 5 7.4 seconds
Magazine 6 6.9 seconds

This compares with the calculated access times for the proposed service as follows:

Magazine 1 6.8 seconds
Magazine 2 7.7 seconds
Magazine 5 6.7 seconds
Magazine 6 7.7 seconds

These are average times for access to "in-sequence" pages.

There are techniques to use the period following row 0 to insert other data and ORACLE's policy will continue to be to find ways to minimise insertion wastage. Newer methods such as insertion look-ahead and "magazine shuffling" will continue to be investigated and employed where beneficial to the reader.

ENHANCED MEMORY TELETEXT SETS

We believe that Fasttext in association with only a few (that is less than six, which is the current norm) page memories installed in teletext sets, is an aid to the means rather than the speed of access and has an unpredictable effect on the speed of access.

In the future, all improvements in delivery speed and the display quality of teletext services will be inextricably linked to improvements made by manufacturers to receiver technology, and the price they set on that technology.

As we stated earlier in our proposal, ORACLE identifies the campaign to encourage manufacturers to adopt as **standard** receivers hosting 200-page memories and above as central to the continuing success of our medium. We shall continue to give every support to convincing television manufacturers, chip-set manufacturers and retailers that such sets are becoming essential to, rather than a luxury in, future marketing strategies.

In this context we make a commitment to provide a Magazine Inventory Page service as soon as required by manufacturers in order to aid memory management in such improved sets.

A note of caution should be struck with regard to the introduction of enhanced memory sets. Until a large majority of sets possess such enhanced memory the public teletext provider must order its service and delivery speeds so as not to disenfranchise the owners of single, or small scale, memory sets. We will not increase access times to such high levels that the service we provide becomes effectively unusable to those people.

Even in the highly unlikely event that all manufacturers were persuaded to cease production of sets with less than 200-page memories from 1994 onwards, it would take until the year 2001 before small memory sets had been entirely replaced in households due to obsolescence (which we assume to be based on a seven year life cycle). Assuming that the total number of teletext households at the beginning of 1994 will be over 9.5 million, the population of small memory sets would still number 1.8 million (or 13.9% of the total) in 1999 before disappearing completely in 2001.

HIGHER DISPLAY LEVELS

Our long-held ambition to improve the graphic display capability of the medium (we have transmitted and presented examples of Level 2 service since 1980) must be set within the context of this consideration for "small" memory set owners.

Our calculations of the effects of higher level display provision are as follows:

- (i) Limited Level 2 Enhancements including enhanced colour palette for text/graphics and full background colour on all pages would increase the transmitted page by 3 rows and therefore cause the average access time to rise by 12.5%.
- (ii) Full Level 2 Enhancement on all pages is more difficult to quantify as each page will increase by a variable number of rows depending on the page contents. The increase will be in the range of 3 to 17 additional rows compared to Level 1. Analysis of Full Level 2 pages at ORACLE suggest an average value of 6 additional rows per page which would therefore cause the average access time to rise by 25%.

In view of these calculations we regard the move to Level 2 service, while desirable, to be inextricably linked to enhancements in receiver memory. We shall therefore continue to offer provision of a Level 2 service to manufacturers and retailers as part of any possible "bargain" to bring forward the introduction of enhanced memory teletext sets but always within the context of our concern to protect our current readership.

IMPROVED VIDEO PROGRAMMING SYSTEMS**Programme Delivery Control (PDC)**

ORACLE supports the introduction of Programme Delivery Control Systems.

There has been much speculation that the advent of PDC services will necessitate the addition of up to 21 "source" pages for the provision of television listings up to three weeks ahead, although ORACLE's research

ACCESS TIME

suggests that there is little public interest in such information beyond two days ahead.

ORACLE feels that providers of teletext services and television/video manufacturers and designers have a responsibility to make the most efficient use of limited teletext transmission capacity. We should, together, seek innovative methods to avoid waste of that capacity. We therefore submit that:—

- (i) We do not feel there is a strong public demand for programme listings information beyond two days (and almost certainly not beyond seven days) ahead.
- (ii) If, in spite of the above, it is considered necessary to look three weeks ahead, we would expect PDC videos to be built with sufficient on-board memory to allow them to store and display up to 21 days of listings which had been transmitted on a single "source" page, "multipaged" to contain all the forthcoming listings for up to three weeks ahead.

PDC packet 26 information associated with TV schedule pages would affect access times. We have calculated that the access time would increase by approximately 1% within the relevant transmission magazine (assuming a full 100-page magazine). This figure is based upon 3 extra transmission rows per TV schedule page and 8 TV schedule source pages. (ie 24 extra rows transmitted per magazine cycle). 8 TV schedule source pages would be required to provide a 2-day schedule for the 4 terrestrial and 1 satellite television broadcasters.

The packet 8/30 format 2 bytes, for real-time PDC labels, would be transmitted within the Ancillary Services teletext magazine, and would therefore also affect the access times within that magazine. Based upon a maximum permissible 4 PDC packet 8/30 format 2 rows per second (eg. when "interleaving" occurs), we have calculated the access time overhead to be approximately 2% (based upon a magazine transmitted on 4 VBI line-pairs). This percentage is based on 4 rows being used out of the 200 available rows per second. In practice, the overhead would be far less than this, as under normal PDC transmission circumstances the packet 8/30 format 2 transmission rate would only be 1 per second.

ORACLE has supported and encouraged the development of systems and video recorders designed to make the programming of videos much simpler and more reliable. Teletext provides the ideal source of listings information for such systems, offering as it does a "machine-readable" source of listings information in close association with the television signal and service. ORACLE is already providing an operational service to a

number of video recorders which allows simple entry of programming information by use of ORACLE TV listings and a cursor display system for individual programme selection for recording. This service requires us to add "concealed" date and end-time information and has been provided for just over three years.

We are committed to facilitate the introduction by television companies of programme labelling at the time of transmission and to providing all PDC codes as part of our listings service. We shall continue to work with the television companies to provide this elegant and world-leading solution to the "problem" with video recorders.

VideoPlus+

The recent launch of the VideoPlus+ system, which facilitates the programming of videos but does not address the problem associated with transmission time changes of television programmes, might pose a threat to the success of PDC-based video recorders. All of us involved in the launch of PDC should ensure that we do all we can to advance its full implementation as soon as possible.

ORACLE is investigating the feasibility of adding, reliably and accurately, VideoPlus+ codes to programme listings and will add these codes to listings when we have evidence of the popularity of the product.

ANCILLARY SERVICES

Our service proposals have been prepared on the basis of certain assumptions about Ancillary Service Teletext Services which will be offered by each ITV company (and presumably Channel 4) and about their relationship to the Public Teletext Service.

Those assumptions are:

- (i) that at least two line-pairs per picture will be allocated for the services.
- (ii) that the services will aim to offer access times approximately in line with those of the public teletext service, implying a content of about 45 pages.
- (iii) that the services will include programme previews, film previews and week ahead synopses, soap opera synopses, engineering information from NTL and programme related community education information.
- (iv) that these services will not duplicate services provided by the public teletext service or adopt widely differing styles of presentation. To present the teletext audience with two quite distinct, sometimes

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duplicating, teletext services on one channel without a consistency of approach or style would lose audiences for both.

- (v) that the public teletext service and ancillary service teletext services co-operate on the provision of services. This will be especially important in the provision of PDC services. The public teletext licence holder will have to make provision for the publication of PDC codes in association with its television listings pages. Otherwise, during Sunrise Television's transmission hours, users of the new PDC video recorders will find themselves unable to programme their videos to record programmes for later times in the day or other hours in the days ahead.

ORACLE will therefore seek to co-operate closely with ITV companies and Channel 4 to ensure that Ancillary Service Teletext, together with Public Teletext, provides readers with the best possible service.

To that end ORACLE has made proposals to each of the current ITV franchise holders (and will make the same proposals to all new ITV licence holders) which describe in detail a "model" ancillary teletext service. We have also detailed the ways in which "cross-referencing" between Public and Ancillary Teletext would benefit readers of both, and retain a sense of cohesion and coherence that would avoid confusing them. We hope that agreement on co-operation between all the new teletext services that will be on offer after 1992 will follow quickly after the award of the new Public Teletext Service Licence.

SECTION B
THE TECHNICAL PLAN

B.1 THE DISTRIBUTION SYSTEM

The applicant should provide a detailed description of the proposed method of signal distribution to the transmitters, together with interfaces with the transmission equipment which is involved.

CURRENT DISTRIBUTION SYSTEM

ORACLE's national ITV teletext magazines 1, 3 and 7 (7 being the Subscription User Group magazine) are distributed to the regional companies within the Vertical Blanking Interval (VBI) by means of the ITVA video network, as part of the network video feed. Regional magazine 2 information is distributed separately directly to the regional ORACLE computers using British Telecom (BT) Public Switched Telephone Network (PSTN) lines. Some regional material is added to the ITV magazine 2 locally in some instances, by means of local teletext editing terminals connected directly to the regional ORACLE database computers by means of RS232 ASTET serial data links. ASTET is a proprietary row-based teletext page data transfer protocol, with in-built error detection and software handshaking.

On Channel 4, all magazines 4, 5 and 6 are distributed as part of the VBI by the Fourth Channel video network. Special provision is made for the S4C teletext magazine "SBECTEL" (see below).

At each regional ITV company, the national ORACLE data arriving on the network video feed is combined with the regional ORACLE data originated from the regional ORACLE database computer and inserted onto the outgoing video feed from the station. This is achieved by means of VG Electronics Ltd (VG) databridges and Insertion Test Signal (ITS) inserters. From the regional transmission ITS inserter, the combined teletext and picture signal is passed to the National Transcommunications Ltd (NTL) transmitter network via the outgoing video circuit from the company.

Diagrams of the current ITV, Channel 4 and regional distribution arrangements are shown as Figures 6, 7 and 8.

There is no regional computer for the London broadcasters, but our London magazine 2 VBI data is routed directly to the Crystal Palace Transmitter using a dedicated outgoing BT vision circuit, which is described later.

THE DISTRIBUTION SYSTEM

POSSIBLE FUTURE DISTRIBUTION SYSTEMS

ORACLE is aware that there will be several options available for future distribution of both national and regional teletext data. In order to provide reliable costings, we have prepared fixed end costs based on known technology, namely the use of kilostream networks. Should other options become available in due course, we would examine them carefully and adopt them if an overall cost saving could be shown.

ORACLE is in the unique position of being able to fulfil its signal distribution commitments readily using the current video distribution network, whilst that is in place, and then to move to new distribution methods if appropriate.

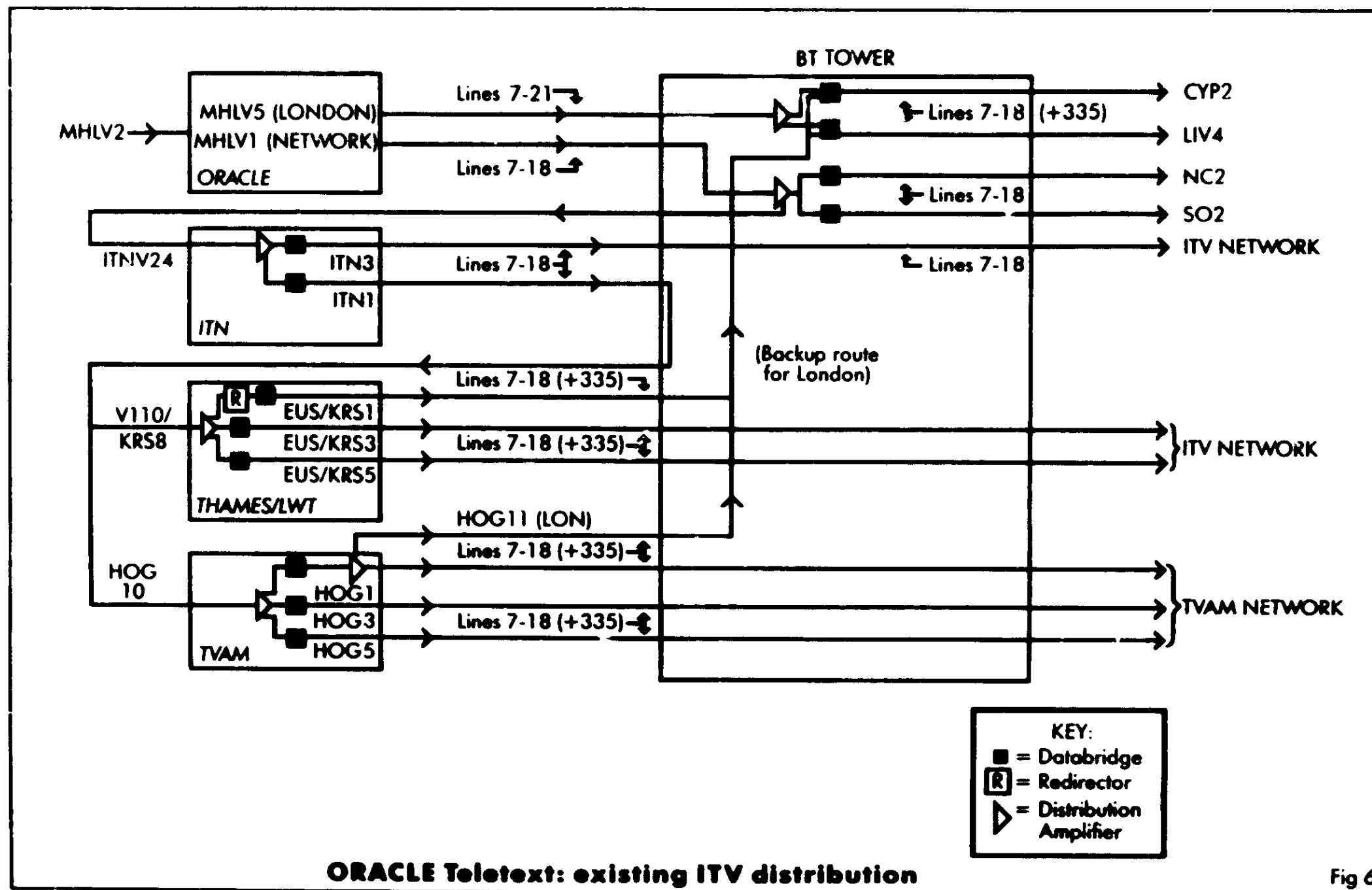
In any case, we propose to continue to distribute our national data using the existing method until at least December 1992. However by that time we shall have a completely new data communications network for regional data distribution. This has also been designed to cope with our proposed future distribution of national material for both ITV and Channel 4, if required.

The ITVA and the ITV licensees are seeking to establish a new video distribution network, for which there will certainly be several options. This new network may not come into operation until after the start of the Public Teletext Service Licence. We are therefore keeping open the option of using all or part of any new ITVA network for future distribution of our teletext signals.

As an alternative, BT have made a proposal for a new digital video network concept which, if accepted by the ITVA, would enable us simply to insert our teletext datastreams onto this network in London and for them to be delivered at the appropriate points for insertion and transmission. A diagram of such an arrangement is shown as Figure 11.

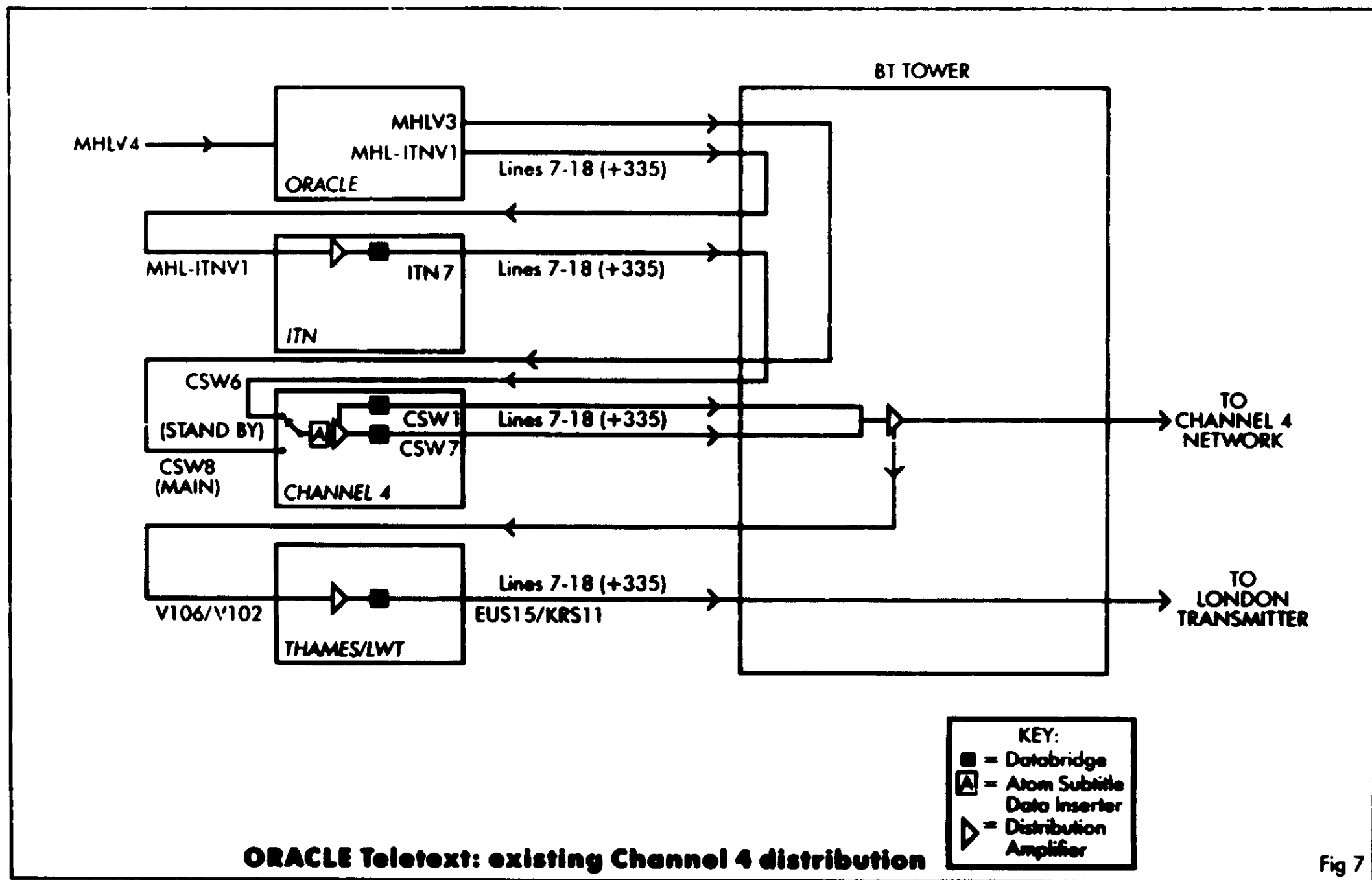
Should neither of these possibilities arise, ORACLE has provided in its financial accounts for the full cost of a national kilostream network and backup computers. We would only take any of the other options outlined above if these involved cost savings.

ORACLE is therefore able to guarantee the continuity of its service provision and to accommodate improved regional distribution and communications no matter which signal distribution systems the ITV companies adopt.



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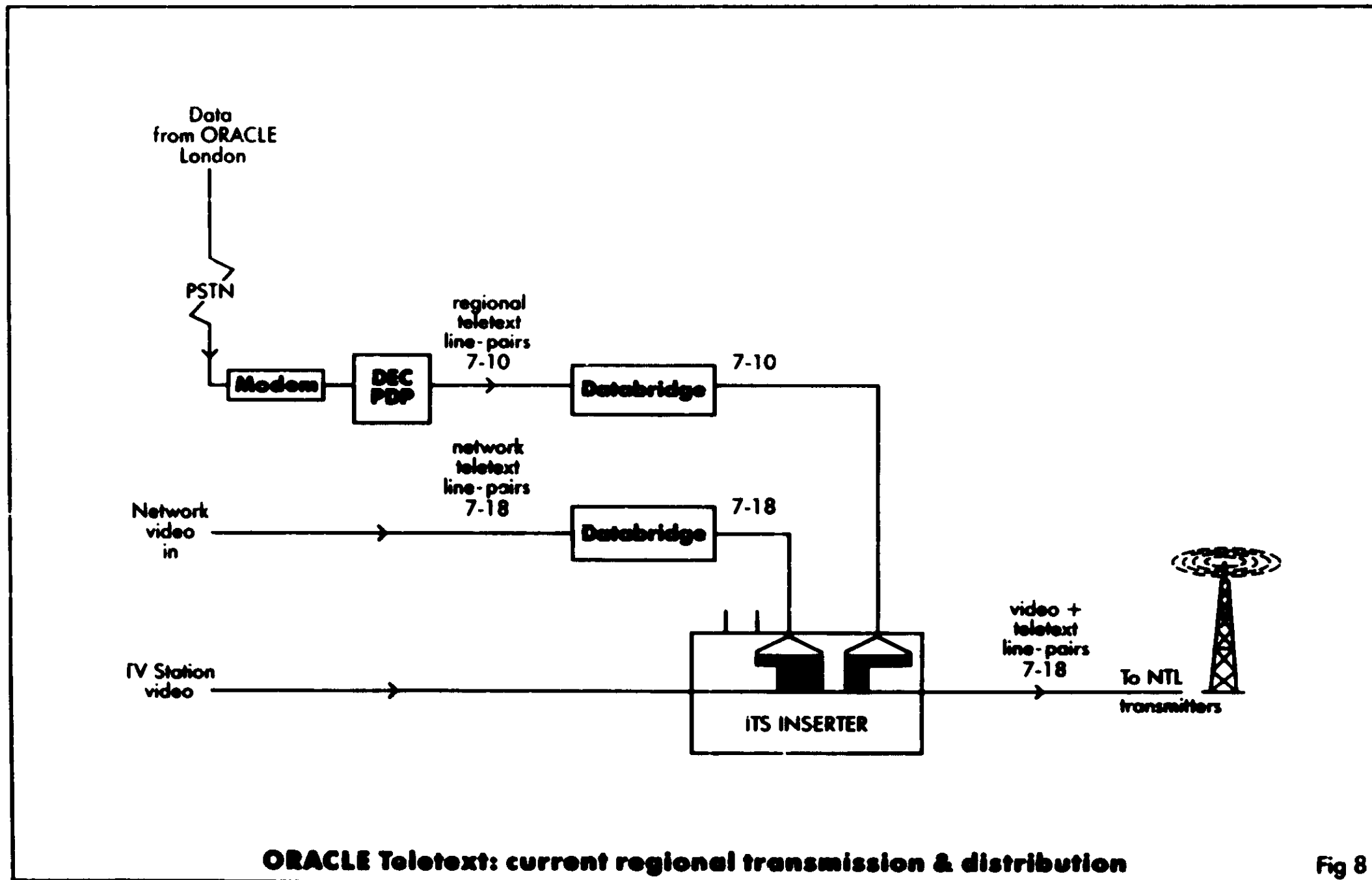
THE DISTRIBUTION SYSTEM



ORACLE Teletext: existing Channel 4 distribution

Fig 7

THE DISTRIBUTION SYSTEM



ORACLE Teletext: current regional transmission & distribution

Fig 8

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THE DISTRIBUTION SYSTEM

DETAILED DESCRIPTION OF CURRENT DISTRIBUTION SYSTEM

Both our ITV and Channel 4 teletext streams are distributed from the insertion computers at our headquarters in Marshall Street using dedicated BT vision circuits (MHLV1 and MHLV3 respectively) to the London Network Switching Centre (NSC) at the BT Tower (refer to Figures 6 and 7). These circuits comprise shielded coaxial cables. The main teletext datastreams are present within the VBI lines in the PAL 625-line signals generated by our insertion computers styled ITV-1, ITV-2, CH4-1 and CH4-2. From the BT Tower, these vision feeds are distributed to the ITV and Channel 4 video networks and onwards to the regional ITV company premises. Distribution from the regional television companies to the NTL transmitter network is described in section A 9 — page 168.

Various special provisions are made to ensure the availability of ORACLE data to the ITV and Channel 4 networks and to the regional companies.

MHLV1 is split at the BT Tower by means of a video distribution amplifier. The outputs from this distribution amplifier are routed as follows:

- One feed is taken as an input to an ORACLE-owned VG 1058 databridge, situated within the BT Tower. This databridge feeds ITV network ORACLE data to TVS Southampton directly, using a dedicated vision circuit, SO2.
- A second feed is connected to a similar databridge, which feeds Anglia, Norwich directly, using vision circuit NC2.
- A third feed is routed to ITN on video circuit ITNV24 for further distribution.

The ITNV24 feed passes into a video distribution amplifier, from which two outputs are taken on video circuits ITN1 and ITN3.

- ITN1 is routed to either one of the two London contractors, Thames or LWT, or to TV-am. From there the signal passes to the ITV or TV-am video network, via the BT Tower.
- ITN3 is routed directly to the ITV network via the BT Tower for use should the feed from the London company be lost, or when the London company is not supplying the ITV video network.

Regional ITV teletext magazine 2 data is distributed separately to the television companies by means of BT PSTN telephone data links and dial-up modems connecting our main despatching system with the regional ORACLE computers. In some regions, a number of magazine 2 pages are prepared locally using editing terminals connected directly to the regional computers by RS232 serial data links using the ASTET protocol. Regional magazines 2 are combined with the national magazines as described earlier in section A.9 page 167.

THE DISTRIBUTION SYSTEM

For Channel 4, national teletext magazines 4, 5 and 6 are distributed to Channel 4's premises in Charlotte Street via the BT Tower, also within the VBI, on video circuit MHLV3. The data is fed through a distribution amplifier and is then bridged onto the Channel 4 outgoing video signal using VG 1003 databridges, and fed back to the BT Tower on video circuits CSW1 or CSW7 and onto the Channel 4 network. The Channel 4 signal is currently routed through each of the ITV companies' premises so that commercials can be played out regionally. The accompanying teletext signal is passed unchanged through the television company equipment and is presented to the Channel 4 transmission ITS inserter via another VG 1003 databridge.

In order to provide a backup teletext feed for Channel 4 in case of failure of the MHLV3 feed, a second BT vision circuit MHL-ITNV1 carries ORACLE Channel 4 teletext, and is fed directly to ITN at Gray's Inn Road. This is a fibre-optic circuit. The signal is then fed to Channel 4's premises on video circuit ITN7, and it can be switched in as a backup feed when required.

We also distribute ITV teletext on a third main BT vision circuit MHLV5, which is also a fibre-optic circuit. MHLV5 carries magazines 1, 3 and 7, and the London ORACLE magazine 2, and feeds two ORACLE-owned VG 1058 databridges in the BT Tower, via a video distribution amplifier. One of these two databridges feeds data directly to the Crystal Palace transmitter via video circuit CYP2. The other databridge also feeds Crystal Palace but indirectly, via the Croydon Regional Operations Centre (ROC), on BT vision circuit LIV4. This configuration has the advantage of diverse routing, and provides an additional monitoring point at the ROC.

Both of the above databridges are fed with programme video from the London area broadcaster (Thames, LWT or TV-am) on their secondary inputs. The databridges are installed in one rack, along with the databridges for SO2 and NC2 mentioned previously. There is also a spare 1058 databridge, mounted within the same rack, which can be substituted by BT staff at the request of the ORACLE maintenance engineers, should any of the other bridges fail. All of the VG 1058 databridges mentioned above are the maintenance responsibility of ORACLE engineering.

Following a joint ORACLE and ITVA initiative, a ground-breaking step was taken in 1989 to overcome the problem caused by only being able to radiate a single networked magazine 2 during the breakfast television broadcasting hours. A further series of ORACLE-owned databridges was brought into use during TV-am transmissions (ie between the hours of 06:00 and 09:30). These databridges were installed in each of the regional

THE DISTRIBUTION SYSTEM

BT Network Switching Centres (NSCs), and are used for the sole purpose of bridging the regional magazines 2 from the regional ORACLE computers onto the TV-am network signal carrying national ORACLE.

In the case of failure of any of the London NSC databridges, an ORACLE engineer can take a complete spare databridge to the site. For the regional NSCs, we can despatch a spare databridge in a custom-built transit case to the relevant NSC to enable BT NSC technical staff to replace the faulty unit and despatch it back to ORACLE headquarters for repair.

Incoming vision circuits MHLV2 and MHLV4 from the BT Tower to ORACLE headquarters are used to enable our engineers to monitor the network feeds on ITV and Channel 4. Both circuits are permanently booked on to the respective video network feeds.

PROPOSED NEW KILOSTREAM DISTRIBUTION SYSTEM

ORACLE proposes to move to a new kilostream-based distribution system for its regional service in order to meet future commitments. This new system will be in place by December 1992, and may in future also be used for distribution of our national data should video distribution arrangements within ITV and/or Channel 4 change.

The kilostream system is designed to allow high-speed two-way data links between our headquarters main computers and those installed in each ITV licensee company building. New software on our regional computers will be able to send regionally entered data back to our main database system at ORACLE headquarters. This will allow ORACLE to maintain full supervision of all material at all times and will greatly increase the speed of distribution of material to the regional computers. It also facilitates central archiving of regional material.

The proposed new kilostream data communications network will provide ORACLE with much greater editorial and technical flexibility. Our initial intention is to utilise two 9600 baud RS232 asynchronous serial links to each region, using the ASSET communications protocol. A longer-term advantage of the kilostream network link is that it can easily be upgraded to allow direct network bridging between our central and regional computers.

Details of two proposals for implementation of this system, one from Mercury and one from British Telecom (BT) are given below. Both systems are available within a maximum of 90 days from initial order:

THE DISTRIBUTION SYSTEM

(i) Mercury Communications proposal

Mercury have proposed a kilostream network with full Integrated Services Digital Network (ISDN) backup, complete local network management and Mercury network management from the Mercury Facilities Management centre. This network could be fully installed by late 1992, see Figure 9.

The diagram shows a point-to-point installation of Mercury's KMX kilostream multiplexers, with dial-up backup facilities in case of main trunk route failures. Diverse routing is inherently designed into the core Mercury trunk network.

Our 9600 baud serial asynchronous ASTET data blocks would be output from our main database computer serial RS232 ports to the relevant rack-mounted KMX multiplexers installed in our communications equipment room - one multiplexer for each region.

From here the data would be compressed and converted to a synchronous block protocol and despatched from our headquarters via a dedicated 2Mbps link to various Mercury sites in London (diversely routed for security and reliability), including the Mercury Facilities Management centre. The data would then enter the main Mercury 64 Kbps core network for distribution to the stand-alone "table-top" KMX kilostream multiplexers installed within the regional TV companies' premises.

Within each regional company, the data would be converted back to our 9600 baud serial asynchronous protocol and sent to the designated system port on our regional computers.

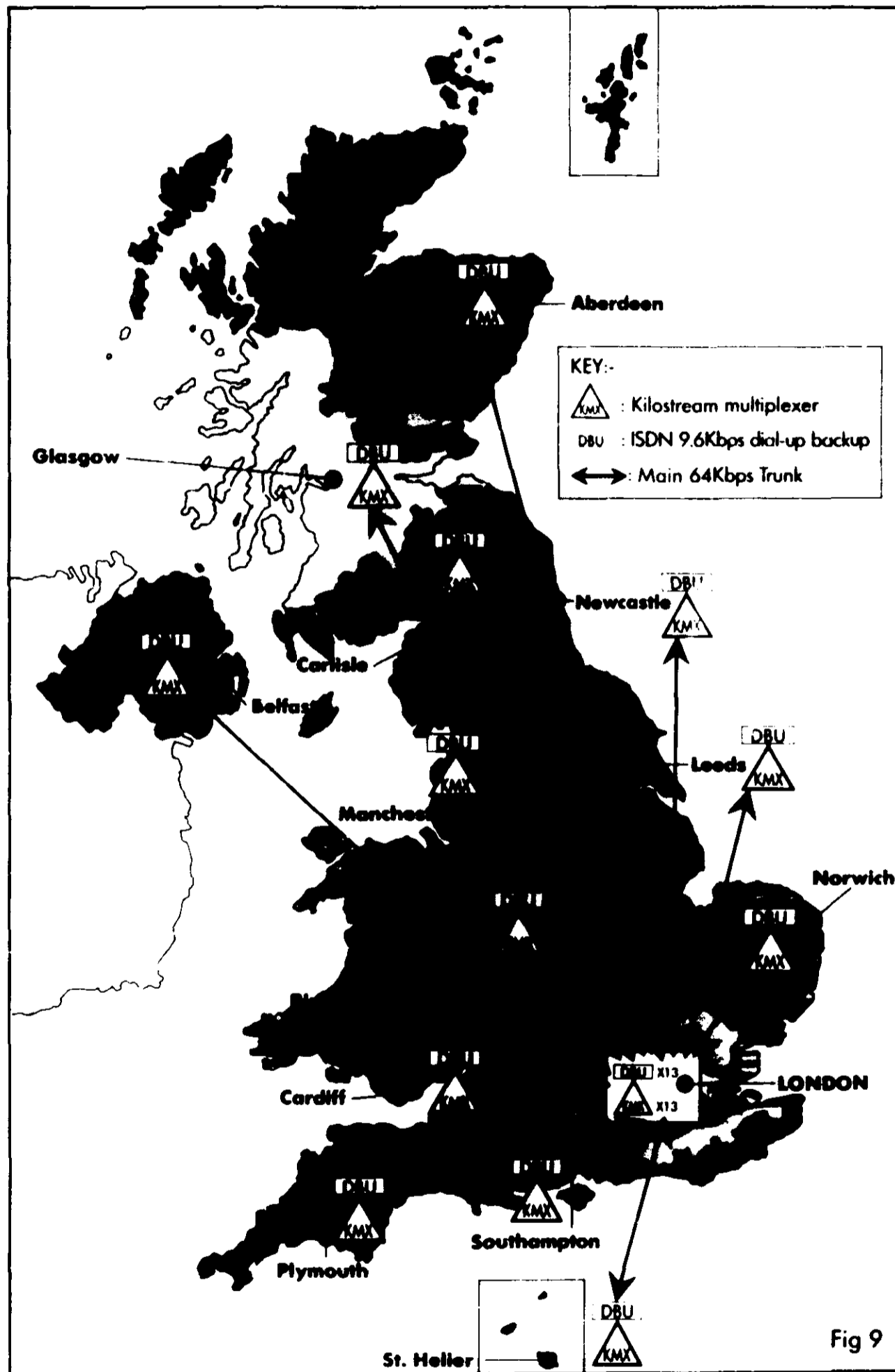
Dial-up backup provision has been proposed by means of kilostream dial-up backup units, and these units would be brought into use should the main kilostream route or multiplexer fail and would use the ISDN. Call tariffs for this service are comparable to normal PSTN rates, but ISDN provides a more secure environment.

(ii) British Telecom proposal

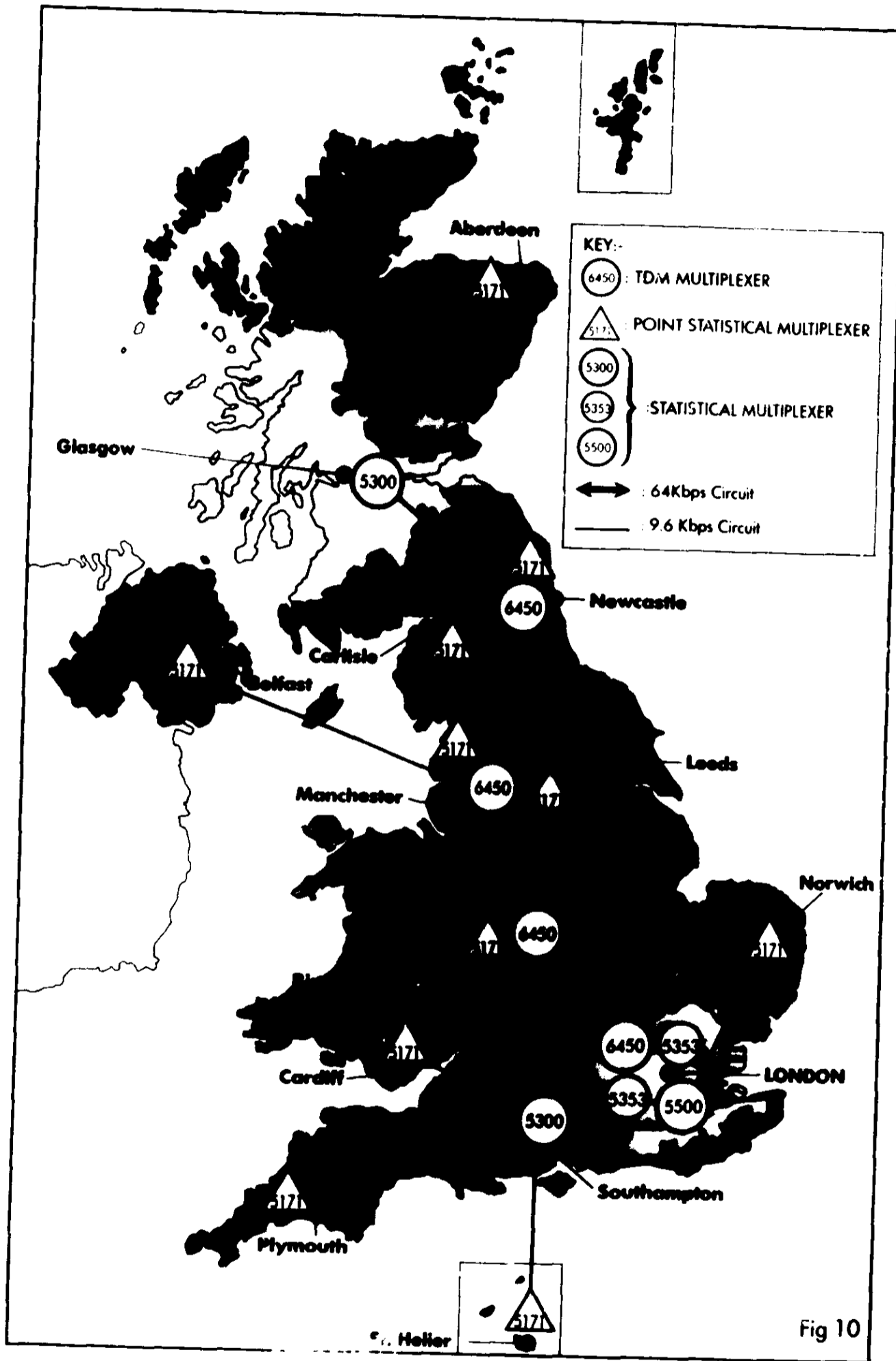
The proposed BT network comprises kilostream digital circuits and multiplexers. Two types of multiplexer are used: DM6450, which is a time-division multiplexer; and DM5171, DM5300 and DM5353 which are all statistical multiplexers. The DM5100-series multiplexers can be connected via a kilostream or an analogue private circuit with modem equipment — see Figure 10.

Data will be distributed between our Digital Equipment Company (DEC) PDP11 equipment at the various sites, asynchronously, using the ASTET proprietary protocol. This data will be presented at the V.24 input port to the DM5100-series multiplexer, at data rates of 1200 to 9600 bps.

Proposed Mercury Kilostream Data Network
 ORACLE Teletext 1992



Proposed BT Kilostream Data Network
 ORACLE Teletext 1992



THE DISTRIBUTION SYSTEM

Each DM5171 will accommodate up to four inputs, which are multiplexed on to the aggregate synchronous output. If the total data rate of the inputs is more than the aggregate output, the statistical multiplexing function buffers data until capacity becomes available on the aggregate.

The connection to the DM6450 is synchronous. The maximum total data rate of the inputs to the multiplexers will equal the data rate of the aggregate (64Kbps). This will be connected to a kilostream circuit which has an X.21 interface. The transmission on the kilostream is digital throughout. The kilostream circuit is transported across the BT trunk network, through a series of hierarchical multiplexing equipment. The BT trunk network is itself self-healing, and will switch on to a secondary high-order data circuit in the event of a failure.

PROPOSED NEW NATIONAL MAGAZINE DISTRIBUTION OPTIONS POST-1992

Before and during the new licence period, ORACLE engineering will assess the feasibility of using alternative digital distribution technology to deliver its service nationwide. We have looked in depth at some proposals for a new method of distributing not only our ITV regional teletext information, but the ITV and Channel 4 national magazines, if required.

We shall in future distribute our national material using one of the following four options:

- Existing VBI distribution method
- Kilostream network from Mercury or BT as proposed above
- New ITV and Channel 4 video distribution networks
- BT digital video network

In the following sections we discuss continuation of existing arrangements, and the possible alternative data distribution systems to the kilostream method already described. The exact configuration of the new system we adopt and the providing company for this system will be decided within the next few months. All the new proposals are specified to meet the deadline of the start of the new licence and we have assurances from the companies involved that, if contracted, they can meet this deadline. All options also meet our technical and editorial criteria.

(i) Continuing current distribution method

This option describes the distribution method post-1992 assuming that we continue to use VBI distribution and databridges.

In order to meet the ITC's proposed VBI line allocation changes to 7.5 line-pairs per picture for public teletext, a major re-equipping of

THE DISTRIBUTION SYSTEM

databridges around the entire ITV and Channel 4 network may be required. The current VG 1003 databridges installed in the regional ITV companies to handle ITV and Channel 4 data are not capable of bridging unpaired lines, that is, they cannot be configured to be field-specific.

Modifications to these databridges would be uneconomical, and ORACLE has therefore made financial provision in its proposal to fund the necessary replacement programme for these databridges. New VG 1058 bridges may be installed instead at each regional ITV company. It is assumed that the Ancillary Service teletext providers would be willing to share the cost of replacement databridges in most cases, should their VBI line allocation also include a half line-pair per picture.

However, if the Ancillary Services teletext VBI line allocation is given any number of lines which include a half line-pair, and providing these lines follow on consecutively from the 7.5 public teletext service lines, then replacement of the VG 1003 databridges would not be necessary, as long as the two services co-exist on our regional computer systems.

As long as the above criteria are met, the current distribution method would therefore continue to supply our national data to the regional ITV companies' premises, with a reduced number of VBI lines.

We would propose to continue to utilise the transmission ITS inserters at the regional ITV companies to insert our data into the VBI of the outgoing video transmission signal.

We would still proceed with the installation of our new data communications network to continue our separate distribution method for regional magazines.

(ii) New ITV/Channel 4 video distribution network

This option assumes that we no longer distribute national teletext data using the networked VBI signal.

We are aware that the ITVA is considering new video network distribution methods. Detailed plans are not yet available and ORACLE would endeavour to co-operate with any reasonable proposals. When details become available, we may decide to utilise any such future distribution methods for our teletext signals.

We will continue to supply the London ITV ORACLE signal as at present, using the MHLV5 or equivalent vision circuit to feed our two VG 1058 databridges at BT Tower.

We also understand that Channel 4 is proposing to use a new video distribution network from 1 January 1993. From this date we would propose to deliver our VBI data directly to Channel 4's headquarters, using our existing method, for bridging onto their new video distribution network.

THE DISTRIBUTION SYSTEM

Should it be necessary instead to distribute the Channel 4 ORACLE signal via our new kilostream data network, then further regional PDP 11/53 or PDP 11/73 computers would be required along with the existing Channel 4 VG 1003 databridges in each ITV region.

We propose to continue to use the existing direct computer-to-computer link for delivery of the S4C 'SBECTEL' magazine, if required. S4C would then be able to pass this signal onwards to their transmitter network.

(iii) Digital video distribution network

BT are promoting a completely new 34 Mbit or 144 Mbit digital video distribution network, see Figure 11. This has the capacity to carry teletext data either as part of the digital video signal, or as a separate data stream. Our engineers are currently in discussion with BT technical staff regarding the use of this new network concept to deliver our data.

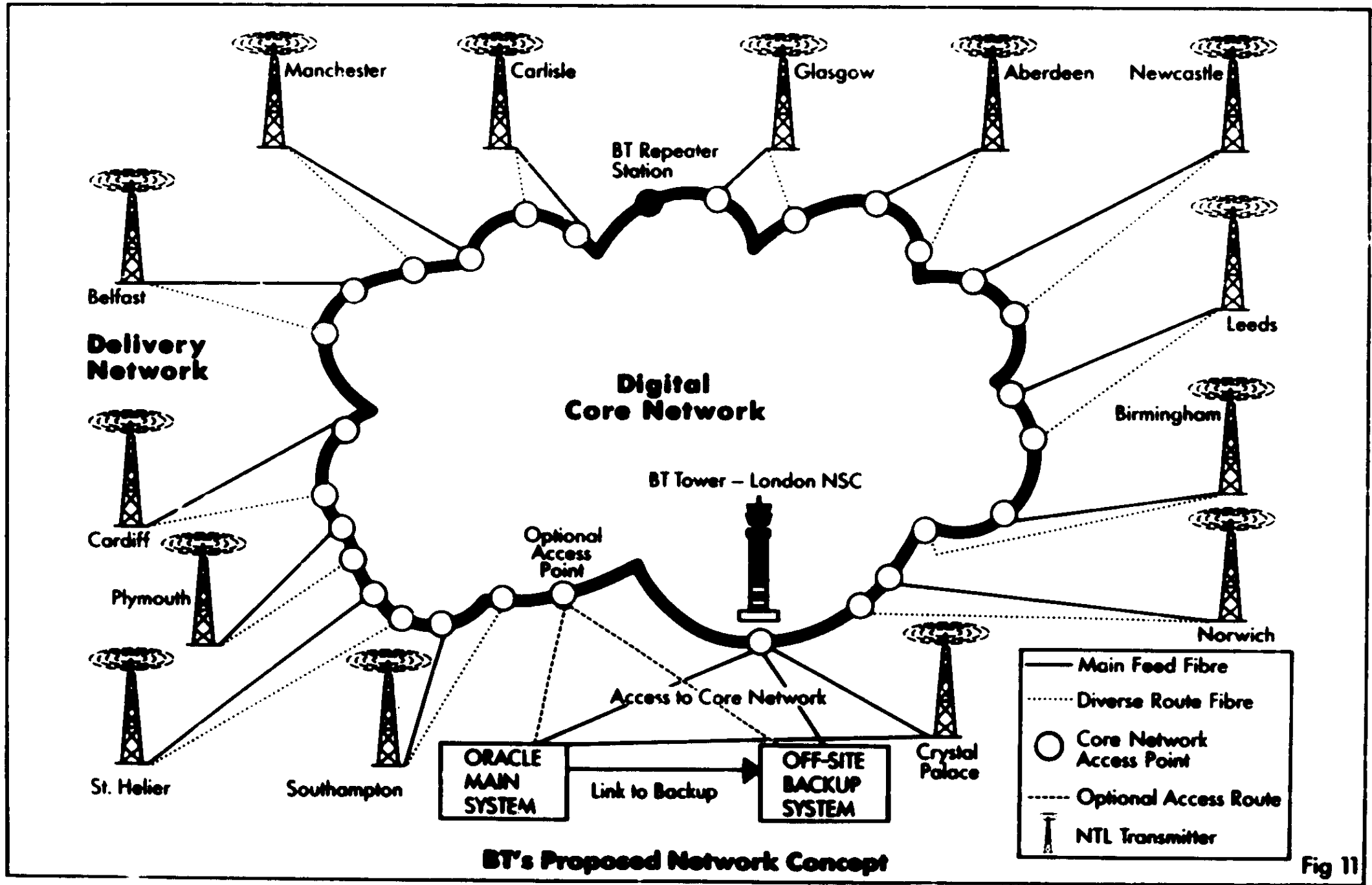
We would also examine the feasibility of using this technique to deliver data directly to equipment sited at the NTL transmitters, should this be a cost-effective option.

Softel Electronics have produced two interface units SE3043A and SE3043B to enable teletext data to be inserted into or extracted from the digital video signals. These devices can handle up to 16 teletext line-pairs per picture.

SUMMARY REVIEW

There will be several options available for future distribution of both national and regional teletext data. In order to provide reliable costings, we have prepared fixed end costs based on known technology, namely the use of kilostream networks. Should other options become available in due course, we would examine them carefully and adopt them if they meet our requirements fully and an overall cost saving could be shown.

If one of the above digital methods is used for national data distribution, we would supply the network ORACLE data to each of the regional computers. These would accordingly be upgraded as described in section A.9 - page 172 to be capable of inserting the transmission magazines into the VBI either at the ITV companies as at present, or directly at the NTL transmitter sites. A backup computer for each region would be provided should we decide to proceed with this method because the regional backup magazine signal would no longer be available on the national video network. We have made financial provision for these backup computers in our costings.



THE DISTRIBUTION SYSTEM

Fig 11

B.2 TECHNICAL STANDARDS

The applicant must specify the technical standards intended to be employed for transmitting the service by wireless telegraphy and on the telecommunication links intended to be used for distribution.

TRANSMISSION STANDARDS

The system ORACLE intends to employ for all teletext service transmissions by wireless telegraphy will conform in all respects to the CCIR Teletext System B technical standard for PAL 625-line System I Vertical Blanking Interval (VBI) teletext signals.

In order to guarantee that our signals meet the necessary technical standards, we shall continue to monitor our output data in the following ways:

- By monitoring the output of our main insertion computer systems using the test and monitoring equipment already specified in section A.9 page 162.
- By receiving the ITV or Channel 4 network vision feeds from BT Tower, and monitoring and diagnosing signals by using the test equipment as specified.
- By liaising with TV company Master Control Room engineers.
- By liaising with the National Transcommunications Ltd (NTL) Regional Operations Centre engineers.
- By monitoring various transmitted pages "off-air" in London.
- By ensuring that NTL adhere to the quality and monitoring clause of the contract between ORACLE and NTL.

We intend to continue to contract NTL for all transmissions and we shall ensure that our arrangement with NTL includes specification of the CCIR Teletext System B standards which we expect for transmission quality.

The standards to be employed to interface between Data Terminal Equipment (DTE) and Data Communications Equipment (DCE) for serial binary data interchange will conform to EIA RS-232D.

The standards to be employed for the distribution of ORACLE data over telecommunications links to the regional television companies comply with the following CCITT standards:

For analogue telecommunications links carrying digital data:

- V.22 for dial-up PSTN 1200 baud modem links to the regional computers and from external contributors

TECHNICAL STANDARDS

For digital circuit interfaces (kilostream):

- X.21 for interfacing between DTE and DCE for synchronous operations on public networks.
- V.11 for electrical characteristics of unbalanced double-current interchange circuits.
- V.24/RS232 for interchange circuits between DTE and data circuit terminating equipment (for terminals and terminal interfaces).

The multiplexing performed by British Telecom DM6400-series and DM5100-series multiplexers use proprietary techniques, although the interfaces presented conform to CCITT standards.

General technical standards and protocol interfaces adhered to by both Mercury and British Telecom telecommunications companies include:

- CCITT-A e.g. V.11, V.21, V.22bis
- ISO e.g. X.25, X.75, X.400

Oftel specify the interconnection between other national and international carriers and the terms of operational practice, for example the use of C7 switch signalling on ISDN.

B.3 CONDITIONAL ACCESS

The applicant should state, in as much detail as possible, any plans he has to provide conditional access services as part of the service to be provided under the licence, together with technical specifications which are involved.

ORACLE has no plans to provide any material through conditional access based services. Nor will we ever wish to see any material that is or will be part of our "free to use" service transferred to such a form of funding.

It is our view that a public teletext service should be just that — a service to the whole public.

It should be noted that any capacity provided to conditional access is at the cost to all other readers in terms of increased access time. It is important that others proposing conditional access services take proper account of their effect on access times.

Our view will continue to be that no material should be removed from the public teletext service or be caused not to be offered because of considerations of such potential funding.

There are however two cases in which provision under this category **might** prove beneficial to both service and readers:

- (1) As systems which can distribute material through "time-coded" pages become more sophisticated and less expensive than today, and as British Telecom and other Telecom providers begin to offer high capacity call handling at much lower cost to both service providers and users, then it will become feasible for ORACLE to offer readers access to enormously expanded databases of a more "static" nature than sequentially distributed teletext will ever be able to match.

Such a service would allow, say, readers receiving information on road conditions from our public service to access detailed and personalised routing information through a local rate telephone call to a computer system which would initiate transmission of a "time-coded" page (conforming in all respects to the CCIR Teletext System B specification). Similar services might provide complete form-guides for race enthusiasts, railway timetables, or historical business or news information.

We stress that we would intend the material to be made available at no more than the local telephone call rate and that the feasibility of such a development remains some way off.

CONDITIONAL ACCESS

- (ii) The medium of teletext is less than twenty years into its technical development. The next ten years could witness dramatic advances in the service made possible by technical development in receiver technology, especially in the areas of page memory and graphic display standards.

It is possible, although ORACLE is not aware of any such developments at present, that future sets might be designed which would require that software be distributed to them (or upgraded or rewritten) by means of a system similar to the above.

B.4 SUB-LICENSING

Taking account of the response to A.8, the plan should include, as far as is known to the applicant, technical details relating to the proposed sub-licensing of any part of the service to third parties including, where possible, confirmation that the proposed sub-licensee is aware of the obligations which will be imposed upon the winning applicant by the Public Teletext Service Licence.

ORACLE Teletext does not propose to sub-licence any part of the service.

SECTION C

**COMPOSITION AND IDENTITY
OF THE APPLICANT**

C.1 DIRECTORS

- (1) **Where the applicant is a body corporate, he should give for each of the following, full names, addresses, nationality, country of residence, and other directorships, offices or employments of the individuals concerned:**
(a) the directors of the applicant body;

Name:

[REDACTED]

Chairman

Appointed to the [REDACTED] September 1984

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Nationality:

British

Resident in England

Other directorships/appointments:

None

Former directorships:

Broadcasters Audience Research Board
Independent Television Publications Limited
Independent Television News Limited
Trident Television plc
Tyne Tees Television Limited
Tyne Tees Television plc

DIRECTORS

Name:

[REDACTED]
[REDACTED]

Appointed to the Board: 9.

Address:

[REDACTED]
[REDACTED]
[REDACTED]

Nationality:

British

Resident in England

Other directorships/appointments:

Bournemouth Orchestras Limited
Channel Four Television Company Limited
EEC Chamber Orchestra
TSW Broadcasting Limited
TSW Music Limited
TSW Television South West Holdings plc
TSW Television South West Limited

Former directorships:

British Nutrition Foundation
Business Education Council
Entertainments Management Limited
Health Education Authority
Independent Broadcasting Telethon Trust Limited
Independent Television Association Limited
ITP Limited
Legal & General Assurance Company Limited
Marketing South West Limited
Television Sales Worldwide Limited
TT&M Limited

DIRECTORS

Name:

[REDACTED]
Non-Executive Director

Appointed to the Board: 14th October 1988

Address:

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Nationality:

British

Resident in England

Other directorships/appointments:

Border Television plc
British Bureau of Television Advertising Limited
Independent Television Association Limited
Independent Television Facilities Centre Limited
Radio Borders Limited
Solway Investments Limited
South West Sound Limited
World Television Productions Limited

Former directorships:

Independent Television Publications Limited

DIRECTORS

Name:

[REDACTED]
Non-Executive Director

Appointed to the Board: 10th March 1982

Address:

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Nationality:

British

Resident in England

Other directorships/appointments:

Capoco Limited
Euston Films Limited
Media Sales Limited
Oracle Cabletext Limited
Teddington Broadcasting Consultants Limited
Thames Cable and Satellite Services Limited
Thames Films Limited
Thames Television Inc
Thames Television International Limited
Thames Television plc
Thames Television Staff Share Trustees
The Magazine Channel Limited

Former directorships:

None

DIRECTORS

Name:

██████████
Non-Executive Director

Appointed to the Board: 26th August 1980

Address:

██████████
██████████
██████████
██████████

Nationality:

British

Resident in England

Other directorships/appointments:

London Weekend (Holdings) plc —
The London Studios Limited, London Weekend Television International
Limited, London Weekend Television Limited,
LWT Programmes Limited, South Bank Productions Limited,
South Bank Television Holdings Limited,
Multithon Limited
National Film School Distribution Company Limited
Services Sound and Vision Corporation
The Magazine Business Limited

Former directorships:

Channel Four Television Company Limited
Independent Television News Limited
Independent Television Association Limited
ITV Super Channel Limited
Super Channel Limited

DIRECTORS

Name:

[REDACTED]
Managing Director

Appointed to the Board: 4th February 1985

Address:

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Nationality:

British

Resident in England

Other directorships/appointments:

Oracle Cabletext Limited

Former directorships:

Data Broadcasting International Limited

DIRECTORS

Name:

[REDACTED]
Sales Director

Appointed to the Board: 1st May 1986

Address:

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Nationality:

British

Resident in England

Other directorships/appointments:

None

Former directorships:

None

DIRECTORS

Name:

[REDACTED]
Editorial Director

Appointed to the Board: 15th January 1986

Address:

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Nationality:

British

Resident in England

Other directorships/appointments:

None

Former directorships:

None

DIRECTORS

Name:

[REDACTED]
Financial Director

Appointed to the Board: 1st August 1988

Address:

[REDACTED]
[REDACTED]
[REDACTED]

Nationality:

British

Resident in England

Other directorships/appointments:

Oracle Cabletext Limited

Former directorships:

Data Broadcasting International Limited

DIRECTORS

(b) if the applicant body is yet to be incorporated or formed, the proposed directors;

Not applicable.

(c) the directors of any body by which the applicant body is controlled (as defined in Schedule 2 of the Act);

Not applicable.

(d) the directors of any body that is a participant (as defined in Schedule 2 of the Act) with an interest of 20 per cent or more in the applicant.

Not applicable.

(2) Where the applicant is not, or is not proposed to be, a body corporate, similar information should be provided about those responsible for management and policy making.

Not applicable.

C.2 SHAREHOLDERS

Where the applicant is a body corporate, he should give the names and addresses of the following (together with the number and class of shares held, or to be held):

(a) participants with an interest of 5 per cent or more in the applicant;

The share capital of Oracle Teletext Limited is split into 150,000 ordinary shares of £1 each.

1. **Anglia Television Limited**
 1 Serjeants Inn
 LONDON
 EC4Y 1JD
 No shares: 8,739
 Percentage: 5.8%
2. **Central Independent Television plc**
 Central House
 Broad Street
 BIRMINGHAM
 B1 2JP
 No shares: 20,923
 Percentage: 13.9%
3. **Granada Television Limited**
 36 Golden Square
 LONDON
 W1R 4AH
 No shares: 16,956
 Percentage: 11.3%
4. **HTV Limited**
 Culverhouse Cross
 CARDIFF
 CF5 6XJ
 No shares: 9,743
 Percentage: 6.5%
5. **London Weekend Television Limited**
 London Television Centre
 LONDON
 SE1 9LT
 No shares: 16,131
 Percentage: 10.7%
6. **Scottish Television plc**
 Cowcaddens
 GLASGOW
 G2 3PR
 No shares: 9,124
 Percentage: 6.1%
7. **Thames Television PLC**
 306-316 Euston Road
 LONDON
 NW1 3BB
 No shares: 23,343
 Percentage: 15.6%

SHAREHOLDERS

8. TVS Television Limited

Television Centre
SOUTHAMPTON
SO9 5HZ

No shares: 15,702
Percentage: 10.5%

9. Yorkshire Television Limited

Television Centre
LEEDS
LS3 1JS

No shares: 13,456
Percentage: 9.0%

- (b) **persons who it is intended will, following the award of a licence, be participants with an interest of 5 per cent or more in the applicant;**
Not applicable.
- (c) **participants with an interest of 5 per cent or more in any body which controls the applicant;**
Not applicable.
- (d) **participants with an interest of 5 per cent or more in any body which has an interest of 20 per cent or more in the applicant.**
Not applicable.

MEMORANDUM AND ARTICLES OF ASSOCIATION

C.2 Note (2)

A copy of the body's Memorandum and Articles of Association should be provided, together with a copy of any resolution amending or updating them.

A copy of the Memorandum and Articles of Association of ORACLE Teletext Limited is presented on the following pages.

MEMORANDUM AND ARTICLES OF ASSOCIATION

No. of Company 1514142
THE COMPANIES ACTS 1948 to 1980
COMPANY LIMITED BY SHARES

**MEMORANDUM
and
ARTICLES
of
ASSOCIATION
of**

ORACLE TELETEXT LIMITED

(Incorporated the 26th day of August 1980)

Goodman Derrick & Co

MEMORANDUM AND ARTICLES OF ASSOCIATION

THE COMPANIES ACTS 1948 & 1980

COMPANY LIMITED BY SHARES

MEMORANDUM OF ASSOCIATION OF

ORACLE TELETEXT LIMITED

1. The name of the Company is "ORACLE TELETEXT LIMITED".

2. The registered office of the Company will be situate in England.

3. The objects for which the Company is established are:-

(A) (1) To carry on the business of the establishment, operation and management, including promotion in any media of the teletext system known as "ORACLE".

(2) To purchase, subscribe for, take on lease, exchange, hire or otherwise acquire from any source whatsoever any information, advertising, promotional or other material for transmission by the ORACLE system and to process, edit, alter, modify, enclose or otherwise deal with the aforesaid material and to acquire and turn to account whether in the United Kingdom or elsewhere the copyright of or other interests in or the right to reproduce, distribute or sell the material as aforesaid.

(3) To carry on the business of the disposal by sale or otherwise of advertising time, space or opportunities in the ORACLE system including the collection of revenue therefor.

(4) To carry on in the United Kingdom and Overseas the business of the marketing and sale of the ORACLE system or any part thereof including the hardware and the computer software and any equipment of any nature whatsoever ancillary thereto and to undertake advertising and promotion campaigns and to acquire and provide promotional requisites of every kind and description for the purposes thereof.

(5) To commission or to carry out research and experimental work either solely or in conjunction with others into technical and other development of the ORACLE system and to produce, have produced, utilise, distribute or sell either solely or in conjunction with others any system, equipment, apparatus, accessories, parts or components resulting from such developments.

(B) To carry on any other business which in the opinion of the Directors of the Company may seem capable of being conveniently carried on in connection with or as ancillary to any of the above businesses or to be calculated directly or indirectly to enhance the value of or render profitable any of the property of the Company or to further any of its

MEMORANDUM AND ARTICLES OF ASSOCIATION

objects.

(C) To purchase, take on lease, exchange, hire or otherwise acquire, any real or personal property or any interest in such property and to sell, lease, let on hire, develop such property, or otherwise turn the same to the advantage of the Company.

(D) To build, construct, maintain, alter, enlarge, pull down, remove or replace any buildings, works, plant and machinery necessary or convenient for the business of the Company or to join with any person, firm or company in doing any of the things aforesaid.

(E) To borrow or raise money upon such terms and on such security as may be considered expedient and in particular by the issue or deposit of debentures or debenture stock and to secure the repayment of any money borrowed, raised or owing by mortgage charge or lien upon the whole or any part of the undertaking, property and assets of the Company, both present and future, including its uncalled capital.

(F) To apply for, register, purchase or by other means acquire and protect, prolong and review, whether in the United Kingdom or elsewhere, any patents, patent rights, brevets d'invention, licences, secret processes, trade marks, designs, protections and concessions conferring an exclusive or non-exclusive or limited right of user which may seem calculated directly or indirectly to benefit the Company and to disclaim, alter, modify, use and turn to account and to manufacture under or grant licences or privileges in respect of the same, and to expend money in experimenting upon, testing and improving the patents, inventions and rights which the Company may acquire or propose to acquire.

(G) To purchase, subscribe for or otherwise acquire and hold deal with any shares, stocks, debentures, debenture stocks, bonds or securities of any other company or corporation carrying on business in any part of the world.

(H) To issue, place, underwrite or guarantee the subscription of, or concur or assist in the issuing or placing, underwriting, or guaranteeing the subscription of shares, debentures, debenture stock, bonds, stocks and securities of any company, whether limited or unlimited or incorporated by Act of Parliament or otherwise, at such times and upon such terms and conditions as to remuneration and otherwise as may be agreed upon.

(I) To invest and deal with the moneys of the Company not immediately required for the purposes of its business in or upon such investments and securities and in such manner as may from time to time be considered expedient.

(J) To lend money or give credit on such terms as may be considered expedient and to receive money on deposit or loan from and give guarantees or become security for any

MEMORANDUM AND ARTICLES OF ASSOCIATION

persons, firms and companies.

(K) To enter into partnership or into any arrangement for sharing profits or to amalgamate with any person, firm or company carrying on or proposing to carry on any business which the Company is authorised to carry on or any business or transaction capable of being conducted so as directly or indirectly to benefit the Company.

(L) To sell, exchange, lease, dispose of, turn to account or otherwise deal with the whole or any part of the undertaking of the Company for such consideration as may be considered expedient and in particular for shares, stock or securities of any other company formed or to be formed.

(M) To promote, finance or assist any other company for the purpose of acquiring all or any part of the property rights and liability of the Company or for any other purpose which may seem directly or indirectly calculated to benefit the Company.

(N) To remunerate any person, firm or company rendering services to the Company in any manner and to pay all or any of the preliminary expenses of the Company and of any company formed or promoted by the Company.

(O) To draw, accept, endorse, negotiate, discount, execute and issue promissory notes, bills of exchange, scrip, warrants and other transferable or negotiable instruments.

(P) To establish, support or aid in the establishment and support of associations, institutions, clubs, funds, trusts and schemes calculated to benefit the officers, ex-officers, employees or ex-employees of the Company or the families, dependants or connections of such persons, and to grant pensions, gratuities and allowances and to make payments towards insurance and to subscribe or guarantee money for charitable or benevolent objects or for any exhibition or for any public, general or useful objects.

(Q) To enter into any arrangement with any Government or other authority, supreme, municipal, local or otherwise, and to obtain from any such Government or Authority all rights, concessions, and privileges which may seem conducive to the Company's objects or any of them, or to obtain or to endeavour to obtain, any provisional order of the Board of Trade, or any Act or Acts of Parliament for the purposes of the Company or any other company.

(R) To distribute among the Members in specie any property of the Company, or any proceeds of sale or disposition of any property of the Company, and for such purpose to distinguish and separate capital from profits, but so that no distribution amounting to a reduction of capital be made except with the sanction (if any) for the time being required by law.

(S) To do all or any of the above things in any part of

MEMORANDUM AND ARTICLES OF ASSOCIATION

the world either alone or in conjunction with others and either as principals, agents, contractors, trustees or otherwise and either by or through agents, sub-contractors, trustees or otherwise.

(T) To do all such other things as may be deemed incidental or conducive to the attainment of the above objects or any of them.

It is hereby declared that the foregoing sub-clauses shall be construed independently of each other and that none of the objects mentioned in any sub-clause shall be deemed to be merely subsidiary to the objects mentioned in any other sub-clause.

4. The liability of the Members is limited.

* 5. The share capital of the Company is £100 divided into 100 shares of £1 each. The Company has power to increase and divide the shares into several classes and attach thereto any preferred, deferred or other special rights, privileges or conditions as the Articles of Association may from time to time prescribe.

** Increased by Ordinary Resolution of the Company passed on 11 March 1987
to £150,000 divisible into 150,000 Ordinary Shares of £1 each.*

MEMORANDUM AND ARTICLES OF ASSOCIATION

WE, the several persons whose names, addresses and descriptions are subscribed, are desirous of being formed into a Company in pursuance of this Memorandum of Association, and we respectively agree to take the number of Shares in the Capital of the Company set opposite our respective names.

Names, addresses and descriptions of Subscribers	Number of Shares taken by each Subscriber
--	---

 HQ

One

Solicitor



One

Articled Clerk

Dated this 16th day of June, 1980

Witness to the above Signatures:-



Secretary

MEMORANDUM AND ARTICLES OF ASSOCIATION

THE COMPANIES ACTS 1948 to 1980

COMPANY LIMITED BY SHARES

ARTICLES OF ASSOCIATION OF

ORACLE TELETEXT LIMITED (Company No. 1514142)

(Adopted by Special Resolution passed on 8 November 1982)

PRELIMINARY

1. Subject as hereinafter provided the regulations contained or incorporated in Table A (hereinafter referred to as "Table A") in the First Schedule to the Companies Act, 1948 (hereinafter referred to as "the Act") as amended by the Companies Act 1967 to 1981 shall apply to the Company.

2. Regulations 24,75,79,87,88 and 136 of Table A shall not apply to the Company, but the Articles hereinafter contained and the remaining regulations of Table A, subject to the modifications herein expressed, shall constitute the regulations of the Company.

DEFINITIONS

3. (a) For the purposes of these Articles the expression 'certified advertising receipts' in relation to a corporate member shall mean its net advertising receipts (as defined in the Independent Broadcasting Authority Act 1973) for each financial year of the Company.

(b) The certificate of the Independent Broadcasting Authority as to the net advertising receipts of the corporate members or any of them shall be conclusive for the purposes of these articles. Provided

MEMORANDUM AND ARTICLES OF ASSOCIATION

that if a corporate member is not included in any such certificate then until such time as it is so included the estimated figures supplied by the said Authority in respect of such member for the financial year in question of the Company shall be deemed for the purposes of these Articles to be its 'certified advertising receipts' for that financial year.

(c) Where under provisions of these Articles any questions or rights fall to be decided or quantified by reference to the certified advertising receipts of corporate members the figures for such receipts contained in the certificate of the Independent Broadcasting Authority in respect of the last completed financial year of the Company (or, where applicable, the estimated figures aforesaid) shall apply but subject to any express provisions to the contrary herein contained.

(d) With effect from 6th April 1981, each financial year of the Company shall be for a period of twelve months ending 31st December.

(e) The expression "net profits (or losses) of the Company" shall mean the net profits (less losses) of the Company for the relevant year as certified by the auditors for the time being of the Company including profit or loss of a capital nature and any surplus or loss on book values on realisation of fixed assets and after deducting all usual charges and expenses including the fees and emoluments of all Directors of the Company, the salaries and bonuses of all employees depreciation and

MEMORANDUM AND ARTICLES OF ASSOCIATION

proper provisions for bad and doubtful debts and other specific liabilities and interest on borrowed moneys and after paying or providing for corporation tax but before carrying any sum to reserves (other than reserves for depreciation, bad and doubtful debts and other specific liabilities and losses made by the Directors under Article 6(f)).

*FURTHER DEFINITIONS

3(A) In these Articles the following words bear the following meanings:-

- "Broadcasting Act" the Broadcasting Act 1990;
- "Commission" means the Independent Television Commission or any successor exercising powers similar to those exercised by the Independent Television Commission under the Broadcasting Act;
- "Interest" means in relation to the Company either:-
- (i) a holding of or beneficial entitlement to any shares in the Company; or
 - (ii) possession of voting power in the Company
- "Licence" means a public teletext service licence granted pursuant to an application therefor made by the Company to the Commission;
- "Office" means the registered office of the Company for the time being;
- "Programme Contractor" means any person firm or corporation who until midnight on 31 December 1992 is for the time being a programme contractor as

* Inserted by Special Resolution of the Company passed on 2nd December 1991.

MEMORANDUM AND ARTICLES OF ASSOCIATION

defined by Section 2(3) of the Broadcasting Act 1981 (and any statutory modification or re-enactment thereof for the time being in force) and who after midnight on 31 December 1992 holds a Channel 3 licence to provide a television programme service, (as defined in Section 2(4) of the Broadcasting Act 1990), granted pursuant to an application therefor made by such person firm or corporation to the Commission"

CAPITAL

*4. The share capital of the Company at the date of the adoption of the Articles is £100 divided into 100 Ordinary Shares of £1 each.

SHARES

5. Subject to the provision of these Articles relating to new shares, the shares shall be at the disposal of the Directors, and they may (subject to the provisions of the Act) allot, grant options over, or otherwise dispose of them to such persons at such times and on such terms as they think proper, but so that no shares shall be issued at a discount, except in accordance with the provisions of the Act. The Directors shall, within one month after any allotment of shares, deliver to the Registrar of Companies for registration all returns and documents relating thereto required by the Act.

DIVIDENDS

6. Subject and without prejudice to the provisions of Article 7 hereof:-

* Increased by Ordinary Resolution of the Company passed on 11 March 1987 to £150,000 divided into 150,000 Ordinary Shares £1 each.

MEMORANDUM AND ARTICLES OF ASSOCIATION

(a) The Company may, from time to time by Ordinary Resolution declare a dividend to be paid to the members, according to their rights and interests in the profits, any may fix the time for payment of such dividend.

(b) No dividend shall be payable except out of the profits of the Company available for distribution as defined in the Companies Act 1980 and no dividend shall carry interest against the Company. The declaration of the Directors as to the amount of the profits of the Company at any time available for payment of dividends shall be conclusive.

(c) No larger dividend shall be declared than is recommended by the Directors but the Company may by Ordinary Resolution declare a smaller dividend.

(d) No dividend shall be declared or paid in respect of any financial year of the Company unless and until the IBA's certificate of the net advertising receipts of the corporate members for that year has been issued in accordance with Article 3 hereof.

(e) The Directors may, if they think fit, and if in their opinion the position of the Company justifies such payment, from time to time pay an interim dividend.

(f) The Directors may, before recommending any dividend, write off such sums as they think proper for depreciation and carry forward in the reserve account any profits as they think should not be divided, any may also set aside out of the profits of the Company such sum or

MEMORANDUM AND ARTICLES OF ASSOCIATION

sums as they think proper as a Reserve or Reserves, which shall at the discretion of the Directors be applicable for meeting contingencies, for the gradual liquidation of any debt or liability of the Company, or for repairing, maintaining, or adding to the property of the Company, or for such other purposes as the Directors shall, in their absolute discretion, think conducive to the interest of the Company, or for any other purposes for which the profits of the Company may lawfully be applied, and pending any such application may, at the discretion of the Directors, either be employed in the business of the Company, or be invested in such investments (other than shares in the Company) as the Directors may from time to time think fit.

7. (a) The Company shall open and maintain in the name of each person who is for the time being a member of the Company an account to be known as the Member's Reserve Account.

(b) The net profits available for distribution as defined in the Companies Act 1980 or the net losses of the Company attributable to any financial year of the Company shall be divided amongst and credited or debited to the Members' Reserve Accounts in the proportions which the certified advertising receipts of the members bear to each other respectively for such financial year. The amounts to be so credited or debited shall be entered in the Members' Reserve Accounts as at 31st December in each year.

MEMORANDUM AND ARTICLES OF ASSOCIATION

(c) The profits of the Company which it shall from time to time be determined to distribute by way of dividend in respect of any financial year of the Company shall be divided amongst and paid by way of dividend to the holders of the Ordinary Shares in the proportions which their balances on Members' Reserve Accounts as defined in paragraphs (a) and (b) above, bear to each other at the end of such financial year after taking into account the amounts to be credited or debited thereto in respect of net profits and losses for that year.

(d) The gross amount payable to a member by way of dividend in respect of each financial year of the Company shall be debited to such Members' Reserve Account.

(e) If any member shall transfer all his shares there shall accrue to the transferee the benefit of the amount then standing to the credit or debit of the Members Reserve Account of the transferee plus or minus (as the case may be) such proportion of the net profits available for distribution or the net losses of the Company for its financial year in which the sale takes place as the amount of the certified advertising receipts of the member for that year of the Company bears to the aggregate amounts of all members' certified advertising receipts for that year PROVIDED THAT if at the time of registration of the transfer(s) of a member's shares there shall not have been credited to the Members Reserve Account of the transferor the amount specified in paragraph (b) of this Article then that amount (as soon as it is ascertained)

MEMORANDUM AND ARTICLES OF ASSOCIATION

shall be transferred and credited to the Members' Reserve Accounts of the transferee(s) in the proportions in which they acquire the shares of the transferor and such transferees shall hold as trustee for and shall pay over to the transferor all amounts thereafter received by them on their shares until the total amounts so paid shall equal in the aggregate the amounts to their Members' Reserve Accounts as aforesaid. If at the date of the winding up of the Company the amounts so paid shall not have equalled in the aggregate the amounts so transferred then each member shall pay to the transferor the amount of the shortfall out of his share of the surplus assets.

TRANSFER OF SHARES

8. All transfers of shares shall be effected by transfer in writing in the usual common form, but need not be under seal and the Transferor shall be deemed to remain the holder of the shares until the name of the Transferee is entered in the Register of Member in respect thereof.

*9. (a) Save only as provided in this Article 9, a Member shall not be entitled so long as he shall remain as a programme contractor as defined by section 2(3) of the Independent Broadcasting Authority Act 1973, to transfer any shares held by him to any person and any instrument of transfer signed or executed by or on behalf of a Member in contravention of this Article shall be invalid and ineffective.

* Inserted by Special Resolution of the Company passed on 6 November 1989.

MEMORANDUM AND ARTICLES OF ASSOCIATION

(b) Any Member of the Company who at any time engages in or proposes to engage in Prescribed Activities (as hereinafter defined) shall be deemed to have served a transfer notice for the sale of its shares in accordance with Article 12 which shall apply notwithstanding the provisions of paragraph 9(a) above. For the purposes of Article 12, in such circumstances the date of service of such transfer notice shall be deemed to be the date upon which the Directors of the Company notify such Member in writing of their intention to invoke the provisions of this Article and Article 12 AND in the event that such Member and the Company fail to reach agreement as to the fair value of the shares in question within 14 days of such notification by the Directors, the Company shall instruct its Auditors to certify the fair value of the shares held by such Member in accordance with paragraph (e) of Article 12 and shall notify the relevant Member in writing as soon as such value shall have been determined.

(c) For the purposes of this Article "Prescribed Activities" shall mean any or all of the following namely:

(i) Distribution of television pictures into places where they are shown to a paying audience by means of a large screen projection system;

(ii) The broadcasting of pictures by artificial earth satellite or the distribution by such means to persons operating broadcasting relay stations;

(iii) Except to the extent (if any)

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approved in writing by the Independent Broadcasting Authority the supply of material or any services or facilities for use in or in connection with any such distribution of pictures aforesaid;

(iv) The business of agents representatives or managers of theatrical film, television, radio or recording artists or of agents, representatives or managers of persons writing or suggesting material for theatres, television or radio or for recording; and

(v) The business of the manufacture and/or supply of video discs, video tapes or video cassettes (other than incidental to a television equipment retail or rental business) or material recorded thereon (other than material prior to such supply broadcast on ITV or the Fourth Channel or offered for broadcast on the Fourth Channel but not accepted by the Fourth Channel Company);

EXCEPT any such activities falling within paragraphs (i), (iii), (iv) and (v) above which are carried on wholly outside the United Kingdom, the Channel Islands and the Isle of Man and do not relate to programmes, material or transmissions receivable in the United Kingdom, the Channel Islands and the Isle of Man.

10. Except in the case of a transfer made pursuant to Articles 9, 11 or 12 of these Articles the Directors may, in their absolute discretion and without assigning any reason therefor, decline to register any transfer of any

MEMORANDUM AND ARTICLES OF ASSOCIATION

share whether or not it is a fully paid share. If the Directors decline to register a transfer of any shares, they shall, within two months after the date on which the transfer was lodged with the Company, send to the transferee notice of the refusal.

*11. (a) a member who ceases to be a Programme Contractor for whatever reason shall transfer all the ordinary shares held by him to a person (not being a member at the date of the transfer) to whom he has with the consent of the Commission assigned his Programme Contract or Channel 3 Licence to provide a television programme service (as defined in Section 2(4) of the Broadcasting Act 1990) or to whom the Commission has granted a Channel 3 Licence in his place.

(b) The price at which such shares are transferred shall take into account the amount standing to the credit or debit as appropriate of the Members Reserve Account of the transferor which said credit or debit shall accrue to the transferee under the terms of Article 7(e) and shall be such price as is agreed between the parties or in the absence of agreement to be fixed in accordance with Article 12(e).

12. Except when the transfer is made to such person as is mentioned in the last preceding Article or in accordance with Article 9(b) and subject to the prohibition contained in Article 9(a), no Ordinary Shares

* Inserted by Special Resolution of the Company passed on 2nd December 1991.

MEMORANDUM AND ARTICLES OF ASSOCIATION

shall be transferred except in accordance with the following provisions, that is to say:

(a) The person (whether a member of the Company or not) proposing to transfer any Ordinary Shares (hereinafter called the "Retiring Member") shall give a notice in writing (hereinafter called a "transfer notice") to the Company that he desires to transfer the same, and shall specify in such notice the price which he is prepared to accept for the Ordinary Shares, and such transfer notice shall constitute the Company his agent for the sale of the shares therein mentioned to any Member of the Company at the prescribed price as hereinafter defined. A transfer notice once given shall not be revocable except as mentioned in paragraph (d) hereof or with the sanction of a resolution of the Directors present at the relevant meeting and a transfer notice given by any one of the joint holders of shares shall be binding upon all. Save in the case of transfer notices which are deemed to have been served in accordance with Article 9(b), a notice which does not specify the price which the Retiring Member is prepared to accept for the shares shall not constitute a transfer notice for the purposes of this Article and shall be invalid and ineffective.

(b) If the Company, within the period of three months after the prescribed price has been fixed, shall find a Member or Members of the Company or a person or persons nominated pursuant to paragraph (g) of this Article (hereinafter individually called the "Purchaser"

MEMORANDUM AND ARTICLES OF ASSOCIATION

and collectively called the "Purchasers") desiring to purchase at the prescribed price all the Ordinary Shares the subject of a transfer notice (in this Article sometimes called the "designated Shares"), the Company shall give notice in writing thereof to the Retiring Member, and he shall be bound at such time within twenty-eight days after the service of such notice upon him, upon payment of the prescribed price, to transfer the designated Shares to the Purchaser or Purchasers.

(c) If in any case the Retiring Member, after having become bound as aforesaid, makes default in transferring the designated Shares the Company may receive the purchase money and may appoint some person on behalf of the Retiring Member to sign a transfer or transfers of the designated Shares and upon registration of such transfer or transfers shall cause the name of the Purchaser to be entered in the Register of Members as the holder of the designated Shares and shall hold the purchase money in trust for the Retiring Member, his executors and administrators. The receipt of the Company for the purchase money shall be a good discharge to every Purchaser, and he shall not be bound to see to the application thereof, and after the name of the Purchaser has been entered in the Register of Members in purported exercise of the aforesaid powers the validity of the proceedings shall not be questioned by any person.

(d) If the Company shall not, within the period of three months after the prescribed price has been fixed,

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find a Purchaser or Purchasers of all the designated Shares, or if the Company shall within such period give to the Retiring Members notice in writing that it cannot find a Purchaser or Purchasers of all the designated Shares then the transfer notice shall be deemed to be revoked at the expiry of such period or on the date of receipt of such notice in relation to all the designated Shares and the Retiring Member shall within a period of 60 days thereafter be at liberty to transfer to any third person on a bona fide sale at any price not being less than the prescribed price the designated Shares provided that the directors of the Company may be required to be satisfied that such shares are being transferred in pursuance of a bona fide sale for the consideration stated in the transfer without any deduction, rebate, or allowance whatsoever to the purchaser, and if not so satisfied may refuse to register the instrument of transfer.

(e) For the purposes of this Article the prescribed price of any ordinary Shares shall be such sum as is agreed between the Retiring Member and the Directors within fourteen days of the service of a transfer notice taking into account the amount standing to credit or debit as appropriate of the Members Reserve Account of the Retiring Member which said credit or debit shall accrue to any transferee under the terms of Article 7(e) and in default of such agreement the sum which the Auditors for the time being of the Company shall certify to be in their opinion the fair value thereof as between a willing Vendor

MEMORANDUM AND ARTICLES OF ASSOCIATION

and a willing Purchaser. In giving their Certificate the Auditors shall act as experts and not as arbitrators and accordingly the cost of the auditors certificate shall be borne equally between the Retiring Member and the Company.

(f) Subject as hereinafter provided, as soon as the prescribed price has been fixed, all the designated Shares shall be offered by the Company in the first place to all Members holding Ordinary Shares (other than the Retiring Member and any Member who is not a Programme Contractor at the date of the offer) in proportion as nearly as may be to the number of Ordinary Shares held by them respectively.

All offers of designated Shares under this Article shall be made in writing sent through the post in prepaid letters addressed to such Members holding Ordinary Shares at their respective registered addresses as appearing in the Register of Members, and every such offer shall specify the prescribed price and shall limit a time (not being less than twenty-eight days nor more than thirty five days) within which the offer must be accepted or in default may be treated as declined and may notify to any such Members holding Ordinary Shares that any such Member who desires to purchase designated Shares in excess of his proportion should enclose with his acceptance an application for the number of excess shares which he requires, and if all such Members holding Ordinary Shares do not claim their proportions, the unclaimed shares shall be used for satisfying such applications for excess shares

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in proportion to the number of Ordinary Shares held on the date of such offer by the Members by whom such applications shall be made.

If any designated Shares shall not be capable, without fractions, of being offered or used in the proportions aforesaid the designated Shares representing the fractions shall be offered to such one or more Members holding Ordinary Shares (other than as aforesaid) in such proportions and in such manner as the Directors may determine. All acceptances by Members of designated Shares offered by the Company in accordance with this paragraph and all acceptances by the Company of applications for excess shares shall be deemed to be conditional upon the relevant transfer notice not being deemed to be revoked in accordance with paragraph (d) of this Article.

(g) If and to the extent that all the shares comprised in a transfer notice are not accepted by the Members to whom they are offered in accordance with the provisions of this Article 12, the directors of the Company shall within 7 days of the expiry of the time limited for acceptances by Members, in accordance with paragraph (f) above, give notice in writing of that fact to the Members of the Company (other than the Retiring Member) whereupon the holders of at least three quarters in nominal value of the shares held by such Members shall be entitled within 14 days after the date of service of that notice to nominate by giving notice in writing to the

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directors of the Company signed by each such holder or on its behalf, any person or persons (whether or not a Member) to be the holder of shares in the Company and who has expressed his willingness in writing to purchase all or any of those shares comprised in the transfer notice in respect of which acceptances have not been received at the prescribed price as the purchaser(s) of all or some of such shares, the directors of the Company shall be deemed to have made offers of such shares accordingly.

(h) In the event that the transfer notice shall be deemed to be revoked in accordance with paragraph (d) of this Article and the Retiring Member shall not within the said period of 60 days thereafter find a bona fide third party Purchaser or Purchasers of all the designated Shares at a price not less than the prescribed price or if the Retiring Member shall within such period give to the Company notice in writing that it cannot find a Purchaser or Purchasers as aforesaid THEN:

(i) within 7 days of the expiry of such period or the date of receipt of such notice the Company shall give notice in writing ("the Offer Notice") of that fact to the Members of the Company (other than the Retiring Member) and in such notice shall invite each member of the Company (other than the Retiring Member) to make an irrevocable written offer to the Company (the "Offer") within 21 days of the Offer Notice (the "Offer Period") specifying the price at which it would be prepared to purchase all of the designated Shares. An

MEMORANDUM AND ARTICLES OF ASSOCIATION

offer once made shall not be revocable.

(ii) the Company shall with effect from the date of the expiry of the said 60 day period or of the date of receipt of the said notice from the Retiring Member be deemed to have been appointed the agent of the Retiring Member for the sale of the designated Shares to any Member of the Company upon the terms set out in this paragraph (h)

(iii) the Company shall within seven days of the expiry of the Offer Period notify the Retiring Member of the highest price offered for the designated Shares and the identity of the offeror and the Retiring Member shall thereupon be bound upon payment of such price to transfer the designated Shares to the offeror at such time (not being less than 7 days nor more than 21 days after the date of such notice) as may be specified by the Company

(iv) the Company shall notify the relevant offeror that its offer has been accepted within seven days of the expiry of the Offer Period where upon such offeror shall be bound to purchase the designated Shares upon the terms of its Offer

(v) if in any case the Retiring Member after having become bound as aforesaid, makes default in transferring the designated Shares, the Company may receive the purchase money and may appoint some person on behalf of the Retiring Member to sign a transfer or transfers of the designated Shares, and upon registration

MEMORANDUM AND ARTICLES OF ASSOCIATION

of such transfer or transfers shall cause the name of the Purchaser to be entered in the Register of Members as the holder of the designated Shares, and shall hold the purchase money in trust for the Retiring Member, his executors and administrators. The receipt of the Company for the purchase money shall be a good discharge to every Purchaser, who shall not be bound to see the application thereof, and after the name of the Purchaser has been entered in the Register of Members in purported exercise of the aforesaid powers, the validity of the proceedings shall not be questioned by any person.

(i) All designated Shares transferred pursuant to the provisions of Article 12 shall be deemed to be transferred by the Retiring Member as beneficial owner.

*OVERRIDING PROVISIONS

12(A) The provisions of this Article 12(A) shall override all other provisions of these Articles:

(A) The Directors shall not do, or, (insofar as it is within their power to prevent the same), permit to be done, any act or thing which might cause the Commission to determine the Licence, materially and adversely modify the Licence or decline to renew or extend the Licence.

(B) For the purposes of these Articles a "Restricted Investor" means a person whose holding of or interest in shares in the Company might, in the reasonable opinion of the Directors having regard to all the relevant

* Inserted by Special Resolution of the Company passed on 2 December 1991.

MEMORANDUM AND ARTICLES OF ASSOCIATION

circumstances of such holding, cause the Commission to determine the Licence, materially and adversely modify the Licence or decline to renew or extend the Licence.

(C) The Directors may from time to time and at any time serve a notice upon any member of the Company requiring him to furnish the Directors with such information (and if such information relates to a person other than the member concerned, so far as such information lies within the knowledge of such member and provided that such member is not legally bound to keep such information confidential) and evidence, (supported if the Directors so require by a statutory declaration), as the Directors may consider necessary for the purpose of determining whether or not such member is a Restricted Investor.

(D) The Directors may assume without enquiry that a person is not a Restricted Investor but if the information contained in the Registers maintained pursuant to the Companies Act 1985 (as amended by the Companies Act 1989), or the information obtained by them under paragraph (C) of this Article indicates to the contrary or the Directors have reason to believe otherwise, then the Directors shall use all reasonable endeavours to discover whether or not the person concerned is a Restricted Investor. If any Director has reason to believe that a person is a Restricted Investor then he shall as soon as practicable give notice of that fact to the other Directors.

MEMORANDUM AND ARTICLES OF ASSOCIATION

(E) The Directors may, on reasonable grounds, determine any person to be a Restricted Investor notwithstanding that the Company has not been notified of any facts indicating that such person has such status, until such time as the Directors are satisfied that such is not the case.

(F) Any determination of the Directors under the provisions of paragraph (E) of this Article shall be final and conclusive, but without prejudice to the power of the Directors subsequently to vary or revoke such determination.

(G) If any person (to the knowledge of the Directors) who is, or is determined by the Directors to be, a Restricted Investor, acquires or has any Interest in the Company, the Directors shall serve a written notice on that person requiring a disposal (in accordance with the provisions of Article 12 hereof but subject also to paragraph (H) of this Article) of such part of that Interest (or the whole of that Interest if necessary in the reasonable opinion of the Directors) as shall result in such person (in the reasonable opinion of the Directors) ceasing to be a Restricted Investor.

(H) Any notice served by the Directors pursuant to the provisions of this Article shall in the remainder of these Articles be called a "Disposal Notice", and any disposal made pursuant to the said foregoing provisions shall in the remainder of these Articles be called a "Required Disposal". Without prejudice to Article 12(f)

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to any other effective mode of service, a notice shall be deemed to be validly served if delivered to the Restricted Investor's registered office, or principal place of business, or the address recorded for the Restricted Investor in the Company's Register of Members.

(I) A Required Disposal of an Interest or part of an Interest shall not be made to any person who as a result of such disposal would have an Interest which would pursuant to the foregoing provisions of this Article compel or enable the Directors to serve a Disposal Notice on him.

(J) A Disposal Notice shall specify in general terms the grounds for its service by the Directors, shall refer to the cessation of voting rights set out in paragraph (N)(2) of this Article and shall call for a disposal to be made of all or such proportion of the Interest of the person or persons upon whom the Disposal Notice is served as shall be specified therein in accordance with the provisions of Article 12 hereof (subject also to paragraph M of this Article).

(K) Where more than one holder (treating joint holders as a single holder) is required to dispose of an Interest pursuant to a Disposal Notice, the notice shall specify the amount of the Interest to be disposed of by each such holder (which shall be in the discretion of the Directors and need not be pro rata amongst the holders being called upon to dispose of an Interest).

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(L) The Directors may withdraw a Disposal Notice whether before or after the expiration of the period referred to therein if it appears to the Directors that the grounds or purported grounds for its service do not exist or no longer exist.

(M) (1) If a Disposal Notice is not complied with or not complied with to the satisfaction of the Directors after following the procedures set out in Article 12 hereof, and has not been withdrawn, the Directors shall be entitled, so far as they are able, to make a Required Disposal at the best price reasonably obtainable in all the circumstances and shall give written notice of any such disposal to those persons on whom the Disposal Notice was served.

(2) Any Required Disposal shall (notwithstanding the time periods set out in Article 12 hereof) be completed as soon after service of the Disposal Notice as may in the opinion of the Directors be practicable and consistent with obtaining the best price reasonably obtainable provided that neither the Company nor the Directors shall be liable to any holder or any person having any Interest in the Company or to any other person for failing to obtain the best price reasonably obtainable so long as the Directors act in good faith.

(3) For the purpose of effecting any Required Disposal the Directors may authorise in writing any officer or employee of the Company to execute any necessary transfer on behalf of any holder and may issue a

MEMORANDUM AND ARTICLES OF ASSOCIATION

new share certificate or other document of title to the purchaser. The net proceeds of such disposal shall be received by the Company whose receipt shall be a good discharge for the purchase money and shall be paid (without any interest being payable thereon) to the former holder upon surrender by him of the share certificate or other document of title in respect of the interest sold and formerly held by him.

(N) (1) Any member who has pursuant to paragraph (C) of this Article been served with a notice by the Directors requiring him to furnish the Directors with information and evidence or further information and evidence and who does not furnish such information or evidence within 14 days after the service of such notice shall not, with effect from the expiration of such period and until information or evidence is furnished to the satisfaction to the Directors, be entitled to receive notice of, or to attend or vote at any general meeting of the Company or any separate general meeting of the holders of any class of shares in the Company other than in respect of such proportion of his interest in the Company as it shall have been established to the satisfaction of the Directors is not an interest in respect of which the Directors may be compelled or wish to serve a Disposal Notice.

(2) Any member of the Company who has been served with a Disposal Notice shall not, with effect from the service of such notice, be entitled to receive

MEMORANDUM AND ARTICLES OF ASSOCIATION

notice of, or to attend or vote at, any general meeting of the Company or any separate general meeting of any class of shares in the Company save in respect of such proportion (if any) of his Interest in the Company as shall not have been the subject of the Disposal Notice.

DIRECTORS

13. Unless and until otherwise determined by the Company in General Meeting the number of Directors shall not be more than sixteen. The names of the first Directors shall be determined in writing by the subscribers of the Memorandum of Association. Thereafter the Directors shall be appointed by the Company in General Meeting.

LIEN

14. In Regulation 11 of Table A, the words "(not being a fully paid share)" and the words "(other than fully paid shares)" shall be omitted.

BORROWING POWERS

15. The Directors may exercise all the powers of the Company to borrow money, and to mortgage or charge its undertaking, property and uncalled capital, or any part thereof, and to issue debentures, debenture stock, and other securities whether outright or as security for any debt, liability or obligation of the Company or of any third party.

POWER AND DUTIES OF DIRECTORS

16. A Director who is in any way, whether directly or indirectly interested in a contract or proposed contract

MEMORANDUM AND ARTICLES OF ASSOCIATION

with the Company shall declare the nature of his interest in manner required by Section 199 of the Act. A Director may vote in respect of any such contract or proposed contract and if he does so vote his vote shall be counted and he shall be counted towards the quorum at any meeting of the Directors at which any such contract or proposed contract shall come before the Board for consideration.

17. A Director may hold any other office or place of profit under the Company (other than the office of auditor) in conjunction with his office as Director for such period and on such terms (as to remuneration and otherwise) as the Director may determine, and no Director or intending Director shall be disqualified by his office from contracting with the Company either with regard to his tenure of any such office or place of profit or as vendor, purchaser or otherwise, nor shall any such contract, or any contract or arrangement entered into by, or on behalf of the Company in which any Director is in any way interested, be liable to be avoided, nor shall any Director so contracting or being so interested be liable to account to the company for any profit realised by any such contract or arrangement by reason of such Director holding that office or of the fiduciary relationship thereby established.

18. Any Director may act by himself or his firm in a professional capacity for the Company and he or his firm shall be entitled to remuneration for professional services as if he were not a Director; provided that

MEMORANDUM AND ARTICLES OF ASSOCIATION

nothing herein contained shall authorise a Director or his firm to act as auditor to the Company.

19. The Directors may establish and maintain or procure the establishment and maintenance of any non-contributory or contributory pension or superannuation funds for the benefit of, and give or procure the giving of donations, gratuities, pensions, allowances or emoluments to any persons who are or were at any time Directors or officers of the Company, or of any Company which is a subsidiary of the Company or is allied to or associated with the Company or with any such subsidiary Company, or who are or were at any time Directors or officers of the Company or of any such other Company as aforesaid, and the wives, widows, families and dependents of any such persons, and also establish and subsidise or subscribe to any institutions, associations, clubs or funds calculated to be for the benefit of or to advance the interests and well-being of the Company or of any such other Company as aforesaid, or of any person as aforesaid and make payment for or towards the insurance of any such person as aforesaid and do any of the matters aforesaid, either alone or in conjunction with any such other Company as aforesaid. Subject always, if the Statutes shall so require, to particulars with respect to the proposed payment being disclosed to the members of the Company and to the proposed payment being approved by the Company, the Directors holding any such employment or office shall be entitled to participate in and retain for his own benefit any such donation,

MEMORANDUM AND ARTICLES OF ASSOCIATION

gratuity, pension, allowance or emolument.

20. The office of a Director shall be vacated in any of the following events, namely:-

(a) If (not being a Chief Executive, holding office as such for a fixed term) he resigns his office by notice in writing under his hand sent to or left at the Office.

(b) If he becomes bankrupt or makes any arrangement or composition with his creditors generally.

(c) If he becomes of unsound mind.

(d) If he be absent from meetings of the Directors for six successive months without leave, and his alternate Director (if any) shall not during such period have attended in his stead, and the Directors resolve that his office be vacated.

(e) If he ceases to be a Director by virtue of or becomes prohibited from being a Director by reason of an order made under any of the provisions of the Statutes.

CHIEF EXECUTIVE

21. The Directors may from time to time appoint a person to the office of Chief Executive for such period and on such terms as they think fit, but (subject to the terms of any contract between him and the Company) his appointment shall be subject to termination ipso facto if the Directors resolve that his term of office as Chief Executive be determined or if he is also a Director if he ceases for any reason to be a Director.

22. The Chief Executive shall receive such remuneration

MEMORANDUM AND ARTICLES OF ASSOCIATION

(whether by way of salary, commission or participation in profits or otherwise) as the Directors may determine.

23. The Directors may entrust to and confer upon the Chief Executive any of the powers exercisable by them as Directors, other than the power to make calls or forfeit shares, upon such terms and conditions and with such restrictions as they think fit, and either collaterally with or to the exclusion of their own powers, and may from time to time revoke, withdraw or vary all or any of such powers.

ALTERNATE DIRECTORS

24. Any Director may in writing appoint any person who is approved by the majority of the Directors, to be his alternate to act in his place at any meeting of the Directors at which he is unable to be present. Every such alternate shall be entitled to notice of meetings of the Directors and to attend and vote thereat as a Director when the person appointing him is not personally present and where he is a Director to have a separate vote on behalf of the Director he is representing in addition to his own vote. A Director may at any time in writing revoke the appointment of an alternate appointed by him. Every such alternate shall be an officer of the Company and shall not be deemed to be the agent of the Director appointing him. The remuneration of such an alternate shall be payable out of the remuneration payable to the Director appointing him, and the proportion thereof shall be agreed between them. An alternate Director shall ipso

MEMORANDUM AND ARTICLES OF ASSOCIATION

facto cease to hold office if his appointor ceases for any reason to be a Director: provided that if any Director retires by rotation or otherwise at any meeting but is re-elected at the same meeting any appointment made by him pursuant to this Article which was in force immediately before the retirement shall remain in force as though he had not retired.

INDEMNITY

25. Every Director, Managing Director, Agent, Auditor, Secretary or other officer of the Company shall be entitled to be indemnified out of the assets of the Company against all losses or liabilities which he may sustain or incur in or about the execution of the duties of his office or otherwise in relation thereto including any liability incurred by him in defending any proceedings whether civil or criminal, in which judgment is given in his favour or in which he is acquitted or in connection with any application under Section 448 of the Act in which relief is granted to him by the court, and no Director or other officer shall be liable for any loss, damage or misfortune which may happen to or be incurred by the Company in the execution of the duties of his office or in relation thereto. But this Article shall only have effect in so far as its provisions are not avoided by Section 205 of the Act.

MEMORANDUM AND ARTICLES OF ASSOCIATION

Names, addresses and descriptions of Subscribers

[REDACTED]

Solicitor

[REDACTED]

Articled Clerk

Dated this 16th day of June 1980

Witness to the above Signatures:-

[REDACTED] HQ

Secretary

C.3 DISQUALIFIED PERSONS

- (1) In relation to the details given in answer to C.2 (a) – (d), applicants should identify any body or individual who is:
- (a) an individual who is neither
 - (i) a national of a Member State who is ordinarily resident within the EEC, nor
 - (ii) ordinarily resident in the UK, Isle of Man or Channel Islands;
 - (b) a body corporate which is neither
 - (i) a body formed under the law of a Member State which has its registered or head office or principal place of business within the EEC, nor
 - (ii) a body incorporated under the law of the Isle of Man or Channel Islands;
 - (c) a local authority;
 - (d) a body whose objects are wholly or mainly of a political nature, or is affiliated to such a body;
 - (e) an individual who is an officer of a body falling within (d);
 - (f) a body corporate which is an associate (as defined in paragraph 1(1) of Part I of Schedule 2 to the Act) of a body falling within (d);
 - (g) a body whose objects are wholly or mainly of a religious nature;
 - (h) an individual who is an officer of a body falling within (g);
 - (i) an advertising agency or an associate of an advertising agency.

None.

- (2) The applicant should give details of any other participant in the applicant body whose interest is or could be deemed to be incompatible with the requirements imposed by or under Schedule 2 to the Act.

None.

APPENDICES

RESEARCH BIBLIOGRAPHY — 1981-1991

National Opinion Polls

1984

January-June : Omnibus Monitor — 20,000 adults
 July-December : Omnibus Monitor — 20,000 adults

1985

July-December : Omnibus Monitor — 20,000 adults

1986

January-June : Omnibus Monitor — 20,000 adults
 July-December : Omnibus Monitor — 20,000 adults

1987

January-June : Omnibus Monitor — 20,000 adults
 July-December : Omnibus Monitor — 20,000 adults
 Viewing Patterns — 500 ORACLE viewers

1988

January-June : Omnibus Monitor — 20,000 adults
 Viewing Patterns — 500 ORACLE viewers
 July-December : Omnibus Monitor — 20,000 adults
 Viewing Patterns — 500 ORACLE viewers

1989

January-June : Omnibus Monitor — 20,000 adults
 Viewing Patterns — 500 ORACLE viewers
 April-May : Children — 1,000 7-14 year olds
 July-December : Omnibus Monitor — 20,000 adults
 Viewing Patterns — 500 ORACLE viewers
 October : Advertising Awareness — 2,000 adults
 November : Advertising Awareness — 2,000 adults

1990

January-June : Omnibus Monitor — 20,000 adults
 Viewing Patterns — 500 ORACLE viewers
 February : Advertising Awareness — 2,000 adults
 April-May : Children — 1,000 7-14 year olds
 July-December : Omnibus Monitor — 20,000 adults
 Viewing Patterns — 500 ORACLE viewers
 August : Advertising Awareness — 2,000 adults
 November : Advertising Awareness — 2,000 adults
 December : Advertising Awareness — 2,000 adults

APPENDIX A

1991

January-June	: Omnibus Monitor	— 20,000 adults
	Viewing Patterns	— 500 ORACLE readers
February	: Advertising Awareness	— 2,000 adults
April	: Advertising Awareness	— 2,000 adults
April-May	: Children	— 1,000 7-14 year olds
July	: Advertising Awareness	— 2,000 adults
July-December	: Omnibus Monitor	— 20,000 adults
	Viewing Patterns	— 500 ORACLE readers
August	: Advertising Awareness	— 2,000 adults
November	: Advertising Awareness	— 2,000 adults
December	: Advertising Awareness	— 2,000 adults

NOP has provided audience research data to ORACLE since January 1984. Initially taking the form of a national overview of the teletext viewing audience, overall viewing habits and a monitor of teletext set penetration, involving interviews with some 40,000 adults a year, the project was expanded in 1987 to encompass the detailed study of the ORACLE audience.

Established in 1957, NOP has been one of Britain's leading suppliers of market research for almost 35 years. Experienced in executing all types of consumer surveys, from in-street interviewing on voting intentions to in-home product placement tests, the company is perhaps best known for its ability to undertake large-scale national surveys. In the recent past, NOP has conducted major studies for The Home Office (British Crime Survey), The British Tourist Authority (United Kingdom Tourism Survey) and HM Treasury (Share Ownership) all of which have involved nationwide in-home interviewing.

A cornerstone of NOP's activity is its Omnibus service, providing access to nationally representative samples of the adult population of Great Britain. Sampled directly from the electoral register of 540 parliamentary constituencies, this service has a proven record of reliability and stability, particularly important when tracking movements over a long period. It is through this medium that ORACLE's adult audience research is conducted.

In each six-month period, NOP Omnibus Services conducts in-home interviews with approximately 20,000 adults in order to provide a national monitor of the teletext viewing audience, teletext set penetration and set acquisitions. Simultaneously, a separate sample of readers of ORACLE in the last seven days is recruited over a series of NOP Omnibus surveys and a highly detailed interview is conducted with 500 such viewers. Using the remote-control keypad in respondents' homes, comprehensive ORACLE page traffic data is collected, together with attitudes towards ORACLE as a communications medium.

In addition to providing audience research amongst adult readers of ORACLE, NOP carries out a national survey of children and young adults, aged 7-19, each

spring. As with the surveys mentioned above, the study establishes the size of the readership and the way in which the ORACLE service is used by children and young adults.

Our research is a continuing commitment to assurance of quality and refining our service. NOP are our contracted research organisation for at least the next two years.

Other Research

ORACLE Teletext Limited

- 1990 ORACLE Holiday Survey
- 1991 ORACLE Holiday Survey
- 1991 ORACLE Youth Survey

British Market Research Bureau : Target Group Index

- 1989 Included in Special Media section as a heading
- 1990 Included as a "Stub Item"
- 1991 Included as a "Stub Entry" showing breakdown of daily/weekly and monthly readers

Carrick James Market Research

- 1986 Teletext Audience Research — 7-19 year olds
- 1987 Continuation of above
- 1988 Continuation of above

RSGB

- 1982 General Omnibus Survey
- 1982 Children's Research
- 1983 General Omnibus Survey

Ogilvy & Mather/Questel Qualitative Studies Ltd

- 1982 Research Project on ORACLE Teletext Service

Granada

- 1981 Research Survey on Television Information Services

APPENDIX B

CREDIBILITY OF ORACLE vs NEWSPAPERS

(i) Best for keeping up to date

	Jan-Jun 91	
	000's	%
ORACLE	5,932	54
Newspapers	2,975	27
No difference	1,747	16
Don't know	297	3

Source: NOP Viewing Patterns (Jul 90-Jun 91)

(ii) More likely to believe

	Jan-Jun 91	
	000's	%
ORACLE	6,437	59
Newspapers	456	4
Both equally	2,814	26

Source: NOP Viewing Patterns (Jul 90-Jun 91)

(iii) More likely to believe by newspapers read (Jul 90-Jun 91)

	Sun		Mirror		Express		Mail		Star	
	000's	%	000's	%	000's	%	000's	%	000's	%
ORACLE	1,650	66	1,314	59	506	58	669	55	634	52
Newspapers	123	5	134	6	50	6	48	4	57	5
Both equally	519	21	622	28	270	31	367	30	400	33

Source: NOP Viewing Patterns (Jul 90-Jun 91)

(iv) Reasons more likely to believe ORACLE versus Newspapers

	Jul 90-Jun 91	
	000's	%
More up to date/constantly updated/current	1,898	20
Factual/not elaborated/basic	1,110	12
Disbelieve/don't trust newspapers	870	9
ORACLE tells the truth/accurate	841	9
Newspapers exaggerate	677	7

Source: NOP Viewing Patterns (Jul 90-Jun 91)

APPENDIX B

(v) Breakdown by newspapers that respondents read (Jul 90-Jun 91)

	Sun		Mirror		Express		Mail		Star	
	000's	%	000's	%	000's	%	000's	%	000's	%
ORACLE more up to date	516	23	459	22	261	24	150	14	235	29
ORACLE more factual	232	10	252	12	103	9	133	12	64	8
Disbelieve newspapers	274	12	193	9	117	11	89	8	115	14

Source: NOP Viewing Patterns (Jul 90-Jun 91)

Since using teletext, 63% of all respondents read national dailies as regularly as before, 2% read the dailies more regularly and 20% now read them less regularly.

(vi) Breakdown of National Daily Newspapers read by ORACLE readers

	Sun		Mirror		Express		Mail		Star	
	000's	%	000's	%	000's	%	000's	%	000's	%
Jan-Jun 90	2,985	27	2,275	27	1,391	13	1,186	11	1,019	9
Jul-Dec 90	1,986	21	2,166	23	1,061	11	1,264	13	714	7
Jan-Jun 91	2,485	24	2,221	22	1,226	12	1,225	12	867	8

Source: NOP Viewing Patterns (Jul 90-Jun 91)

APPENDIX C

ORACLE READERSHIP — 1984-1991

Base: All yesterday readers of ORACLE

	Jan-Jun 84		Jan-Jun 86		Jan-Jun 88		Jan-Jun 90		Jan-Jun 91	
Daily readers	1,767,000		3,000,000		4,300,000		6,050,000		6,700,000	
ITV	000's	%	000's	%	000's	%	000's	%	000's	%
News	703	40	1,147	39	2,080	48	2,639	44	3,022	45
Sport	772	44	1,339	45	2,080	48	3,131	52	3,251	49
TV Guides	697	39	1,328	45	2,820	65	3,635	60	4,078	61
TV Plus	n/a	n/a	218	7	650	15	1,687	28	1,703	25
Travel News	108	6	n/a	n/a	n/a	n/a	466	8	458	7
Weather Forecasts	505	29	n/a	n/a	n/a	n/a	2,818	47	2,907	43
Weather & Travel	n/a	n/a	915	31	1,690	39	n/a	n/a	n/a	n/a
Regional What's On	n/a	n/a	93	3	430	10	569	9	572	9
Channel 4										
Business News	108	6	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
City	n/a	n/a	207	7	610	14	860	14	1,074	16
Beat Box	29	2	106	4	390	9	245	4	359	5
Your Money	n/a	n/a	63	2	260	6	192	3	498	7
Reviews	n/a	n/a	n/a	n/a	260	6	499	8	547	8
Diversions	n/a	n/a	n/a	n/a	n/a	n/a	337	6	506	8
Racing	n/a	n/a	160	5	650	15	799	13	770	11
Buzz	n/a	n/a	n/a	n/a	130	3	268	4	235	4
Source:	NOP ORACLE Teletext Monitor Jan-Jun 84		NOP ORACLE Teletext Monitor Jan-Jun 86		NOP ORACLE Viewing Patterns Jan-Jun 88		NOP ORACLE Viewing Patterns Jan-Jun 90		NOP ORACLE Viewing Patterns Jan-Jun 91	

APPENDIX C

Base: All weekly readers of ORACLE

	Jan-Jun 84		Jan-Jun 86		Jan-Jun 88		Jan-Jun 90		Jan-Jun 91	
Weekly readers	3,300,000		5,020,000		7,140,000		3,300,000		10,900,000	
ITV	000's	%	000's	%	000's	%	000's	%	000's	%
News	n/a	n/a	2,000	40	3,930	55	5,090	52	5,322	49
Sport	n/a	n/a	2,264	45	4,000	56	5,420	55	5,804	53
TV Guides	n/a	n/a	2,354	47	4,650	65	5,816	59	6,609	60
TV Plus	n/a	n/a	352	7	1,787	25	3,300	34	3,959	36
Travel News	n/a	n/a	n/a	n/a	n/a	n/a	1,419	14	1,425	13
Weather Forecasts	n/a	n/a	n/a	n/a	n/a	n/a	5,133	52	5,424	50
Weather & Travel	n/a	n/a	1,854	37	3,800	54	n/a	n/a	n/a	n/a
Regional What's On	n/a	n/a	256	5	1,143	16	1,663	17	1,903	17
Channel 4										
Business News	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
City	n/a	n/a	352	7	1,570	22	1,598	16	1,757	16
Beat Box	n/a	n/a	245	5	1,070	15	963	10	1,137	10
Your Money	n/a	n/a	124	2	929	13	947	10	987	9
Reviews	n/a	n/a	n/a	n/a	1,220	17	1,746	18	1,782	16
Diversions	n/a	n/a	n/a	n/a	n/a	n/a	1,426	15	1,650	15
Racing	n/a	n/a	287	6	1,220	17	1,730	18	1,500	14
Buzz	n/a	n/a	n/a	n/a	290	4	636	6	539	5
Source:	NOP ORACLE Teletext Monitor Jan-Jun 84		NOP ORACLE Teletext Monitor Jan-Jun 86		NOP ORACLE Teletext Monitor Jan-Jun 88		NOP ORACLE Teletext Monitor Jan-Jun 90		NOP ORACLE Teletext Monitor Jan-Jun 91	

APPENDIX D

COMPARISONS BETWEEN ORACLE AND OTHER PRINT MEDIA

(i) All Adults

(a) Daily readership figures against Top 5 National newspapers

ORACLE daily readership — 6,700,000 adults

Top 5 Newspapers

1	The Sun	9,891,000
2	Daily Mirror	8,284,000
3	Daily Mail	4,235,000
4	Daily Express	3,768,000
5	Daily Star	2,718,000

Sources: NRS, Vol 1 Jul 90-Jun 91
NOP ORACLE Teletext Monitor Jan-Jun 91

Overall leader is Daily Mirror & Daily Record combined at 10,274,000

(b) Weekly readership figures against Top 5 National Sundays

ORACLE weekly readership -- 10,900,000 adults

1	News of The World	13,118,000
2	Sunday Mirror	9,065,000
3	The People	7,139,000
4	The Mail on Sunday	5,500,000
5	Sunday Express	4,301,000

Sources: NRS, Vol 1 Jul 90-Jun 91
NOP ORACLE Teletext Monitor Jan-Jun 91

(c) Sport — Daily Readerships

ORACLE Racing Pages	—	770,000
Any ORACLE Sports Page		3,251,000
The Sporting Life		337,000
Racing Post		220,000

Sources: NRS, Vol 1 Jul 90-Jun 91
NOP ORACLE Teletext Monitor Jan-Jun 91

(d) TV Guides — Weekly Readerships

ORACLE TV Guide pages — 6,609,000
ORACLE TV Plus section — 3,959,000

Average Issue Readership of TV Listing Magazines (May-Jun 91):

Radio Times — 6,458,000 (14.3%)
TV Times — 6,656,000 (14.7%)
TV Quick — 4,647,000 (10.3%)
What's On TV — 2,320,000 (5.1%)

Sources: NRS, Vol 1 Jul 90-Jun 91
NOP ORACLE Teletext Monitor Jan-Jun 91

The above readership figures include confidence limits and are for the period May-June 1991. Due to sample size and continuing changes in the sector, these figures may be misleading indicators of future patterns.

(e) City and Financial — Weekly Readerships

ORACLE City section — 1,757,000
The Economist — 472,000
Investors' Chronicle — 157,000

Sources: NRS, Vol 1 Jul 90-Jun 91
NOP ORACLE Teletext Monitor Jan-Jun 91

(f) Beat Box/Reviews — Weekly Readerships

ORACLE Beat Box section — 1,137,000 adults 15+
ORACLE Reviews section — 1,782,000
Smash Hits — 1,465,000
NME — 683,000
Melody Maker — 370,000
Number One — 329,000

Sources: NRS, Vol 1 Jul 90-Jun 91
NOP ORACLE Teletext Monitor Jan-Jun 91

APPENDIX D

(g) Diversions -- Leisure -- Weekly Readerships

Angling

ORACLE Angling section	—	242,000
Angling Times	—	630,000
Anglers Mail	—	367,000

Motoring

ORACLE Motoring	—	517,000
Auto Express	—	922,000
Autocar and Car	—	338,000
Motoring News	—	276,000
Autosport	—	263,000

Gardening

ORACLE Gardening	—	559,000
Garden News	—	388,000
Amateur Gardening	—	582,000

Sources: NPS, Vol 1 Jul 90-Jun 91
NOP ORACLE Teletext Monitor Jan-Jun 91

APPENDIX D

(II) Women/Housewives

(a) ORACLE Daily Readership figures against Top 5 National newspapers

	Women 000's	Housewives 000's
ORACLE	2,482	1,984
The Sun	4,572	3,870
Daily Mirror	3,714	3,169
Daily Mail	2,082	1,828
Daily Express	1,837	1,596
Daily Telegraph	1,056	950

Sources: NRS, Vol 1 Jul 90-Jun 91
NOP ORACLE Teletext Monitor Jan-Jun 91

(b) ORACLE Weekly Readership compared to the Top 5 Sunday National Newspapers

	Women 000's	Housewives 000's
ORACLE	4,382	3,436
News of The World	6,449	5,479
Sunday Mirror	4,383	3,603
The People	3,473	2,955
Mail on Sunday	2,705	2,305
Sunday Express	2,198	1,947

Sources: NRS, Vol 1 Jul 90-Jun 91
NOP ORACLE Teletext Monitor Jan-Jun 91

(c) ORACLE Weekly Readership compared to the Weekly Periodicals

	Women 000's	Housewives 000's
ORACLE	4,382	3,436
Womans' Own	3,732	3,144
Bella	3,594	3,029
Woman	2,743	2,381
Womans' Weekly	2,536	2,285
Best	2,482	2,028

Sources: NRS, Vol 1 Jul 90-Jun 91
NOP ORACLE Teletext Monitor Jan-Jun 91

Note: Best has suffered significant losses in circulation during the fieldwork period and the readership figures have been adjusted.

APPENDIX D

(d) **ORACLE's Performance against Newspapers/Magazines**

ORACLE has more female and housewife daily readers than the Daily Mail, Daily Express and the Daily Telegraph. Only the Sun and the Mirror have more readers from each category.

However, females can be said to prefer ORACLE to women's magazines. ORACLE has 4,832,000 weekly female readers (including 3,436,000 housewives). Woman's Own (the top woman's magazine) has a readership of 3,732,000 women (including 3,144,000 housewives).

COMPARISON OF ORACLE AND CEEFAX READERSHIP PATTERNS

(i) Daily Teletext Readership

All who read teletext on	ITV yesterday	— 6,046,000
	CH4	— 2,854,000
	BBC1	— 5,888,000
	BBC2	— 2,519,000

(ii) Proportion of time reading Ceefax/ORACLE on BBC1/BBC2/ITV/CH4 yesterday

Base: All ORACLE or Ceefax readers		7,583,000
		%
Average % of time reading	ORACLE on ITV	38.29
	ORACLE on CH4	11.17
	Ceefax on BBC1	33.55
	Ceefax on BBC2	8.25

Source: NOP, Jan-June 1991, ORACLE Teletext Monitor

APPENDIX F

ORACLE READERSHIP — CHILDREN & YOUNG ADULTS

Base: 7-19 year olds in UK 9,478,000
 7-19 year olds in UK in
 household with teletext set 4,516,000 (48%)

(i) Daily Readership

	Population		ORACLE Daily Readers		Population reading ORACLE yesterday
	000's	%	000's	%	%
	Total	9,478	100	1,332	100
7-10	2,728	29	203	15	7
11-14	2,640	28	324	24	12
15-19	4,110	43	805	60	20
AB	1,602	17	267	20	17
C1	2,076	22	304	23	15
C2	2,767	29	466	35	17
DE	3,033	32	295	22	10

Source: NOP Children's ORACLE Viewing Apr-May 1991

(ii) Weekly Readership

	Population		ORACLE Weekly Readers		Population reading ORACLE last 7 days
	000's	%	000's	%	%
	Total	9,478	100	2,696	100
7-10	2,728	29	487	18	18
11-14	2,640	28	838	31	32
15-19	4,110	43	1,371	51	34
AB	1,602	17	547	20	34
C1	2,076	22	633	23	31
C2	2,767	29	834	31	30
DE	3,033	32	682	25	22

Source: NOP Children's ORACLE Viewing Apr-May 1991

APPENDIX C**ORACLE READERSHIP — TIME OF DAY****(i) Daily Readership**

Base: All yesterday readers of ORACLE:		6,700,000
		Jan-Jun 1991
		000's
6.30 am	— 9.29 am	867
9.30 am	— 12.29 pm	1,193
12.30 pm	— 3.29 pm	1,168
3.30 pm	— 5.44 pm	1,501
5.45 pm	— 7.29 pm	2,228
7.30 pm	— 10.29 pm	2,502
10.30 pm	— 11.59 pm	797
12.00 am	— 1.59 am	98
2.00 am	— 6.29 am	139

Source: NOP ORACLE Teletext Monitor, Jan-Jun 1991

(ii) Weekly Readership: Children and Young Adults

Base: All 7-19 year olds reading ORACLE in the last 7 days		2,696,000
		Apr-May 1991
		000's
6.15 am	— 9.00 am	469
9.00 am	— 12.00 noon	229
12.00 noon	— 2.00 pm	153
2.00 pm	— 5.45 pm	1,254
5.45 pm	— 7.30 pm	1,328
7.30 pm	— 10.30 pm	656
After 10.30 pm		123

Source: NOP Children's ORACLE Viewing, Apr-May 1991

APPENDIX H

LENGTH OF TIME SPENT READING ORACLE

Base: All yesterday readers of ORACLE: 6,700,000

	Jan-Jun 1991 000's
Less than 5 minutes	1,544
5- 10 minutes	2,196
11- 15 minutes	1,139
16- 20 minutes	336
21- 30 minutes	440
31- 45 minutes	186
46- 59 minutes	121
1-2 hours	138
Over 2 hours	150

Source: NOP ORACLE Teletext Monitor, Jan-Jun 1991

Average number of minutes read — 16.10

APPENDIX I**DEMOGRAPHIC PROFILE OF ORACLE DAILY READERSHIP AGAINST
POPULATION PROFILE****(i) Age**

	Population		ORACLE Readers	
	000's	%	000's	%
Total	45,357	100	6,691	100
15-24	9,081	20	1,769	26
25-34	7,897	17	1,593	24
35-44	7,619	17	1,251	19
45-54	6,084	13	841	13
55-64	6,069	13	705	11
65+	8,068	19	532	8

Source: NOP ORACLE Teletext Monitor Jan-Jun 1991

(ii) Socio-Economic Group

	Population		ORACLE Readers	
	000's	%	000's	%
Total	45,357	100	6,691	100
AB	7,669	17	1,262	19
C1	9,933	22	1,614	24
C2	13,251	29	2,225	33
DE	14,505	32	1,591	24

Source: NOP ORACLE Teletext Monitor Jan-Jun 1991

APPENDIX J

**RESEARCH ON THE USE OF REGIONAL ORACLE IN THE TVS AREA
September 1987**

(i) Watched TVS News on ORACLE in the last 7 days

Base: 407,365 weekly ORACLE readers

	Sex		Class				Age		
	Total	Male	Female	AB	C1	C2	DE	15-34	35+
% of all	34%	32%	36%	36%	37%	40%	27%	28%	41%
000's	139	68	71	20	44	47	28	61	78
Profile	100%	49%	51%	14%	32%	34%	20%	44%	56%

Popularity / Satisfaction with Service

When viewers were asked to compare ORACLE's TVS regional news service with the national news, those who watched both found the national news marginally more interesting and useful on a scale of 1-10, although the difference in scores was negligible. All in all the TVS news service was shown to be very popular with its audience.

(ii) Score out of 10 for TVS Regional News on ORACLE

Base: All Readers of TVS Regional News on ORACLE in last 7 days.

	Total	Male	Female	15-34	35+
Interesting	7.31	7.46	7.16	6.85	7.65
Useful	6.78	6.86	7.70	6.69	6.92
Enjoyable	6.39	6.23	6.52	6.31	6.42

(iii) Score out of 10 for National News on ORACLE

Bnse: All reading TVS Regional News on ORACLE who also read National News on ORACLE in last 7 days.

	Total	Male	Female	15-34	35+
Interesting	7.98	8.14	7.80	7.64	8.20
Useful	6.93	6.86	7.00	7.03	6.86
Enjoyable	6.23	6.07	6.40	6.39	6.12

(iv) ORACLE Weekly Readership in the TVS Area

	000's	%
All ORACLE Weekly Adult Readers in TVS Area	537,000	100
Weekly Readers of TVS Regional News Pages	182,000	34
Weekly Readers of TVS Regional What's On Pages	204,000	38
Ever users of the Community Pages	265,000	49

APPENDIX K

DERIVATION OF ACCESS TIME FORMULAE

- 1) Cycle time is the time between successive transmissions of an in-sequence page

Average access time for in-sequence pages is taken to be $\frac{1}{2}$ cycle time.

- 2) An out-of-sequence (OSQ) page inserted every d seconds corresponds to $1/d$ pages per second, therefore the capacity required to transmit all n OSQ pages is:

$$1/d_1 + 1/d_2 + \dots + 1/d_n$$

- 3) A magazine having p source pages in total and q OSQ pages will therefore have $(p-q)$ in-sequence pages

- 4) The number of pages which can be transmitted per second is determined by the page size in rows (s), the number of teletext VBI line-pairs per picture (v), and an efficiency factor (e) which has a maximum value of 1 and which depends on the number of transmission gaps which have to be left due to row 0 transmissions. For a 50 field-per-second transmission rate:

$$\text{pages per second} = \frac{50 v e}{s}$$

- 5) Interleaved advertisement pages are transmitted within the normal cycle of a multipage set as special-case OSQ pages, and add to capacity requirements. If there are m pages in a multipage set, then the interleaved adds a page every m th cycle - ie effectively adds $1/m$ pages to the magazine. If there are interleaved advertisements within r multipage sets of size m_1, m_2, \dots, m_r , respectively then:

$$\text{magazine size increase} = 1/m_1 + 1/m_2 + \dots + 1/m_r$$

- 6) Assuming a 24-row basic page size with 2 rows of fastext, and an average of b blank rows per page then the average access time for in-sequence pages is therefore given by:

$$\begin{aligned} \text{average access time} &= \frac{1}{2} \times \frac{\text{pages to transmit}}{\text{transmission capacity}} \\ &= \frac{1}{2} \times \left[\frac{(p-q) + \left(\frac{1}{m_1} + \frac{1}{m_2} + \dots + \frac{1}{m_r} \right)}{\frac{(50 \times v \times e)}{(24-b)} - \left(\frac{1}{d_1} + \frac{1}{d_2} + \dots + \frac{1}{d_n} \right)} \right] \end{aligned}$$

- 7) The efficiency factor e depends on the number of lost rows, which depends in turn on page sizes. It can be calculated as a weighted sum of individual page efficiencies for the various numbers of transmission line-pairs. A value of 0.94 has been calculated for a representative sample of ORACLE pages when transmitted using 3.5 or 4.0 line-pairs per picture.

