PREM 19/664

MT

PART I

Confidential filing

Direct broadcasting by satellite.
Cable Systems and their effects on Broadcasting Policy

BROADCASTING

March 1980

Referred to	Date	Referred to	Date	Referred to	Date	Referred to	Date
~~12-3-80~~		19.2.82					
~~3.2.81~~		~~25-2-82~~					
~~19.2.81~~		-ENDS-					
~~20.2.81~~							
~~9.3.81~~							
~~16-3-81~~							
~~8-5-81~~							
~~16-2-82~~							
~~18.2.82~~							

PREM 19/664

Report H(81)21
filed in attached
folder

PART 1 ends:-

E (82) 6th Mtg item 3 25/2/82

PART 2 begins:-

Home Office to Industry + att of 2/3/82

TO BE RETAINED AS TOP ENCLOSURE

Cabinet / Cabinet Committee Documents

Reference	Date
H (80) 24	5.3.80
H (80) 26	12.3.80
IT (81) 17	19.2.81
H (81) 10th Meeting, Minute 2	16.3.81
E (82) 13	16.2.82
E (82) 16	19.2.82
E (82) 14	19.2.82
E (82) 18	22.2.82
IT (82) 6	25.2.82
E (82) 6th Meeting, Minutes 2 and 3	25.2.82

The documents listed above, which were enclosed on this file, have been removed and destroyed. Such documents are the responsibility of the Cabinet Office. When released they are available in the appropriate **CAB** (CABINET OFFICE) CLASSES

Signed C M Wayland Date 6 June 2012

PREM Records Team

Published Papers

The following published paper(s) enclosed on this file have been removed and destroyed. Copies may be found elsewhere in The National Archives.

Direct Broadcasting by Satellite: Report of a Home Office Study
Published by HMSO, May 1981

Signed C Wayland Date 6 June 2012

PREM Records Team

P.0664

PRIME MINISTER

Direct Broadcasting by Satellite:
Cable Systems and Broadcasting Policy
(E(82)13,14,16 & 18)

BACKGROUND

The main issue for discussion is the proposal by the Home Secretary and the Secretary of State for Industry that the former should make the statement at Annex A of their memorandum E(82)13 announcing that the Government has decided, in principle, that there should be an early start with direct broadcasting by satellite (DBS) with the aim of having a service in operation in 1986.

2. The report on cable systems by the Information Technology Advisory Panel has been circulated for information under cover of E(82)16 which records your decision that the report should be published and that the issues raised by it should be examined by officials, under the Cabinet Office, prior to substantive consideration by Ministers later in the year. The report itself does not require discussion but it is relevant to the other paper by the Home Secretary and the Secretary of State for Industry, E(82)14, on cable systems and broadcasting policy. This proposes that three people should be appointed, with the terms of reference at Annex A of E(82)14, to report on the broadcasting policy issues involved in an expansion of cable systems. The aim would be for them to report by 1 October so that the official group could take their findings into account in preparing their main report to Ministers for submission by about November. This would enable the Government to announce by the end of the year its decisions on the future of cable systems. The provision of a modern cable network is relevant to the future of DBS, particularly since many people will prefer, or have, to receive DBS programmes by cable rather than from individual aerials.

3. As the CPRS point out in E(82)18 there is a strong need for early decisions on both DBS and cable systems if British manufacturers of space systems and of information technology services are to compete effectively in the growing markets at home and abroad.

DIRECT BROADCASTING BY SATELLITE

4. The proposal is that a joint venture formed by British Aerospace, GEC-Marconi and British Telecom should provide a satellite system to be operational by 1986. This operational date is judged to be important if the consortium is to compete effectively against its overseas rivals. It will take about four years to develop and construct a satellite system and so, if the target date is to be met, a contract has to be signed this year between the joint venture and a broadcasting organisation. It is recommended that the contract should be with the BBC since, unlike IBA, they have already developed proposals for DBS and there is no legislative barrier to their involvement.

5. Ministers are not being invited to take definitive and final decisions on the system now. The proposal is that the BBC should enter into discussions with the joint venture with a view to constructing and agreeing detailed proposals in the hope that these could be put to Ministers for approval this summer. There are, nevertheless, a number of issues which the Committee will wish to look at now.

The broadcasting organisation to be involved

6. The Home Secretary recommends that the initial contract for the first two DBS channels should be between the BBC and joint venture with the possibility left open of the IBA and commercial companies coming in later to take up some of the three remaining channels. The Committee will wish to consider whether this is acceptable bearing in mind that the IBA and commercial companies are likely to be critical of a Government decision which appears to favour the BBC.

7. The case for giving the BBC the initial contract turns largely on the issue of timing. It is said to be essential for industrial reasons that the contract should be signed during 1982 so that a British satellite system can be operational by 1986. It is clearly desirable to make progress as quickly as possible. You will however wish to probe carefully whether the exact timing is so critical that it can justify ruling out the commercial television companies from the initial stage of DBS. If the signing of the contract could be delayed by six months or so until say June 1983, this would enable the IBA and commercial companies, who have only recently shown interest in taking part in the initial phase, to come forward with proposals, and might even, although the timetable would be tight,

give time for legislation to widen the IBA's powers. If they failed to come forward with satisfactory proposals within a given time limit, the Government would at least be on stronger ground in justifying the decision to give both the initial DBS channels to the BBC.

8. If it turns out that the timing is as critical as the Home Secretary and Secretary of State for Industry claim, one way of making it easier for commercial television to participate in the initial stage would be to abandon the concept of supervision by the IBA or some other new body set up for the purpose. The Home Secretary will no doubt argue strongly against this for reasons which are set out in para 24 of Annex B to E(82)13. However, even if the Government were to abandon the idea of supervision by the IBA or some other authority, there would still be problems in going ahead quickly with commercial participation in the initial stage of DBS. The Government would have to choose which commercial company or companies should be licensed, how the services were to be financed, and how programme standards could be maintained. These issues would take some time to resolve and it might be difficult to ensure that a contract could be signed quickly.

9. If the Committee wish to pursue further the idea of commercial participation in the initial stage, it will be necessary to consider whether the BBC and commercial television should each have one of the first two channels, or whether both should be allocated to commercial television. The advice in E(82)13 is that, because of the uncertainties over the market response to DBS services, it would be a mistake to have the BBC and a commercial company competing for business dependent on subscriptions from viewers. If a choice had to be made the Committee would need to satisfy itself that the positive arguments in favour of the BBC, which are listed in paragraph 28 of Annex B, could be set to one side in favour of the commercial companies.

10. One possible advantage of participation in the initial stage by commercial television companies might be that they would then bear the financial risks which would otherwise fall on the BBC and on the BBC licence (see paragraphs 12 to 14 below). It is, however, by no means certain that once the Government had licensed a commercial company for DBS it could then stand by if that company ran into financial difficulties because of a poor response to its services. Both

television rental companies and individual viewers would have invested heavily in DBS equipment and would be critical if the Government were to let this investment be wasted. This question of the financial risks, and any contingent liability on the Government, is one which would need to be explored further if the possibility of giving priority to commercial companies rather than to the BBC were to be pursued.

11. If the Committee conclude that the difficulties involved in participation by commercial television in the initial phase of DBS are, after all, decisive, they will wish to consider whether the Home Secretary goes far enough, in para 5 of his draft statement at Annex A, in encouraging eventual participation by commercial television. Could the statement say that it is the Government's positive intention that the balance of the five DBS television services should in due course be provided by commercial companies?

Financial risks to the BBC

12. If the BBC were to negotiate a contract for DBS with the joint venture, as the Home Secretary proposes, the Committee will need to consider what are the financial risks which the BBC might be taking on and what are the implications of this for the Government.

13. It seems that from 1986 the joint venture would be well placed: two-thirds of its income would come from leasing charges paid by the BBC and a further third from leasing for telecommunications purposes. Subject to the outcome of the negotiations, it appears that the BBC would enter into a seven year contract with the joint venture and pay them about £12 million a year for each channel. In addition they would have to buy or provide programme material at an annual cost which the Home Office guess to be at least £20 million a channel. One channel would be financed by subscription from viewers and from loans, possibly involving an increase in the BBC's borrowing limits, in the early years as the service builds up. The other channel would be financed from general licence fee revenue plus a special supplement from DBS viewers. If there were a good response all would be well and the BBC services generally could benefit from increased licence revenue. If there were a poor take-up - and the papers acknowledge that this might be so - the BBC could be faced with the need for increased borrowing and increased licence fees. Quite apart from any contractual commitment to the joint venture, they could not readily abandon the services to those viewers who had

bought equipment. The Government could be blamed for increases in the general licence fee and at worst could be asked to subsidise the system.

14. This may be too gloomy a view of the risks and it is not a reason for stopping the BBC from entering into negotiations with the joint venture. The Committee will wish, however, to consider the financial risks. They might invite the Home Secretary to tell the BBC that, while the Government does not intend to be a party to the negotiations on the contract, it will need to consider, when the definitive proposals are put foward, what account has been taken of the financial risks to the BBC. The Home Secretary might suggest that the BBC should explore the possibility that the joint venture might share some of the broadcasting risks - for example, the leasing charge could be related to some extent to take-up of the services. The possibility is mentioned in paragraph 35 of Annex B to E(82)13 of the corporation creating a subsidiary company and raising equity. This might be explored further: it could be a way of insulating viewers in general from the risk to the licence fee; it might not, in the last resort, mean that the BBC and the Government could stand back and let the service founder.

Government funding

15. The draft statement declares that "as regards the financing of DBS, the Government expects the capital cost of providing the space segment to found in the private sector"; this cost is thought to be in the order of £150-£170 million. This does not however mean that the possibility of some Government funding of DBS is ruled out. First, as explained in paragraph 34 of Annex B to E(82)13, it might be that the BBC could argue that they could secure a lower annual lease if they were able to contract with overseas firms rather than with the UK joint venture. It is suggested that in this circumstance the Department of Industry might need to consider the case for some Government assistance to justify the BBC in buying British. The Committee may feel that, while this possibility need not be ruled out, every effort should be made to ensure that it does not arise. The object of the exercise is to help British industry and to go ahead now with DBS only if it is based on a British satellite. If this is what British industry wants they should be willing to tailor their charges to competitive levels so that the project can get off the ground. Given that the case for going ahead now rests on industrial rather than broadcasting priorities, BBC ought to be in a strong negotiating position.

16. Secondly, while there is no intention that the Government should help to finance the capital costs of the satellite system, it may well be that UK manufacturers concerned with providing associated equipment will ask the Department of Industry for assistance, under standard Government schemes, for their development costs. On the assumption that this would be met from within the Department's public expenditure provision there is no objection in principle to this although the Committee should be aware of the possibility. Indeed, there might well be a positive case for the Department being willing to give such help in the interest of ensuring that United Kingdom electronics firms, rather than overseas competitors, get the business which is expected to result from these proposals.

CABLE SYSTEMS AND BROADCASTING POLICY

17. It is proposed that the Home Secretary should appoint three people to report on the broadcasting policy issues involved in an expansion of cable systems. They would do so in time for the outcome to be taken into account in the wider official inter-departmental examination, under the Cabinet Office's Information Technology Secretariat, into the technical, economic and industrial issues arising out of an expansion of the cable system. Since, at this stage, the proposals are primarily procedural they may not detain the Committee for too long. But there are two points which you will wish to consider.

18. First, you have endorsed the objective of completing the broadcasting inquiry by 1 October. This is important if the official group is to have time to take account of it in preparing their main report for Ministers' consideration towards the end of this year. The Home Secretary is likely to say that he will wish to give the members of the inquiry six months to complete their work. They have yet to be chosen and if they cannot be appointed by 1 April he might, therefore, want to give them a deadline later than 1 October. You will wish to press him to do his utmost to ensure that the work can be completed by 1 October.

19. Secondly, paragraph 1 of the terms of reference for the inquiry, at Annex A to E(82)14, states that the Government intends in principle to facilitate expansion of cable systems. The Committee will wish to consider whether this degree of commitment, in advance of the further analytical work which is now being put in hand, is acceptable or whether it would be better to have a more neutral wording. Any more detailed points on the terms of reference might be put to the Home Secretary in correspondence.

HANDLING

20. You will wish to break the discussion into two, giving most of the time to DBS and dealing fairly quickly with the proposals for cable systems. On this basis, you will wish to ask the Home Secretary and the Secretary of State for Industry to speak first to their paper, E(82)13, on DBS. Mr Ibbs will wish to refer to the points in his memorandum E(82)18. The Chancellor of the Exchequer * will want to comment on the financial implications, and in particular the possible risks to the BBC, and the Lord President of the Council and the Chief Whip on the proposed timing of the Parliamentary deabte on DBS and the reception which Government supporters are likely to give to the proposals.

21. You will then wish to ask the Home Secretary to deal briefly with the paper on broadcasting policy in relation to cable systems, E(82)14.

CONCLUSIONS

22. In relation to direct broadcasting by satellite, you will wish to reach conclusions on the following issues:

(i) Should the two initial channels be allocated to the BBC, as the Home Secretary proposes, or should more consideration be given to the possibility of allocating them to the IBA and commercial companies? (paragraphs 6 to 11 above)

(ii) Are the financial risks to the BBC acceptable and what steps might be taken to limit them? (paragraphs 12 to 14 above)

(iii) Does the Committee have any points on possible public expenditure associated with DBS? (paragraphs 15 and 16 above).

(iv) When should the proposed statement be made and when might the Parliamentary debate be?

23. In relation to cable systems, you will wish to reach conclusions on the following issues:

* or the Chief Secretary, Treasury

(i) Should the inquiry go ahead, with a deadline of 1 October? (paragraph 18 above)

(ii) Are the terms of reference acceptable? (paragraph 19 above)

(iii) Can the terms of reference be announced as soon as the inquiry team is appointed?

(iv) The Committee might take note of your decision that the Advisory Panel's report on cable systems will be published and that the Cabinet Office will chair an inter-departmental official group to consider the issues and to report before the end of the year.

24. If the Committee were unable to reach conclusions at this meeting on DBS, that should not be a reason for holding up the further work on cable systems which should now get ahead as quickly as possible.

PG

P L GREGSON

24 February 1982

RESTRICTED

JR

Broadcasty cc D/I D/I M/S CO

10 DOWNING STREET

From the Private Secretary

18 February 1982

2

CABLE SYSTEMS AND BROADCASTING POLICY

The Prime Minister has seen the Home Secretary's minute of 9 February on this subject enclosing a draft memorandum by the Home Secretary and the Secretary of State for Industry. The Prime Minister has also received the report on cable systems by the Information Technology Advisory Panel which was submitted to her by the Secretary of the Cabinet.

The Prime Minister shares the view of the Home Secretary and the Secretary of State for Industry on the importance of this subject and agrees that consideration of the issues involved should go forward as quickly as possible. She is therefore asking Sir Robert Armstrong to make arrangements for the publication of the IT Advisers' report and for official consideration under Cabinet Office chairmanship of the issues raised by the report to be put in hand prior to substantive consideration by Ministers later in the year.

The Prime Minister agrees that the joint memorandum by the Home Secretary and the Secretary of State for Industry should be circulated as proposed to members of E Committee and any other Ministers whose interests it concerns. Since the issues are essentially procedural, she thinks that substantive discussion may not be necessary at this stage: the memorandum could invite comments in writing, and indicate that there will be an opportunity to confirm assent or to deal with any serious reservations when the Committee discuss in the near future the paper on direct broadcasting by satellite.

The Prime Minister is content with the Home Secretary's proposal for a small independent inquiry into the broadcasting policy aspects of an expansion of cable systems, but has commented that it is important that the inquiry should be completed by 1 October at the very latest. Its recommendations can then be taken fully into consideration by officials in submitting their conclusions on the wider issues involved soon afterwards.

/ I am copying

I am copying this letter to the Private Secretaries to the Secretary of State for Industry and Minister of State for Industry and Information Technology, and to Sir Robert Armstrong.

W. F. S. RICKETT

John Halliday, Esq.,
Home Office.

MR. RICKETT

10 DOWNING STREET

THE PRIME MINISTER

17 February 1982

Dear Mr. Read,

I am most grateful to you and to the other members of the Information Technology Advisory Panel Working Group for the report you have submitted to me through the Cabinet Office on cable systems. It is a very important piece of work and I congratulate you on the speed and thoroughness with which you have completed it.

You will not, I know, expect me to comment further on the substance at this stage. I am considering urgently with the Ministers principally involved how the Government should handle the report in the light of your recommendations.

Yours sincerely

Margaret Thatcher

C.N. Read, Esq.

Leave it as it is.

PRIME MINISTER But I thought the whole matter was subsumed in the previous phrase which refers to the public interest

Box 1

CABLE SYSTEMS

You had a query on the draft terms of reference proposed by the Home Secretary and Mr. Jenkin for the inquiry into the broadcasting policy issues involved in an expansion of cable systems. The draft is at A. You asked whether the phrase that suggests that the inquiry should take into account "the safe-guarding of public service broadcasting" was really necessary.

I have spoken to the Home Secretary's Office about this. They feel this phrase is a crucial part of the terms of reference. The first paragraph of the terms of reference sets the Government's preferred framework for the inquiry, and the Home Office feel that it should contain some reference to the preservation of public service broadcasting.

The Home Office have been unable to consult the Home Secretary about this today. They will of course put to him your view that this phrase should not appear in the terms of reference. They will however suggest to him that a possible compromise would be to end the paragraph as follows:

> "..... but in a way consistent with the wider public interest and the continued existence of public service broadcasting".

This would make it clear that the Government acknowledged that the continued existence of public service broadcasting was something that the inquiry should take into account, while avoiding any suggestion that the inquiry should safe-guard public service broadcasting. Would you be content with this wording?

/Sir Robert Armstrong

No

Sir Robert Armstrong has suggested that the first paragraph of the terms of reference go too far in committing the Government to facilitating the expansion of cable systems. He suggests that until a proper evaluation has been made, the Government cannot be committed to any of the policies recommended, and that the inquiry team should be asked to consider what the appropriate supervisory framework should be if the Government were to decide to facilitate the expansion of cable systems. This is a step backwards from the position adopted by the Home Secretary and Mr. Jenkin. Their terms of reference for the inquiry start from the position that the Government intends to facilitate cable systems, and that the question is "how", and not "whether". I think you will wish to stick with the wording suggested by Mr. Jenkin and Mr. Whitelaw. Agree?

GR

17 February 1982

PRIME MINISTER

CABLE SYSTEMS

The Panel of Information Technology (IT) Advisers has now completed its study of cable systems, and their report is attached at Flag A. Its conclusions are summarised in the note by the IT Unit of the Cabinet Office at Flag B.

Briefly the report concludes that there are powerful economic and industrial arguments for encouraging the growth of cable systems in the UK; that with the right incentives, adequate private sector finance should be available; and that early decisions are needed. Perhaps the most sensitive part of the report deals with the implications of cable systems for broadcasting regulations, standards and finance.

Also attached are minutes from Sir Robert Armstrong (at Flag C), and a joint memorandum by Patrick Jenkin and the Home Secretary (at Flag D) on how to handle the report. These recommend:

(a) that arrangements should be made to publish the IT Advisers' report, perhaps in conjunction with a written answer by you to a PQ, which would make it clear that the Government is not at present committed to any of the policies recommended, but is considering the report urgently;

(b) that an official Cabinet Office committee should be set up to study all the issues raised by the report, and that this committee should report to Ministers in the autumn;

(c) that the Home Secretary and Patrick Jenkin should circulate a joint memorandum to E Committee proposing that a separate and outside inquiry into the implications for broadcasting of cable systems should proceed in parallel with the wider consideration by officials. This inquiry would be undertaken by a small 3 man group, which would report by 1 October at the latest. The proposed terms of reference for the group are at Flag E.

/ (d)

(d) that you should write to Mr. Charles Read, Chairman of the Working Group of the IT Advisers which prepared the report to thank him and his colleagues. A possible letter is at Flag F;

(e) that I should write to the Home Office, Department of Industry and Cabinet Office, conveying your decisions, as at Flag G.

Agree these recommendations?

WN

16 February 1982

I have passed the paris comment to the Cabinet Office. WR 22/2

CONFIDENTIAL

THIS DOCUMENT IS THE PROPERTY OF HER BRITANNIC MAJESTY'S GOVERNMENT

E(82)13

COPY NO. 2

16 February 1982

CABINET

MINISTERIAL COMMITTEE ON ECONOMIC STRATEGY

DIRECT BROADCASTING BY SATELLITE

Memorandum by the Secretaries of State for the Home Department and for Industry

In this memorandum we seek the approval of our colleagues for steps towards the development of direct broadcasting by satellite (DBS).

2. The paper at Annex B sets out the present position and the background to our proposals. The technology needed for the development of DBS is available and there are strong industrial and commercial arguments for an early start with a UK service. With DoI encouragement British Aerospace, GEC-Marconi and British Telecom have formed a "Joint Venture" to provide a satellite system; not only the industries which they represent, but also the consumer electronics industry, stand to gain substantially from an early UK start, and conversely to suffer if a start is postponed or abandoned - other countries such as France, Germany and Japan are already on the move.

3. The case on broadcasting grounds for embarking on DBS is less clear-cut. There is no immediate need for the additional TV channels it offers; and though DBS services (like other TV services) will no doubt create their own audience in time, in the short term there are risks that there may be more channels than there is good-quality material to fill, and that slow take-up will embarrass the programme providers (and, indirectly, the Government). However, these are risks inherent in any venture of this kind, and we do not believe they should casue us to turn aside from an important techological development of international significance in which the UK is well placed to play a leading role.

4. A Home Office study published in May 1981 reviewed all aspects of DBS, and in his forward the Home Secretary indicated the Government's readiness to consider a modest early start - perhaps two DBS channels (out of the five internationally allotted to us) beginning in about 1986. This course has been favoured by much of the comment received on the study, the general tone of which has been favourable (summary at Annex C). Accordingly we recommend an early start, on the basis set out below.

CONFIDENTIAL

Ref. A07505

PRIME MINISTER

Cable Systems and Broadcasting Policy

My minute to you of 9 February forwarded the report by the Panel of Information Technology (IT) Advisers on Cable systems and recommended how consideration of it should be handled. You have now also received the Home Secretary's minute of the same date covering a draft memorandum on cable systems for E Committee and the terms of reference of a proposed inquiry into the broadcasting policy issues involved in an expansion of cable systems.

2. As the Home Secretary's draft memorandum recommends, the proposed inquiry into the broadcasting aspects of cable will need to be accompanied by a concurrent study of the other and wider issues involved (eg the overall demand on national resources, the desirable technological features of new cable systems, etc). This wider study is in fact what I envisaged in my minute to you of 9 February when I recommended that consideration of the IT Advisers' report should be put in hand forthwith under Cabinet Office chairmanship, prior to substantive consideration by Ministers later in the year in the Ministerial Committee on Economic Strategy.

3. I should, however, like to add the following points:

(i) Since the memorandum by the Home Secretary and the Secretary of State for Industry is essentially about procedures (how consideration should be taken forward) rather than substance, it may not be necessary to discuss it in E Committee at this stage, if the proposals can be cleared by correspondence;

(ii) The memorandum envisages that the separate inquiry into the broadcasting aspects of cable should proceed in parallel with the wider consideration by officials and be completed by the early autumn. If Ministers are to be in a position to make a definitive statement by the end of the year, it is important that this timetable should not slip, and that the results of the inquiry should be available in good time, so that officials can take them into account in making a comprehensive submission to Ministers soon afterwards;

(iii) Since, until a proper evaluation has been made, the Government cannot be committed at present to any of the policies recommended, the proposed terms of reference of the inquiry into the broadcasting policy aspects (which take as their frame of reference the Government's "intention in principle to facilitate expansion of cable systems") seem to me to go too far. Although I hope that, in publishing the IT Advisers' report and announcing the broadcasting inquiry, it will be possible to give a broadly favourable signal, I think it would be advisable to ask the inquiry team to consider what the appropriate supervisory, etc framework should be if the Government were to decide to facilitate the expansion of cable.

4. If you can agree with these points you may wish your Private Secretary to reply on your behalf in the terms of the attached draft.

RwA

ROBERT ARMSTRONG

15 February 1982

GR/PR type. or
PR enclose a copy of the Minister's letter to Mr Read [attached] with RTA's copy WR 18/2

DRAFT MINUTE FROM PRIVATE SECRETARY/PRIME MINISTER TO PRIVATE SECRETARY/HOME SECRETARY

Cable Systems and Broadcasting Policy

The Prime Minister has seen the Home Secretary's minute of 9 February on this subject enclosing a draft memorandum by the Home Secretary and the Secretary of State for Industry. The Prime Minister has also received the report on cable systems by the Information Technology Advisory Panel which was submitted to her by the Secretary of the Cabinet.

2. The Prime Minister shares the view of the Home Secretary and the Secretary of State for Industry on the importance of this subject and agrees that consideration of the issues involved should go forward as quickly as possible. She is therefore asking Sir Robert Armstrong to make arrangements for the publication of the IT Advisers' report and for official consideration under Cabinet Office chairmanship of the issues raised by the report to be put in hand prior to substantive consideration by Ministers later in the year.

3. The Prime Minister agrees that the joint memorandum by the Home Secretary and the Secretary of State for Industry should be circulated as proposed to members of E Committee and any other Ministers whose interests it concerns. Since the issues are essentially procedural, she thinks that ~~a~~ substantive discussion may not be necessary at this stage: the memorandum could invite comments ~~and assent~~ in writing, and indicate that there will be an opportunity to confirm assent or to deal with any serious reservations when the Committee discuss in the near future the paper on D-B-direct broadcasting by satellite. ~~unless any member of the Committee has serious reservations which should be discussed at a meeting.~~ // New P- She is ~~also~~ content with the Home Secretary's proposal for a small independent inquiry into the broadcasting policy aspects of an expansion of cable systems, but has ~~made the following comments:~~ commented that

(i) It is important that the inquiry should be completed by 1 October at the very latest. ~~so that~~ its recommendations can now be taken fully into consideration by officials in submitting their conclusions on the wider issues involved soon afterwards.

~~(ii)~~ Since the Government cannot be committed to the policies recommended until a full evaluation of them has been made, the Prime Minister thinks that the terms of reference of the broadcasting inquiry (which refer to the Government's "intention in principle to facilitate expansion of cable systems") go too far at this stage. While she agrees that a broadly favourable signal to the cable industry should be given when the Advisers' report is published and the inquiry into the bradcasting aspects announced, she would prefer the terms of reference to be revised so as to invite the inquiry team to make recommendations on the appropriate response to the questions identified should the Government decide to facilitate expansion of cable systems.

(iii)

4. I am copying this minute to the Private Secretaries to the Secretary of State for Industry and Minister of State for Industry and Information Technology and to Sir Robert Armstrong.

10 DOWNING STREET

C.F.
Await revised
Mike submission pl. MAP.

I have asked RTA's office
to submit revised advice on
this, since his minute conflicts
with the views of the Home Sec
and Mr Jenkin.

MM
11/2

Ref: A07381

RESTRICTED

PRIME MINISTER

Report of Information Technology Advisers on Cable Systems

The Panel of Information Technology (IT) Advisers, whom you appointed last June, have now completed a study of cable systems. Their report, which is addressed to you and has been submitted through the Cabinet Office IT Unit, is attached.

2. I also attach a note by the IT Unit which draws attention to the main issues raised in the report and makes recommendations on how it should be handled. These recommendations are subject to the views of the Home Secretary and the Secretary of State for Industry who propose to minute you on the subject of cable shortly. I understand that in general they both welcome the report and agree that it should be published and considered quickly, but that the Home Secretary is likely to wish to propose special arrangements for considering the broadcasting aspects.

3. I believe the report is a timely and valuable document and I agree in general with the analysis and recommendations in the IT Unit's note. But clearly a number of difficult and sensitive issues will need very careful examination, including the implications of the proposals for legislation, and I therefore endorse the proposal that it should be remitted for official consideration under Cabinet Office chairmanship, prior to substantive consideration by Ministers. It should then come, later in the year, to Ministers, I suggest in the Ministerial Committee on Economic Strategy, for decisions.

4. Before reaching final decisions on handling, you will wish to see the forthcoming submission from the Home Secretary and the Secretary of State for Industry. Subject to that, I will, if you agree, set the necessary arrangements in hand for considering the report. At that stage it would also be desirable to bring the report to the attention of all the Ministers principally concerned and I will arrange for that to be done.

5. The Advisers recommend that the report should be published. Extensive consultation will be necessary with outside bodies, for which the report, whether formally published or not, will have to receive fairly wide circulation. I am sure that publication is desirable, perhaps in conjunction with a Written Answer by you to a Parliamentary Question, which would make it clear that the Government is not at present committed to any of the policies recommended, but is considering the report as a matter of great urgency. If you agree, I will make arrangements for publication, subject to any further proposals relevant to this from the Home Secretary and the Secretary of State for Industry.

6. Finally, I think it would be appropriate for you to write briefly to Mr. Read, who chaired the Working Group of the Advisers who prepared the report, to thank him and his colleagues for the work they have done. I attach a short draft.

RtA

Robert Armstrong

9th February 1982

DRAFT LETTER FROM THE PRIME MINISTER TO:-

C.N. Read, Esq
Director
Inter-Bank Research Organisation
32, City Road
London, EC1Y 1AA

I am most grateful to you and to the other members of the Information Technology Advisory Panel Working Group for the report you have submitted to me through the Cabinet Office on cable systems. It is a very important piece of work and I congratulate you on the speed and thoroughness with which you have completed it.

You will not, I know, expect me to comment further on the substance at this stage. I am considering urgently with the Ministers principally involved how the Government should handle the report in the light of your recommendations.

RESTRICTED

NOTE BY INFORMATION TECHNOLOGY SECRETARIAT

CABLE SYSTEMS

The Government's Advisory Panel on Information Technology (IT) were invited by the Minister for Information Technology last autumn to undertake a study on the potential role of cable systems in the United Kingdom and the desirability of a major programme of cable installation. The study was undertaken by a Working Group under the chairmanship of Mr Charles Read, Director of the Inter-Bank Research Organisation. A copy of the final report, which has been endorsed by the whole Advisory Panel, is attached. The preface is addressed to the Prime Minister and the report has been submitted to the IT Secretariat for submission to the Prime Minister.

2. Officials from the Home Office and the Department of Industry assisted the Working Group in the preparation of the report, but were not, of course, committed to its conclusions and recommendations. Mr Courtney of the IT Secretariat also acted as Secretary of the Working Group. Informal consultations were also held with a number of outside organisations, as listed at Annex A to the report.

Findings of the Report

3. The report's conclusions and recommendations are conveniently set out in the introductory summary and in chapter 8. The main ones may be briefly stated as follows:-

- there are powerful economic and industrial arguments for encouraging the growth of cable systems in the United Kingdom;

- provided sufficient commercial incentives are made available - which involves some "liberalisation" of current broadcasting arrangements - adequate private sector finance is likely to be available to fund development and installation and no public funding need be involved;

- far from being in conflict with the development of direct broadcasting by satellite (DBS), cable systems are complementary to it and indeed could play an important role in the distribution of DBS signals;

- time is not on our side - if a viable United Kingdom capability in cable is to be established, the Government should announce its detailed proposals as soon as possible and in any case by early 1983.

4. The report puts the highest stress on reaching discussions quickly and recommends that if possible the broad outlines of the Government's intentions should be announced by the middle of this year in order to allow the private sector to start planning new systems. In the view of the Advisory Panel, there is a limited time during which the relevant industrial capability and market opportunity will exist in the UK; and in the absence of early favourable decisions the bleak prospects for existing commercial cable systems in the UK will lead to a decline in those systems and a significant loss of subscriber base, technological capability and jobs.

Comment

5. The report necessarily reflects the bias and interests of the Advisory Panel. It is thus, for example, stronger on consumer and technical issues than on the implications for the financing and regulation of broadcasting. In general, however, we think the Advisers have produced a first class paper which should serve as a very useful basis for wider consideration by the Government of the important issues involved. We therefore think that, without any commitment on the Government's part at this stage, the report should be welcomed and its recommendations considered as quickly as possible.

6. Some of the issues raised are both highly technical and/or likely to prove sensitive and controversial. Among the main ones are:-

(i) Implications for broadcasting: This is perhaps the most sensitive area of the report which, by self-confession, does not address all the issues. Among the important questions to be addressed are:-

- the implications for broadcasting regulation and standards, including whether a new "cable authority" would be required;

- the implications for the present financing of broadcasting;

- the arrangements that should be prescribed for "cable operators" - in particular whether they should be allowed both to own cable systems and provide programmes and services into the home, or whether these functions should be separated.

A crucial judgement in this area, if it is decided in principle that cable systems should be promoted, is how to strike the right balance that preserves broadcasting standards as the Government would like to see them and protects the position of the BBC and IBA and makes cable systems sufficiently commercially attractive to secure the necessary private investment.

These issues will need very careful consideration in consultation with the broadcasting authorities and other outside broadcasting interests. The Home Secretary has reached the view that, both in the light of other recent developments and of the Advisers' report, the right way to tackle this would be to remit consideration to a small independent group of advisers (perhaps three persons). They might be asked to review the broadcasting issues and make specific recommendations on the supervisory arrangements to be applied to cable broadcasting within 6 months (ie by September).

(ii) Role of British Telecommunications (BT): The role of BT in any future development of cable systems is likely to be a significant one. The Chairman of BT has already expressed great interest and is anxious that early consultation with BT should take place. There are major implications both for the way in which cable systems are developed and for the finances of BT. The report does not discuss this in detail but makes it clear that the Advisers are opposed to a dominant role for BT although they would expect it to be an important competitor.

(iii) Economic and industrial considerations: The Advisers argue that the economic activity generated by large scale investment in cable systems (which could be in the order of £2-3 billion) would create substantial net additional employment in the UK and, if properly directed, provide major opportunities for UK industry, including a strong base from which to compete in export markets. These arguments need further detailed analysis, in particular so that a judgement can be formed on the extent to which investment in cable would be a substitute for other employment generating activity within a given growth in national money income. But there is no question that many major industrial and commercial groups are expressing strong interest in the potential of cable systems.

(iv) Technical aspects: The report lays great weight on the advantages of a new form of cable technology in which it claims the UK have a world lead. It is, however cautious on the extent to which optical fibres could be incorporated in cable systems, at least in the early years. These and other aspects of the proposal will need further detailed technical evaluation.

7. We think that these and the other issues raised in the report should be considered quickly so that early advice can be put to Ministers. The Home Secretary and Secretary of State for Industry have been apprised of the report and have also received representations from other sources about the potential importance of cable systems. They propose to send a joint minute to the Prime Minister shortly, probably covering a draft paper for circulation to other Ministers setting out the case for a thorough examination of policy on cable. We suggest that, subject to consideration of this paper, the Cabinet Office should be instructed to establish an interdepartmental official group (either a sub-group of the Official Committee on Information Technology, or an ad hoc group of the relevant departments) charged with reporting to the appropriate Ministerial Committee. (The Prime Minister may wish to consider convening the proposed IT Committee under her chairmanship for this purpose). The official group should make an interim report before the summer, and a final report in the autumn taking account of the report of the Home Secretary's enquiry on broadcasting referred to in paragraph 6(i) above.

8. Proper consideration of the Advisers' report will require full consultation with outside interests. The existence of the report is widely known (there have been press references) and a number of representations have already been received. We therefore endorse the Advisers' recommendation that their report should be published. This might take the form of a reply to a Written PQ by the Prime Minister but it will need to be coordinated with any statement by the Home Secretary on the broadcasting aspects (and possibly also on DBS) and we will advise further in due course.

Recommendations

9. We therefore make the following specific recommendations:

(i) that, subject to consideration of the forthcoming submission to the Prime Minister by the Home Secretary and Secretary of State for Industry, the report by the Advisory Panel should be published at an early date,

with a statement indicating that the Government, though not committed in any way to the report's recommendations, welcome it as a basis for early consideration of the issues involved, on which consultation will take place with interested parties;

(ii) the Cabinet Office should be charged with arranging for an official group to consider the report with a view to making an interim report to Ministers in the summer and a final report in the autumn;

(iii) that the Prime Minister's office should send the report to the Departments principally concerned (Home Office, Department of Industry, Treasury, Department of Environment, Department of Employment, Department of Education and Science, Department of Trade, and the Foreign & Commonwealth Office) informing them of the Prime Minister's decisions on the two points above.

Information Technology Secretariat
Cabinet Office
3 February 1982

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INFORMATION TECHNOLOGY ADVISORY PANEL

REPORT ON CABLE SYSTEMS

January 1982

Rt Hon Margaret Thatcher MP
Prime Minister
10 Downing Street

We were appointed in June 1981 to advise the Government on matters relating to Information Technology. Since then we have individually and collectively given views to the Minister for Information Technology and to officials from different Departments.

We have also undertaken one longer study, whose report we now submit. This concerns the potential role of cable systems in the United Kingdom and the desirability of a major programme of cable installation. The study was carried out by a Working Group but this report has been endorsed by the whole Panel.

We are convinced that there are powerful economic and industrial arguments for encouraging cable systems in the United Kingdom. Further, we believe that, given the right conditions, these could be entirely financed from private sources. Our report sets out our reasoning and makes specific recommendations for steps which we think should be taken by Government in order to implement such a policy in the fastest possible timescale. We emphasise the need for urgent decision and action. The opportunities which such a policy offers to the United Kingdom will be irretrievably lost if our timescales are not met. A delayed decision will be the same as a negative decision. It would further be most appropriate for the Government to adopt the creative policy which we recommend during IT Year 1982.

We have expressed our views on the implications of such a policy for broadcasting and other activities but in the brief time available to us we have not been able to explore such issues in the depth that they require. Further examination is required, but this too must be undertaken urgently.

We think it would be desirable for our report to be published in order to stimulate and inform the public debate on cable systems.

Finally, we wish to record our appreciation of the great deal of assistance given to the Working Group by officials from the Home Office and Departments of Industry and by its secretary from the Cabinet Office Information Technology Unit.

Signed M J ALDRICH*
I H COHEN
C A DAVIES*
D F HARTLEY
C N READ**
C G SOUTHGATE

* Member of the Working Group

** Chairman of the Working Group

Cabinet Office
January 1982

REPORT ON CABLE SYSTEMS

CONTENTS

SUMMARY

1. Modern cable systems, based on coaxial cables or optical fibres, can provide many new telecommunications-based services to homes and businesses. The initial attraction for home subscribers would be the extra television entertainment channels. However, the main role of cable systems eventually will be the delivery of many information, financial and other services to the home and the joining of businesses and homes by high capacity data links.

2. The United Kingdom currently has cable technology capable of providing economically a wide variety of interactive services, but commercial cable operations, based on the relay of conventional TV broadcasts, are declining and unless firm policy decisions towards cable are taken in 1982, there is a high risk of overseas technological dominance. A further reason for early decision is the possible introduction of direct broadcasting by satellite (DBS) in 1986; if new cable systems can be operating by then, they will provide subscribers with cheaper access to satellite transmissions than is possible with individual aerials, thus improving the market for satellite services, while the DBS programmes will offer an incentive for cable connection. Cable systems and DBS thus complement each other; they are not in opposition.

3. The capital investment required to provide half the United Kingdom population (ie those living in urban areas) with modern cable services is of the order of £2500 million. Subsequent economic activity could be of the order of £1000 million annually. The consumer electronics industry would benefit greatly, as would optical fibre interests. The indirect effects would include a large stimulus to the office technology industry, whose products would be greatly aided by agreement on cable system standards and the mass production of related components, and for which there are potentially immense world markets.

4. Private sector finance is available for investment in cable systems - there need be no call on public funds. However, it will only be forthcoming if the Government lifts the present constraints on the programmes that may be distributed by cable operation and allows a full range of programmes and services to be provided. Moreover, this decision must be made quickly to allow prospective operators and investors sufficient time to plan future systems before a change in Government policy can occur. This again points to a decision in 1982.

5. Because the initial attraction of cable systems centres on new channels for broadcast entertainment, news, sport etc, the implications for current and future broadcasting services have to be considered. Our view is that, while there are dangers which must be guarded against, there are no fundamental reasons for delaying the introduction of new cable services. The regulatory arrangements appropriate for cable systems have, though, to be developed.

6. Our recommendations are -

i. The Government should announce as soon as possible its approval for an early start on DBS services.

It should explicitly recognise the role of existing cable systems in providing an immediate market for DBS programmes and should give an undertaking that these will be allowed to distribute DBS transmissions, where necessary - and subject to making suitable alternative arrangements - releasing them from the obligation to distribute terrestrial services. This will be a sign to cable interests that the Government sees a future for commercial cable systems; it may possibly help to retard current withdrawal strategies, but it will do nothing for their short-term prospects.

ii. The Government should announce, by mid-1982, the broad outlines of its future policy towards cable systems, in order to allow the private sector to start planning new systems.

We recommend that that policy should be to license new systems conforming to set technical standards without the present restrictions on programming (apart from obvious requirements on decency, sedition, etc, on which representatives of cable operators have already offered an undertaking). Such licensing could take place initially under existing legislation and administrative arrangements.

iii. The Government should urgently review the implications of cable systems for the financing and regulation of broadcasting and should consider the need for a new statutory body to be the "broadcasting authority" for cable systems. On the basis of this review, and investigation of the effects of different regulatory arrangements on potential private sector investment in cable systems, the Government should formulate and announce its detailed administrative and regulatory proposals. This announcement should be made as soon as possible and in any case by early 1983.

iv. The Government should urge cable operators and programme providers to set up effective means of self-regulation, after the manner of the advertising or newspaper industries. This would help to create public confidence and might well simplify any new regulatory arrangements.

v. The Department of Industry should establish a technical working group with representatives of cable operators, the electronics industry and BT. This group would -

a. examine alternative approaches to cable network design and recommend design standards for the United Kingdom;

b. define the necessary detailed engineering standards, consistent with commercial viability, for that network.

It should complete its work during 1982.

The recommended design standards should offer maximum potential to United Kingdom manufacturers and operators and should anticipate, and be compatible with, developments in communications technology. In particular, they should require systems to operate within the relevant constraints on usage and allocation of frequencies set by the Home Office, (including FM radio channels in the 88-108 MHz band) and to be capable of incremental expansion beyond a defined minimum number of channels (perhaps 30) without disturbance to the final distribution network. Systems should be able to support a wide range of interactive services and should link with the packet switched service of BT and other services offered by BT and alternative telecommunications networks. But the standards set should not prejudice commercial operations.

vi. The Department of Industry should create an effective forum in which all those interested in cable systems can come together to unify their efforts to the benefit of the United Kingdom. To assist in this, the Department should rationalise its internal arrangements for considering cable issues which at present are spread over several divisions.

7. Finally, we are concerned about the present split of regulatory responsibilities for cable systems - and for IT generally - among the Home Office, Department of Industry and British Telecom. This must hinder policy formulation and administration. We intend to investigate these regulatory arrangements.

1. THE UK SITUATION

1.1 About 2.6 million households, or 14 per cent of those with television sets, receive their television services by means of cable systems. About 1.5 million (about 8 per cent) are connected to the systems provided by some 440 commercial operators; the remainder are connected to 'non-commercial' systems operated by local authorities, housing associations etc. It is estimated that further 2 million homes are passed by cable systems. In recent years there has been a slow decline (140,000 over 5 years) in the number of subscribers to commercial systems and a rise in those receiving signals from non-commercial systems. Often the latter are small, many covering just one block of flats with a communal aerial on the roof.

1.2 Originally established in the 1930s to distribute radio broadcasts, cable systems were adapted and extended in the post-war years to provide TV programmes also. The principal benefit to subscribers was the improved quality of reception in areas not adequately covered by conventional off-air transmissions. However, the broadcasting authorities have for some years pursued a collaborative policy of improving signal reception for all but the smallest communities, with the result that the three TV channels now have virtually national coverage and the principal incentive for subscribers to connect to a cable system has disappeared. Planning restrictions prohibit external aerials in some areas, but the relay of conventional broadcast services has in general no commercial future.

1.3 The current annual charge to subscribers on commercial cable networks is approximately £15 including VAT. The networks have been unable to raise their charges substantially, since this would precipitate a faster decline, and at the same time have been constrained by the terms of their licences from offering very much in the way of additional programmes (only an out-of-area ITV service). The viability of cable systems has therefore fallen and the major commercial companies are expecting to move into substantial deficit in the next few years. All are pursuing withdrawal strategies; some systems have closed already. Rediffusion, for example, are in the process of closing a 22,000 subscriber system in the North East. Industry spokesmen estimate that in five years time the number of commercial subscribers may have fallen to 20 per cent of the present figure, with the shedding of perhaps 5000 jobs.

1.4 Some experiments in 'community cable television' took place in the late 1970s. In these, the cable operator produced a few hours of local interest programmes each week. They were the video equivalent of the local newspaper. Only one local TV service is still in operation, at Greenwich, but this has been reorganised and the programmes are now produced by enthusiasts under the auspices of the 'Greenwich Television Society' and without subsidy from the cable system. The other community television services were not economically viable; they did not attract sufficient new subscribers to justify their cost. Local advertising was allowed on these services, with mixed success. In Greenwich, it covered its costs and produced useful business for some small firms. A survey showed that more than half the subscribers viewed the local advertisements regularly.

1.5 Cable systems which receive and relay broadcasting services have to be licensed by the Home Secretary under Section 1 of the Wireless Telegraphy Act 1949. In general, the licences require the distribution of BBC services and the regional ITV service and permit the distribution of an out-of-area ITV service. The Home Secretary has discretion over the terms of the licences and these requirements could be changed without further legislation.

1.6 If a cable system distributes programmes other than those of the broadcasting authorities, it requires a licence under Part IV of the Post Office Act 1969. The experiments in community television were authorised under Part IV licences. Any system that wished to offer 'value added' services to subscribers, for example information services, would also need a licence from British Telecom (BT) or the Secretary of State for Industry for that service, but this time under Section 15 of the British Telecommunications Act 1981.

1.7 Since cable operators (with the exception of BT) are not 'statutory undertakers', they have to seek wayleaves from local authorities and other land owners before cables can be installed. Assembling the requisite wayleaves for a new cable system can be a time consuming activity.

1.8 The most significant recent development in cable television has been the decision by the Home Secretary to license 13 pilot schemes of subscription TV, each of which will run for two years. The cable systems participating in these pilot schemes currently serve about 110,000 homes. The first started operation in October 1981 but some have yet to start. In these pilot schemes, an additional programme will be provided to homes that wish to receive it for an extra charge in the range £6-12 monthly. The aim is to investigate the market at various price levels for an additional programme service, to see the effect on viewing habits and therefore on other programme services, and to put the Home Secretary in a position to judge whether subscription TV should continue on a permanent basis, and if so what arrangements should be made for its supervision and operation.

1.9 Although the licences for the pilot schemes do not restrict the subscription TV channel to feature films, in practice there are strong pressures on the programme providers (which include the BBC) to include a large element of such films. The short timescale (and limited coverage) of the pilot schemes, with no guarantee of permanent operation, inhibits the production of new programme material, and subscribers are most easily attracted by films which have already demonstrated their public appeal. There is criticism from the cable industry and from other entertainment interests that the current pilot schemes are too limited in both number and scope and that the timescale for decisions on the future of subscription TV is too slow.

1.10 The other main feature of the UK situation is the prospect of additional TV services. The 'fourth channel' will start in late 1982. Breakfast-time television starts the following year. Of more significance to cable systems, satellite broadcasting could start in 1985 or 1986; the relationship between direct broadcasting by satellite (DBS) services and cable systems is explored in detail in Chapter 4. However, many existing cable systems (serving perhaps 70 per cent of subscribers) employ 'twisted pair' cables with four or six pairs of wires and can only transmit four or six channels simultaneously. These networks will not be able to distribute subscription TV and the new services unless they are released from the requirement to distribute established United Kingdom terrestrial broadcast services. Such systems are technologically

obsolescent but still operate and represent a considerable investment. The operators of these systems have even more reason than the rest of the industry to think that, unless their licence conditions are amended, they are part of a dying trade.

2. FUTURE POTENTIAL

2.1 In a modern cable system, subscribers are linked to a central transmitting point by means of coaxial cable or optical fibres. Coaxial cable is about 10 mm diameter and consists of a central copper wire surrounded by polythene insulation and a copper mesh conducting screen, all contained in a protective outer covering. High frequency electromagnetic signals may be transmitted down such cable with much less attenuation than would occur if 'twisted pair' cables of the type found in the telephone system were used. Optical fibres are hair-like threads of exceedingly pure glass able to transmit light pulses without severe attenuation. At present, they are more suited to the 'trunk' sections of cable systems; their use in individual subscriber links would be uneconomic. This situation may, however change in the next few years as the costs of fibres and associated electronics reduces.

2.2 The key to the performance of a cable system lies in the concept of 'bandwidth'. The greater the bandwidth of a communications system, the more information can be transmitted in any given time. Bandwidth is a measure both of the frequency range over which the system can operate, and of its information carrying capacity. A TV picture contains much information and in the United Kingdom is effectively renewed 25 times each second; each 625 line TV channel requires about 8 MHz of bandwidth. By contrast, the information flow in a telephone conversation is much smaller; most subscriber line plant allows a bandwidth of around 4kHz and the rate at which information may be transmitted over the telephone system is correspondingly limited. The introduction of electronic exchanges, such as System X, will increase the carrying capacity of the telephone system, but for most users the gap between it and cable systems will remain.

2.3 A cable system is therefore essentially a wide bandwidth telecommunications system, the bandwidth available in the systems now being installed in the USA being about 350 MHz. In the United States, this permits about 50 TV channels to be transmitted; for technical and regulatory reasons, this figure would not be achieved with American technology in the United Kingdom; a more realistic figure would be in the range 15-24 channels. As well as TV pictures, cable systems also carry high quality sound transmissions. A moving video

transmission will occupy the full bandwidth allocated for a channel; a service where movement is not required (eg a teletext channel) would not need as much bandwidth. Hence individual channels may be subdivided into different services, all apparently (to the user) on different channels. Some systems now being planned in the USA carry 80 or 100 different services.

2.4 The normal structure of a cable system is that of a tree - with a trunk, - at the base of which the signals are input, and branches which successively split and serve each subscriber. Each link in the system then has to be capable of taking the whole range of services, ie the bandwidth capacity is the same at any point. Individual subscribers select the service required by tuning their TV sets to the frequency range occupied by that channel. This traditional approach becomes progressively less economic as the bandwidth required increases. Moreover, as each subscriber (whether in a home or a business) only needs simultaneous access to, at most, a few channels, there seems little need to provide all channels down the final links all the time.

2.5 Technology has been developed in the United Kingdom for switching channels to subscribers, each group of 50-100 subscribers being connected to a local switching point housed in a box beside the road. The 'trunk' links to the switching points could be of 350 MHz bandwidth or more (and could well employ optical fibres), but the individual links connecting the switching point to each subscriber need only carry 30-40 MHz of bandwidth, with consequent economy in cable specification and in subscriber equipment. The channel selection process would take place at the switching point, controlled by signals from the home. This technology has not been applied in the United Kingdom because current cable systems have no use for it. Similar technology is being developed in Japan and France. American cable systems, however, seem to be retaining the traditional tree structure.

2.6 It is estimated that switching becomes competitive with conventional cable technology when more than 24 channels are provided, and particularly if two-way communication is envisaged. Viewdata services, for example, require information to be passed both ways across the system. A switched system can marshall frame selection signals from subscribers in a more controlled manner than a conventional system.

2.7 Two-way communications capability is now being provided on American cable networks and, under Federal Communications Commission (FCC) regulations, is mandatory for all new systems. It is not, however, a two-way video capability - ie the systems do not permit video pictures to be transmitted from homes (although the cable itself could carry such pictures). Rather, it is the American equivalent of the interactive capability available in the United Kingdom through Prestel, ie it enables instructions to be sent at a slow rate to a computer. Virtually all the extra services now being promoted on American cable systems are in fact based on viewdata or teletext principles. Since the United Kingdom has both types of service already (Prestel and Ceefax/Oracle), there might seem to be no case for introducing interactive capability on a cable system here. However, the provision of such a capability allows the development of new types of services that cannot be provided over telephone lines, even when the data transmission rate of ordinary subscriber lines is raised (over the next 20 years) from its present 1200 bits/sec or less to 64,000 bits/sec through the introduction of System X exchanges. These new services would combine an act of selection by the subscribers with a video transmission from the head end of the cable; they could include new ways of selling (a videotaped tour of a house for sale or a prospective holiday location, perhaps) or of instruction (eg how to carry out a piece of car maintenance).

2.8 There are, moreover, advantages in providing viewdata services via a cable rather than a telephone line. High quality graphics can be used without imposing an unacceptable delay in building up the picture. The present graphics capability of Prestel is unsuited to many purposes, including most mail order applications. Picture quality graphics are required (and will come) but even with enhanced telephone links, the time taken to build up a picture may be excessive. With a cable system, it is provided virtually instantaneously.

2.9 In addition, the number of frames available with reasonable access time on Ceefax/Oracle is severely limited by the fact that they are broadcast on a few "spare" lines in conventional TV transmissions. A channel devoted entirely to teletext information would be able to provide more than 100,000 frames, while keeping access time to a second or so.

2.10 The increased bandwidth available in a cable system may be exploited by the business community as well as home subscribers. It enables information to be exchanged between computers, word processors, etc at a much faster rate than the telephone system allows. Moreover, in serving homes and busineses alike, a cable system makes possible new work relationships, aided by the decreasing cost of microelectronics, the growing popularity of home computers, the development of combined computer/viewdata terminals etc. As with viewdata services, the telephone system can offer the same form of communications, but at a lower standard of performance.

2.11 The possible applications of a cable system for which a wide bandwidth is essential may be set out below -

(1) It can provide a large choice of "conventional" TV programmes, ie channels with general programme material. Both terrestrial and DBS transmissions could be relayed down the one cable, probably at lower cost to the subscriber than the use of individual aerials (see Chapter 4). Programmes produced specially for cable companies and not for off-air transmission could also be supplied. Video cassettes (and, in time, discs) can, of course, extend the consumer's choice of video entertainment in a similar way, but probably at greater cost.

(2) It can provide channels for minority or specialised interests - often referred to as "narrowcasting". Different subjects could have much more coverage than at present, and ethnic, religious or cultural minorities, for example, could have specific channels. Again, this sort of service could be provided on video cassettes, but less effectively (because cassettes cannot be as topical), and with no interactive facility.

(3) It can provide local programmes. One channel could be the video equivalent of the local newspaper. (In the USA, some cities have required the cable company to provide one or two channels for city council business as a condtion of the cable franchise.) While local off-air TV broadcasts are technically feasible, the pressure on the radio frequency spectrum in the United Kingdom makes their introduction most unlikely. Again, a local news service could be provided on video cassettes (after the model of 'newspapers for the blind' on audio cassettes) but it would not seem an attractive commercial proposition.

(4) It can provide education and training 'at a distance'. Much is possible using audio cassettes, viewdata and new aids such as the Open University's 'Cyclops' (which enables diagrams to be transmitted down a telephone line and displayed on a TV screen). However, the capacity for motion adds greatly to the effectiveness of a teaching medium. Cassettes are an alternative but do not allow 'branching' according to the pace of the student, or the opportunity for interactive tuition. Video discs could be more flexible in that respect.

(5) It allows new ways of selling, as outlined above (paragraph 2.7)

(6) It could enable 'film request' services to be developed - ie the subscriber requests a film from the cable company, either for immediate viewing or to be recorded on his VCR, rather than buying a cassette or disc (if available).

(7) It allows digitised data to be transmitted rapidly. The data transmission rate of a cable system and the greater flexibility of information type that it can handle, compared with the telephone system, means that it could be an important communications channel between businesses, especially if the cable system were linked to BT services. (Some developments in business communications using teletext technology and out-of-hours broadcasting are also in the offing.) The communications needs of homes and businesses appear to be converging, and cable based communications systems could serve both.

2.12 These are the services for which a cable link is essential. Once installed, however, it permits any other service based on viewdata or teletext technology to be provided and can be an alternative to the telephone system for services such as home security, where the high data transmission rate of a cable system allows almost continuous monitoring of the security system itself. This service is proving popular in the USA. Annex B provides further examples of the services that might be provided on a cable system.

2.13 In summary, then, modern cable systems are capable of providing not only a wide range of general TV services but also specialised services of interest to minority audiences and information and data transfer services unrelated to broadcasting as currently understood. They represent a new form of communications medium. Video cassettes and discs can compete for some types of service, and allow the viewer more freedom in selecting programmes, but cannot provide the same range of services or the same potential for interactive activities. Satellite transmissions can widen the range of programme material, and can also operate interactively (the telephone system being used to request the services or information required); however the number of channels available is restricted, with a corresponding constraint on the range of services that can be provided.

TABLE 1

CABLE PENETRATION

Country	Number of Subscribers	Percentage of TV households
Austria	50,000	2.5
Belgium	1,700,000	64.1
Denmark	800,000	50
Finland	50,000	3
France	*6-8,000,000	37
West Germany	*8,000,000	35
Ireland	666,000	23
Netherlands	2,000,000	55
Norway	250,000	22.7
Sweden	1,400,000	46
Switzerland	680,000	36.8
United Kingdom	*2,546,000	14
Canada	1,326,000	57
USA	17,400,000	22.4

Source: "ITV must respond to satellite opportunities" by J Shaw
Intermedia, July 1981, pp 42-47.

*These figures include 'master aerial' systems where more than one subscriber, eg in a block of flats, shares the use of a single aerial. They thus overstate the penetration of cable systems; other sources suggest 2.3 million cable subscribers in West Germany and only 65,000 in France.

3. OVERSEAS DEVELOPMENTS

3.1 Table 1 shows that the proportion of United Kingdom households receiving their TV programmes via a cable (14 per cent) is low by comparison with many other major industrialised countries. The principal driving force for the growth of cable in other countries has been the extra choice of programme material available, although poor reception of conventional transmissions has contributed (for example in American towns away from major cities). Subscribers, particularly in smaller countries, may sometimes wish to view the programmes produced in neighbouring countries and a cable system obviates the need for multiple roof-top aerials. Moreover, not all countries have planned their broadcast transmission arrangements as thoroughly as the United Kingdom (where the two broadcasting authorities share transmission sites and the national system is engineered for four TV channels) and viewers may need a multiplicity of aerials just to receive domestic services.

United States

3.2 The most spectacular growth in cable systems in recent years has been in the USA. Until 1975, the FCC closely regulated the programmes that cable systems could show, for example limiting their showing of films to those more than three years old. However, most of the regulations were withdrawn in 1975. Simultaneously, the introduction of satellite communications services meant that a programme could potentially be received by cable systems across the country. "Home Box Office" started satellite transmissions of feature films in 1975 and now between 1500 and 2000 cable systems have ground receiving dishes. Cable subscribers have grown from 9 million or so in 1975 to the present 18 million, and there is no sign of this rise ceasing. There is intense competition for cable franchises in the cities that are not yet cabled (which include some of the biggest - Boston, Chicago, Detroit etc).

3.3 Home Box Office is a subscription TV service - viewers pay a supplementary charge of perhaps $7-10 monthly. The growth in such services has outpaced the growth in cable generally. Starting from a negligible base in 1975, the number of subscribers now approaches 10 million. Some households subscribe to more than one service, providing children's programmes, sport etc. Some cable companies offer different 'tiers' of programmes, so that the receiver can select to suit his tastes (and pocket).

3.4 New American cable systems offer two way communications facilities. Such services at present are comparable with Prestel or Ceefax/Oracle, although new types of servies may well emerge in time. Of particular note is the 'Qube' experiment in Columbus, Ohio, where the two-way facility has been used to allow viewers to react to TV programmes and to vote in referenda. This has proved popular and similar systems are to be installed in other cities.

3.5 City authorities in the US have sold franchises for cable systems to the highest bidder. The price that cable companies have paid has recently included free access for the authority to broadcast debates, information services etc. A few authorities have decided to run the cable system themselves. Firms competing for franchises - and willing to invest up to $100 million with no prospect of an early return - are doing so because they believe that cable will form the all-purpose communications system of the future. Thus newspaper groups have been prominent, protecting their future position; and banks and credit card companies, attracted by the potential of cable for conducting financial transactions, have also been very active. The sums at stake are huge. The cable industry estimates its future capital requirements at $14,000 million in the next ten years, with annual revenues rising by 1990 to $5,400 million.

Europe

3.6 In Europe also there is considerable interest in cable and satellite developments, although these are taking a different course from the USA. At least five direct broadcasting satellites, allowing reception by individual households, are under consideration or being constructed. The first in space will be the joint Franco-German satellites but the United Kingdom, Switzerland, Luxembourg and the Nordic countries have all announced plans or are giving the subject serious consideration. In addition, the national communications satellite planned by France and the L-SAT programme of the European Space Agency will result in satellites which could carry TV signals. (Italy plans to use L-SAT for a pre-operational DBS service.) A feature of broadcasting satellites is that their transmissions, although aimed at a particular geographical area, 'spill over' into other areas. The result is that countries such as Belgium and Switzerland will be able to receive satellite broadcasts from a number of sources. Areas nearer the periphery of Europe, notably the United Kingdom, will also be able to

receive these transmissions although a larger dish, perhaps 2m diameter, will be needed and the aiming point will not be the same as for the United Kingdom satellite. There is thus likely to be a stimulus to cable systems in those countries accustomed to receiving TV broadcasts from more than one source, and potentially more programme material available in all countries.

3.7 Clearly, Europe-wide transmissions will have to cope with the language differences, but it is possible to put a number of audio channels on a single TV channel, and sub-titling can also be added using teletext. There is therefore the potential, across Europe, for the national broadcasting services to become international, and in doing so to give a great boost to cable distribution systems. At a subscription of £5 monthly, even existing cable systems in Europe could generate an additional income for programme producers of £1500 million annually, and it has been estimated that extra advertising revenue of £2000 million would be forthcoming if sufficient video outlets were available.

3.8 Both France and West Germany have announed large scale trials of optical fibre communications in specific localities. In France, the town of Biarritz is to be provided with optical fibres, with eventually 3000 subscribers. In Germany, seven towns are to be equipped, with six companies being concerned. Some subscribers will have video cameras. The emphasis is on improved voice and data communications rather than on increasing choice in broadcasting services.

Japan

3.9 Some notable experiments in cable communications are taking place and a pre-operational DBS service has been in existence for about 18 months. The most well known experiment is the Hi-Ovis project, in which some 350 km of optical fibres have been installed in a small community, connecting about 170 homes, offices, schools etc. The system provides national and local TV programmes and some interactive information services. The experiment has placed emphasis on the local production of programmes and some of the homes have video cameras and associated transmission equipment enabling two-way video communications. The experiment is reportedly popular with users but its future - and the way in which the experience gained will be applied - is not known.

4. RELATIONSHIP BETWEEN CABLE SYSTEMS AND DBS

4.1 The response of commercial interests to the Home Office report on DBS* published in May 1981 has, we understand, been very positive. There has been strong support for the 'modest early start' option put forward in the report and there seems a good chance of a two-channel UK satellite broadcasting service commencing in 1986. Private sector finance for the necessary satellite appears to be forthcoming and the BBC and other organisations wish to lease channels and offer programmes. Current BBC plans include one channel of 'the best of BBC1 and BBC2' and a second, subscription TV channel showing predominantly feature films. Market research by the BBC has shown that perhaps 10 per cent of households would install individual DBS receivers by 1990.

4.2 In the USA, as we have already described, the recent surge of interest in cable TV has been largely the result of satellite transmissions, which have enabled cable systems (but not individual households) across the country to receive the same programmes and thus have greatly increased both the range of programmes available and the prospective audience for individual programmes. The American experience demonstrates the close and supportive relationship that can be established between satellite and cable TV services, to the benefit of both.

4.3 The DBS report considered this relationship in the British context. In particular, it discussed whether DBS transmissions should be restricted to power levels that would only permit reception by communal aerials (ie dishes 3 metres or so across serving cable systems) or should be at a power level that allowed reception by individual householders using dish aerials of 0.9 metres diameter or less. The former approach would reduce the cost of the space segment, and would probably stimulate the growth of cable systems (but only, in our view, if they were able to offer also other types of service). However, the report came down in favour of the higher powered transmissions for the following reasons -

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* "Direct Broadcasting by Satellite - report of a Home Office study" (HMSO, 1981)

i. Only 14 per cent of TV households receive programmes via cables. The immediate market for communal reception is thus limited; the growth rate of DBS subscribers would be constrained, and some areas will never be able to justify communal systems.

ii. There would be no stimulus to the creation of a home market for equipment for individual reception. If high power DBS services were to become the international norm, this would put United Kingdom manufacturers at a disadvantage.

iii. If other countries employed high power transmissions, United Kingdom services would be more subject to interference.

4.4 We do not dispute the conclusion that high power services should be provided. Given the present low penetration of cable systems in the United Kingdom, it is clear that any prospective supplier of DBS programmes will want high power transmissions in order to have the largest number of potential subscribers. And we note the industrial arguments for this course. It seems to us, however, that the prospective contribution of cable systems to the success of DBS services received insufficient recognition in the report, and that - provided action is taken in time - both cable and DBS stand to gain considerably from a policy of encouraging cable.

4.5 We base this view on three considerations. First, we think that the report gives too optimistic an impression of the likely cost of individual DBS aerials and adaptors. It provides a figure only for the cost of these items in volume production (although acknowledging that costs will be higher initially) and does not distinguish clearly between production cost and final price to the consumer. We have heard widely varying estimates of the initial price to consumers, and must express concern that the figures originating from UK manufacturers seem higher than those from prospective overseas suppliers. There will, of course, be an international market in such consumer items, and the introduction of DBS services in France, Germany and Japan will stimulate manufacturers in those countries to lay down production lines. Thus, the price to the consumer will not depend strongly on the level of UK demand. It will,

though, depend quite critically on the marketing policies of rental companies, who may be expected to take a large share of this market as they have done when other new consumer electronics products, eg colour TVs and VCRs, have been introduced. Indeed, the commercial success of DBS is fundamentally not in the hands of the providers of either the satellite or the programmes; it will be determined by the policies of rental companies and - if they are permitted to distribute DBS signals - of cable operators.

4.6 Our information suggests that the probable initial price to the consumer of a 0.9m dish aerial and its associated electronics is of the order of £400. The cost of installation would clearly vary depending on whether the dish was at ground level or roof-mounted, but might add up to £100. The structural stability required in the mounting, if a 0.9m dish is to be kept pointing in the correct direction under severe wind or snow loading, is not trivial. Maintenance costs must also be expected. It is, of course, possible that advances in technology will allow a reduction in the size of dishes (or even a completely different type of aerial) and so reduce costs further, but with current technology it would seem that cable systems could supply DBS signals to many subscribers at a lower cost than individual reception.

4.7 Our second reason for emphasising the mutual dependence of DBS and cable is that we suspect that more households will have problems mounting a dish in a suitable position than the DBS report implies. (The dish must point at the satellite - which is between 17 degrees and 28 degrees above the horizon, depending on location - to an accuracy of half a degree and be unobscured by trees, tiles etc.) Some local authorities, for example, are said to be considering restricting dishes to below eaves level because of their visual impact. The DBS report quotes the results of a very simple study by the BBC, which concluded that only ½ per cent of homes had no suitable point at which to mount the dish. Other studies have concluded that the figure might be up to 25 per cent. The truth no doubt lies in between but, particularly in urban areas, there would seem both practical and aesthetic reasons for favouring cable distribution of DBS signals.

4.8 Thirdly, and more positively, the introduction of DBS services would provide cable systems - either new or existing - with a very valuable marketing asset. For it is generally agreed that the principal incentive for subscribers to seek connection to a cable system is the extra choice of popular television programme services (eg feature films). Minority interest and local programmes, teletext and viewdata-type information services are attractive extras but will not by themselves tempt subscribers in sufficient numbers. Thus not only, in our view, does DBS need cable, particularly in the early years following the introduction of DBS services, but DBS can provide cable systems with some of the extra programmes that they need. In order, though, for this substantial support to be established on a significant scale, existing cable systems need to be licensed to receive and distribute DBS services and planning for new systems should start early enough for them to be operational when DBS services are launched. We discuss the implications of these steps below.

4.9 We stated above our view that DBS transmissions should be at a power level that permitted reception by individual households. But clearly if existing cable systems were to offer DBS services, an immediate market of 2½ million subscribers (with a further 2 million passed by the cable) is potentially opened up. Not all subscribers will choose to receive the services, but those that do can expect to obtain them at a price markedly lower than the cost of erecting an individual aerial. Obviously the cable companies will seek to charge what the market will bear, but they will also be seeking to maximise their revenue from DBS services. The cost of the large (3m or so) dish used by the cable company will not be vast, and the decoders at the individual set will be mass produced consumer items with, we estimate, a maturity cost in the range £40-£80 for a switched system and £100-£150 for a 'tree' system (with an initial cost, prior to volume production, of £200-£250).

4.10 Many existing cable systems are severely limited in channel capacity, often having only 4 channels. In order to carry DBS signals, they would need to be released from their current obligation to relay conventional broadcast signals. This change has already been agreed in respect of some of the current trials of subscription TV, the cable company concerned providing subscribers with suitable receiving equipment for off-air transmissions. We see no reason

why this should not be allowed in respect of DBS broadcasts provided off-air reception were satisfactory; and if completely freed from the requirement to distribute conventional services, even a 4 channel system would have some spare capacity for new services as well as DBS. This must be regarded purely as an interim step, allowing commercial cable companies the opportunity of making best use of their existing investments. We would expect all new systems to have ample capacity for conventional broadcasts, while existing limited capacity systems would be progressively renewed.

4.11 However, as we pointed out in Chapter 1, the prospects for commercial cable operators in the absence of a change in regulatory policy are not good. Without such a change, it is virtually certain that many of the existing commercial systems will cease operation by 1986. If this should happen, a significant group of potential DBS subscribers, who could obtain the service at relatively low cost, will be lost.

4.12 Existing cable systems can serve at most 4½ million homes. It takes several years to design, negotiate wayleaves, install and commission a cable network. Relayed DBS signals could be a key element in the growth of new systems, but only if such systems can start operating before DBS reception by individual homes is well established. (We do not doubt that DBS services will establish themselves eventually, but the growth may be slow at first unless aided by new cable systems.) How do these considerations fit in with the present Government policy? The pilot schemes of subscription TV are each due to run for two years and not all have yet started. It would be prudent to assume that consideration of future policy towards subscription TV will take at least a further year, and we are bound to point out that there must be a General Election before May 1984, with consequent extra uncertainty over future policy. It is possible that legislation will then be required, (eg to establish a cable TV authority if one were thought desirable) with further delay before new systems can be planned. The conclusion from this is that if the present timescale is followed, not only will many existing cable systems have ceased to function, but no new systems will be in operation until towards the end of the decade, for no-one will be willing to risk the investment required in conditions of such uncertainty. Thus there will be no new systems - and few existing systems - able to distribute DBS signals in the all-important early years of DBS services.

4.13 There is a further reason for rapid consideration of policy towards cable systems. Should no action be taken now, and DBS services become well established through individual reception (particularly if the number of channels increases to the five permitted by international agreement), the attraction of the further entertainment channels which cable could offer is likely to be seriously diminished. By that time also (in the 1990's perhaps) the market for DBS antennae and adaptors might have matured, with costs possibly approaching the levels suggested in the DBS report. The market opportunities for new cable systems will be correspondingly reduced. If, therefore, cable systems are to have a place in the communications structure of the country, the time to encourage them is now, when the prospect of new programme services from DBS gives a clear incentive for connection. Delay could mean both a slower route to viability for DBS and a much more difficult introduction of cable eventually.

4.14 Our conclusions on the relationship between the introduction of United Kingdom DBS services and cable systems are, therefore -

i. There is no need to regard DBS and cable as alternatives or opponents, rather they complement each other. Existing cable systems, assuming they are still operating in 1986, can provide DBS with a substantial audience. New systems could enable many subscribers to receive DBS programmes at a lower cost than individual reception, while the DBS programmes would help to attract subscribers. And for an unknown number of people, particularly in urban areas, cable may be the only practicable means of receiving DBS transmissions.

ii. No decisions on cable affect any of the planning for DBS. Cable systems, like video cassette recorders, offer the consumer more choice and therefore could affect the market for DBS services. But they also reduce the cost of DBS reception. High power transmissions are still necessary and there will remain a substantial market for receiving equipment for individual homes. Thus no DBS expenditure is rendered abortive by a decision to encourage cable systems; on the contrary, such a decision would provide an extra incentive for DBS programme providers.

iii. Without policy decisions in a timescale much faster than at present envisaged new systems cannot be installed in time to distribute DBS transmissions from the start, and the growth of both cable and DBS subscribers will be correspondingly inhibited. Moreover, without such decisions, many existing cable systems will have ceased operation by 1986.

iv. Once DBS services are well established, and a significant proportion of households have individual receivers, it will be increasingly difficult for new cable systems to be established. There is therefore a finite period, extending perhaps into the early 1990's, when new cable systems can successfully be launched.

v. The Government's future policy towards cable systems needs therefore to be developed and announced by the middle of 1982 if cable is to offer DBS significant support from the start. If this timescale is not met, not only will many existing commercial cable systems cease to function, but the viability of DBS could be prejudiced.

5. ECONOMIC AND INDUSTRIAL CONSIDERATIONS

5.1 Any major expansion of cable systems in the UK would require expenditure on a large scale. The estimated cost of providing a cable service to a medium sized community (100,000 population or so) is in the range £200-300 per house, of which perhaps £150 represents the cost of the decoder at the TV set. The actual network would cost about £50 per house and the central station and transmission equipment about £20. These costs are inevitably subject to some uncertainty and would depend, for example, on whether existing BT cable ducts were utilised. The investment required to provide access to a modern cable system for half the homes in the country (ie those in the larger urban areas) is thus in the region of £2500 million. This, of course, would not be a single investment programme (still less is it a public investment programme); it would be the sum of the expenditure on local cable systems made over a period of years.

5.2 The economic activity generated by a decision to encourage the growth of cable systems could thus be very large. Not only would there be the initial £2000-3000 million of capital investment, there would be the additional investment stimulated by the information services, security services etc on offer from the new systems and the extra programming activity. A viewdata decoder might cost £100 and a set of security sensors £200; thus if 50 per cent of subscribers elected to take those services, an additional £1500 million of expenditure would be generated. The annual programming activity cannot be judged until the pattern of services has been established, but present expenditure on broadcasting is about £1000 million annually and so even a fractional increase as a result of cable systems represents a substantial sum. Naturally, this would not be wholly additional expenditure - cable services lie in the area of discretionary consumer expenditure and therefore some at least of the money would be displaced from other "leisure" activities. However, we suggest that (a) there would be a net employment generating effect, which could be substantial, (b) that insofar as manufactured products are involved, these

would at present (see below) more likely be British made than if the same consumer expenditure were devoted to cars, video cassette recorders etc, and (c) that the resulting stimulus to programme and information producers would result in products that had significant international markets, given the high reputation of UK broadcasting and information services.

5.3 The figures in Paragraph 5.1 are based on the costs of current American cable technology and coaxial cables. We have already pointed out the advantages of switched system technology, which could be introduced without significant cost penalty and indeed with savings in more complex systems. Of more significance for costs would be the widespread introduction of optical fibres. At present, it would be highly uneconomic to use optical fibres for the final link to individual subscribers, but a large scale programme of cable installation could provide the optical fibre and electronics industries with the opportunity to bring the cost of fibres and associated equipment down rapidly, thus making optical fibre systems comparable in price with coaxial cable systems within a few years. We would certainly wish to see optical fibres used to the greatest extent that could be economically justified in order to produce large-scale for support for this new technology, in which the United Kingdom is up with the world leaders. However, we would not want this aim to prejudice the attractiveness of cable systems to investors and we would expect coaxial cable to be used at present for the final links to subscribers. This should not be regarded as a 'second best' solution - such cable is quite capable of providing the necessary standard of service and there should be no need to replace it before the end of its useful life merely because optical fibres became cheaper.

5.4 A decision to encourage cable systems would therefore provide a large stimulus to developments in optical fibre technology, as well as in the industries associated with consumer electronics and the supply of programme material. There are, though quite separate - and equally important - industrial and economic benefits to be derived from the promotion of modern cable systems in the United Kingdom. These relate to the general stimulus given to many parts of the IT industry from the establishment of a United Kingdom standard for wideband communications links and the development of low-cost, mass-produced pieces of equipment to work with such links.

5.5 The potential world market for office technology systems is huge. Many types of systems founded on different communications technologies, are starting to appear and the eventual technological direction of office systems is not yet clear. But all systems have a need to interconnect different types of workstations (word processors, copiers, facsimile machines, advanced telephones etc) in a 'local area network' and to handle different forms of communications media - voice, data, text, images etc. Only one type of technology can accomplish this at high data rates, allowing users a high quality service. It is currently referred to as 'broadband' technology but is in fact very similar to cable technology. It offers high bandwidth and multiple channels separated by frequency division. One eminent United States office system supplier has recognised the potential of cable technology and has released a broadband local area network constructed largely out of standard components produced by the United States cable TV industry. A number of other companies are also pursuing this strategy.

5.6 The creation of a United Kingdom cable industry producing standard systems would provide major opportunities for United Kingdom computer and office system industries. Given an agreed broadband local area network standard based on the cable system standard and backed by locally manufactured, readily-available low-cost hardware, United Kingdom products would easily inter-connect enabling United Kingdom manufacturers in aggregate to defeat foreign competitors and open significant export opportunities for comprehensive systems. The timing for the establishment of broadband local area networks is fortuitously similar to that of cable systems. A widespread and growing realization of the limitations of pre-broadband local area network technologies is leading to close examination and initial development of broadband systems. The major United Kingdom market window will probably be 1984-1987 - a time when the cable industry could, given appropriate decisions, be in full production.

5.7 The natural convergence of cable and local area network technologies, aided by Government-led moves towards standardization, would encourage the development of new relationships between home and work activities, and a reduction in the need to travel (which seems consistent with national needs in a

world of increasing energy costs). It would also stimulate the growth of home communications systems, in which environmental control (again, conserving energy), security and information systems are combined and linked to the outside world.

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

5.9 At present, the United Kingdom has industrial capacity that could supply the components of cable systems and - as we discussed in Chapter 2 - technology as advanced as anywhere in the world. Provided appropriate standards suited to United Kingdom expertise and conditions were established, expenditure on cable systems could remain within the country and would help to give United Kingdom firms a base from which to attack export markets. This position will not last. We have commented previously on the poor prospects for commercial cable operators. Were they and their corresponding suppliers to disappear, their technical expertise would be dissipated and subsequent cable systems would have to be founded on foreign (probably American) technology. This would be bound to lead to a growth in imports. It is significant, we think, that since the announcement of the subscription TV trials, representatives of some 30 North American cable interests have visited the offices of the Cable TV Association to find out what is happening in the UK. Coming at a time when American cable companies are heavily engaged in competing for franchises at home, and then installing the resulting systems, this suggests that they have a keen interest in the UK as a potential area for future expansion. Once the main projects in the USA are completed, this interest is bound to increase.

5.10 Minimising imports is, though, the negative aspect of industrial policy on cable systems. All advanced countries are considering the implementations of new communications technologies. A large market for advanced cable technology is very likely to develop since the combination of interactive entertainment and information services which cable can offer would seem as attractive in other countries as in the United Kingdom. Some countries have

indigenous cable industries and may be expected to protect these, particularly if their cable systems are closely associated with their telecommunications authorities. However, there will be sizeable export opportunities, not only for cable hardware but for programme makers and service providers, and one policy objective should be to ensure that the administrative arrangements laid down for United Kingdom cable systems provide the greatest assistance to export efforts.

Employment

5.11 It is difficult to quantify the net employment effect of a decision to promote cable systems, partly because consumer expenditure on cable services would be to some extent taken from other consumer areas and partly because many factors would affect the competitive position of United Kingdom firms in this industry. Clearly the construction industry would benefit, perhaps to the extent of 2000 jobs. And because of its links with the TV rental industry, the United Kingdom consumer electronics industry would supply the majority of decoders and other consumer items. Cable manufacturers and suppliers of studio and transmission equipment could also benefit. We have pointed out that the computer and office technology industries would receive a substantial stimulus.

5.12 Distinctly clearer, however, are the employment consequences of a decision not to promote such systems. Some 5000 or so jobs would disappear if commercial cable operations ceased, and the preference for TV sets manufactured in the UK would also go, with consequent impact on indigenous manufacturers. In current circumstances, these losses would be unfortunate, even if marginal by comparison with total unemployment.

5.13 But British TV manufacturers face larger threats, which cable can help overcome. Competition from the far East in the production of colour TV sets has been severely inhibited by the terms of the PAL licences under which sets suitable for the United Kingdom are made. However, PAL patent protection will expire at the end of 1983. This will open the United Kingdom to much more intense competition, with consequent threat to the approximately 20,000 jobs in colour TV manufacture. The view of the set manufacturers is that they are much better able to compete in more complex TV sets, incorporating teletext, viewdata, cable or DBS decoders because these do not offer the same potential

for very high volume manufacture. They look for an early introduction of both cable and DBS services, but we believe they would have a much quicker stimulus from the growth of cable systems. The impact of Prestel has been disappointing; teletext services are proving more popular; but the extra complexity of cable decoders would provide a valuable competitive element for United Kingdom manufacturers.

5.14 In fairness, we must acknowledge that a decision not to encourage cable systems, coupled with the introduction of DBS services, could create in time a large market for individual DBS dishes and adaptors, which are more complex than the cable equivalents and offer even more 'value added' to manufacturers. But we believe this process to be much slower - and consequently less beneficial to manufacturers - if individual reception of DBS transmissions is the only option for most of the population. Moreover, United Kingdom DBS transmissions will not start at least until 1986, whereas new cable services could be in operation before then. There will, though, remain a substantial market for individual DBS receivers, since many homes will remain unconnected to cable systems, and others may choose not to be connected. This should allow United Kingdom manufacturers a suitable domestic base.

Finance

5.15 Our investigations have revealed considerable interest by private firms (not only from established cable companies) in the possibility of participating in cable systems, and we have no doubt that funds would be available from commercial sources to finance the installation of cable systems. There is little information available in the United Kingdom on the market for additional services supplied via TV screens, whether entertainment, instruction or information. Some companies are currently engaged in market research. But the rapid growth in the United Kingdom market for VCR's and cassettes demonstrates the substantial sums that consumers are prepared to pay for additional video material.

5.16 If experience in the USA is any guide, households will pay upwards of £10 monthly for additional TV services. (This charge is the sum of a 'basic' fee of perhaps £5 monthly and a subscription service at £8 or more - some US

networks have as many as five tiers of service.) In addition, many cable operators in the USA make a connection charge for installing the service and charge separately either on a cash or rental basis for equipment such as the decoder required at the set. Additional income could come from advertising and perhaps sponsorship. Even with less than 100 per cent take-up of the system, there would appear to be sufficient income from subscribers to give a reasonable return on capital. This is, though, a judgement that prospective cable operators must make. Cable systems offer large business opportunities with good chances of profit. We see no need for any public funds to be used to establish them.

5.17. This conclusion runs counter to a widespread impression that cable systems must be publicly funded and therefore, at a time of great pressures on public expenditure, will not be developed rapidly in the United Kingdom. For that reason, we think many are attracted first to the new opportunities offered by DBS services, which appear to have greater potential for private sector funding. In part, this impression comes from misconceptions over the relative magnitudes of 'central' and 'consumer' expenditure in DBS and cable services. The 'central' expenditure required to establish a two-channel operational DBS service, ie the cost of the satellite and associated transmitting equipment, is about £150 million. If 10 million households were each to spend £300 on receiving equipment, the 'consumer' expenditure would be £3000 million. Thus DBS undoubtedly puts the main burden of investment onto individual consumers. By contrast, cable systems are seen as having high 'central' costs which can only be funded from public sources, and low 'consumer' costs. Yet the cost estimates quoted at the beginning of this chapter do not bear this out. The equipment required by the individual subscriber accounts for at least half of the total system cost, and the cost of final link to the network can be charged directly to the subscriber. Thus again funding is dominated by consumer decisions, and the expenditure required to establish the service is a minor proportion of the total (although admittedly greater than the corresponding figure for DBS).

5.18. Thus private sector funding of cable systems is feasible - and the scale of the investment required for any particular system is, of course, much less than that associated with DBS. More sources of finance can thus be tapped. We must emphasis, though, that private sector funding will only be available if the range of programmes and services permitted on cable systems offers sufficient revenue-earning potential. There is thus a direct connection between the degree of broadcasting 'liberalisation' established for cable systems and the possiblity of private sector investment in them.

National network

5.19. We conclude this chapter with a note on long term issues. Many expect that video communications links will one day replace the audio links now available in the telephone system. Few, however, would be prepared to say when this might happen and we have some doubts about the economic viability, even in the long term, of a video communications system. Nevertheless, with suitable commonality in technical features, local cable systems could be the building blocks from which such video links evolve. This would enable private sector finance to be brought in to provide some elements of a possible national communications network of the future without many of the institutional problems associated with other routes. However, we would not want possible long-term considerations to delay the investment required now if United Kingdom industry is to benefit from cable systems. The technical standards developed for cable systems should ensure the interconnection of local networks and should not pay undue regard to any eventual integration into the national telecommunications network. The role of BT in standards formation therefore requires careful consideration. They have much to contribute, but should not be dominant, otherwise there is, in our view, a risk of 'over-engineering' and consequent reduction in commercial attractiveness. We might add that we favour a competitive but not dominant role for BT in cable systems generally.

6. IMPLICATIONS OF CABLE TV FOR BROADCASTING

6.1 The United Kingdom is justly proud of its public broadcasting services. These are widely considered to be superior to those in any other country and are a source of national prestige, international influence and some overseas income. The traditions, standards and reputation of our broadcasting services - built up over more than 50 years - are national assets which we must preserve.

6.2 However, technological developments and a rising public demand for choice in entertainment and information services means that the broadcasting world is changing. The history of broadcasting is one of ever increasing choice for the listener or viewer. Radio services multiplied initially, then television was introduced, and later BBC2 and ITV services were started. This process is continuing with the decision to establish a second commercial channel in 1982 and perhaps the introduction of a two channel DBS service in 1986 or so. Three more DBS channels could potentially follow. The introduction of modern cable systems carrying a wide range of programmes would take this process a stage further.

6.3 At every stage in the expansion of broadcasting services, concern has been expressed at the possible effect on the range and quality of the programmes available. This has centred around (a) the availability of funding from commercial or non-commercial services to support the production of high quality (and therefore often expensive) programmes, (b) the supply of talent amongst programme producers and artists and (c) the 'lowest common denominator' effect, ie the tendency of all channels to seek the largest audience through, in the words of the Annan* report, 'homogenised fare'. History shows that these concerns can be met; television has certainly changed since the introduction of competition to the BBC in 1955, but few would argue that the overall range and quality of programming is now inferior, and the choice for the viewer is much increased. This has not occurred by chance; it is to a substantial extent the result of the care taken by successive Governments over the funding and regulation of new broadcasting services.

* "Report of the Committee on future of Broadcasting" (Cmnd 6753) 1977

Broadcasting finance

6.4 The two sources of finance for broadcasting at present are the BBC licence fee and advertising income. The current trials of subscription TV, in which viewers pay a supplementary fee in the range £6-12 monthly in order to receive an additional channel, are intended to demonstrate whether this method of charging could provide a new source of revenue. The BBC aim to derive some of their income from DBS services from subscription TV and the DBS report discusses the matter in paragraphs 13.26-13.30. Another way of funding television is the sponsorship of programmes or channels by commercial companies, as is increasingly the case in sports and the arts.

6.5 The licence fee has provided the BBC with an assured income which has secured its independence of government, and we see no reason why this should change if cable systems were to become widespread. We understand that some viewers who never watch BBC channels consider that they should not have to pay the licence fee. This pressure would no doubt rise as more alternatives to BBC programmes became available. However, we find it difficult to believe that it would ever become significant, given the place of the BBC in British life - and the Corporation would indeed be failing the public if its programmes appealed only to a small minority. Moreover, we expect the terrestial services of the BBC and IBA to provide the backbone of broadcasting for many years - and particularly in rural areas they may (with DBS) be the only service that can be received. We therefore cannot see cable systems as a serious threat to the BBC's licence income.

6.6 As for the Corporation's potential subscription income, we discussed the relationship between cable systems and DBS in Chapter 4 and concluded that they were mutually supportive. Existing cable systems could provide DBS with a readily accessible subscriber base, particularly valuable in the service's early years, while new systems would make DBS services available at lower cost than individual reception. Cable systems would therefore increase the BBC's income from DBS services.

6.7 A further source of income for the Corporation would arise from its vast stocks of programme material. Either through its own subscription services, or through making material available to other programme providers, it stands to earn considerable sums. Cable systems thus present the BBC with a totally new revenue opportunity which can only be realised if additional channels of communication are brought into existence. Additional income might arise from training and consultancy activities.

6.8 The financial implications for existing and projected commercial services are less clear. A long established feature of United Kingdom broadcasting policy has been the avoidance of competition between channels for the same source of finance. This has led, for example, to the decision to fund the fourth channel by means of subscriptions from ITV programme contractors, rather than establishing it as a competitive advertising medium. This policy is difficult to sustain as the number of channels increases. The introduction of cable systems carrying advertising channels would offer advertisers a wider choice of medium, and would establish direct competition to off-air commercial services. It would also reduce the audience for commercial TV. ITV companies could thus be faced both with competition for TV advertising and a reduction in the rates that they could charge, because of reduced audiences. This could force a cut in programme expenditure and consequently a decline in the range and quality of output.

6.9 On the other hand, the introduction of cable systems would enable far more firms to participate in TV advertising. These might either be firms with a local customer base, for whom national or regional advertising is irrelevant, or with a specialised market, who would wish to advertise on channels directed to that market. Smaller firms could advertise not only in 'local' programmes, but also on any 'national' channels that were relayed over the local system, thus providing income to the main programme contractors. There could well be an impact on other advertising media (local newspapers or specialised journals), and we discuss this elsewhere. But it is not clear that the introduction of cable systems would necessarily have a large adverse effect on the advertising revenue base of off-air commercial TV services.

6.10 Cable systems would, of course, be in direct competition with local radio, which also draws on local advertising for its income. But, just as national radio services have established a new role in relation to TV, so we would expect local radio stations, with their low operating costs, to survive because radio can reach audiences - at work, in cars, or occupied in tasks - that TV cannot serve. However, the exact relationship between local radio stations and cable systems would need to be examined in the context of the regulatory arrangements for cable.

6.11 In considering the effect of cable systems on the finances of broadcasting, there is no relevant United Kingdom experience on which to draw. However, we observe that the growth of cable systems in the USA has been accompanied by a rise in advertising income for the national networks. We note also that the programmes that have caused American television to have a poor reputation - the soap-operas, 'chat' shows, etc - have been the product of the national TV networks with access to large advertising income (although in competition for the same sources of revenue) while the better programmes have originated from more specialised networks or stations without the same degree of advertising support.

6.12 Advertising is, though, only one source of income for extra TV channels. Subscription income is likely to be significant, if experience in the USA and preliminary take-up figures from the current United Kingdom trials are any guide, and commercial sponsorship of programmes could also be considered. This again has dangers (as does the commercial support of any broadcasting service) but we see no reason why it should not result in high quality programmes, just as the commercial sponsorship of Covent Garden productions provides high quality opera. And with local cable systems, sponsorship need not be confined to national firms.

6.13 Further income could accrue to the independent TV companies from exploiting their stocks of programme material. While not as extensive as those of the BBC, they are nevertheless a marketable asset.

6.14 Any discussion of cable finances must be somewhat speculative in the absence of United Kingdom experience with modern cable systems. There is widespread agreement that the main attraction of a cable system will be its additional popular programme channels and that other services, while possibly self-supporting, could not carry the basic costs of the system. But we conclude from the above considerations that there is no case for believing that the introduction of cable systems would necessarily undermine the finances of broadcasting in the United Kingdom, and so we do not see an inevitable threat on financial grounds to the quality and range of programmes provided by the public broadcasting services.

6.15 We recognise that this conclusion runs counter to "accepted wisdom" on broadcasting as set out, for example, in the sixth chapter of the DBS report. Clearly, there is a need for Government to consider the financial implications of cable systems more thoroughly. But we emphasise that, commercially, cable systems are an opportunity, not a threat; they would provide new sources of income for broadcasting, they could enable programme producers to make better use of their accumulated material, and they offer the possibility, with their interactive facilities, of wholly new types of programmes. We would hope that the Government would approach the subject in that light.

Other considerations

6.16 Turning to the other elements in the potential threat to the range and quality of programmes, we note the growth in recent years of the independent producers of TV programmes, with their eye on the fourth channel and the video cassette and disc markets. We see no reason why the pool of creative talent should be considered to be totally exploited by the introduction of the fourth channel. New production enterprises, often involving publishing houses, are being established to tap the market for video cassettes. Market forces apply in artistic endeavours as much as in more conventional enterprises. Besides which, we expect information and entertainment to flow more freely across national barriers as technology eases problems of translation, subtitling etc. (Cable systems would assist the process by simplifying the reception of overseas broadcasts, if the Government permitted this.) This will enable the United Kingdom to draw on a wider range of international talent, as well as offering our producers opportunities overseas.

6.17 As for the 'lowest common denominator' effect, this is a legitimate concern but we wonder whether the United States experience provides support for these fears. The Annan Committee pointed out the similarity of programmes on many United States channels. But the main offenders are the national networks, and in the United Kingdom we see these - with the addition of DBS - continuing to provide a varied selection of programmes. We envisage that most of the other channels to be provided on cable system would provide for more specialised or local needs, or would be devoted to information and data transfer services.

6.18 The Annan report also commented that many would not be able to take advantage of subscription TV services, either because they could not afford them or because they lived in rural areas that are unsuitable for cable. It expressed concern that, if cable systems adversely affected public broadcasting services, those dependent on the latter services would have their programme choice restricted. This is an important point, but as we have made clear above, we see no reason why public broadcasting services should necessarily decline in quality as a result of cable systems. Moreover, video cassettes and DBS services will increase programme choice in rural areas.

6.19 We recognise the risk, however, that successful cable companies might be able to outbid other broadcast services for the rights to specific sporting and national events, thus depriving those not connected to the cable system. Taken to an extreme, this could clearly be undesirable, but suitable definition of the events concerned, and the existence of a body to whom appeal could be made in case of dispute, should enable the problem to be overcome. Representatives of commercial cable interests have already offered the Government an undertaking on major events. The converse, of course, is that cable systems could provide extra income for some activities, for example, local football clubs, in exchange for local broadcasting rights.

6.20 We have dealt at some length with the implications of cable systems for the range and quality of programmes transmitted by the broadcasting authorities, since this is the prime - and legitimate - concern of anyone considering the introduction of new forms of broadcasting. However, the reference above to an 'appeal body' brings us to a separate range of issues, namely the institutional arrangements under which cable systems might operate. We do not go into these in depth, because we do not feel qualified to do so. They are, though, both important and complex. Moreover, they affect greatly perceptions of the opportunities and risks in cable systems.

Institutional arrangements

6.21 The present broadcasting authorities were created precisely because the number of channels available for off-air services is very limited. The influence of each channel is therefore considerable and requirements for range, balance etc in programmes are legitimate. It could be argued that since cable potentially offers so much choice in programming and is not subject to the constraints of the radio frequency spectrum, the need for regulation disappears. This would put the cable medium on a par with the printed word, not explicitly regulated but subject to the laws of obscenity, libel, etc. We doubt whether such an approach would find favour, mainly because cable systems are local monopolies, and therefore the operator would potentially have considerable control over the information and programme services reaching the community. Therefore, some form of regulatory structure will be required, and among the questions to be addressed in creating it are -

i. Is a new 'cable authority' required or could existing bodies, eg the Home Office or local authorities, exercise regulatory functions? Should the present broadcasting authorities have any role other than that of programme providers?

ii. What is the relationship between the cable operator and the programme providers? On what criteria should the latter be chosen? Should the operators be prohibited from actually producing programmes? What programme standards (if any) should apply to cable services?

iii. What classes of persons or firms should be allowed to (i) operate cable systems, (ii) supply programmes? Should overseas companies be permitted? And who makes the choice?

iv. What should be the policy towards monopoly or quasi-monopoly situations - would it matter if, say, one firm operated (or provided programmes for) half the cable systems in the country?

v. What should be the penalties for infringing the terms of a licence - they can hardly include withdrawal of all cable services from an area. And who would be licensed - the operator or the programme providers?

vi What is the role of BT? Their existing wayleaves ought to give them a large advantage over other potential operators. Would it matter if they operated most or all systems?

6.22 From the discussion of economic and industrial issues in the previous chapter, and the discussion of the relationship between cable systems and DBS, it is clear that answers must be found quickly if cable systems financed by the private sector are to have any significant role in the United Kingdom. We confine our comment to one point. It seems to us that speedy investment decisions can only be made if a single individual or organisation is permitted to take overall responsibility for providing cable services, including both the physical infrastructure and the programme material, in one area. Only then can an appropriate business plan for the enterprise be drawn up. If the body responsible for the actual cable has to deal with an independent body responsible for programmes, neither can judge their commercial prospects as effectively. The choice of a single cable operator with total responsibility for the service does not, of course, preclude sub-contracting by that operator of some or all of his activities - installation and maintenance of the cable, programme provision, subscriber billing etc - but these will be normal commercial decisions taken in the context of his overall control. We recognise that there are regulatory arguments for the separation of the transmission and programming functions; this may be appropriate once cable is well established, but it would, we think, inhibit the development of industry in its critical formative years.

Radio frequency allocation

6.23 Our final note in this chapter is on the implications of cable systems for radio frequency allocation. Some have suggested that cable systems and DBS will eventually obviate the need for terrestrial broadcasting services, and have welcomed this because of the frequency spectrum that would be released. Certainly, there is intense pressure on the part of the radio spectrum used by broadcasting services, and any moves to provide more frequency spectrum for other uses would be welcome. However, we cannot see terrestrial services being replaced for many years, if ever. New technology may enable costs to be much reduced - the incorporation of optical fibres in the insulation of power cabling has, for example, been suggested. But with present technology, it would be highly uneconomic to cable isolated communities or households, although it could be done for social reasons, as with rural electrification and telephone services. Ending terrestrial services would prevent the use of portable radio or TV receivers, and DBS cannot provide the regional variation that is a feature of current United Kingdom broadcasting. The only national channel at present is BBC 2; this is therefore the only service that could be transferred to DBS once sufficient receiving aerials were in place. But with the experience of the protracted timescale for phasing out 405 line services, we cannot see this happening for many years. While, therefore, cable systems can offer new services without making further demands on the frequency spectrum, our view is that they are most unlikely to lead to any reduction in these demands.

7. OTHER IMPLICATIONS

7.1 Cable systems are local communications networks serving particular communities, although links could be established between local systems. Even if they eventually provided a national communications system, they would retain their local programme content. Cable systems therefore have implications for existing local communications media.

7.2 In particular, local newspapers would need to examine carefully their future role in a situation in which immediate news coverage of local events, guides to local activities and information on purchasing opportunities would be available on TV screens. It is significant that newspaper interests have been prominent participants in US cable enterprises. Local television can certainly provide more topical coverage of events than the weekly (or even daily) newspaper, but seems unlikely through these technical abilities to put local newspapers out of business. The basic business of newspapers is the assembly and presentation of news; these skills will be required even if one part of the final product appears in video form. Moreover, the TV screen is unsuited to the scanning of a large quantity of information such as is presented on a newspaper page.

7.3 However, the financial implications of a new advertising medium must be of some concern to the local Press. A large proportion of any local paper's income comes from display and classified advertising. Some of this could be transferred to the cable operation. The viewer could be easily guided on a cable system to the categories of goods on offer through a viewdata service and might therefore find the cable medium more attractive. Local newspapers, already face competition from 'free sheets', they appear at the moment to be surmounting that challenge, but cable could be a more powerful rival.

7.4 The nature of the future relationship between the local Press and cable systems is not easy to see. Some newspaper groups will see cable as an extension to their operations, just as they have taken a role in local radio (or at national level, in commercial TV). They may seek to operate cable systems; this would present regulatory issues over local dominance of information media. But we doubt whether the local newspaper would disappear. It would supplement the immediate news and information available on the cable system in a way that only the printed word can.

7.5 Similarly, cable systems would supplement printed magazines that cater for specialist interests, providing much greater coverage and more detailed guidance or instruction than current TV programmes can hope to achieve. Again, we think the printed word would survive, but the extra information that can be provided through the video medium woiuld be valuable. Video cassette publishers are already taking advantage of this, and starting to compete with magazines.

7.6 The impact of cable on a local community - in terms of improving information flows and creating a community spirit - could be considerable. The experiments in local programming that have been conducted in the United Kingdom have shown that substantial interest exists in such programmes. However, those experiments could not cover their costs. It remains to be seen whether, in the context of an extended range of cable services, with correspondingly greater opportunities for subsidy of one channel by another, it will be possible to carry a full range of local news and information.

7.7 For local shops and service firms, the introduction of cable could provide a new way of operating. New advertising opportunities would be opened, but equally new ways of selling, with many more firms entering the 'shop-at-home' business. Some, of course, might actually deliver their product - a video film or piece of software - down the cable.

7.8 Not only local retail outlets would be attracted by cable; at least one national mail order company is actively investigating the potential of cable systems for its business. Of course, visual comparison and direct inspection of many products will still be needed but the success of discount warehouses has shown that many consumer goods can be sold without such facilities. Local stores will face new competition - but from a medium that they themselves can also use.

7.9 Advertising interests clearly stand to gain from the introduction of cable systems, since these would provide a new advertising medium for smaller and more specialised firms. Representatives of the advertising industry have also commented that cable would remove the present monopoly of the independent TV contractors and the resulting competition could lead to a fall in advertising rates. But, as discussed in the previous chapter, the financial implications of such competition have to be considered in the context of broadcasting generally.

7.10 Education and training institutions would find a new outlet for their skills if a channel were devoted to such programmes. The productions could cater for specific needs of the local community (for example, language instruction for local minority groups) as well as more general needs. Colleges might specialize, according to their particular strengths, and national institutions such as the Open University could have much to contribute in guiding prospective programme makers - as well as producing their own programmes.

7.11 One of the most popular applications of cable systems in the USA is security services. With a cable system it is possible to monitor a security system almost continuously, either to detect faults or unauthorised entry, and has proved attractive to subscribers. There is evidence of the willingness of householders to spend considerable sums on security and it is likely that the same service would prove attractive in the United Kingdom As we pointed out in Chapter 5, this would stimulate demand for security equipment.

7.12 The implications of cable for the film industry are less clear. On the one hand, there could be an upsurge in demand for films made specially for the cable audience. And certainly the expertise of film and video producers (and their studio facilities) will be in demand for other productions. On the other hand, there could be a growth in imported film material since the USA generates so much television. The ultimate effect on the film industry could therefore depend on the limits (if any) imposed on imports. The Interim Action Committee of the film industry have noted that in the USA cable appears to have increased cinema audiences.

7.13 One aspect of film production discussed in the DBS report is that of copyright. This directly affects the producers of programme material broadcast by satellite, since such broadcasts may be received in other countries, thus reducing the potential paying audience in those countries, and the fee agreed between the broadcasting authority and the film producer has to reflect this. The introduction of cable systems in the United Kingdom would not, therefore, significantly affect this problem; suppliers of programme material would make the necessary financial arrangements with cable operators. It would, however, simplify arrangements for any overseas broadcasters whose signals were distributed in the United Kingdom since the potential audience for overseas broadcasts would be more easily calculated.

8. CONCLUSIONS AND RECOMMENDATIONS

8.1 In previous chapters, we have summarised the present state of cable operations and associated industrial interests in the United Kingdom, described the sorts of services that modern cable systems can provide, examined the relationship between cable and DBS services, set out the industrial and commercial consequences of investment in cable systems and considered, in varying degrees of detail, the implications for current broadcasting services and other parts of our social and commercial life. Some economic themes have stood out:

i. The prospects for existing commercial cable systems in the United Kingdom are bleak unless present regulatory controls on programming are lifted. The relay of BBC and ITV services, which has been the mainstay of cable operations in the past, provides no base for future activities. Their technological and operating expertise is therefore at risk.

ii. The prospects for indigenous manufacture of standard colour TV sets are similarly poor, owing to the expiry of PAL patent protection at the end of 1983. Low cost producers (unless restricted in some way) threaten to take over the market. However, they are less able to compete with more complex sets, produced at lower volumes, such as those required for DBS or cable services.

iii. Cable systems and DBS are complementary developments, each capable of providing income for the other. Cable distribution of DBS signals has many advantages and could be cheaper than individual reception for subscribers in urban areas.

iv. Timely and vigorous development of cable systems could potentially generate a great deal of economic activity, much being in high technology industries, with consequent benefit to the telecommunications (especially optical fibres), consumer electronics and service sectors.

v. The indirect benefit to the office technology industry could be substantial, leading to enhanced competitiveness in world markets, provided appropriate standards were established quickly.

8.2 There are thus powerful economic and industrial arguments for encouraging the growth of cable systems in the United Kingdom. They relate to -

a. The direct markets for equipment and services, which could total £3000 million or more.

b. The stimulus to overseas sales of programme material, information services and expertise, based on the high reputation of United Kingdom broadcasting.

c. The adverse consequences for present cable operators and their suppliers if no action is taken, and the probable consequences for our balance of payments eventually.

d. The growing connection between the technologies and products used in consumer and business electronics, and the stimulus which a fast growing consumer market could give to a wide spread of United Kingdom industrial interests, provided an early technological lead were established.

e. The improved market prospects for DBS services, should these commence in the mid-1980s.

f. The possibility in the long term of extensive wideband links between homes and businesses, and the role of cable systems as an initial stage in the development of such links.

8.3 We are therefore in no doubt that cable systems could be a source of much profitable commercial activity. In this, we are supported by the evident interest of the private sector in cable and the apparent willingness of both existing cable companies and companies at present unconnected with cable to invest in new systems. We can say quite categorically that we see no need of any public subsidy to cable systems - but the necessary finance will not be forthcoming until there is a change in Government policy that would enable cable systems to offer a wide variety of programmes and services.

8.4 We are also in no doubt that the United Kingdom will have cable systems eventually. Having examined the possible alternative ways of providing a full range of electronic services, whether for entertainment or information, we conclude that cable systems can complement and enhance all the new types of electronic media that are now becoming available. We doubt whether they will supplant any of these - previous chapters have shown how they each have their uses; in any case cable systems will not reach every household and business for many years, if ever. But only cable can provide through one link a complete range of entertainment and interactive communication services - and the cost of supplying that link is, for many premises, quite reasonable. Thus if no decision is taken now to encourage the growth of cable systems, it will have to be taken later as public and business demand for wideband communications, fuelled by knowledge of the systems installed in other countries, increases. And the likelihood is that we will then become dependant on overseas cable technology and will offer foreign firms a rich market.

8.5 We have therefore a paradox. We believe cable to be an essential component of future communications systems, offering great opportunities for new forms of entrepreneurial activity and substantial direct and indirect industrial benefits. However, the initial financing of cable systems will depend upon none of these things, but upon estimates of the revenue from additional popular programming channels. We consider the long term potential of cable systems for providing new sorts of services to be much more important, but have to accept that cable systems will go through an initial phase when their attraction will be based on "entertainment" considerations. It is, though, essential that the technical specifications set for new cable systems should not preclude the transition from this initial phase to a subsequent phase when cable really does provide a full range of interactive services.

8.6 Because of the initial emphasis on entertainment, news services etc, we have considered at some length the implications of the introduction of cable systems for broadcasting and other activities. On broadcasting, our view is that there need be little effect on public broadcasting finances or programme standards. Indeed, we would go further and stress the new opportunities that cable systems offer to broadcasting authorities, both from the better exploitation

of existing programme material and the demand for new programmes, training and consultancy services. Present TV programme providers, particularly the BBC, stand to gain considerably from cable systems. We see no reason why the introduction of cable systems should necessarily lead either to unsuitable programme material or to a reduction in the range and quality of programme services on the public broadcasting network. Similarly, while cable would have an impact on many other activities, it also presents great opportunities.

8.7 Our timetable and resources have, though, been limited and more thought must be given to the structure and regulation of cable systems, and the implications for broadcasting. But we cannot stress too highly the need for speed. The formulation of broadcasting policy in the past has been a protracted process, with major enquiries extending over three or four years and consultations and discussions then occupying a similar period. This is wholly inadequate for the present situation; a delayed decision is, in this case, the same as a negative decision. There is a very limited time in which industrial capability and market opportunity will exist in the UK. Beyond this time, the chance of creating a strong UK presence in cable systems will have disappeared, and with it some thousands of jobs and prospects of substantial export earnings.

8.8 If cable systems are to be established, they need to be coming into operation at about the same time as DBS services. We assume that the Government will shortly give approval for a 'modest early start' to DBS, ie a two-channel service starting in 1986, and we encourage them to do so. This implies that planning for new cable services should start no later than 1983, and preferably earlier. Finance will only be forthcoming if the future prospects for cable systems are sufficiently certain. We refer again to the General Election that has to be held by May 1984. Unless a positive decision on the future regulatory environment for cable systems is forthcoming well before then, and in practice that means mid-late 1982, there is in our view little prospect of a modern cable industry being established in the UK.

8.9 That does not mean that all the policy details have to be worked out by then, but the broad policy outlines should be sufficiently clear for potential cable operators and investors to begin serious planning and negotiations in the knowledge that a reasonable period of regulatory stability lies ahead. We have in mind the example of the liberalisation of telecommunications, which we regard as a crucial element in the development of IT in this country. The Government was committed to that step, and announced its broad policy, well before all the details could be filled in. This gave confidence to potential providers of telecommunications products and services that there would be an eventual market and persuaded them that planning and investment were justified. We see a similar need in respect of cable. The aims must be to remove the barriers to private investment in cable systems that at present exist, to allow reasonable (although not absolute) freedom for entrepreneurial flair and in so doing to give a great stimulus to large parts of the IT industry during IT Year.

8.10 We recognise that this is an tight timetable. We recognise also the demands that will be placed on those who have the task of developing the new institutional arrangements. But this is a price to be paid for failing to prepare some years ago for the rapid changes in the broadcasting scene now being driven by technological developments. It would be more comfortable to follow the timescale envisaged in the current trials of subscription TV - one would feel more confident about consequences of policy decisions - but to do so would almost certainly mean abandoning UK cable developments to overseas interests. The subscription TV trials are, frankly, three years too late.

8.11 Our detailed recommendations are therefore -

i. The Government should announce as soon as possible its approval for an early start on DBS services.

It should explicitly recognise the role of existing cable systems in providing an immediate market for DBS programmes and should give an undertaking that these will be allowed to distribute DBS transmissions, where necessary - and subject to making suitable alternative arrangements - releasing them from the obligation to distribute terrestrial services. This will be a sign to cable interests that the Government sees a future for commercial cable systems; it may possibly help to retard current withdrawal strategies, but it will do nothing for their short-term prospects.

ii. The Government should announce, by mid-1982 the broad outlines of its future policy towards cable systems, in order to allow the private sector to start planning new systems.

We recommend that that policy should be to license new systems conforming to set technical standards without the present restrictions on programming (apart from obvious requirements on decency, sedition, etc, on which representatives of cable operators have already offered an undertaking). Such licensing could take place initially under existing legislation and administrative arrangements.

iii. The Government should urgently review the implications of cable systems for the financing and regulation of broadcasting and should consider the need for a new statutory body to be the "broadcasting authority" for cable systems. On the basis of this review, and investigation of the effects of different regulatory arrangements on potential private sector investment in cable systems, the Government should formulate and announce its detailed administrative and regulatory proposals. This announcement should be made as soon as possible and in any case by early 1983.

iv. The Government should urge cable operators and programme providers to set up effective means of self-regulation, after the manner of the advertising or newspaper industries. This would help to create public confidence and might well simplify any new regulatory arrangements.

v. The Department of Industry should establish a technical working group including representatives of cable operators, the electronics industry and BT. This group would -

a. examine alternative approaches to cable network design and recommend design standards for the United Kingdom;

b. define the necessary detailed engineering standards, consistent with commercal viability, for that network.

It should complete its work during 1982.

The recommended design standards should offer maximum potential to United Kingdom manufacturers and operators and should anticipate, and be compatible with, developments in communications technology. In particular, they should require systems to operate within the relevant constraints on usage and allocation of frequencies set by the Home Office, (including FM radio channels in the 88-108 MHz band) and to be capable of incremental expansion beyond a defined minimum number of channels (perhaps 30) without disturbance to the final distribution network. Systems should be able to support a wide range of interactive services and should link with the packet switched service of BT and other services offered by BT and alternative telecommunications networks. But the standards set should not prejudice commercial operations.

vi. The Department of Industry should create an effective forum in which all those interested in cable systems can come together to unify their efforts to the benefit of the United Kingdom. To assist in this, the Department should rationalise its internal arrangements for considering cable issues which at present are spread over several divisions.

8.12 We further think that the overall regulatory structure in which cable systems have at present to operate is inappropriate for their widespread development. It involves two independent Departments, the Home Office and Department of Industry, and British Telecom, all of whom could be concerned in licensing one system. The potential for confusion and lack of co-ordination precludes the speedy decisions that we see as as essential. But this issue is not confined to cable - it extends into many aspects of IT. We note that the Government has not taken up the proposal in the ACARD Report on IT that the regulatory arrangements for IT should be drawn together in a more coherent fashion. Cable systems exemplify perfectly the inappropriateness of present arrangements. We therefore intend to examine the regulatory structures that impinge upon developments in IT and specifically the relative roles of, and the interaction among, the three bodies mentioned above.

8.13 We believe that only through a set of speedy, positive and radical regulatory changes can the United Kingdom obtain the benefits offered by developments in cable technology. We must repeat, though, that for British industry a late decision is the same as a negative decision.

ANNEX A

List of organisations from which views were received.

British Telecom

BBC

IBA

Electricity Council

NEDO Consumer Electronics Sector Working Party

Open University

BICC

Birmingham Post & Mail

Boase Massimi Pollitt Partnership

Cable Television Association of Great Britain

Thomas Cook

Debenhams

Great Universal Stores

Greenwich Cablevision

Ladbrokes

Logica

Plessey

Tesco

Thomson Data

Thomson Regional Newspapers

Warner Amex Inc

ANNEX B

SERVICES POTENTIALLY AVAILABLE ON CABLE SYSTEMS

Terrestrial TV and radio channels (from UK or overseas)

Satellite TV and radio broadcasts (also from UK or overseas)

Subscription TV (films, sport, arts etc)

Specialised subject channels, eg	news
	education
	religious programmes
	health
Specialised audience channels, eg	for particular ethnic groups
	for different age groups - children, aged etc
	for people with impaired hearing
Local channels, eg	local and national government information
	'What's on'
	consumer information
	programmes by and about community groups
Other services	fire and burglar alarms
	control of heating systems
	remote meter reading
	shopping, banking, betting etc from home
	opinion polling
	video games
	electronic mail/messaging

interactive computer-assisted learning

general videotex information

software supply to home computers

access to national and international communications

wideband business communications

Annex A

DRAFT TERMS OF REFERENCE FOR AN INQUIRY INTO THE BROADCASTING POLICY ISSUES INVOLVED IN AN EXPANSION OF CABLE SYSTEMS

1. To take as its frame of reference the Government's intention in principle to facilitate expansion of cable systems, which would permit cable to carry a wider range of entertainment and other services, including when available services of direct broadcasting by satellite, but in a way consistent with the wider public interest, (in particular the safeguarding of public service broadcasting.) do we need this?

2. Within this framework, to consider what supervisory framework for cable services would be appropriate, generally and with reference to the following specific aspects:

(a) should cable operators be permitted both to control cable systems and to provide programme services?

(b) what programme standards should be applied to cable services - eg as regards good taste and decency, and due political and other impartiality? And should there be requirements regarding range and balance of programme content?

(c) should cable systems in future remain under an obligation to relay UK broadcasting services; if so, should there be a moratorium during which companies were relieved of that obligation while they increased the capacity of their cable, and on what conditions?

(d) should advertising be permitted, and if so how much and subject to what rules?

(e) should there be any limit, and if so what, on the number of programme services to be authorised?

(f) how should competing applications to provide cable systems and/or programme services be decided?

(g) should any special rules apply to the participation of Press, broadcasting and overseas (ie non-EEC) interests in cable enterprises?

3. In the light of (2), to consider what kind of supervisory body is needed, with what composition and range of functions.

4. In considering the questions above, to assess the implications for public service broadcasting.

5. To make recommendations by /1 October/ 1982.

Annex B

BROADCASTING POLICY AND THE FUTURE OF CABLE

The History of Cable

1. Since the advent of sound broadcasting in the 1920s Government policy has always been to allow companies to instal aerials at a central receiving point from which cables relay signals to receivers in subscribers' homes. For many people, living out of easy range of a transmitter, cable relay has been the most economical way of receiving a signal while others have turned to relay because of local authority restrictions on rooftop aerials. But Governments have closely regulated what cable companies could do in accordance with policy on telecommunications and broadcasting: relay was an operation falling within the scope of the Post Office telecommunications monopoly and from the outset private companies were allowed into the field under licence merely because the Post Office itself decided not to provide the service. Their activities were not allowed to develop into anything more extensive which might have more serious implications for the telecommunications monopoly. Equally, the relay companies were seen as fulfilling the essentially technical role of bringing broadcasting services - sound and television - to households. Since Parliament had entrusted the sole responsibility for broadcasting to the BBC (and from 1954 the ITA/IBA) cable companies were not to be allowed to circumvent this control by producing and distributing a rival programme service of their own.

2. The last twenty years have seen three initiatives designed to explore the possibilities for a wider role for cable:

(a) The pay-TV experiment in the mid 1960s which involved 10,000 homes in London and Sheffield. It came to an end in 1968 after the then Government refused to allow an expansion to the quarter of a million homes which the companies judged the minimum for viability.

(b) The community cable experiments authorised in 1972 under which operators in six different places were allowed to distribute to their subscribers television programmes of local interest. Despite the subsequent decision to permit advertising, the experiments were beset by severe financial difficulties and only one station still operates. A small number of sound only systems survives despite financial problems.

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(c) In November 1980 the Home Secretary announced that he was prepared to authorise a number of pilot subscription TV schemes. The first system came into operation in September and the whole experiment comprising 13 areas is due to last two years. Exceptionally the operators are directly responsible to the Home Office for complying with the requirements on programme content imposed by the licence.

3. About 2.6 million households, that is about 14% of those with television sets, receive their television services by cable but this figure can be misleading since over 1 million of these are connected to non-commercial systems operated by, for example, local authorities and housing associations. In these cases the system is usually very small, often simply a communal aerial on the roof of a block of flats. Only about $1\frac{1}{2}$ million households, therefore, are connected to commercially run cable systems. They pay on average £15 a year for the facility though in many cases the same company also provides the television set, for which the rental is considerably more. About 2 million more homes are thought to be passed by cable and thus capable of being readily integrated into it. The technology of existing cable systems is in most cases old fashioned: capacity is often of only 4 or 6 channels. Wide-bandwidth cable in the USA enables up to 50 TV channels to be transmitted to each household and fibreoptics open up the possibility of an almost unlimited number of channels.

4. Because broadcast relay systems involve the use of aerials to receive signals off-air they fall to be licensed by the Home Secretary under the Wireless Telegraphy Act 1949. As well as enforcing certain safety and interference requirements the Home Office uses the licence to authorise the limited relaying of ITV programmes to places outside the ITV contractor's formal service area. The Home Secretary's powers to control cable distribution not involving wireless telegraphy derive from Part IV of the Post Office Act 1969, under which the pilot subscription schemes are licensed. This provision imposes no limitations on the Home Secretary's discretion to give or withhold licences for cable distribution and to attach such conditions as he thinks fit.

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The Pressure for Change

5. The traditional relay role of cable is now obsolete. The advent of television and then colour television boosted the cable companies' business during the 1950s and 1960s but the BBC and IBA transmitter network is now so well developed that all but about 1% of households can get good reception with individual aerials. Environmental restrictions can often be met by means of loft aerials or in the case of blocks of flats by a communal aerial on the roof. A number of the commercial cable systems are now very old and companies are simply closing them down rather than investing in new equipment. The cable television industry is now arguing that the subscription experiments are not sufficient at their present pace to prevent an irreversible decline in cable systems.

6. It is incontestable that if cable has a future it is in the provision of original services rather than the relay of material already available over the air. In the long term these might include two-way facilities such as telebanking, teleshopping and accessing an information system but the basic viability of cable will probably always depend on the provision of entertainment services. The USA, albeit against the background of a very different broadcasting environment from ours, has witnessed an explosion in the cable industry since many of the restrictions on cable were removed in 1975 and there is no doubt that many people there are prepared to pay sizeable subscriptions for the extra programmes which the cable firms offer.

7. Some of the arguments used for deregulating cable in the United Kingdom can be summarised as follows:

(a) Private capital is ready to invest in re-engineering and extending cable systems but only if restrictions on what can be distributed over cable are lifted. Present rules inhibit market forces.

(b) In the long term cable is inevitable because of the wide range of services it can offer. Unless Britain goes ahead now we shall lose the technical expertise and shall have no choice but to import the technology when cable eventually does come whereas our industry could become an exporter given the necessary encouragement.

(c) Our consumer electronics industry is under threat from abroad. Cable would provide welcome new activity.

(d) New programme outlets will boost the film and TV industries and give the public more choice.

(e) New cable services can coexist with the BBC and ITV channels without affecting their quality. The traditional broadcasters could actually benefit from them by selling them programme material.

(f) Cable operators are responsible snd would not turn liberty into licence. In particular they would accept, on a self-regulated basis or otherwise, controls on taste, decency and political bias.

(g) Cable systems could provide rapid audience growth for direct broadcasting by satellite. If cable is allowed to decline, satellite services will find it more difficult to become established because households will equip only slowly with individual receiving equipment.

(h) Whereas the use of the air has to be regulated because frequencies are a scarce resource no such constraints exist with cable. There is a basic freedom argument, therefore, in favour of letting cable be used in an unrestricted way.

The Broadcasting Issues

8. Such a major expansion of the role of cable from its present limited function would have important implications for the broadcasting system of this country, which since the 1920s has been characterised by its public service nature. This approach, which is quite different from that adopted in the USA, rests for its justification on two basic assumptions:

(i) The frequencies which broadcasting require are a scarce resource. Since there cannot be a multiplicity of channels in the same way that there are a multiplicity of newspapers and magazines the stewardship of the medium is entrusted to publicly accountable bodies, the BBC and IBA, who are charged with providing a proper balance and wide range of programmes.

E.R.

(ii) Broadcasting is a more powerful medium than the cinema or the printed word. Television and radio reach people in the privacy of their homes. Whereas reading a particular book or going to the cinema involves a specific exercise of choice the television viewer is subject to the choice of the broadcaster once he has turned on the set. Children are not allowed into the cinema for certain films but have complete access to the television subject only to parental supervision. For these reasons, the broadcasting authorities are required to secure the maintenance of certain standards (eg good taste, decency and political impartiality).

Our broadcasting arrangements have succeeded in establishing and maintaining a system which is highly respected at home and abroad both for the quality of its output and for its independence from Government.

9. Public service broadcasting has evolved over the years. It was thought by many that the introduction of commercial television would undermine the high standard which the BBC had set but the financial and institutional arrangements which were devised have prevented these fears from being realised. They have indeed resulted in a regulated, commercially-financed public broadcasting service which has increased the range and quality of broadcasting in the UK. Successive Governments have taken the view that each broadcasting organisation should have a monopoly for the particular type of finance on which it relies, the licence fee revenue for the BBC and advertising for the ITV companies. While the BBC would not want to fall significantly behind ITV in audience ratings they do not have to compete for the same source of revenue. Similarly, the regional structure of ITV means that companies do not have to vie with each other with mass appeal programming in order to secure more advertising; each has a local monopoly. In planning the fourth channel we have avoided the risks that it might have to compete for advertising revenue with the existing ITV service. It is generally conceded that the poor quality and range of network broadcasting in the United States are a direct result of the unrestricted competition for advertising and that part of the success of cable there is explained by the fact that it has offered a wider range than that available on the networks.

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10. One of the consequences of the public service nature of broadcasting in the United Kingdom is that in accordance with the policy of successive Governments the broadcasters have sought to bring television and radio services to as much of the population as is reasonably practicable. The geography of our islands makes it prohibitively expensive to achieve 100% coverage by terrestrial transmitters but colour television is now available to 99% of the population and the BBC and IBA are continuing with transmitter construction in order to reach more of the difficulty accessible final 1%.

11. It is against this background and the arguments set out in paragraph 7 for deregulating cable that the following points need to be considered:

(a) In the long term a developed cable system has the potential to remove one of the bases for traditional broadcasting policy, namely that the frequency shortage limits the number of channels available. Fibre optic systems will eventually be able to offer an almost limitless number of channels and even more modest coaxial wideband systems in the USA can readily provide 50 channels. In the short term, however, deregulation would probably lead to only a gradual growth in the number of channels because existing UK cable systems have limited capacity (see para 3) and programme material might not be readily available for providing more than one or two extra services. The lightweight regulatory framework which might be appropriate for 20 extra channels might not be sufficient for two.

(b) The influence of television on the viewer is the same whether his picture arrives by cable or from his own aerial. If there are 'intimacy of the medium' arguments for having special supervisory arrangements for what goes out over the air they are also valid for cable services.

(c) Subscription is the method of finance adopted for the current cable experiments and may prove successful as it has in the USA. It is also one of the options for financing a direct broadcasting by satellite service. We suspect, however that additional means of funding are needed beyond a certain number of channels. In the USA a single subscription may pay for access to more than one channel and attractive packages are designed to encourage subscribers to pay a higher rate entitling them to yet more channels but it seems that the market will not usually bear more than 3 levels of fee. Advertising is the most obvious alternative means of raising revenue and it is unlikely that cable could expand beyond a certain point if no advertising were allowed. This would have major consequences for

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ITV and for independent local radio. Other means of finance would be available if direct sponsorship of programmes were allowed and if groups funded by for example, charities or local authorities were given access to the medium but sponsorship or political funding raise wider policy issues and charitable and other non-political and non-commercial funding would probably not be sufficient to support many services.

(d) It is much more expensive to reach the whole population by cable than by transmitters. Even to cover half the homes in the country (ie those in the larger urban areas) would cost around £2½ billion according to the report of the ITAP Working Party on Cable. Given that no public money is currently available for cable the likely growth of the 8% of television households currently connected to commercial systems will be gradual. Most of the population including all those outside the larger towns are therefore going to be dependent on public service broadcasting for the foreseeable future. The fear is that cable may gradually impoverish these services by siphoning off material that would otherwise have appeared there. The current subscription experiments rely mainly on feature films which are too recent to be allowed on BBC or ITV, but in time thriving cable operations could buy up other films which the broadcasters would have wished to show as well as rights to sporting events, plays and operas. We could do something towards preventing the buying of exclusive rights to major national events, but/a gradual increase in programme material costs. In the short term the existing broadcasters might make money by selling archive material to cable systems; in the long term they could lose some of their public service motivation if it became more profitable to make new programmes for cable than for the public network.

(e) A cable operator would in practice usually have a local monopoly. If he were to own the cable, provide his own programme channels, decide which if any of the existing broadcasters' services he would relay and determine which if any other programme services he would allow on his cable his power would be hard to control. In particular it would be difficult to penalise him for any breach of such duties as might be imposed on him by his licence to operate because the ultimate sanction of closing down the system would be politically impracticable. In the subscription experiments the cable companies have been allowed to provide programmes themselves, but a more general deregulation would raise the question whether certain controls were necessary to guard against excessive monopoly power.

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(f) A Government announcement will be made shortly on direct broadcasting by satellite. The UK may well go ahead with a service of initally 2 channels in 1986. One of these channels would probably carry a subscription service which would be similar in nature to what the current cable experiments are offering. There is some force in the argument that DBS would secure a faster audience growth through cable systems than if it had to rely exclusively on individual reception. But while this would mean that the decline of cable would be to the disadvantage of DBS, a rapid growth of cable channels now could mean that some of the subscription market might already have been tapped before DBS starts in 1986.

(g) The introduction of DBS and of other quasi-satellite broadcasting services (such as the Russion 'Gorizont' and Mr Brian Haynes' STV Ltd which do not use frequencies allocated to broadcasting) raises the whole question of international overspill. Although Benelux viewers and others living relatively close to national frontiers have become used to being able to receive certain foreign television channels, television has developed in Western Europe as a basically national or even sub-national service. The financial and regulatory framework varies from country to country reflecting the particularities and policy options in each place. With satellite broadcasting overspill is no longer a marginal phenomenon. It opens up the possibility of advertising-financed services which deliberately seek to reach a foreign audience. In the longer term an 'open skies' policy may prove inevitable and could in fact bring a number of advantages but there is much anxiety in Europe about the consequences of this in the short term and there are likely to be negotiations aimed at preventing the sudden undermining of national broadcasting structures. For technical reasons overspill poses a much more immediate threat where widespread distribution is possible over cable systems. Our geographical position and low cable penetration make us less vulnerable to overspill than most other European countries and could give us more time to evolve our existing structures but we would lose some of this advantage if cable systems were completely deregulated.

(h) Our existing structures give no scope for religious or political groups to control broadcasting channels. In the USA a number of cable channels are run by religious organisations and others by local authorities.

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Pressure for similar freedom would mount in the UK if cable systems developed. Although at the moment the commercial operators have expressed their willingness to provide politcally and religiously impartial services they would soon sense the economic reasons for a change of view if they had spare channels and groups willing to lease them. It is arguable that, if there were sufficient channels for everyone to have a fair crack of the whip, then there should be no restriction on politically or religiously committed programme services. However this would mark an historic change in the nature of British television, and it remains arguable on the other side that television is a peculiarly influential and intimate medium and that it would not be desirable to depart from the requirements of political and religious neutrality.

(i) Existing broadcasters are required to provide a range of programmes on each channel. No such objectives exist for the cable subscription experiments and in a situation where there was a multiplicity of outlets it is hard to see what justification there would be for requiring all services to provide balanced and wide-ranging services: the future must be in some specialisation. Certain specialised services, for example sports channels, could be highly profitable. The ITV companies (and possibly the BBC) would be disadvantaged however if they were required to continue to provide a proper balance and wide range of programmes while their cable competitors were freed from these obligations. However, to discard these obligations in relation to the BBC and the IBA would be to discard a major element of public service broadcasting.

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The Way Ahead

12. The choice is not a simple one between the historically limited role of cable and total deregulation. For the establishment of the subscription television pilot schemes is itself an indication, albeit insufficient for the cable companies, that the Government intends them to have wider opportunities in the future than in the past: it would be difficult to go back on that. Moreover that message is likely to be reinforced when the Government shortly makes its announcement on DBS (para 11(f) above): for it would be natural and desirable to take that opportunity of reaffirming that the Government sees cable as playing an important part in distributing DBS programmes. Nor, to go to the other extreme, is unqualified deregulation a practical proposition, since that would lead to the country's public service broadcasting traditions being eroded and gradually crumbling, with the inevitable impoverishment of the service available to those members - the majority - of the population who will continue to rely on off-air services. Moreover, unqualified deregulation would be likely to result in major political controversy of a kind which would make the future of cable less certain and commercial investment decisions more difficult. The way ahead lies in the middle ground of a measure of deregulation which, at best, could give the industry the encouragement it wants while giving the broadcasters and public opinion time to adapt to a changed situation.

13. In charting the way ahead a number of difficult questions need to be answered:

(a) Should the number of channels be limited? The current pilot schemes involve only one extra service and then only in certain areas. The impact on existing broadcasting and future satellite services depends to some extent on the number and nature of the cable channels. However industrial, commercial and telecommunications considerations may point to the re-engineering of existing cable systems and the introduction of new systems with as large a channel capacity as possible.

(b) Should the cable operators still be obliged to relay BBC and IBA services? In the USA cable operators have to relay the network services as well as the additional channels and there is a case for a similar requirement and for not letting the operators pick and choose. (If they were to be allowed to do so questions of payment for copyright would need to be resolved.) But given the limited

capacity of existing systems it might be necessary to have a moratorium for a number of years during which the relay obligation would be relaxed provided the operator undertook during this period to re-engineer his system and meanwhile made other arrangements for enabling the subscriber to receive the public services off-air. There might also be a case in the longer term for requiring channels to be made available, as they are in the USA, to community and other local groups.

(c) Should overseas interests have a free hand? The IBA are required to ensure that programme contractors are from the UK or the European Community (as the present problems over Central and the purchase of ACC illustrate). There is no doubt that transatlantic companies would move into cable over here if given the chance. Their experience and financial resources would give them a strong position in relation to existing UK cable companies.

(d) Should the cable operator be allowed to provide his own programme service or should he act as a common carrier? There are strong arguments for separating the two functions (though this has not been done for the limited pilot schemes) (see paragraph 13(e) above).

(e) Whart sort of supervision should there be? Self-regulation would not command general public confidence. The choice therefore lies between leaving supervision to the Home Office (which is open to the objection that it involves the Government in programming decisions) entrusting it to the IBA (where there could be a conflict of interest) and creating some new supervisory body, tailor-made for the regulation of cable. Although such a body might be established extra-statutorily for a temporary period, it ought fairly quickly be placed on a statutory footing. Legislation would be required to extend the functions of the IBA.

(f) What programme standards are to apply in respect of decency, and political and religious impartiality? These standards have been applied to the pilot schemes of subscription television and there seems every reason to maintain them in relation to any expansion of cable.

(g) Should the cable operators be required to provide a proper balance

and wide range of programmes? This requirement, which is perhaps one of the most important features of public service broadcasting, is justified all the while broadcasting outlets are scarce. In the DBS context it has been recognised that it would be difficult to justify the full application of the requirement, and the same seems likely to be true of cable services - though there may be a case for some more limited requirement.

(h) Is advertising finance to be permitted and if so what limitations if any are to apply? Currently the cable companies are mainly interested in being allowed to provide subscription services but the ITAP Working Group see advertising as an integral part of the expansion of cable. The cable companies (and advertisers) may be expected sooner or later to press for permission to carry advertising. However, the consequences for ITV, the new fourth channel and the Welsh Fourth Channel (which come on the air later this year), independent local radio and local newspapers depend on how much advertising, if any, is permitted on cable. The financial structure of British commercial broadcasting, including the levy which the Government imposes on its profits, is based on its monopoly of selling advertising time. There are strict rules on the number of minutes of advertising and the number of advertising breaks allowed in each hour of broadcasting, on the nature of the products which may be advertised and on the standards and techniques of the advertisements themselves. The IBA are statutorily responsible for ensuring that these various requirements are observed. It would be difficult to justify applying less stringent conditions to the cable services. From the point of view of protecting public service broadcasting there are powerful arguments for not allowing advertising on cable at all; and certainly not until the expiry of the current ITV contracts in 1990: the companies applied for these contracts on the basis of regional television advertising monopolies and would regard it as unfair if the basis on which they applied were changed. Moreover the companies would argue with some force that if they were to compete with cable for advertising revenue they should be released from the requirements of proper balance and wide range in order to be able to compete on equal terms. The removal of this obligation from ITV (and ILR) would remove one of the most important elements in the public service nature of the services they now provide.

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HOME SECRETARY

PRIME MINISTER

CABLE SYSTEMS AND BROADCASTING POLICY

As you know, a good deal of thought is being given to the question of the future expansion of cable systems. The Report of the Information Technology Advisory Panel which has just been completed argues the case, placing it in the broader context of development of information technology. My particular concern is with the implications that such expansion carries for broadcasting policy. I had last week a useful discussion with Patrick Jenkin and Kenneth Baker about the best way of ensuring that the broadcasting aspects are properly and speedily considered, so that we as a Government are able by the end of the year to announce decisions about the future of cable that can be commended to the industry, the broadcasting interests and as wide a range of public opinion as possible - the need for politically durable solutions is vital in this field when the industry needs grounds for long-term confidence. Our conclusion is that the way ahead lies in establishing a small-scale independent inquiry with a limited remit and a commitment to produce a report within about six months. The case for proceeding in this way is set out in the attached paper which, with your agreement, we propose to circulate jointly to E Committee (and a few additional colleagues whose interests it concerns).

As the paper recognises, there are important links between cable and Direct Broadcasting by satellite issues. Work is well advanced on the latter and I hope to circulate some proposals to you and other colleagues shortly.

I am sending a copy of this minute to Patrick Jenkin, Kenneth Baker and Sir Robert Armstrong.

WW

9th February, 1982

CABLE SYSTEMS AND BROADCASTING POLICY

DRAFT MEMORANDUM BY THE SECRETARIES OF STATE FOR THE HOME DEPARTMENT AND FOR INDUSTRY

In this paper we describe developments in the field of cable systems and the important implications which they have for the future of broadcasting, and seek approval for proposals for carrying matters forward.

2. The background [set out in more detail in Annex B] is as follows. The traditional function of cable in the broadcasting field has been to relay BBC and IBA radio and television programmes. This function has become less and less needed, and decreasingly profitable to the cable companies; and much of the cable is obsolescent. The companies have long had the ambition, given greater freedom, to supply through cable a wider and more profitable range of entertainment services, and to modernise and extend their systems. Recently they have pressed the case for liberalisation with greater urgency, both publicly and in their approaches to Ministers. A number of interests in the private sector have also put forward a broader-based and more ambitious case for expanding cable, not in existing systems which offer 4-6 channels but in new wide-band cable technology. Because of its greater information-carrying capacity (typically 20-30 channels) this could provide not only extra entertainment channels but, more importantly, the potential for home and business information services such as banking, view data, security and alarm systems, shopping, remote meter reading etc. The case for this new form of cable system is elaborated in the report which the Prime Minister's Information Technology Advisory Panel (ITAP) has recently completed.

3. One important new facet is the expected development in the next few years of direct broadcasting by satellite (DBS) [on which the Home Secretary will

shortly be circulating a separate paper]. DBS transmissions can be received by the individual, using an aerial 'dish'; but for reasons of cost and convenience community reception - eg by a cable operator - for transmission via cable will, for those with access to it, be the best and most readily available means of reception, and DBS transmissions will be a natural application of cable systems.

4. We have recognised the pressure for liberalisation, in principle, and in part, in the current pilot subscription television schemes which have begun, with the Home Secretary's authorisation, in recent months. There are strong economic, industrial and technological reasons for going further and faster than that. Greater freedom would enable the cable companies to arrest the present declining use of cable systems and to extend them, using British technology and creating jobs and export markets. Private capital to support such ventures is said to be readily available. Failure to take the opportunities, or delay in doing so, will mean losing out to imported technology when the inevitable development of cable comes.

5. It is clear to us that the industrial and commercial opportunities which the expansion of cable offers should be taken. But in reaching decisions on how to move forward we must lay firm foundations for the long-term future and provide a framework which takes proper account of our valued tradition or public service broadcasting. Moreover if the cable industry is to have confidence and if private finance is to be forthcoming it is essential that the policies we decide on should enjoy a wide measure of political support and durability.

6. The economic, industrial and technological aspects of cable development raise many issues, a number of which were identified in the ITAP Report. They include: the potential demand on national resources; the longer-term shape of this country's communications systems - whether we should work towards a national wide-band cable network, using fibre optics; and the place of

British Telecom in such developments. These and other related matters will need to be studied further, as a matter of urgency, in the light of the ITAP Report.

Broadcasting Implications

7. A large-scale expansion of cable would have a major impact on our traditional broadcasting arrangements. These have rested on two foundations: the limited supply of frequencies for broadcasting, and the power and intimacy of the broadcasting medium - especially television - in the home. As a consequence, the available frequencies have been entrusted to public agencies - the BBC and IBA. And these agencies have responsibility for providing programmes of wide range and proper balance to as much of the population as possible, and for ensuring the maintenance of standards such as decency, good taste and political impartiality. Cable could in due course replace scarcity of channels with abundance - for those with access to cable. But it is necessary to ensure that abundance for some does not impoverish the service available to those - the majority, for some years at least - who will continue to rely on off-air reception. This could happen if cable companies went in for buying up popular programmes, or aimed simply at maximising audiences. Competition for audience ratings would first affect the quality of ITV programmes; but indirectly BBC programmes could also be impaired. To some extent these consequences could be mitigated by some form of supervisory machinery; and this would also meet the need, given the "intimacy" of television, to maintain some external supervision of certain programme standards as instanced above. Other important broadcasting issues include: whether, and if so under what conditions, advertising should be seen as a source of revenue for cable services, thus ending the local monopolies of the ITV companies; what should become of the cable companies' current obligation to relay BBC and IBA services; whether there should be any special rules about the participation of Press, broadcasting and overseas (ie non-EEC) interest and whether the cable/ companies

should be permitted, in addition to owning and operating the cable, to provide all the programmes transmitted through it.

8. These are difficult and complex issues. They cannot be settled by Government alone - in particular if politically enduring solutions are to be found. Some means is needed of stimulating public debate and independently assessing the result. But the urgency of the need for decisions on the future of cable does not leave time for the establishment of a traditional review body. We therefore propose the setting up by the Home Secretary of a small (probably three-man), urgent inquiry, charged with considering within about six months the broadcasting policy issues involved in expanding cable, and proposing appropriate supervisory arrangements. Outline terms of reference are suggested in Annex A.

9. We propose that this inquiry and the further studies of other aspects of cable proposed in paragraph 6 should proceed in parallel, and in concert, with each other. The aim should be to place the Government in a position to reach detailed decisions on the future development of cable by the end of the year - a time-table which we believe would meet the aspirations of the cable interests. We invite our colleagues to approve this proposed course of action.

PRIME MINISTER

Report filed in folder attached to this file.

The Home Secretary has asked us to draw to your attention his attached paper on direct broadcasting by satellite.

This will be discussed in H Committee next week. The central points are covered in the Home Secretary's two page covering paper, and the two page foreword to the report immediately beneath the covering note. The conclusions of the study group are summarised in chapter 18 of the paper, at Flag A.

The Home Secretary's foreword identifies (para. 3) five strategic options for direct broadcasting by satellite. In his covering note, he advocates a positive response, on the lines of options C or D. The Home Office anticipate some Treasury resistance.

MJD

10 March 1981

MJ

From: THE PRIVATE SECRETARY Broadcasting

HOME OFFICE
QUEEN ANNE'S GATE
LONDON SWIH 9AT

9 March 1981

Being done.

MAP 10/3

Dear Mike

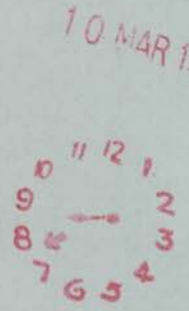
The Home Secretary would be grateful if you would draw the attention of the Prime Minister to his memorandum to H Committee (H(81)21) and the report of the Home Office Study of Direct Broadcasting by Satellite which was circulated at the end of last week and which will, I understand, be taken by H next week.

Yours ever

Andrew Jackson

(A P JACKSON)

M A Pattison Esq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PV

Broadcasting

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Secretary of State for Industry

20 February 1981

The Rt Hon William Whitelaw
CH MC MP
Home Secretary
Home Office
Queen Anne's Gate
London SW1H 9AT

Dear William

SATELLITE BROADCASTING GROUP DISTRIBUTION OF PROGRAMMES TO EUROPEAN CABLE NETWORKS

Thank you for your letter of 20 January. I am sorry that my reply has been delayed.

I am grateful to you for setting out the issues and I agree with your conclusion and the conditions you have outlined. I understand your concern about possible interference with the fixed terrestrial service and I think your suggested limitation of the new service to avoid this is reasonable. The allocation of limited resources in the most effective way is of great importance, as you have indicated, although at this early stage it is difficult to see just how quickly these various satellite services will grow. Inevitably there will be reservations in these circumstances but I do not see, any more than you do yourself, how in the absence of any really firm projections about future requirements, we could reject the SBG application on grounds of this sort. In any event I would hope that in the medium to longer term we shall see direct broadcasting by satellite subsuming the SBG type of service.

So far as OTS is concerned a number of uses have been proposed and these are currently being examined by the official group working under Michael Marshall. The Home Office is, of course, involved and British Telecom is being closely consulted.

Copies of this letter go to the recipients of yours.

Yours ever,
Keith

TMP
CC720

10 DOWNING STREET

THE PRIME MINISTER

11 February 1981

Dear George.

Thank you for your letter of 16 January, with which you enclosed papers on satellites and services to Francophone Africa.

I have read these with interest. I know that you are at present in discussion with the Foreign and Commonwealth Office about French language broadcasts, and I have taken note of your views on broadcasting satellites.

Yours ever

Margaret

G.A.G. Howard, Esq., D.L.

JS

Foreign and Commonwealth Office

London SW1A 2AH

5 February 1981

Dear Mike,

BBC External Services to Francophone Africa

Thank you for sending me a copy of your letter of 2 February to John Halliday enclosing copies of Mr Howard's letter of 16 January to the Prime Minister and its enclosures.

Mr Ridley is holding regular discussions with the Managing Director of the BBC External Services, Douglas Muggeridge, on how to apply their reduced resources to priority areas. One of the economies we have discussed is stopping French language broadcasts to France. But we have not asked for any cuts in the separate French service to Francophone Africa, which we genuinely value. There has also been some general discussion about a relay station in Hong Kong mentioned in paragraph 1 of Mr Howard's note.

The talks are at a delicate stage; and we are likely to be suggesting discussion of the matter by Ministers before too long, and before any decisions are reached. In the circumstances we do not think that the Prime Minister should send Mr Howard more than a simple acknowledgement. Incidentally, you may like to know that Mr Howard will be visiting Peru and Brazil from 6-17 February.

I am sending a copy of this letter to John Halliday (Home Office).

Yours ever

(G G H Walden)
Private Secretary

M A Pattison Esq
10 Downing Street

From: THE PRIVATE SECRETARY

B.
Await any FCO comment MAP (Broadcasting

HOME OFFICE
QUEEN ANNE'S GATE LONDON SW1H 9AT

3 February 1981

Dear Mike

We had a word about the paper on satellite broadcasting which Mr. George Howard sent to the Prime Minister and which you sent us under your letter of 2 February. We agreed for our part that all that is called for in reply is a simple acknowledgment.

There were a few points of substance we had on the BBC's paper on which you thought it would be useful to have a note.

First, so far as Switzerland is concerned the proposal by the commercial consortium Telsat for a Swiss satellite broadcasting service seems to be running into some difficulties. Second, on the market for broadcasting satellites the estimate British Aerospace put to us was for a market worth £2Bn over 15 years. We doubt that the five years difference accounts for the discrepancy. Finally, on the size of the domestic equipment market in the United Kingdom, if half the 18 million television licence holders had equipment for satellite reception at a cost of £150 a time (this figure would assume mass production), the market in the United Kingdom would be in the region of £1.35Bn rather than the £250M quoted by Mr. Howard.

Yours ever

Andy

A. P. JACKSON

M. A. Pattison, Esq.

-4 FEB 1981

PRIME MINISTER

George Howard sent you two papers after his weekend at Chequers. I have sought advice from the FCO (Flag A) and the Home Office (Flag B) respectively. On both subjects, they suggest that you should not go into the substance of the BBC views at this stage. I attach a draft acknowledgment.

9 February 1981

RESTRICTED

Broadcasting

CABINET OFFICE

Central Policy Review Staff

70 Whitehall, London SW1A 2AS Telephone 01-233 7765

From: J. R. Ibbs

Qa 05241

3 February 1981

Dear Secretary of State,

SATELLITE BROADCASTING GROUP (SBG)

Thank you for the opportunity to comment on the SBG proposal described in your letter of 20 January.

The SBG venture offers several benefits. It would result in increased exports to Europe from those who would buy advertising time from SBG. It would also provide a welcome fillip to that part of the film industry which creates programme and advertising material. The CPRS view is that it should be permitted, and, indeed, encouraged as a new service with the potential to create profitable growth in sectors where the UK is strong, and has a chance to develop much further.

Although not the first of its kind, the SBG proposal is innovative and entrepreneurial in that it would use a combination of existing regulated facilities in a new way. Because of this it raises difficulties, but fortunately you have charted a way through these with various safeguards. The potential benefits to be obtained for this country through seizing opportunities related to developments in Information Technology are becoming widely recognised. Inevitably, there will be problems of the kind raised by this proposal but at least this is a good chance to demonstrate that they can be overcome.

I am sending a copy of this letter to the recipients of yours.

Yours sincerely,

J R Ibbs

The Rt Hon William Whitelaw CH MC MP
Home Secretary

RESTRICTED

10 DOWNING STREET

From the Private Secretary

2 February 1981

2/BF 6.2.81

Following the BBC Chairman's weekend at Chequers, he has sent the Prime Minister the attached brief papers on Satellites and on services to Francophone Africa.

Bernard Ingham, who was at Chequers for part of the time, does not recall how the papers came to be commissioned. It may be that nothing more than a simple acknowledgement is required, but I should be grateful if you could let me know by close of play on Friday 6 February whether you wish to suggest that the Prime Minister make any more substantive comment.

I am sending a copy of this letter, and enclosure, to George Walden in the Foreign and Commonwealth Office, with a similar request in respect of the note on services to Francophone Africa.

M. A. PATTISON

John Halliday, Esq.,
Home Office.

CONFIDENTIAL

Foreign and Commonwealth Office

London SW1A 2AH

From The Minister of State

29 January 1981

Dear Willie

SATELLITE BROADCASTING GROUP: DISTRUBUTION OF PROGRAMMES TO EUROPEAN CABLE NETWORKS

Thank you for copying to us your letter of 20 January to Keith Joseph about the proposal put forward by the Satellite Broadcasting Group of Great Britain.

There are clearly complications on the radio regulatory front and wide implications for broadcasting. However I agree with you that we should not object to this proposal in so far as it entails transmitting from this country to our European neighbours. It will be for those countries to decide whether they wish to accept the service. It seems clear that there could be useful benefits arising from the SBG proposal for British industry in the manufacture and sale of ground stations, for the labour-programme making industries and for the BBC and IBA in the form of extra programme sales.

Copies of this letter go to the recipients of yours.

Yours ever

Nicholas

Nicholas Ridley

The Rt Hon William Whitelaw CH MC MP
Home Secretary

CONFIDENTIAL

PRIME MINISTER

20.1.81

This letter from the Home Secretary to Sir Keith Joseph reports proposals for satellite transmission from the UK of an English language advertising-financed television programme service. The Home Secretary is disposed to allow such a service to be transmitted from this country, but not to allow it to be received in this country, in view of the limitations already placed on proposals to develop new cable television services within the UK.

I fear that this could turn into another cause like Citizens Band Radio, with the Government on a hiding to nothing.

MF.

MH

22 January 1981

Mr Pattison
We spoke. You'll pursue w/ Home & Foreign Offices... NG 2/2

R. Sal[illegible] Can you pl pursue urgently? None of this was discussed in our presence. I wonder if a reply is necessary

~~MR. INGHAM~~

I attach a ~~copy of~~ a letter to the Prime Minister from George Howard, following up points raised at Chequers.

I am showing the original to the Prime Minister, but may I leave it to you to suggest a draft reply - there may be points other than those in his letter which could usefully be raised.

MAP

21 January 1981

2

10 DOWNING STREET

PRIME MINISTER

Here is a letter from George Howard following up points raised during the Chequers weekend. Bernard will let you have a draft reply.

B/F

MAP

T. Pattison

For your files. I understand draft reply forwarded

21 January 1981

HOME SECRETARY

QUEEN ANNE'S GATE LONDON SWIH 9AT

20 January 1981

Dear Keith

PROPOSAL BY THE SATELLITE BROADCASTING GROUP OF GREAT BRITAIN TO DISTRIBUTE PROGRAMMES BY SATELLITE TO EUROPEAN CABLE NETWORKS

I am writing to you about a proposal, put forward by a group called the Satellite Broadcasting Group of Great Britain, to secure the lease of a transponder on the Orbital Test Satellite (O.T.S.) in the first instance to initiate the distribution of an English language advertising-financed programme service. I should say from the start that while I do not wish to stand out against the proposal, we should have a clear understanding of the very substantial difficulties it raises, in terms both of broadcasting policy and of radio regulation. The position is complex and I need to explain it in some detail.

The background to the proposal is that the planned experimental life of O.T.S. ends in May, but the satellite has a couple more years of life which the European Space Agency is keen to turn to account. Meanwhile, there is the example provided by the French, who have been using O.T.S. to relay their national T.V. to Tunisia, a service which can be picked up in other countries under the beam. The Satellite Broadcasting Group therefore wants the use of a transponder on O.T.S. together with access through as up-link in this country (though the Group would seek the latter elsewhere if refused here). Its intended audience would be as many European cable operators as can be persuaded to take the service and can be authorised by their respective Administrations to receive it. The Group has said that it does not care whether United Kingdom cable operators are permitted to distribute the service to their subscribers in this country: it is interested rather in cable households in Continental Europe, potentially around 20 million. The Group will need to have assurance of the continuation of its activities beyond the life of O.T.S. and is looking to the possibility of using the E.S.A.'s E.C.S. satellite, or the French Telecom 1, from 1983.

The Group is a somewhat obscure organisation at this stage. The Secretary is a Mr. Brian Haynes who has, I gather, been taken on in some advisory capacity by Sir Harold Wilson's Interim Action Committee on the Film Industry. He was formerly with Thames Television whose major shareholders, the Thorn-E.M.I. Group, appear to be involved with the Satellite Broadcasting Group, as does Trident Television. I understand that Lord Brabourne is also associated with the proposal. Mr. Haynes has, I believe, had some discussion with the Department of Industry at senior official level.

The future use of O.T.S. is primarily a matter for Eutelsat of which British Telecom is the United Kingdom member, and Eutelsat will shortly be considering proposals from P.T.T.s for use of the satellite in its remaining years. One of the questions therefore is whether B.T. should put the Group's proposal to Eutelsat, but there are many issues here which make me frankly uneasy. Let me first take the radio regulatory matters. The Group has proposed the use of an up-link to O.T.S. which would then re-transmit. This, as it stands, is inadequate from the standpoint of the Radio Regulations of the International Telecommunication Union because the agreed use of O.T.S is for the fixed satellite service, not broadcasting; and merely to transmit via

/O.T.S. to no

The Rt. Hon. Sir Keith Joseph, Bt., M.P.

O.T.S. to no specified receiving station would constitute an out-of-band broadcasting use to which any country under the beam could object. It has been explained to the Group that as a first step they would need the receiving station to be specified by the Administration in whose territory it stood. This would make the service, at least notionally, a fixed-satellite service such as the France-Tunisia link, and the fact that the transmission could be received elsewhere would be an incidental matter; it would be for individual Administrations to decide whether or not to permit reception.

What is even more important, however, is that the relevant frequency band (10.7-11.7 GHz.) is shared with the fixed terrestrial service, and that entails careful co-ordination if harmful interference is to be avoided. Potentially the transmitters of one service can interfere with the receivers of the other, and co-ordination consists, in essence, of so designing, locating and aligning the terminals of the two services that this is avoided. It follows that the more highly developed the fixed service network is, the less scope there is for earth stations; thus in the United Kingdom, the proposed extensive development of the fixed network will seriously restrict the scope in this band for the establishment of receiving earth stations linking with O.T.S. (The S.B.G. proposal has to be distinguished from developments in the U.S.A. on certain fixed-satellite bands where, as you will know, a policy of "de-regulation" has fostered the growth of T.V. cable systems. Compared with ourselves and some other Western European countries, the U.S.A. has made little use of those bands for the fixed terrestrial service, so interference is not a real problem.) The Post Office is for good reason most anxious that we should not license the reception of signals from satellites in O.T.S.'s band save at isolated locations like those of their big earth stations at Goonhilly and Madley, which are placed so as to avoid interference from main line radio relay systems. If there were to grow up in the United Kingdom a demand to receive T.V. programmes via satellite in this band, that demand would be in direct competition with B.T.'s planned high-capacity digital network, and you will appreciate better than I what that could mean in terms of committed investment and of prospects for the successful development of information technology. Nor are we alone in our terrestrial use of the band. A number of Western European countries have entered substantial registrations for the fixed service, and the S.B.G. should not take for granted their preparedness to suffer pre-emption of the band by a cable-viewing public. The Federal Republic of Germany has already indicated informally their opposition to this use of the band. It will clearly be necessary to insist that, when O.T.S. reaches the end of its life and the S.B.G. operation, if it goes ahead, switches to another satellite such as E.C.S., there must also be a switch to a fixed satellite band above 12.5 GHz. which, at this stage, is not earmarked for other use. Nevertheless, even here you may wish to consider the possible long-term implications of permitting a disguished broadcasting service in a band which we might well want to reserve for, say, small business systems use. Positions on the geostationary orbit, like frequencies themselves, are a finite resource.

I have dwelt at some length on radio regulatory aspects, but I am no less concerned with the implications for broadcasting. I see this proposal as the first of many such proposals for using satellites to distribute programmes to cable networks (as distinct from direct broadcasting) - proposals which, if implemented, could over a period of time lead to fundamental and potentially harmful changes in European broadcasting from which

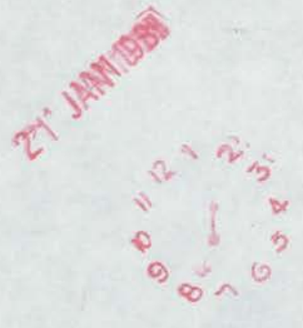
/the

the United Kingdom would be unlikely to remain immune. It is relevant to note in this connection that there are signs of disquiet in Europe, particularly in the European Parliament and in the Council of Europe, about these possible developments, and indeed about direct broadcasting by satellite. Indeed, if the long-term development of this service were to be seen as an alternative to the direct broadcasting-satellite service operated within national beams, it would give force to objections by the Soviet bloc and many developing countries in the United Nations Committee on the Peaceful Uses of Outer Space who are currently arguing for restrictions to be placed on broadcasting by satellite without the consent of the country to which the broadcasts are directed.

Having said all this, and subject to our colleagues' views, I appreciate that it will be politically difficult to stand in the way of this proposal, particularly if this were to lead to it, or to some similar proposal, being accepted by, and implemented under the auspices of, another European country. What I could not do, however, would be to license cable operators to receive the service for distribution to subscribers in this country. Quite apart from the radio regulatory difficulties, this would make a nonsense of the careful approach we have adopted to cable pay television which will involve, amongst other things, forbidding the operators of the pilot schemes which I am soon to authorise including advertisements in their programmes. Of course, the Group's proposal does not envisage reception in the United Kingdom, but I have little doubt that once the service is established there will be pressure for its reception here.

To conclude, I would not object to this proposal in so far as it entails transmitting a programme service <u>from</u> this country, subject to the various points I have made: principally, that the application for the use of the 10.7-11.7 GHz. transponder in the satellite must be identified with the necessary stations in the country to which the programme will be officially directed and that, on the withdrawal of O.T.S., further services must be directed to an appropriate satellite using the 12.5-12.75 GHz. down band. I am sorry to have written at such length but I thought it right to record my serious reservations about the repercussions the proposal could have, particularly on the interests of our two Departments.

Copies of this letter go to the Prime Minister and to our colleagues on E and H Committees; also to Sir Robert Armstrong and Mr. Robin Ibbs (C.P.R.S.).


27 JAN 1988

British Broadcasting Corporation, Broadcasting House, London W1A 1AA
from the Chairman, George Howard

16th January 1981

My dear Margaret

I promised to let you have brief papers on Satellites and on our services to Francophone Africa. These I now enclose.

We have sent lengthier papers to the Home Office on D.B.S. (Direct Broadcasting by Satellite); this note is designed to show you why we should press ahead with making up our minds on what we should do.

So far as the External Services note is concerned, you will see that listening figures for Francophone Africa are difficult to obtain, though an extrapolation of those which we do have would show a very considerable audience; I would, of course, be the first to admit that this is an entirely unscientific method of getting at a listening figure.

Yours ever

George.

The Rt. Hon. Mrs. Margaret Thatcher, M.P.,
Prime Minister,
10, Downing Street,
London,
S.W.1.

BBC EXTERNAL SERVICES

1. The capital cost of a relay station in Hong Kong to serve China would be £5.8 to £6.5 million, depending on the site.

2. The annual cost of the French Service to Europe is £274,000; that of the total service - to both Europe and Africa - is £820,000. In fact, it would not be possible to save all this by closure of the French Service since one fifth (£162,000) represents transmission costs and we could not contemplate leaving transmitters idle. We are desperately short of such hardware and would immediately attempt to convert the transmitters for use for other West European or African languages.

The latest Market Research survey for France and Belgium gave us regular audiences of 470,000 (with a total audience approaching 2 million on occasion). Listening is concentrated among opinion-formers and the better educated.

When Anglo-French problems have arisen in the past - for example, the fishermen's dispute, lamb, the 'apple war' and, most especially, the question of a more equitable EEC budget - Britain's case received very little airing in the French media, and hardly a single sympathetic analysis. The British point of view was fully explained on the BBC French Service and a number of listeners, among them a Sorbonne professor of political science, wrote in to remark on the facts and views they had heard.

The French Service also broadcasts to more than 20 African countries, with a total population of nearly 160 million, where French is either the official language or is widely spoken among the better-educated people. Audience research is particularly difficult to organise in Africa but a recent survey in the Ivory Coast gave us a regular audience of 100,000 with a total audience of 150,000. (The population of the Ivory Coast is 7,613,000, while the rest of Francophone Africa has a population of 151,086,000.) The increasing importance of the Service - often seen by Africans as the only bridge between them and Britain - is stressed by requests from African leaders to visit the French Service or to be interviewed by it (visitors in past months have included the Foreign Ministers of Togo and Mali and the Archbishop of Bangui; interviews were given recently by the Prime Minister of Zaire, the Presidents of Gabon and of the Central African Republic, the Prime Minister of Tunisia, etc.) We also know that regular listeners include people like President Mobutu of Zaire and ex-President Senghor of Senegal.

16.1.81.

BROADCASTING SATELLITES - A NEED FOR A DECISION

The Broadcasting Satellite Conference held in Geneva in 1977 agreed a plan for Europe, USSR and Africa in which orbit positions and frequencies were assigned for each country. With few exceptions, every country in Europe and Africa was assigned five frequency channels, each channel being suitable for one television programme.

SATELLITE PLANS

France and Germany

France and Germany withdrew their support for the European Space Agency satellite project in 1979 and agreed that they would cooperate in building two satellites, one for each country, each capable of transmitting on three channels. The satellites themselves will be built by Messerschmitt-Bolkow-Bohm in cooperation with Aerospatiale.

They are intended to be launched by the Ariane launcher, which is largely a French development, though carried out within the framework of the ESA. It is proposed that two channels will carry television and the third a multiplex of sound programmes using digital modulation. It is forecast that the German satellite will be launched in 1983 with the French in 1984.

Scandinavia

NORDSAT is the joint body set up to exploit a beam whose coverage embraces Norway, Sweden, Denmark and Finland. They hope to include transmissions for Iceland, Faroes, and Greenland. They will transmit television and sound radio programmes. It has recently been reported that Sweden may withdraw from NORDSAT in favour of their own satellite.

Luxembourg

Another European country which has been reported to be actively investigating satellite broadcasting is Luxembourg. This would have a large audience for commercial French, Dutch and German programmes in an area extending some 200 to 300 km around Luxembourg. The limited size of the Luxembourg beam makes direct broadcasting to any part of the UK impractical in terms of individual reception; even in the extreme south-east of England a large aerial will be required for reception. In any case, Luxembourg have stated that they have no present intention of broadcasting in English.

Switzerland: TELSAT

A commercial consortium have proposed to the Swiss Government that they radiate five programmes on the Swiss satellite with a possible starting date of 1984/5.

TECHNOLOGY

The technology for providing direct broadcasting satellites is feasible but not yet proved in practice. The satellite must transmit much stronger signals than the earlier communication satellites and this will require major changes in satellite design.

They will have to be much larger, have larger transmitting aerials and hence large rockets for the launch. The main problem is the cost of launching and manoeuvring a satellite; this is estimated at one hundred million pounds.

Satellite plans are based on the assumption that viewers within the main service area will need a dish antenna approximately 1 metre in diameter. The estimated cost of this and the converter is between £150 and £300. The high frequencies used from a satellite must be converted down to the UHF band to be accepted by standard television sets.

ED FOR A DECISION

British Aerospace need a decision now, if there is to be a 2-channel satellite in operation by 1984 or a 5-channel satellite by 1985/86.

British Aerospace has the technology to compete for broadcasting satellites in a market which is estimated around £4,000,000,000 over the next two decades, particularly in China and the emerging Third World countries. Clearly an order for a UK satellite would assist their overseas sales drive.

But with many European countries moving ahead the UK could miss the chance of this large industrial market for manufacture of broadcast satellites. The need to make a decision now has been emphasised by the delay in the American space shuttle. Only a few Ariane rocket launches are planned and satellite launches have to be booked at least three years ahead.

France and Germany are hoping for a 30% share in the market. With their satellites planned for 1983 and 1984 the lead they achieve could put British Aerospace at a serious disadvantage.

There is a further opportunity for British industry in the receiving equipment required by the domestic consumer. It is estimated that if half the 18 million television licence-holders equip themselves for satellite reception, the market in the UK alone is in the region of £250,000,000. It is clearly important for British industry to develop this equipment for the large domestic and export markets.

If we do not have a domestic market for satellite television reception by the mid 1980s it is unlikely that we will have any television receiver industry in the UK by the end of the decade.

A decision is needed now if the UK is to have a DBS service by the mid-80s. If it is delayed, many financial, industrial and broadcasting opportunities will be lost.

The Home Office is conducting a comprehensive study of these questions and as a contribution to this the BBC has submitted a detailed paper on satellite broadcasting.

16.1.81.

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