

Conditional access and digital television

Research Paper 96/49

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The phrase "conditional access" is used to describe the systems by which subscription television companies, such as BSkyB, control viewers' access to different programmes and channels so that only those who have paid the appropriate charges can actually watch the services. This paper examines the Government's proposals for regulating conditional access services in light of EC directive 95/47/EC on television standards.

This paper accompanies Research Paper 96/48 on the *Broadcasting Bill [H.L.]* [Bill 88 1995/96].

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I Introduction

A. Overview

In July 1995, an *EC directive on the use of standards for the transmission of television signals* was adopted¹. This required Member States to introduce controls on the provision of conditional access systems for digital television services and to ensure that all digital services use a transmission system which has been standardised by a recognised European standardisation body. Full details of the directive, as it relates to conditional access, are described in Section II of this paper.

The phrase "conditional access" is used to describe the system by which subscription television companies, such as BSkyB, control viewers access to different programmes and channels so that only those who have paid the appropriate charges can actually watch the service. This is achieved by scrambling the TV pictures, and having a set-top box which can only unscramble the picture if the correct smartcard is present and subscribers are up-to-date with their payments. There is concern that if a single company controlled the technology for conditional access systems in the UK it could act as a "gatekeeper" controlling which television services could be made available to viewers using its system.

In August 1995 the Government published its policy document on *Digital Terrestrial Broadcasting*². This stated that providers of conditional access systems would be licensed under the *Telecommunications Act 1984* and that "the licence conditions will reflect the EC Directive on Television Transmission Standards". Further details of the policy statement and the responses of both broadcasters and regulators are contained in Section III.

As mentioned above, the Government intends to implement the directive through regulations rather than through the *Broadcasting Bill*. To this end, the DTI published a consultation paper on *The Regulation of Conditional Access Services for Digital Television* in January 1996 which stated that draft regulations would be published by May 1996. The proposals in this paper are described in Section IV.

During the passage of the *Broadcasting Bill* through the House of Lords several attempts were made to include controls on conditional access but these were not successful. Further details of these can be found in Section V of this paper.

¹ Directive 95/47/EC, *OJL* 281 23 November 1995

² DNH *Digital Terrestrial Broadcasting: The Government's Proposals* August 1995 Cm 2946

B. What is conditional access?

The Government's policy document on *Digital Terrestrial Broadcasting* contained the following description of conditional access systems:

A8 A conditional access system enables a broadcaster to ensure that only those who have paid for a particular broadcast service are able to receive it. Picture and sound information is transmitted to the viewer in a scrambled form and an encrypted message allowing descrambling of that information is transmitted simultaneously. To unlock that message, the subscriber needs a key, an important part of which for satellite and terrestrial systems is at present provided via a smartcard. The subscriber inserts the smartcard into a slot in the set-top box, though it would be technically possible for the slot to be in the receiver itself. If different encryption systems were being used by different broadcasters, the viewer would require for each system either a separate set-top box or, if the set-top box or receiver contained an interface common to all encryption systems, a separate small attachment containing a slot for the smartcard.

A9 The smartcard can be disabled by the conditional access provider (although only while it is inserted) through the sending of an individual message, if the subscriber has not kept up payments. This is administered through the subscription management service, which handles subscription requests and payments from viewers. Current cable systems do not use a smartcard since the key can be sent directly to, or removed from, an individual subscriber from the cable company's 'headend', from which transmission is relayed.

The DTI's consultation paper on *The Regulation of Conditional Access Services for Digital Television* contained a more detailed explanation:

5 ...the regulation of conditional access is only aimed at dealing with questions of competitive behaviour directly associated with the technology used to operate subscription or "pay per view" television. The name comes from the fact that unlike conventional (or "free to air") television, access to subscription services is conditional, usually upon payment. Broadcast services are such that the only way access can be denied to those who do not choose to pay is by encrypting (i.e. scrambling) the relevant signal, and providing the viewer with equipment, which subject to certain safeguards against piracy, can be instructed to use a "key" to decrypt channels or programmes as required.

6 The conditional access services discussed in this paper reflect this process. They involve two separate technical processes, described below, which together are necessary for the commercial transactions associated with conditional access to be completed, and which form the economic basis of the relationship between broadcasters and those providing them with the services necessary to offer pay or subscription television.

7 The first of these services is the provision of encryption and scrambling services. Encryption refers to the processing of the continually-changing electronic keys needed to de-scramble broadcast signals, so that the keys can be conveyed securely to authorised users. Scrambling is the process of continually changing the form of a broadcast signal so that it is unintelligible without a suitable descrambler and electronic key. The second service is the process of subscription management, which receives and processes requests for service, and passes relevant data to the authorisation system, as well as to billing and related systems.

8 This whole process is complex and expensive: management of the encryption and scrambling system involves working with manufacturers on suitable customer equipment, as well as managing a range of measures, including "smart" cards, aimed at preventing piracy. The authorisation process involves the management of a data stream capable of sending separate instructions to each of a potentially very large population of set top boxes. And SMS [Subscription Management Services] is a complex and potentially very large scale operation, involving contact with a large number of customers, as well as associated billing and authorisation activities.

C. Conditional access and subscriber management systems in the UK

In the UK, both the cable TV companies and the satellite TV company BSkyB operate conditional access and subscription management systems. In the case of cable TV companies these systems are largely invisible to subscribers as the companies arrange for the cable to be connected to the home, provide subscribers with set-top-boxes and do not use smartcards. In other words the whole system is very much provided by and operated by the cable TV companies. With BSkyB the conditional access system is more visible. Viewers have to purchase their own set-top decoder box and satellite dish and a valid smartcard must be inserted into the set-top-box to allow programmes to be unscrambled.

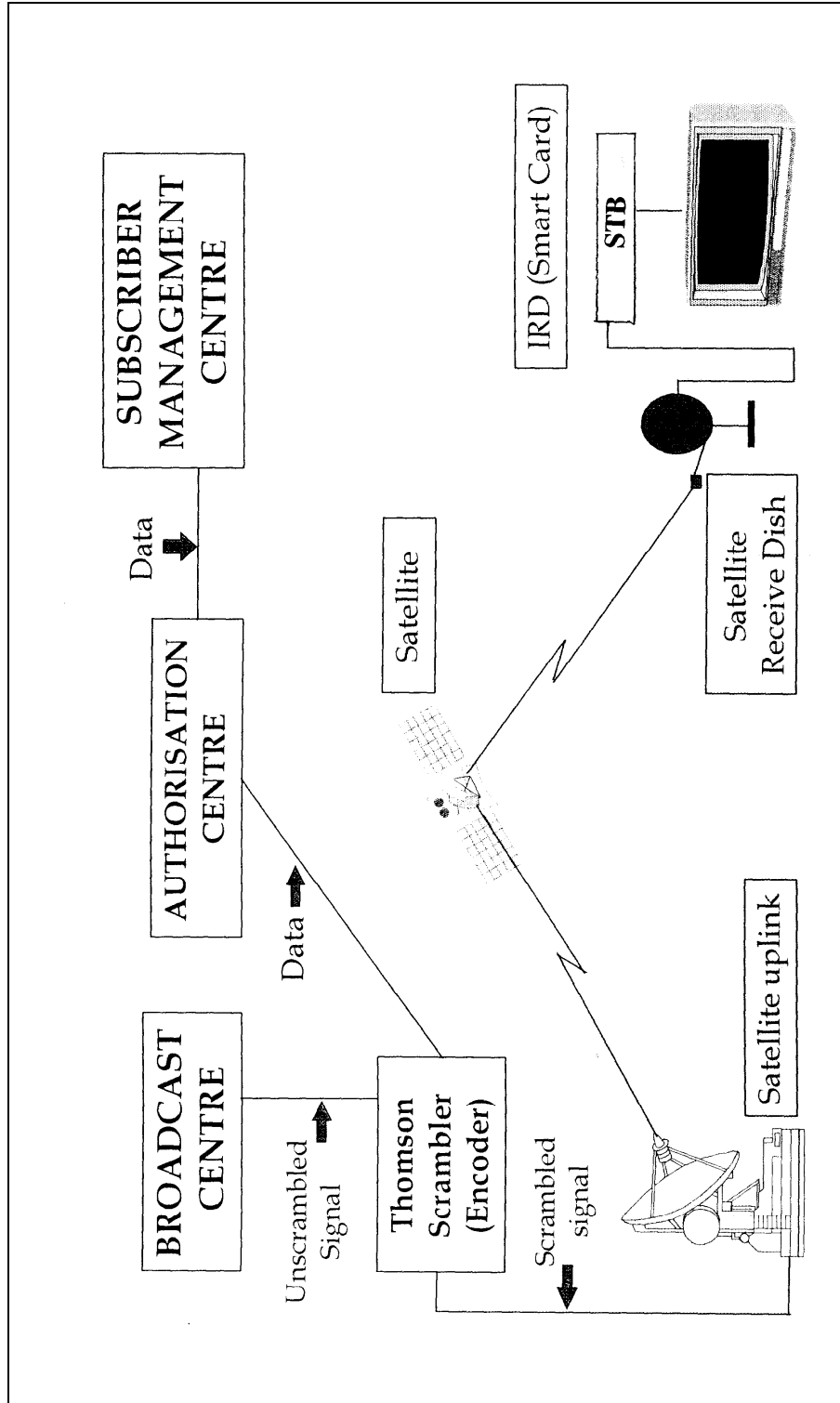
Viewers will need a set-top-box (STB) to watch the planned new digital terrestrial television services. Although some of the services, such as those simulcast by BBC, ITV and C4, will be transmitted in clear (ie. not be scrambled) a STB will still be needed to convert the digitally broadcast signals into analogue signal so that they can be displayed on conventional televisions. However, for those television services which are encrypted viewers will need the right conditional access system within their STB to unscramble them (and to have paid the relevant subscription charges). Currently, in the UK analogue satellite television market there is just a single conditional access system - VideoCrypt. The VideoCrypt technology is owned by News Datacom, a subsidiary of Rupert Murdoch's News International, and so any broadcaster wanting to use the VideoCrypt system must pay News Datacom for the service.

The vast majority of the satellite channels using the VideoCrypt conditional access system also make use of Sky's subscription management service. Only two channels - the Adult Channel and the Japanese Entertainment Service (JSV) - out of the thirty available use third party subscription management services.

Details of BSkyB's conditional access and subscription management services are shown in Figure 1 overleaf. The VideoCrypt conditional access system is designed for analogue television services and is based on four main components³:

³ Source: British Sky Broadcasting Ltd.

Figure 1: BSkyB's conditional access and subscriber management system



Source: British Sky Broadcasting Ltd.

Thomson scrambler - this combines the television programmes from broadcast centres with subscriber related data for managing the information held on individual smartcards in viewers' set-top boxes. This subscriber related information is provided by the authorisation centre together with a random "key" which the Thomson scrambler uses to scramble the broadcast signal (using a process known as "cut and rotate")

Authorisation Centre - as mentioned above the authorisation centre provides the "key" for scrambling the television pictures and any subscriber related data which needs to be sent out to the set-top-boxes. Data can be sent to any smartcard in individual set-top-boxes controlling which programmes a subscriber has access to. So if a viewer wants to subscribe to a new television channel the necessary data can be sent to his/her smartcard so the channel can be unscrambled. Alternatively, if a viewer is behind with subscription payments the data can be sent to his/her smartcard to stop the unscrambling of all encrypted channels and so essentially turning off the service. The authorisation centre also provides security data to be added to each broadcaster's signal to prevent illegal use of smartcards or to combat piracy. The subscriber data is sent in such a way that it can be received by the smartcard in the set-top-box irrespective of what channel is being watched or even if no channels are being watched (so long as the box is turned on and the smartcard is inserted).

IRD (Integrated Receiver Decoder) (or set-top-box) - the smartcard within the STB receives subscriber data contained within each broadcaster's signal which it uses to provide a code to a Thomson descrambler in the box to unscramble encrypted television signals. If a smartcard is not inserted the STB can still receive and display "free to air" channels such as SkyNews or Eurosport. As mentioned above viewers have to purchase their own STBs which are manufactured by independent manufacturers under licence from Thomson Consumer Electronics.

Smartcard - this is like a credit card but instead of having a magnetic stripe on the back it has a small microchip embedded within it. As mentioned above, it contains the data controlling which channels a viewer has access to and providing the necessary codes for unscrambling those channels. These codes are derived from the subscriber data contained within each broadcaster's signal. Smartcards are replaced approximately annually in order to help eliminate piracy problems.

BSkyB's subscriber management service is provided by its **subscriber management centre** based at Livingstone and Dunfermline in Scotland. This handles subscribers' telephone enquiries and subscription requests, bills those subscribers according to their subscription contracts and manages the smartcard replacement process which takes place approximately every 12 months. It also forwards subscriber related data which needs to be sent out to set-top-boxes to the authorisation centre for inclusion in each broadcaster's signal.

D. Why is conditional access important?

Since conditional access systems control which programmes viewers have access to via their set-top-boxes whoever controls the conditional access system can also control which programmes are made available to viewers. In other words if there is just a single conditional access system in the market (in set-top boxes), such as VideoCrypt in the UK analogue satellite TV market, then all broadcasters have to obtain access to that system if they want to provide a pay-TV subscriber based service. In an unregulated market it would be possible for the owner of the conditional access system to abuse its "gatekeeping" role by denying access to its conditional access system to particular broadcasters preventing them from entering the marketplace. This may be of particular concern if the owner of the conditional access system is also a broadcaster itself.

In its consultation paper on *The Regulation of Conditional Access Services for Digital Television* the DTI made the following comments about the need for regulation:

13 The Government's decision to regulate conditional access services for digital television in this way has arisen from the concerns expressed by broadcasters both in the context of the Government's consultation on digital terrestrial broadcasting in the UK, and in the course of debate on the Directive, especially in the European Parliament. The key point is the concern that those controlling conditional access systems may have an important "gatekeeping" role, as they provide the structures through which consumers gain access to services, and through which service and programme providers are able to reach consumers.

14 While it is possible that there will be fully competing conditional access systems operating, it may well be that conditional access for terrestrial broadcasting will develop with only one or two providers. Equally, there may be only a single provider of comprehensive satellite direct-to-home conditional access services, at least in respect of each significant satellite market. The owners of such conditional access systems could be in a position to exert considerable power in the market, without facing the constraint of competitive pressures. This is because it will quickly become difficult for new conditional access providers to enter the market, as the emergence of a large population of set top boxes using one conditional access system, combined with consumers' reasonable and almost inevitable reluctance to invest in a second box or dish, will create a real barrier to market entry and thus a strong position for the incumbent operator. The result would be the establishment of dominant positions in these markets...

16 ...those enjoying dominant positions may well also be in a strong position in relation to suppliers of programme services who would be forced to use the services of the conditional access operator(s) if they wanted to offer a pay or subscription-funded service.

17 Regulatory safeguards are therefore necessary to guard against the possibility of the abuse of this dominant position. Such abuse could result in consumers paying higher prices and receiving a narrower range of services than would otherwise have been the case, with the further consequence that investment in new services would be deterred. Particular problems could also occur if the provider of conditional access services was also itself involved or connected with others involved in the provision of programming material. This would provide an incentive for the operator to use its market power in conditional access to improve its position elsewhere in the market, especially by favouring its own or a connected business and discriminating against competitors. There is also the potential that providers of SMS could acquire a similar gatekeeper position. It may well be very difficult and expensive to set up a new subscriber management service in competition with existing well-established services and this may mean that programme service providers may have little realistic alternative to going through an existing operator with a well-established subscriber base.

18 The need to regulate to prevent these potential threats to competition should be set against the need to establish a regulatory framework which encourages investment in the necessary infrastructure, including conditional access systems, to make digital broadcasting a technical reality and a commercial success. Consequently, the Government is determined to regulate clearly and effectively, and to avoid excessive, onerous or unpredictable regulation...

E. Possible solutions

A number of different solutions have been put forward to solve problems which might arise with conditional access:

Let the market decide - Each broadcaster or grouping of broadcasters could have their own proprietary conditional access system. Viewers wishing to have access to different systems would have to buy separate set-top-boxes (or combined boxes if these were permitted by the owners of the different systems). Broadcasters entering the market would have to develop their own conditional access system if they could not reach agreement with the owners of existing systems.

Regulate - Regulations could be put in place so that any conditional access provider would have to allow any broadcaster access to its technology on a fair and reasonable basis.

Common interface - Proprietary conditional access systems would be allowed but all set-top-boxes would have to have a common interface to allow other conditional access modules to be plugged in (it should be cheaper to buy a plug in module rather than a whole new box).

Single non-proprietary system - There could be a single conditional access system which every broadcaster would be required to use.

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Each of these solutions have advantages and disadvantages and these are explored further in the following sections of this paper.

II. EC directive 95/47/EC on television standards

A. History of proposals

There have been two earlier directives on television standards prior to the current directive⁴. These sought to impose a series of "MAC" transmission standards on all satellite television broadcasts⁵. These were essentially analogue standards but incorporated some digital signals for audio and other data. However, the first directive only applied to "Direct Broadcast Satellites" and so BSB's Marco Polo satellite was included, but the Astra satellites used by Sky television were excluded because they were officially classed as telecommunications satellites. Following the commercial failure of BSB and its merger with Sky, MAC transmissions from the Marco Polo satellite ceased at the end of 1992. The second directive was due to run until 1998 and applied to all satellite and cable (but not terrestrial) broadcasts, requiring all wide-screen services which were not fully digital to use the D2-MAC standard and all non-fully digital high-definition services to use the HD-MAC standard.

This second directive was shortly followed by a Commission proposal for an Action Plan to support the introduction of advanced television services into Europe⁶. The Commission available to accelerate development of a market for wide-screen and high definition television services. The proposal did not make any progress because of opposition, particularly from the UK about the size of the subsidy. The Government believed that the MAC technology could be overtaken by digital technology and that Europe risked going up a "technological cul-de-sac"⁷.

At the beginning of February 1993, the EC industry commissioner, Martin Bangemann, suggested that Europe's plans for HDTV might have to be revised following the advances made in digital technologies⁸. Later the same month he virtually announced the end of the EC's HDTV strategy commenting that the EC would have to fall in line with the United States on a transmission standard for digital HDTV⁹. In July 1993, the Council of Ministers passed a resolution calling on the Commission to produce a report on digital television¹⁰. The report along with a *Draft Council Resolution on a framework for Community policy on digital video broadcasting* was published by the Commission in November 1993¹¹ accompanied by a

⁴ Directives 86/529/EEC and 92/38/EEC

⁵ D-MAC for standard definition television, wide-screen D2-MAC for enhanced definition wide-screen television and HD-MAC of high definition television

⁶ EC Draft 6242/92 5 May 1992

⁷ "UK blocks funding for Brussels-backed HDTV strategy" *Financial Times* 16 December 1992 p.1

⁸ "New devices ruffle TV plan" *Financial Times* Financial Times 4 February 1993 p.2

⁹ "Europe will follow US lead over high-definition TV" *Financial Times* 19 February 1993 p.16

¹⁰ *Council Resolution 93/C209/01 of 22 July 1993 on the development of technology and standards in field of advanced television services* OJC 209 3 August 1993

¹¹ *Communication from the Commission...on digital video broadcasting...* EC draft 10463/93 18 November 1993

volume of technical papers on the issue¹².

An Explanatory Memorandum on the draft resolution produced by the DTI noted that¹³:

7. The proposed Council Resolution singles out conditional access as an issue, noting that Community policy on it should be based on ensuring fair and open competition, on protecting the interests of the consumer, and on minimizing the possibility of piracy. Conditional access is that part of the transmission system which scrambles broadcast signals and provides authorised users with the means to descramble them. The cost of providing descrambling "boxes" and the reluctance of TV owners to have more than one "box" by their receiver gives the first provider of a conditional access system a great advantage over later comers.

At the same time as producing the draft resolution the Commission also published a proposal for a new directive on television standards¹⁴. This was the basis for the current directive and it essentially abandoned MAC standards requiring any fully digital service to use a transmission system "which has been standardised by a European standardisation body". In May 1994 the Telecommunications Council "agreed conclusions setting out the next steps on standards for advanced television and invited the Commission to draft an article on conditional access for pay television to be included" in the draft directive on standards¹⁵.

Details of the subsequent progress of the directive were provided in an Explanatory Memorandum on the proposal in July 1995:

4 On 22 December 1994, the Council reached a Common Position on the draft Directive. On 13 June 1995, the European Parliament proposed six Amendments to the Common Position which were considered by the Council the same day. At the Council, the Commission verbally endorsed all six of Parliament's proposed Amendments

5 Following concerns raised by the United Kingdom and Germany, the Council referred the Amendments to COREPER for consideration, particularly the Amendment on conditional access. At COREPER on 13 July the European Parliament's amendments were accepted on the basis of two interpretative Declarations by the Council and Commission in order to clarify the scope of the Parliament's conditional access amendment...

12 The European Parliament's most significant amendment was the addition of a requirement that Member States take all necessary measures to ensure that operators of conditional access systems offered these services to broadcasters on a fair, reasonable and non-discriminatory basis. Member States, especially the United Kingdom were concerned that this Amendment might be seen as an *a priori* obligation on Member States to ensure that digital conditional

¹² DG XIII, European Commission *Digital Video Broadcasting: A Volume of Technical Papers Accompanying the Commission's Communication* 1993

¹³ DTI Explanatory Memorandum on EC draft 10463/93 13 January 1994

¹⁴ *Proposal for a Directive...on the use of standards for the transmission of television signals* EC draft 10576/93 16 November 1993

¹⁵ HC Deb 21 June 1994 c.82W, PQ from Nick Hawkins MP

access operators offer access to their networks as well as to conditional access services. This would have been unacceptable, as it would have placed an onerous open access requirement on operators of digital systems at the same time as they were investing in new technology and consumer equipment. In such circumstances, it would be inappropriate to prevent operators from selecting the services they wished to offer.

13 This difficulty has now been resolved. At the time the Directive is adopted, the Council and Commission will enter two declarations in the Minutes of the Council, recording their understanding that the obligation contained in the Amendment does not amount to an obligation to ensure open access to digital networks. The second Declaration will refer to the conclusions of the G7 Information Society Ministerial meeting in Brussels in February. This Declaration will record the Council and Commission's understanding that this meeting did not call for open access to digital systems. This is necessary, as another European Parliament amendment to the recitals of the Directive might otherwise have been claimed to bear this interpretation.

14 The Government considers that these Declarations mean the implementation of the Directive will now be possible without providing an unnecessarily intrusive or onerous regulatory regime for digital services in the UK.

Further details on the history of the directive can be found in Research Paper 94/83 on *Digital and High Definition Television*.

B. Main provisions of directive 95/47/EC

The directive was adopted at a Council of Ministers meeting in July 1995 and published in the *Official Journal* in November 1995¹⁶. It is due to come into force in August 1996, nine months after publication. The directive only applies to digital transmission systems and so analogue conditional access systems such as VideoCrypt are not covered. This paper only deals with the conditional access aspects of the directive. Information on the technical standards for television transmission can be found in the accompanying Research Paper 96/48 on the *Broadcasting Bill [H.L.]*.

The reasons behind the introduction of a directive are always set out in its recitals. These are useful in interpreting the provisions contained in a directive and can be taken in to account by the courts in any consideration of the terms of a directive. For this reason, the text of the recitals can be quite important. The main recitals of the television standards directive, as they refer to conditional access are set out in the box below.

¹⁶ OJL 281 23 November 1995 pp 51-54

Recitals relating to conditional access

Whereas conditional access is an important matter for the consumers and providers of pay television services and for the rights holders of programmes;

Whereas a widely based consultation process involving the relevant economic actors in the European market has resulted in agreements on a number of issues concerning conditional access to digital pay-television services;

Whereas the operators of conditional access services should be entitled to earn a return on their investments and for the provision of services to broadcasters as an incentive to continue to invest;

Whereas it is appropriate, furthermore, to make provision for transcontrol of conditional access at cable television network head-ends and for the licensing of conditional access technology to manufacturers;

Whereas it is necessary to make compulsory the inclusion of the common European scrambling algorithm in appropriate consumer equipment in the Community in order to ensure that all pay-television service providers can, in principle, provide all digital pay-television consumers in the European Community with their programmes;

Whereas the Presidency's conclusions at the G7 Conference on the Information Society held in Brussels on 25 to 26 February 1995 highlighted the need for a regulatory framework ensuring open access networks and respect for competition rules,

The actual provisions of the directive, relating to conditional access are contained within Article 4 and are reproduced in the box below. As mentioned in the preceding section, on adopting the directive the Council of Ministers "decided to disclose" a number of statements concerning the interpretation of the directive¹⁷. These Ministerial declarations are shown in the box overleaf. The main points of the directive itself were:

Access to conditional access services - any conditional access system operator must offer all broadcasters access to their conditional access systems on "a fair and reasonable and non-discriminatory basis". All such operators must also "comply with Community competition law, in particular if a dominant position appears" and also keep separate financial accounts of their conditional access services.

Access to proprietary conditional access technology -in granting licences to manufactures of equipment the owners of proprietary conditional access technology must ensure that such licensing is "done on fair, reasonable and non-discriminatory terms"

Common interface - a common interface is not mandatory but the owners of proprietary conditional access systems cannot "prohibit, deter or discourage" manufacturers to whom they have licensed their technology from also including a common interface or other proprietary systems subject to conditions ensuring the security of the systems.

¹⁷ Council Press Release 9012/95 (Presse 226) Budget Council 24 July 1995

Article 4 relating to conditional access

In relation to conditional access to digital television services broadcast to viewers in the Community, irrespective of the means of transmission, the following conditions apply:

- (a) all consumer equipment, for sale or rent or otherwise made available in the Community, capable of descrambling digital television signals, shall possess the capability:
 - to allow the descrambling of such signals according to the common European scrambling algorithm as administered by a recognised European standardization body ,
 - to display signals that have been transmitted in clear provided that, in the event that such equipment is rented, the rentee is in compliance with the relevant rental agreement;
- (b) conditional access systems operated on the market in the Community shall have the necessary technical capability for cost-effective transcontrol at cable head-ends allowing the possibility for full control by cable television operators at local or regional level of the services using such conditional access systems;
- (c) Member States shall take all the necessary measures to ensure that the operators of conditional access services, irrespective of the means of transmission, who produce and market access services to digital television services:
 - offer to all broadcasters, on a fair, reasonable and non-discriminatory basis, technical services enabling the broadcasters' digitally-transmitted services to be received by viewers authorized by means of decoders administered by the service operators, and comply with Community competition law, in particular if a dominant position appears,
 - keep separate financial accounts regarding their activity as conditional access providers.

Broadcasters shall publish a list of tariffs for the viewer which takes into account whether associated equipment is supplied or not.

A digital television service may take advantage of these provisions only if the services offered comply with the European legislation in force;

- (d) when granting licences to manufactures of consumer equipment, holders of industrial property rights to conditional access products and systems shall ensure that this is done on fair, reasonable and non-discriminatory terms. Taking into account technical and commercial factors, holders of rights shall not subject the granting of licences to conditions prohibiting, deterring or discouraging the inclusion in the same product of:
 - a common interface allowing connection with several other access systems, or
 - means specific to another access system provided that the licensee complies with the relevant and reasonable conditions ensuring, as far as he is concerned, the security of transactions of conditional access system operators.

Where television sets contain an integrated digital decoder such sets must allow for the option of fitting at least one standardized socket permitting connection of conditional access and other elements of a digital television system of the digital decoder;

- (e) without prejudice to any action that the Commission or any Member State may take pursuant to the Treaty, Member States shall ensure that any party having an unresolved dispute concerning application of the provisions established in this Article shall have easy, and in principle inexpensive, access to appropriate dispute resolution procedures with the objective of resolving such disputes in a fair, timely and transparent manner.

This procedure shall not preclude action for damages from either side. If the Commission is asked to give its opinion on the application of the Treaty, it shall do so at the earliest opportunity.

Ministerial declarations

(i) Statement on the recital referring to the general principle of open access to networks:

The Council and the Commission note that, according to the conclusions of the G7 Ministerial Conference on the Information Society, open access should be regulated by a framework preventing the abuse of dominant positions and constituting part of a future comprehensive regulatory framework for information services in a liberalized market structure, comprising competition in the field of services and infrastructures, the supply of universal services, the interconnectability of networks and a fair and effective system for issuing licences.

(ii) Statement on the provision whereby Member States shall facilitate the transfer of wide screen television services already in operation to digital transmission networks open to the public:

The Council TAKES NOTE of the statement made by the Commission during the debate on the adoption of this amendment in the European Parliament, to the effect that it interprets this text as not imposing binding obligations on Member States regarding the transfer of wide-screen television services already in operation to digital transmission networks open to the public and it ENDORSES that interpretation.

The Council TAKES NOTE that during the same debate the European Parliament signified its agreement to the Commission's interpretation of this text."

(iii) Statement re first indent of Article 4, point (c), of the Directive dealing with conditional access to digital television and reading as follows:

Member States shall take all the necessary measures to ensure that the operators of conditional access services, irrespective of the means of transmission, who produce and market access services to digital television services:

- offer to all broadcasters, on a fair, reasonable and non-discriminatory basis, Technical services enabling the broadcasters' digitally-transmitted services to be received by viewers authorized by means of decoders administered by the service operators, and comply with Community competition law. in particular if a dominant position appears;'

The Council and the Commission state that the first indent of Article 4, point (c):

- applies to any provider of conditional access services operating on a cable, terrestrial or satellite broadcasting network in relation to broadcasters who have access to that network under the national procedures in force and wish to benefit from that conditional access service;
- does not seek to impose an obligation to offer to any broadcaster access for television services to packages or tiers of television services configured and/or administered by the provider, or services involving transparent distribution to subscribers;
- only requires Member States to ensure that broadcasters may have access to conditional access services and that the obligation in Article 4, point (c) does not extend to the underlying network.

The Council and the Commission note with satisfaction that this interpretation is confirmed by the debates in the European Parliament.

Accordingly, the Commission confirms that the Member States are not obliged, when transposing, this Directive, to take measures which go beyond the limited and proportionate objectives referred to in Article 4, point (c) as stated above.

Dispute resolution - Member States are required to ensure that any party which has an unresolved dispute concerning provisions within the directive must have "easy, and in principle inexpensive, access to appropriate dispute resolution procedures with the objective of resolving such disputes in a fair, timely and transparent manner".

Common scrambling algorithm - all consumer equipment (set-top-boxes and digital televisions) must be capable of descrambling television signals which have been encrypted using an agreed common European standard known as the common scrambling algorithm. This does not prevent the use of proprietary scrambling methods, but ensures that any signals broadcast using this standard will be able to be unscrambled by all set-top-boxes. However, this common algorithm only applies to the way in which pictures are scrambled and does not contain any subscription management features. In other words, it does not relate to the provision of smartcards or other methods by which broadcasters could ensure that only those people who had paid for a particular service could unscramble it.

Non-encrypted signals - all consumer equipment must possess the capability "to display signals that have been transmitted in the clear" (with exceptions for those who rent the equipment and are in default of their rental agreement).

Details of how the Government intend to implement the directive are contained in Section IV of this paper.

C. European DVB project and the common interface

Standards for a common interface and the common European scrambling algorithm have been drawn up by the European Digital Video Broadcast (DVB) project. This was formally established in September 1993¹⁸ and now has over 200 member organisations in 25 countries including television manufacturers, broadcasters, satellite operators, governments and regulatory bodies. The Group has approved transmission standards for digital satellite television in 1994 and standards for terrestrial television were approved on 18 December 1995. These terrestrial standards have been submitted to the European standards body, ETSI, for approval. One of the main activities of the group was in determining the type of modulation scheme to be used for terrestrial broadcasts and this is described in detail in the accompanying Research Paper 96/48 on the *Broadcasting Bill [H.L.]*.

¹⁸ DG XIII, European Commission *Digital Video Broadcasting: A Volume of Technical Papers Accompanying the Commission's Communication* 1993 pp 416-422

As far as conditional access is concerned, the members of the Project could not achieve a consensus for the inclusion of a mandatory common interface within the standard for set-top-boxes. The Promotion and Communications Executive for the DVB Project, John Forrest of NTL, has stated¹⁹:

Although a major success of DVB was to agree a common scrambling algorithm, the sole area where unanimity was not achieved was in regard to conditional access. The existing pay-tv DTH [Direct To Home] satellite service providers had already made major investment in subscriber management and conditional access systems; they will therefore be permitted to continue to operate their proprietary conditional access systems, but through a European Union Directive must now make access to the market available to other programme providers on fair and reasonable terms. DVB had a major role in defining the terms of such relationships through a Code of Conduct. In addition, DVB has defined a non-proprietary common interface specification to allow the use of other conditional access systems in receivers and this is attracting much interest in countries which are at the planning stage in their multichannel service implementation.

¹⁹ In a paper on "The European Digital Video Broadcasting Project (DVB)" prepared for the IBC/CFG/EIP conference on *Digital Terrestrial Television* 7-8 March 1996, London.

III. Government policy document on digital terrestrial broadcasting

A. Introduction

In August 1995 the Government published its policy document on *Digital Terrestrial Broadcasting*²⁰. On the issue of conditional access this stated:

4.15 For subscription or 'pay-per-view' television, each multiplex provider, and/or the broadcasters with whom it is contracted, will need to make arrangements for conditional access - in particular for encryption and subscription management. In theory it would be possible for each different broadcaster to use a different encryption system. But this would be very expensive, unpopular with consumers and also inefficient. Similarly, it may well be more practical and efficient for a number of broadcasters to make use of a single subscription management centre.

4.16 The Government wishes to avoid a situation in which providers of encryption systems, or of subscription management systems, can favour one broadcaster, or multiplex provider, over another. Any provider of encryption or subscription management for digital terrestrial broadcasting should:

- not discriminate in favour of or against any particular multiplex provider or broadcaster; and
- not unreasonably refuse to offer its services to further multiplex providers or broadcasters on fair and reasonable terms.

4.17 The Government therefore proposes that providers of these systems to terrestrial multiplex providers or broadcasters should be licensed under the Telecommunications Act; after consultation on the licence conditions with the ITC and other interested parties, and subsequently regulated by OFTEL, working closely with the ITC, and that fair, reasonable and non-discriminatory dealing should be a condition of the licence. The licence conditions will reflect the EC Directive on Television Transmission Standards. The Government will be considering further the implementation of this Directive.

The responses of various broadcasters and regulators to the policy document in regard to conditional access are set out in the sections below:

²⁰ DNH *Digital Terrestrial Broadcasting: The Government's Proposals* August 1995 Cm 2946

B. BBC's response

In its response document the BBC stated²¹:

4.24 It is... in the interest of all programme service providers that there should be a single conditional access standard for DTT [Digital Terrestrial Television]. And, it would be preferable if that standard applied also to all other forms of digital broadcasting - satellite and cable allowing for there to be one combined set-top box for digital broadcasting overall.

4.25 A joint conditional access standard and set-top box would improve the economics of the DTT industry. It would shift the focus of competition away from technology and towards content. But the creation of a single conditional access standard clearly involves the risk of monopoly. If programme service providers are denied the ability to use conditional access or subscriber management systems - or only allowed to do so at prohibitive cost - then the effect would be to limit the availability of high-quality programming services to the audience. If, on the other hand, conditional access and subscriber management are open to all programme service providers, then the effect will be to maximise the range and quality of available services and the benefit to audiences.

4.32 The BBC also believes that there should be active regulation to ensure that the transmission suppliers on any digital delivery system should be required to operate as a 'common carrier' - that is, required to offer services to programme service providers on fair, reasonable and non-discriminatory terms. This is comparable to the regime that currently operates successfully throughout the telecommunications industry.

C. ITV's response

In its response document, in a section on allocating licences and subsidy of set top boxes, ITV commented²²:

4.(i) ...[the ITV companies] believe that in seeking to make investment in the promotion of digital services - and in particular the provision of subsidies to equipment manufacturers to reduce the cost of the equipment - a criterion for assessing the bids, the Government has devised a mechanism which will not only be difficult to operate but, more importantly, will seriously damage the structure of broadcasting thereafter...

4.(ii) ...the ITV companies believe the subsidies proposal is fundamentally misconceived;

²¹ BBC *Britain's digital opportunity* October 1995

²² *The ITV response to the Government's proposals for the introduction of digital terrestrial television* October 1995

but they also have doubts about its practicability as part of a bidding mechanism. Most applicants are likely to be concerned that their subsidies could end up assisting rival broadcasters - whether these are other multiplex owners who won licences with lower subsidy promises, or satellite broadcasters who could "free ride" on subsidised DTT equipment (if as it ought to be, it is compatible with satellite and cable services) by offer cut-rate dishes to DTT purchasers. There is also the question of additional digital terrestrial frequencies that could be licensed at a later date. Licensees on these frequencies could also unfairly benefit from the subsidies paid by the first wave.

As far as conditional access was concerned ITV stated:

5.(i) ...the ITV companies... believe that all conditional access systems and receiving equipment (both satellite and terrestrial) should be based on open access (or 'common interface') technology;

5.(ii) ...In the recent European debates on conditional access ITV has supported the mandatory common interface solution. Although the outcome was a compromise, the potential dangers of a monopoly gatekeeper remain real and there would be many advantages for consumers and for broadcasters if the common interface were to be mandated by the licensing authority...

ITV considers that it is preferable to have competing CA [Conditional Access] systems in the market-place, using the common interface. Alternatively, if there is only one CA system there should be a choice of subscriber management systems. In either event, it is most important that a broadcaster should not be contractually tied into an SM system offered by the CA provider...

5.(iii) ...Just as the European Directive regulates digital satellite and digital terrestrial television the ITV companies believe that the Government should extend the regulation of conditional access to both digital and analogue satellite television.

5.(v) ...the respective powers of each regulator should be clearly defined. These powers must be adequate to deal... with... all types of anti-competitive behaviour which may develop in future. ...regulators should have a relatively broad discretion rather than be circumscribed by powers based on a list of specific types of conduct...

The regulators should be able to take speedy and robust action - unlike the procedures obtaining under the Competition Act. The ITV companies suggest that appropriate provisions are included in all digital TV licences and that regulators can take fast and effective action in respect of any breach of licence conditions.

As third party rights may be affected by anti-competitive behaviour, it is important to preserve or create injunctive relief and damages rights against those found to be acting anti-competitively.

Although references from the regulatory authorities may be appropriate in certain circumstances (eg change of licence condition, reference to the MMC) to avoid delay and political interference in relation to enforcement procedures the only remedy should be to the Court by way of Judicial Review.

D. BSkyB's response

In its response document BSkyB stated:

Some parties have suggested the need for a compulsory "common digital terrestrial and satellite box", or even a combined terrestrial/ satellite/cable box, with a "common interface" for conditional access (CA) systems...

...the DVB has never suggested such a requirement. Nor have the DTI (a DVB member), the European Commission, the Council of Ministers or those with actual operating experience in pay TV management and anti-piracy efforts.

There are many problems with any compulsory approach here. Compulsory dual-standard terrestrial-satellite boxes would increase the entry price for investors and consumers, deter investment, create competitive distortions viz. other delivery systems (e.g. cable) and delay the launch of new services... These should remain optional devices in the market place.

There are also problems with the "common interface" approach to conditional access in terms of its cost, availability, security and operation, which have yet to be addressed. Among these:

If the system worked as intended, more than one CA system would be needed to receive all the channels of broadcasters using different systems. So viewers would need multiple plug-in "modules" containing these different CA systems. These modules are by their nature significantly more costly than the basic "smart card" used in the "Simulcrypt" approach since they must contain the entire access control system. The consumer may require a stack of costly common interface modules in order to receive all broadcasts, and if so, must pay for these either directly or through increased programme charges...

Broadcasters using one conditional access system in the common interface cannot turn on or off subscribers, or send essential antipiracy signals, when other conditional access systems are in use. This is a significant drawback in the digital environment where active pay TV management is needed 24 hours a day. e.g. to upgrade or downgrade subscribers' services, activate pay per view events, serve "impulse" orders for near video on demand programmes, and combat piracy.

The common interface offers a more attractive target for pirates, and the cost of "swapping out" conditional access modules (versus simulcrypt cards) in the event of piracy would be prohibitive...

It is regrettable that, in the course of debate, some proponents of the common interface have obscured these issues and made inaccurate or misleading comments about "proprietary" conditional access systems and "gateway" operators...

The idea that BSkyB, as a "gateway" operator, would be able to block access, or would want to do so is a myth that has been carefully propagated by vested interests (and seemingly shared by the ITC, which has referred to non-existent "public disquiet" about this area). In the six years since BSkyB pioneered the main encryption service in the UK, **no applicant for its use has been turned away**. Indeed, for its own good commercial reasons -- to ensure the growth of satellite television in the UK -- BSkyB has facilitated the continued expansion of the number of channels offered to satellite subscribers, by making its conditional access technology available to channels which compete with it directly for revenue...

BSkyB welcomes the Government's recognition... that both United Kingdom and European Community competition law provide a broad remit for the competition authorities to investigate and deal with a wide range of practices which includes conditional access. We also welcome the statement of the Government's Technology Minister...that... the directive will provide an appropriate level of regulation without leading to unwelcome requirements that would deter investment and delay the launch of new digital services...

BSkyB is willing to explore how to make digital satellite boxes even more "terrestrial friendly". Were BskyB to commit to an active role in DTT, it could make further significant contributions to the development and cost effectiveness of DTT.

E. ITC's response

The ITC made the following comments about conditional access in its response document²³

41. The Government has set out as part of its proposals a framework for regulating the use of conditional access systems on the context of digital terrestrial television... The Government's decision that providers of conditional access systems will be subject to direct regulation is welcomed. However the ITC believes that fair and effective competition relates directly to the services which are available to viewers and should therefore be regarded as an element of broadcasting rather than telecommunications regulation.

F. Oftel's response

Oftel made the following comments about its role in its response to the Government's policy document²⁴

2. OFTEL is committed to playing its full part in developing that framework and welcomes the role allotted to it under the Government's proposals. Oftel of course already undertakes the economic regulation of broadcast transmission, as well as switched telecommunications networks such as BT's network. The regulation, under the Telecommunications Act, of conditional access and multiplex services fits with that role. Oftel will be able to bring to bear the expertise it has developed on issues such as ensuring interconnection to telecommunications networks on non-discriminatory terms.

4. ...OFTEL believes that there is an important and continuing role for the ITC in the regulation of the content of broadcast programme services. We see economic regulation of transmission (including conditional access) as supporting the objectives of quality, plurality and diversity and fully endorse the White Paper's stress on the need for consultation and collaboration with the ITC.

²³ *Digital Terrestrial Broadcasting: ITC Response to the Government's Proposals* October 1995

²⁴ *Response by the Office of Telecommunications (Oftel) to "Digital Terrestrial Broadcasting: The Government's Proposals"*

5. Oftel is working with DTI to consider the implementation of the EU Directive Television Transmission Standards and the commitments made in the White Paper. We believe that it is essential to ensure that the Director General for Telecommunications has the appropriate powers to fulfil the responsibilities allotted to him by the White Paper.

7. OFTEL would expect... licences to include conditions which will be effective to prevent discrimination or other conduct restricting or distort competition in this or an another part of the market.

8. The scope of the relevant market is an important factor in considering our approach to the regulation of multiplex and conditional access services. our view is that digital terrestrial television and radio may well come to form part of a wider market for unswitched, broadcast transmission encompassing both analogue and digital transmission, whether terrestrial satellite or cable. We believe that regulation should in principle be neutral between technologies and delivery mechanisms otherwise there is a risk of market distortion.

9. The EC Directive and the Government's proposals thus seem to only cover part of the potential market. However it may be that analogue satellite pay TV services are quickly replaced by digital, so that this partial coverage may not present problems in practice.

G. DNH's summary of responses

In its summary of the responses to its policy document, the DNH made the following comments about conditional access:

19. There was general support for the Government's proposal to license the providers of conditional access and subscriber management, and some respondents suggested licensing these services across all modes of transmission. There was widespread support for a common interface which would allow a set-top box to use several different conditional access systems should they enter the market and not to limit it to one proprietary system; some respondents thought that these ought to be mandatory, others preferred that they remain optional. Many were in favour of a combined cable/satellite/ terrestrial set-top box.

20. Several of those who responded believed that there should be only one conditional access provider who should be licensed and regulated. Others felt that it was important not to have a monopoly in the conditional access market. Electronic programme guides were also identified by many as an area for licensing and regulation, noting that EPG providers would potentially be in a powerful position with regard to the broadcasters.

IV. DTI consultation paper on the regulation of conditional access

A. Introduction

In January 1996, the DTI published a consultation paper on *The Regulation of Conditional Access Services for Digital Television* which stated that draft regulations to implement the EC television standards directive would be published by May 1996.

The paper outlined the Government's obligations under the directive thus:

- (a) the Directive (covering digital cable, satellite and terrestrial television) obliges the UK to regulate all conditional access services provided to third parties, including both encryption and scrambling services, and SMS;
- (b) the Government's policy paper (covering digital terrestrial television only) makes specific proposals for digital terrestrial television, and makes clear that regulation will be by way of Telecommunications Act licenses, issued by DTI and enforced by OFTEL. Both the issue and enforcement of licences will be undertaken in consultation with the ITC. The policy document specifies that there will be conditions on non-discrimination and refusal to supply (in line with both the Directive and general competition law).

It went on to state that in implementing these obligations the Government had the following objectives:

- (a) to provide the right climate for investment in new digital services, including a clear, stable and effective regulatory framework;
- (b) to promote choice for the viewer;
- (c) to encourage the development of effective competition at all parts of the market in both services and infrastructure;
- (d) to provide a framework which supports innovation in technology and services, including programme services;
- (e) to provide a framework which supports the Government's objectives of ensuring plurality and diversity of ownership and control in the media.

A number of questions have been raised by interested parties about the Government's proposals to give Oftel (rather than the ITC) powers for regulating conditional access services and the fact that only digital conditional access services will be covered. These issues are explored in the following sections, and details of attempts to change these proposals through amendments in the *Broadcasting Bill* during the Bill's passage through the House of Lords are described in Section V.

B. Why should Oftel regulate conditional access?

In its consultation paper, the DTI stated that the Government had decided to introduce conditional access regulations under the *Telecommunications Act 1984*, and hence give regulatory powers to Oftel for "two key reasons":

- conditional access systems work through streams of data sent over a telecommunications system, and themselves form an inherent part of the infrastructure used to deliver subscription television. They require licensing and regulation under the Telecommunications Act in any case;
- conditional access systems are economically-important parts of the telecommunications infrastructure used to deliver broadcasting services. Those who control conditional access systems are important potential gatekeepers in this part of the communications market - just as those who control the transmission systems are in a similar position, and are regulated under the Telecommunications Act.

The ITC disagrees with the Government's proposals for regulating conditional access under telecommunications rather than broadcasting legislation. In a briefing paper for the Bill's second reading in the House of Commons, the ITC commented:²⁵

Conditional access and subscriber management services relate principally to broadcasting rather than to telecommunications. The issues which are likely to arise in regulation will affect the content, range and terms upon which programme services are made available to viewers. Their relationship with transmission or with other telecommunication systems is secondary. This is recognised in the 1990 Act, in which the ITC's duty in relation to fair and effective competition extends to services (such as conditional access and subscriber management) which are "connected" with its licensed programme services. The problem is that providers of conditional access or subscriber management services which are not already holders of ITC licences are not covered by these powers.

While the ITC welcomes Government's intention to provide for these services to be licensed directly, the proposal to adapt telecommunications legislation which was designed for a different purpose rather than broadcasting legislation - especially at a time when new broadcasting legislation is before Parliament - is in the ITC's inefficient and ineffective. The argument that these services already require a licence under the Telecommunications Act, and are already therefore subject to Oftel regulation, is spurious, since this refers merely to a system of "class" licensing which applies without any process of individual award to a very wide range of systems such as domestic telephones, computer equipment, hearing aids and indeed equipment used in the provision of broadcast services. Just because telecommunications equipment or systems are used in a particular application does not imply that regulation should be by means of telecommunications legislation. Otherwise the whole of broadcasting as well as, for example, financial transactions carried out over the telephone, would be regulated under a telecommunications regime.

Taking an opposing point of view, Oftel has welcomed "the role allotted to it under the Government's proposals" (see Section III.F above for further details).

²⁵ ITC *Broadcasting Bill Background Briefing: House of Commons Second Reading 29 March 1996*

C. DTI's proposals for regulation using telecommunications class licences

The DTI has proposed regulating conditional access and subscriber management services by introducing two new "class licences" under the *Telecommunications Act 1984*; one covering encryption services and another covering SMS services.

Under section 5 of the *Telecommunications Act 1984* it is illegal for any person to run a "telecommunications system" within the UK unless he has a licence to do so. The definition of a "telecommunications system" is very broad and includes any system "for the conveyance" of speech, music, sounds, visual images, signals by means of "electric, magnetic, electromagnetic" and other forms of energy²⁶. Any apparatus connected to such a system is also regarded as a telecommunications system. This means, for instance, that all telephones are "telecommunications systems" and can only be run if the person using it has a telecommunications licence. At first sight this might appear to be a regulatory nightmare, but the problem is solved by the use of "class licences".

Under section 7(3) of the Act the Secretary of State may issue telecommunications licences "either to all persons, to persons of a class or to a particular person". Such licences may authorise the connection of any specified apparatus or specified telecommunications system to any telecommunications system to which the licence relates. Class licences apply to all persons of that class and they do not need to register, notify or make a declaration of their intention to take advantage of the licence. Currently, there are class licences for three different types of telecommunications systems:

Self provided telecommunications systems (SPL) - systems covered by this licence include all telephones connected to a public telephone network. It is this licence which makes it illegal for a non-approved telephone to be connected to a telephone network²⁷. The licence prohibits the provision of telecommunication services to third persons for a profit.

Branch systems to provide telecommunications services (TSL) - this authorises the provision of telecommunications services to third persons within a set of premises. Private call boxes at such places as shopping centres or airports are covered by these licences.

Telecommunications systems providing value added and data services (VADS licence) - this authorises the provision of telecommunications services other than live speech, mobile services, telex and broadcast television within a set of premises.

²⁶ See section 4 of the Act

²⁷ Approvals are granted by BABT - British Approvals Board for Telecommunications

The DTI consultation paper stated that class licences for encryption and SMS services would be put in place in the following way:

- (a) Statutory Instruments under the European Communities Act 1972 to give the necessary underpinning for the licensing regime set out below so far as it relates to the implementation of the Directive, and extends beyond existing arrangements. In particular, these will make clear that SMS services are "telecommunication services" as defined in the Telecommunications Act, remove both encryption and SMS services for digital television programme services from the service authorisation of the existing Value Added Data Services Class licence (which cannot otherwise be amended before 1999, and which would otherwise licence these services in non-specific terms) and at the same time modify existing Telecommunications Act licences to take encryption and SMS services outside the scope of the services authorised to be provided;
- (b) revocation and re-issue of the existing Telecommunications Services Class Licence and the Self Provision Class Licence to remove encryption services from the scope of this licence's service authorisation but leave the running of subscribers' decryption equipment within the licences.
- (c) issue of two new class licences, one covering encryption services and one covering SMS services. As has been explained, these two licences are needed as encryption and SMS services may not be directly connected to each other, and so may amount to two separate systems. The conditions contained in these two licences would (as is explained below) be largely identical.

Unlike existing class licences, the DTI have said that "the two new class licences would require those operating systems authorised by the licences to register with OFTEL". If a person breaches the requirements of a telecommunications licences then under ss. 16-18 of the *Telecommunications Act 1984* the Director General of OfTel has powers to enforce licence compliance. However, in the consultation paper the DTI has suggested that a different procedure could also be used:

The Director or the Secretary of State may specify that the licence does not apply to particular operators in circumstances where there is a pattern of anti-competitive behaviour or breach of licences conditions. In such circumstances the operator would be required to seek an individual licence which might contain more onerous conditions.

This statement raises the question as to why the Government has proposed the use of class licences rather than just having individual licences for each provider of conditional access and subscriber management services. Although the reasons for this are not mentioned in the paper, the DTI has adopted this approach as it is in line with forthcoming European legislation on the licensing of telecommunication systems²⁸. This legislation is being introduced in preparation for the liberalisation of the European telecoms market from 1998.

²⁸ Source: DTI, 3 April 1996

The DTI's consultation paper stated that the relevant licence conditions for operators under the new licences would include measures on:-

- (a) an obligation to provide services to all relevant broadcasters or multiplex providers who request them, and a prohibition of undue preference or discrimination...
- (b) a power to determine terms, charges and conditions...
- (c) a condition governing linked sales...
- (d) a requirement to furnish all requisite and relevant information to the Director in a form and at a time determined by the Director...
- (e) the licence would also provide for circumstances where the licensee appeared to act in breach of these conditions...
- (f) conditions designed to prevent evasion of licence obligations through the licensee's group...
- (g) requirements to keep separate accounts for the conditional access service business...
- (h) a power to require the licensee to interconnect and for the Director-General to determine terms and conditions of interconnection...
- (i) a power to require the declaration of essential interfaces. This requirement supports the power to require interconnection by ensuring that proprietary technical interfaces do not impede interconnection.

On the issue of the resolution of disputes the paper stated:

40 The Directive requires member states to ensure that any party having an unresolved dispute concerning the application of the provisions of the Directive on conditional access services is able to have "easy, and in principle inexpensive, access" to "appropriate dispute resolution procedures" which operate in a "fair, timely and transparent manner". The Directive explicitly provides that this is not intended to substitute for civil action for damages.

41 It is proposed to meet this obligation in respect of conditional access services using the mechanism of a Telecommunications Act licence condition, giving the Director a specific role to issue a determination in respect of relevant disputes. Appeal in respect of the outcome of a dispute could be to the Court by way of judicial review.

As far as the role of the ITC is concerned the paper commented:

49 The Government has made clear that all conditional access licences would be both issued and enforced in consultation with the ITC. That is not novel; the DTI, ITC and OFTEL have worked together very closely for many years in licensing the cable industry under both the Telecommunications and Broadcasting Acts.

50 Looking ahead to the operation of licences for conditional access services, while the Telecommunications Act places duties on the Director-General as to the manner in which he carries out his functions, the Act permits disclosure of information on individual companies where this is necessary for the performance of the Director's functions under the Act. Disclosure to the ITC would normally be covered within this provision.

Under sections 10A and 10B of the *Telecommunications Act 1994* the ITC has to be formally consulted before a licence for a "local delivery service" for cable television is awarded or revoked. The DTI's consultation paper does not propose a similar requirement in respect of conditional access or subscriber management systems.

The consultation paper does not state how the Government intends to implement the requirements in the EC directive concerning²⁹:

Access to proprietary conditional access technology -in granting licences to manufactures of equipment the owners of proprietary conditional access technology must ensure that such licensing is "done on fair, reasonable and non-discriminatory terms"

Common interface - a common interface is not mandatory but the owners of proprietary conditional access systems cannot "prohibit, deter or discourage" manufacturers to whom they have licensed their technology from also including a common interface or other proprietary systems subject to conditions ensuring the security of the systems.

D. Why are only digital conditional systems to be regulated?

The EC directive on television standards only refers to digital transmission systems and so does not require the regulation of analogue conditional access systems such as BSKyB's VideoCrypt system.

In its consultation paper, the DTI commented:

19 The licensing proposals set out in this paper are confined to the provision of digital television services, and not to existing analogue services. This reflects the fact that conditional access services in analogue television have been confined to satellite and cable. Taken together, these two means of delivery reach about a fifth of UK households; the rest rely entirely on free- to-air television services (and a large proportion of viewing in satellite and cable homes is also of the free-to-air terrestrial channels). The reach of these services is expected to increase substantially over the next few years providing a great deal more potential choice for viewers, and much greater use of subscription or pay television. Moreover, the removal of capacity constraints when digital services are introduced for terrestrial, as well as cable and satellite services, would allow existing analogue services to migrate, following market demand. Conditional access systems for digital transmission are then likely to become relatively much more important to the economics of UK industries for broadcasting, communications, information and consumer equipment manufacturing.

²⁹ Although the need for such provisions is mentioned in paragraph 20(f)

In its briefing paper for the for the Broadcasting Bill's second reading in the House of Commons, the ITC commented:³⁰

The ITC shares the views expressed on all sides of the House of Lords that regulation of conditional access should be technology neutral. It should apply equally to analogue satellite as well as new digital services. It is hard to justify why it should not. No-one can predict with certainty either the rapidity of the take-up of new digital services, whether delivered terrestrially or by satellite, or the speed with which viewers will cease to subscribe to analogue satellite channels. Conditional access in relation to analogue satellite services is a live issue here and now, and will remain so into the next century.

In its response to the Government's policy document on *Digital Terrestrial Broadcasting* Oftel commented (see Section III.F above).

9. The EC Directive and the Government's proposals thus seem to only cover part of the potential market. However it may be that analogue satellite pay TV services are quickly replaced by digital, so that this partial coverage may not present problems in practice.

Oftel has also commented in the issue in its submission to the current Office of Fair Trading Review of the pay-TV market. The OFT launched its review in December 1995 and it is due to examine various aspects of BSkyB's position in the pay-TV market including access to encryption services³¹. In a separate but related development, the OFT is also investigating BSkyB's VideoCrypt system under the *Restrictive Trade Practices Act 1976*. This is because the agreement between broadcasters over the use of VideoCrypt in the analogue satellite TV market is subject to registration under the Act. All agreements registered under the Act have to be referred to the Restrictive Trade Practices Court unless the Secretary State, following advice from the OFT, directs that the agreement is not significant enough to warrant examination by the Court. The vast majority of agreements are not examined by the Court. According to its most recent annual report, in 1994, the OFT was sent details of 1,280 agreements of which 581 were added to the register and in the same year the OFT advised the Secretary of State that 1,261 agreements did not contain significant restrictions on competition. Only two cases were heard by the Court in 1994. However, BSkyB's and BBC's agreement with the Premier League on televising football matches was referred to the Court in February 1996³².

³⁰ ITC *Broadcasting Bill Background Briefing: House of Commons Second Reading* 29 March 1996

³¹ "Director General to conduct BSkyB review" *Office of Fair Trading News Release* 50/95 1 December 1995

³² "Premier League broadcast agreements referred to Court" *Office of Fair Trading News Release* 6/96 6 February 1996

Research Paper 96/49

In its submission to the OFT review, Oftel made the following comments about the Government's proposals for regulating conditional access³³:

The proposals do not however cover conditional access systems for analogue services. This omission may not however be of long term significance as current analogue satellite services are likely to 'migrate' to digital within a fairly short period (because of the costs of running two systems in parallel). Analogue satellite services may therefore quickly cease to be of importance along with the supporting conditional access systems.

However, in the summary of its submission, dealing with all aspects of the pay-TV market and not just conditional access, Oftel stated (ibid, p.8):

"...no one knows for certain when digital services will be launched in this country or how quickly the 'migration' of existing analogue satellite and cable subscribers to digital will take place. It may well be that the transition will continue into the early years of the next decade. Reliance on an early or rapid transition may prove unwise."

BSkyB has not fixed a firm date for launch of digital satellite services. The journal *New Media Markets* recently reported³⁴:

The company was first expected to launch digital late this year, then put it back to early 1997... Now it says that it will launch sometime in its next financial year, July 1997 to June 1998

The digital delay will destroy most, if not all, the head start which BSKyB would have had over digital terrestrial services, which the government hopes will launch sometime in 1997.

But the delay underlines that BSKyB will not rush into an era that is likely to get off to a shaky start until the cost of reception equipment is greatly reduced. It also suggests that BSKyB is not worried about digital terrestrial competition.

BSkyB is strongly opposed to the extension of the current proposals to the analogue satellite TV market. In a briefing paper prepared for the House of Lords stages of the *Broadcasting Bill* BSKyB made the following comments about amendments seeking to extend regulation to analogue conditional access:

There is no need for additional regulation of conditional access or SMSs because there is no problem...

- In the six years since BSKyB pioneered Videocrypt, **no applicant for its use has ever been turned away.**

³³ Oftel Submission by the Office of Telecommunications to the Office of Fair-Trading review of the pay-TV market February 1996 p.58

³⁴ "BSkyB delays digital launch..." *New Media Markets* 8 February 1996

- There are now **more non-Sky channels than Sky channels who use Videocrypt** in the UK - only 10 out of 30 VideoCrypt encrypted channels are Sky-owned, with many independent and competitive broadcasters operating.
- It is **in BSkyB's interest to expand the number of UK satellite channels**, as it needs to ensure there are always new incentives to viewers to buy a dish...
- **Thanks to Sky's original investment and willingness to take risks, new competitive channels are able to gain access to new audiences** at low additional cost and at a fraction of the risk.
- **Any potential abuse would be adequately dealt with by existing regulators**, such as the OFT (its current review encompasses Videocrypt access), the MMC, and the European Commission Competition Directorate (where there is an active file).
- **There are already a number of SMSs in the UK which be adapted to collect payments for pay-television services - anyone can easily create their own SMS.** Consequently, there can by definition be no 'gateway' control, and it would be pointless to introduce licensing for those SMSs used solely in the broadcasting sector...

...Furthermore, **broadcasters do not have to use satellites to distribute their programmes**, as they can always be distributed via cable...

The real gateway exists on cable networks, where there is no rate-card or other reasonable access for broadcasters wishing to be distributed on them. There is no option for a broadcaster to have direct access to his customers on cable if the cable operator does not allow it...

There should be no new regulations, and the status quo should remain. BSkyB is already subject to a tight regulatory regime.

V. Broadcasting Bill

A. Introduction to the main issues

During the passage of the *Broadcasting Bill* through the House of Lords several attempts were made to amend it to include controls on conditional access. These amendments focused on three main issues:

The single set-top-box - Concern has been expressed that if there is more than one conditional access system and the "common interface" solution is not adopted then viewers will have to purchase a plethora of set-top-boxes to receive all the services. Some proponents argue that there should be a single set-top-box for all terrestrial digital services whilst others go further and suggest that there should just be one box for both terrestrial and digital services. In the context of single set-top-boxes the phrases "must carry" and "must offer" have been used in relation to "public service" channels. A "must carry" obligation would require all digital cable operators to also carry the BBC's, ITV's and C4's digital terrestrial services. A "must offer" obligation would require access to these terrestrial services to be available via satellite conditional access boxes. In other words, a "must offer" obligation would mean that every satellite digital set-top-box would also have to be capable of receiving digital terrestrial services. Both the BBC and ITV have supported "must carry" and "must offer" amendments. Further views on the single set-top box can be found in Section III above.

Regulation of analogue conditional access - As discussed in section IV.D above the Government proposals for regulating conditional access services only relate to digital and not analogue systems. A number of amendments have sought to extend regulation to analogue conditional access services. Some of these have suggested that the ITC is the appropriate regulator and others that Ofcom should be the regulator - further details of this particular debate can be found in section IV.B above.

Regulation of electronic programme guides - a number of amendments have sought to ensure that "electronic programme guides" (EPG) will be regulated. These guides will be like, for example, an electronic version of the *Radio Times* which will be displayed on your television screen when you turn it on. Concerns have been expressed that some set-top-boxes might only be able to access one broadcaster's EPG and that this would not provide details or allow access to other broadcasters services. Various amendments have therefore been tabled on the regulations of EPGs.

Details of the main amendments concerning the above subjects during the passage of the *Broadcasting Bill* through the House of Lords are shown in the table below:

Stage	Subject	Proposer	Date	LH ref
Cttee	Must carry/must offer	Baroness O'Cathain	6 February	c.176
Cttee	Single set-top-box	Lord Donoughue	6 February	c.200
Cttee	Licensing of analogue and digital by ITC	Lord Thomson	8 February	c.340
Cttee	Electronic programme guides	Baroness O'Cathain	8 February	c.354
Cttee	Licensing of analogue and digital by Oftel	Viscount Astor	15 February	c.741
Report	Licensing of analogue and digital by ITC	Baroness Dean	5 March	c.178
Report	Licensing of digital, must carry/offer, EPGs	Baroness O'Cathain	5 March	c.192
Report	Overarching criteria for award of multiplexes	Lord Inglewood	5 March	c.210
Report	Licensing of analogue and digital by Oftel	Viscount Astor	7 March	c.446
3rd	Must carry	Baroness O'Cathain	19 March	c.1176

B. The single set-top-box and "must carry/must offer"

During the Committee stage of the Bill Lord Donoughue spoke on amendment to ensure that the ITC could co-ordinate the provision of a single set-top-box for digital terrestrial services in awarding multiplex licences³⁵. In response, the Parliamentary Under-Secretary of State at the Department of National Heritage, Lord Inglewood commented:

I have yet to speak to anyone who sees a successful future for digital terrestrial televisions involving more than one set-top-box. After all, does anyone really imagine that viewers will be prepared to invest in a box which gives them only one half, one-third or one-sixth of the services coming on stream? That just does not make commercial sense.

...last week I was discussing that very point with the Digital Television Group, which is an expanding group of manufacturers, broadcasters, transmission providers and prospective multiplexers. Members of the group told me, with no dissenters, that the only way that digital terrestrial television would get off the ground would be through co-operation. That is happening already. That is the rationale for the DTV group.

...There are different ways to achieve a single set-top box for digital terrestrial television: the common interface is one, allowing viewers to purchase cheap add-ons to the basic box to accommodate additional access systems; there

³⁵ HL Deb 6 February 1996 cc 199-200

is also simulcrypt which is a system which allows different types of conditional access systems to be receivable through a single box. At this stage neither we nor the ITC can predict which conditional access arrangements will emerge for digital terrestrial television.

We believe that it is for industry and not for the legislator or the regulator to determine the industry's solution...

...I am prepared to look again at whether there may be advantage in allowing the ITC, when it considers applications, to take into account the extent to which the applicants proposals will contribute to the successful launch of digital television...

In fact, Lord Inglewood did introduce an amendment at the Report Stage of the Bill so that in awarding multiplex licences the ITC could have regard to an "overarching" criteria of the extent to which an applicant would "promote the development of digital television broadcasting in the United Kingdom otherwise than by satellite"³⁶. This requirement is now contained in clause 8 of the Bill³⁷. Lord Inglewood commented that "this means the ITC can look at proposals for promoting and encouraging the acquisition of set-top boxes, and consider whether they are likely to lead to a cohesive rather than fragmented market".

In its briefing paper for the for the Broadcasting Bill's second reading in the House of Commons, the ITC commented that this new provision:³⁸

...gives the ITC some locus in taking into account the detrimental effect which incompatible receiver proposals might have on the development of digital terrestrial TV as a whole package, but it does not provide the direct statutory backing to the single receiver concept which the ITC was seeking in order to protect the viewer's interests.

Part of the Government's arguments is that industry consensus will produce the single receiver result... The ITC agrees that industry consensus is far and away the best way forward... the ITC would prefer to have a reserve statutory power in order to break a log jam should the need arise.

The ITC's position does not extend to mandating a single receiver of box for digital satellite as well as terrestrial services. Such equipment has added complexity which is likely to affect the prices and would restrict the viewers' ability to choose to receive new digital satellite or terrestrial services.

³⁶ HL Deb 5 March 1996 c.210

³⁷ Bill 88 1995/96

³⁸ ITC *Broadcasting Bill Background Briefing: House of Commons Second Reading* 29 March 1996

As far as "must carry" and "must offer" is concerned, in moving an amendment on the issue at the Lords Committee stage, Baroness O'Cathain stated ³⁹

The survival of network television in Britain is dependent on its services being available to a truly nationwide audience...

The issue has been addressed in other countries. The mainstream broadcasters regret that the Broadcasting Bill is silent on the topic. They believe that action should be taken to ensure that British audiences continue to have universal access to public service channels in the digital age. The proposed amendments reflect a number of important measures. The so-called "must carry" and "must offer" requirements are the ones to which I am talking...

In reply, Lord Inglewood commented:

...there is, of course a strong possibility - given the clear consumer interest in such a development I think we may call it a likelihood - that by the time analogue is switched off the industry will have developed receivers able to receive all three modes of transmission: terrestrial, cable and satellite. Even if that is not the case... and even if some households in the future have access to digital cable or satellite receivers but not to terrestrial ones, there will be every incentive for providers of cable and satellite transmission services to ensure that the public service channels are carried and that no separate charge is made to receive them. In practice, I understood that all cable companies with current franchises currently choose to carry the services of terrestrial broadcasters, without the need for statutory provision...

The issue of "must carry" was raised again in an amendment by Baroness O'Cathain at third reading. In reply, Lord Inglewood stated⁴⁰:

...The Government are... prepared to look again at how they might provide safeguards on the face of the Bill which would meet the principle concerns so lucidly explained by my noble friend and other noble Lords who have expressed an interest in this matter...

...the Secretary of State and I shall be discussing with our colleagues in government how we might move forward to a solution satisfactory to all concerned...

³⁹ HL Deb 6 February 1996 cc 176-178

⁴⁰ HL Deb 19 March 1996 c.1182

C. Regulation of conditional access and subscriber management services

A number of attempts were made in both Committee and at Report to regulate analogue conditional access services as well as digital services (see table above). There was a division of opinion over whether Oftel or ITC should be the regulator but with all the amendments the principal concern was to regulate analogue conditional access. The Government opposed these amendments and they were not pushed to the vote at the Committee stage. The amendments were, however, voted on at the Report stage. Baroness Dean's amendment for regulation under the ITC was defeated by 110 to 136 votes⁴¹, and Viscount Astor's amendment for regulation under Oftel was just defeated by 101 to 103 votes⁴²

D. Electronic programme guides

Electronic programme guides were first discussed in detail during consideration of Baroness O'Cathain's amendment at the Committee stage of the Bill⁴³. The amendment called for operators of EPGs to be licensed by the ITC and for "publicly funded channels" to be guaranteed a "prominent position on the first page of any menu-driven navigational or other aid used in connection with the electronic programme guide".

In reply to the amendment Lord Inglewood commented:

The Government are aware of the potential that electronic programme guides might provide for unfair competition...

We intend to ensure that that does not happen. However we are not clear at this stage that the matter requires further specific regulation beyond the provisions of the Bill as drafted and of existing European and domestic competition law...

...the Office of Fair Trading also has extensive and effective powers under general competition law. Further, - and this is an important point - a digital EPG would, under the Bill as drafted, require an additional services licence. Thus the ITC would have the necessary means to regulate EPGs should that prove necessary...

⁴¹ HL Deb 5 March 1996 c.190

⁴² HI Deb 7 March 1996 c.452

⁴³ HL Deb 8 February 1996 c.354

In its briefing paper for the for the Broadcasting Bill's second reading in the House of Commons, the ITC commented:⁴⁴

As far as digital terrestrial television services are concerned, such electronic programme guides would require under the proposals of the Broadcasting Bill, a Digital Additional Services Licence from the ITC... We believe that this should be sufficient for the ITC to deal with many of the concerns which may arise.

Satellite services (under the "Non Domestic Satellite" regime of the 1990 Act), however, do not currently have an associated requirement for the licensing of additional services such as teletext or electronic programme guides, and so regulatory powers in this area are weaker. The ITC believes that these should be strengthened.

Lord Inglewood referred to proposals for "publicly funded channels" to be guaranteed a prominent position on the first page of EPGs during the consideration at the Lords Report stage⁴⁵:

...What is not sensible therefore is to write on the face of the Bill specific requirements which depend on a particular conception of how EPGs might be configured... By the time digital television is up and running, this sort of terminology may well be obsolete. Indeed some existing guides do not even have first pages...

...We also want to see that the public service channels continue to be available to all and that they are accessible without difficulty. But the way to fair competition is to regulate by reference to principles, not to speculate on what technology might look like in 10 or 15 years' time...

⁴⁴ ITC *Broadcasting Bill Background Briefing: House of Commons Second Reading* 29 March 1996

⁴⁵ HL Deb 5 March 1996 cc 199-204

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