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Case No: HC08CO0200

IN THE HIGH COURT OF JUSTICE
CHANCERY DIVISION
PATENTS COURT

Royal Courts of Justice
Strand, London, WC2A 2LL

Date: 26/11/2009

Before :

MR JUSTICE MANN

- -

Between :

(1) GEMSTAR-TV GUIDE INTERNATIONAL INC.
(2) STARSIGHT TELECAST INC.
(3) UNITED VIDEO PROPERTIES INC. **Claimants**
- and -
(1) VIRGIN MEDIA LIMITED
(2) VIRGIN MEDIA PAYMENTS LIMITED **Defendants**

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MR. C. BIRSS Q.C. and MR. D. CAMPBELL (instructed by **Bird & Bird LLP**) for the **Claimants.**
MR. J. MELLOR Q.C. and MR. A. LYKIARDOPOULOS (instructed by **Messrs. Simmons & Simmons**) for the **Defendants.**

Hearing dates: 11th, 12th, 15th, 16th, 17th, 18th, 19th, 23rd, 24th, 29th, 30th June 2009
1st and 2nd July 2009

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Judgment

Mr Justice Mann :

Introduction

1. This is a patent action in which the claimants sue the defendants in respect of alleged infringements of the former's patents, and the defendants, while denying infringement, also seek the revocation of the patents. There are three patents in suit. They are vested variously in the claimants, who are a holding company and two of its subsidiaries. It is unnecessary to distinguish between them for the purposes of this action and I can treat them as one and call them "Gemstar". They are companies whose business involves, or includes, the provision of electronic programming material whose nature I shall describe in due course. The defendants are companies in the Virgin group whose business involves the broadcasting of television programmes and the collection of subscriptions from subscribers to those broadcasting services. Again, it is unnecessary to distinguish between them and I can call them "Virgin".

The overall field and nature of the patents - electronic programme guides - "EPGs"

2. At the heart of these three patents is the concept of an EPG - an electronic programming guide. In the past 30 years or so the number of television broadcasting stations (including cable and satellite stations) has increased enormously in many countries (and in particular in the US). Each broadcaster wishes the consumer to know what programmes are being or are to be broadcast. Until the advent of electronic means of broadcasting this information was disseminated principally in paper form, of which the best known English publication was (and is) the Radio Times. The listing information took various forms. It could be lists of programmes (with supporting information about those programmes) listed by broadcasting channel, and by time within each channel, in the form of an elaborate chronological list. That form will be familiar to anyone who has used the Radio Times or the independent television equivalent, the TV Times. It could be a listing by start times, with each programme starting at a given time appearing by that start time, and then by channel within the start time. Or it could be by way of a grid, with start times on one axis and the channel on the other, with each cell representing the particular programme being broadcast in the cell (and bearing the name of that programme). In that last form the cells would be of irregular length, because not all TV shows are of the same duration. The left and right hand borders of the cell represent the start and finish times when read against the time axis. Each of those methods of listing has its benefits, and a choice between them will depend on the preferences of the information providers and/or the subscribers to the lists. Sometimes one sees both formats in one publication - I was shown US guides which had both a grid (which enables more of an overview) and start time listings (which allows for a little more detail for each programme). Written listings also contain some notes about the programmes in question, sometimes by the actual listing, and sometimes separately on the page.

3. The increase in the number of channels means that the size of the listings has increased, making their survey, and choice from them, more difficult. One answer to this problem is to provide lists electronically to the subscriber of the TV service so that it can be viewed on the screen. The information can be transmitted by various means, but now the most common is over the air by one or more service providers. By calling up the relevant list, and looking up the relevant day, time and channel, the viewer can see what programme is being broadcast at the relevant time. Background information about that programme (type, cast list and so on) can also be broadcast and accessed. The guides thus produced are called EPGs – electronic programme guides. For the purposes of this action I can distinguish between two sorts of EPGs - those which merely provide information to the consumer, and those which go further and provide that information and at the same time use software and hardware links to control the television, typically switching to the relevant programme directly from the EPG screen. In a typical case the EPG is controlled by a handheld selector, which controls a selecting highlight on the screen, and a programme would be "selected" by highlighting it and pressing a selection button, at which point an operation is carried out in relation to that programme – for example providing more information about it, or switching the TV receiver to receive it. Two of the patents in suit represent the former category (information only); the third has elements of the second (information plus switching) as well.

4. The first patent (the "662" or "Single Channel" patent) is of the first variety. It involves the broadcast of EPG information and its essential inventive step involves the formats in which that information is displayed. It first displays programme listings in grid form, showing a number of programmes for a number of channels for various periods of time in the manner referred to above. That of itself is said to be new so far as EPGs were concerned, though it is not said to be inventive for the purposes of the patent. It is possible to move a cursor so as to highlight a particular cell (and therefore a particular programme), and if that cell is selected the display switches to single channel mode. In this mode the screen shows a list of the programmes appearing on the selected programme's channel (and no others) at and around the selected time. So the focus has been shifted from a survey of various channels to just the one. The user can scroll up and down that list, and if a particular programme is "selected" then the screen toggles back to the multi-channel mixed mode. Thus this patent switches from larger scale grid to single channel; hence the name given to it for the purposes of this action.

5. There is one further alleged inventive feature of this patent. When a programme is selected in either mode and that programme is selected by another button on a controller, the programme's information (cast list etc) is retrieved in a separate box or window superimposed on part (but not the whole) of the listing display. The programme's listing can still be seen above or below the box which has just appeared.

6. The second patent (the "049" or "Favorites patent") deals with perceived problems arising out of the sheer number of channels that would appear on an EPG which sought to list all programmes available to a subscriber. It enables the user to filter out channels which he or she would not wish to be informed about, leaving him/her with "favourites". This is done by scrolling down a displayed list and pressing a button to "mark" those which the viewer wishes to have listed for the future. By selecting (electronically, on a controller) to view just the favourites, the non-favourites are filtered out of the view, and the list is more manageable.

7. The first two patents date from 1990, and in this action were called the 1990 patents. The third patent (the "066" or "Transfer patent") dates from 1998 and addresses a different problem. It provides for the recording of programmes on to a digital medium, together with EPG information about that programme which is stored on the same medium. The user is then enabled to use that recorded EPG information to select the programme in question (if he wishes to do so) for re-recording the programme on to a second storage medium. Inventiveness is not claimed for the process of secondary recording itself. What is said to be new is selecting the programmes for secondary recording by means of the EPG information stored with them, so that that information controls the secondary recording process (in terms of the identification of the programme material to be re-recorded).

The nature of this action

8. This action takes a familiar form. The claim is an infringement action brought against Virgin. Virgin provides its subscribers with a set-top box which enables them to receive and record its programmes. It broadcasts programme information and the box displays it on the television as an EPG. A feature of the EPG is that it enables the viewer to switch from a grid display to a single channel display in a manner which is said to infringe. It also enables the user to display programme information in a

manner which is said to infringe the other element of the Single Channel patent. Favourite channels are said to be arrived at in a manner which is said to infringe the Favourite Channels patent, and it has a mechanism for secondary recording which is said to infringe the transfer patent. Virgin disputes the infringement and claims variously that the patents should be revoked as covering non-patentable subject matter, wanting novelty and as being obvious over certain prior art.

9. When I come to deal with them, I shall deal first with the two aspects of the Single Channel patent, then turn to the Favourites patent, and finally deal with the transfer patent.

Witnesses

10. I received evidence from the following witnesses.

Dr Mark Maybury

11. Dr Maybury is currently the Executive Director of the Information Technology Division of the Mitre Corporation. That organisation is a private, not-for-profit organisation in the US which works with government agencies in the fields of systems engineering, advanced technology, research and development. His degree was in mathematics, but his work since then has taken him into fields which are, or are centred around, artificial intelligence. One of his expertises is in the interface between humans and technological machines. He was called to give evidence in relation to the two 1990 patents.

12. He was never involved in the TV industry as such, and could not speak from personal knowledge acquired at the time as to common general knowledge at the dates relevant to these patents (1990 and 1998). His view of common general knowledge, and other related issues in relation to this matter, therefore had to be constructed from other information. Unfortunately, other than looking back historically to see the factual development of technology over the years before and after those priority dates, he did not read himself into the industry. That means that I must take his views in relation to those periods with some caution on matters other than those arising directly out of his principal expertise, namely interfaces.

13. In addition, there was another aspect of his evidence which demonstrates a need for caution. In relation to some pieces of prior art he demonstrated a tendency to a form of what I might call pedantry. On more than one occasion he insisted on an approach to construing a document which struck me as clearly unrealistic, and I was left with the strong suspicion that he was sometimes unwilling to accept a proposition emanating from the other side for no reason other than that it emanated from the other side. On others he sometimes adopted the stance of looking at prior art with a view to finding difficulties rather than reading it as the skilled team would. This was particularly apparent in some of his reading of the piece of art which we have called Gurney. At one stage he was accused by Mr Mellor of propounding a "perverse" view of the activity of adding a "+" sign to indicate selection of a favourite channel; he propounded the view that this might well be intended to occur in the underlying database and not on the screen, when it seems absolutely plain to me that the reference was to its appearance on screen. Whether or not "perverse" is the right word, I think that his evidence on this was consistent with some other aspects of his

evidence in that it demonstrated a tendency to be unduly picky and unrealistic in matters where a more realistic approach would not have suited Gemstar's case. He sometimes seemed to be looking for reasons for not accepting Virgin's case rather than standing back and considering the matter dispassionately as an expert should. That is not to say he did that all the time - sometimes he was prepared to accept adverse points when put to him - but I did detect a reluctance to do so as a quality of some of his evidence. I regret to say that I do not think that I received the fully independent assessment of the technical material which the rules require. In particular, and without doubting his great expertise, I do not think he was as good a witness as Dr Ciciora, his counterpart for the defendants.

Mr Guy Hirson

14. This gentleman was called by Gemstar to give expert evidence in relation to the Transfer patent. He is an electrical engineer with practical experience in the technicalities of digital set-top boxes and (among other things) recording of TV programmes on to digital media. He is steeped in the technical side of TV receiving. He graduated in 1981, and has been in that field ever since.

15. He had to deal (inter alia) with a particularly confusing piece of prior art ("Toshiba"), translated more than once from its original Japanese. He produced two reports which themselves managed to be confusing. His attempt to explain matters at the beginning of his evidence in chief took even Mr Birss by surprise, and created even more confusion. Unravelling all this took some lengthy questioning. I think that this demonstrates that sometimes his thinking in relation to this case was somewhat tortuous and not always quite clear on the central points with which he was concerned, and in particular the crucial paragraph in Toshiba (paragraph 162). His evidence therefore requires more attention and head-scratching than one would have wished to have been the case.

16. I also think that he sometimes lacked the dispassionate view that is required of an expert and was more reluctant than he ought to have been to accept positions that worked against Gemstar's interests. That was particularly so in his approach to ascertaining what Toshiba taught.

Dr Walter Ciciora

17. Dr Ciciora was called by Virgin to give evidence on the two 1990 patents. He graduated in 1964 with an engineering degree and since then has been involved in the home electronics industry, including (and particularly) heavy involvement in cable TV, principally on the hardware (as opposed to the software) side. Unlike Dr Maybury, he was involved in areas to which those patents are relevant at their respective priority dates.

18. Mr Birss accepted that on the whole Dr Ciciora gave his evidence fairly and was seeking to help the court. I agree with that. I thought he was an impressive witness, though as will be apparent I do not accept every bit of evidence he gives. However, Mr Birss also accused him on three occasions of assuming the role of advocate for his client. I did not get that impression. The instances relied on by Mr Birss did not, in my view, bear that construction.

Mr Andrew Glasspool

19. This gentleman was called by Virgin to give evidence in relation to the Transfer patent. Unfortunately during the course of the trial he suffered a cycling accident in which he broke some bones and was plainly badly hurt. He had not started his evidence at that point, and it had to be postponed. When he came to give his evidence he was obviously still in pain, and I understand he was on medication. It was obvious to me that to some extent his medical condition affected his ability to give evidence. He would start the day brightly enough, but soon tired. He needed breaks, and before the end of the first day it was apparent to me that he was too tired and uncomfortable to go on, so I rose early. All this, from time to time, affected how he gave his evidence. I do not think he was always as full or robust as, and was often more subdued than, he would otherwise have been. I bear that in mind in assessing his answers.

20. He was and is an electronic engineer, and has worked in a variety of fields. Since 1988 he has been involved in television, and in particular in set-top box and digital TV technology. Gemstar's principal criticism of his evidence (qualitatively speaking) is that it lacked care, principally based on the manner in which his first report produced and spoke to historical documents which he had not found himself but which had been produced for him by Virgin's solicitors. I think that the specific point relied on was unfair. It was not his intention to produce these documents as founding an opinion which he then formed. They were relied on as supporting an opinion which he had already formed. However, he sometimes struck me as letting the "needs" of Virgin affect his review, but not to the same extent as Mr Hirson. I thought that on the whole he was a good and helpful witness.

Mr Peter Hallenbeck

21. Mr Hallenbeck was the inventor of one of the pieces of prior art (a device called "SuperGuide") relevant to the 1990 patents. He was called by Virgin to give evidence of its disclosure. I was invited by Mr Birss to treat his evidence with care, not because he was activated by malice (or other unworthy motive) in giving his evidence, but because of what Mr Birss described as the manner in which it was produced. He had some detailed historical evidence to give. He supported it with some historical documents. As his evidence developed, he referred to other documents, some of which he had provided to Virgin's solicitors in the course of their dealings, and some of which he had not. This was a source of criticism by Mr Birss - not of Mr Hallenbeck, but of the solicitors, who were accused (in the final written submissions) of "suppression" of those materials, in order to build up and exaggerate the qualities of SuperGuide.

22. It is indeed plain that Mr Hallenbeck produced some ("a lot of") documents to Virgin's solicitors during the proofing process, and probably afterwards. Apparently a lot of them were not disclosed to the other side (a very small number were produced at the trial in addition to those referred to in Mr Hallenbeck's witness statement). Mr Birss did not make any application for disclosure of them. I have no way of knowing how relevant any of them were to the issues in this trial, other than to say that if any of them plainly undermined Mr Hallenbeck's testimony then there would probably have been a very serious misleading of the court. What I did have was Mr Hallenbeck's oral evidence, which was clear, patient (in the face of quite a hostile

cross-examination) and steady. I thought that Mr Hallenbeck was a very good witness. True it is he was having to remember detailed facts from over 20 years ago, but he had some provable facts to assist him in relation to dates and on the important points he was unshaken. I do not think that he was making anything up - apart from anything else, he had no motive to do so (none was put to him) - and his evidence had none of the quality of false recollection.

Mr Simon Prentis

23. He provided the translation of the Toshiba prior art that was relied on at the hearing before me. When questions arose as to its effect, he provided a witness statement about certain very limited aspects. He was cross-examined by Mr Campbell in order to try to extract further material as to its true translation. Nothing in this case turns on the quality of his evidence. He is plainly a very skilled interpreter.

The Single Channel patent, or the 662 patent

24. This patent bears the number EP 0969662 B1 and has a priority date of 10th September 1990. Like the Favorites patent, it is a divisional patent, and the specification reflects this in that it covers a lot of ground not directly germane to the claims. The relevant claims are set out in Appendix 1 to this judgment. The two most important claims are Claims 1 and 3. Claim 4 is a system claim based on Claim 1. I do not need to set out this or the other claim, which is also a system claim based on the earlier claims.

25. The specification describes the "Field of the invention" as one which:

> "relates generally to a system and process that allows a television viewer to access from the screen television program listings."

There then follows a section entitled "Description of the Prior Art". It begins by describing the difficulty of setting a video-tape recorder ("VCR") for automatic recording at a future date, identifying the procedures which might lead to errors with the consequence that either the wrong thing, or nothing, will be recorded.

Paragraph 0003 says:

> "0003 The difficulty of VCR programming has been alleviated somewhat by the development of VCRs that use a television set as a display for user prompt and feedback to the user during the programming process."

Paragraph 0004 refers to some specific prior art which proposes a user interface, but observes:

> "0004 However, the provision of a highly intuitive user interface that makes such a system and process easy and convenient to operate is a difficult task. Further development of the system and process has produced considerable change in the user interface as originally proposed."

Paragraph 0006 gets closer to the invention:

> "0006 while the art pertaining to the control of VCRs and to television schedule systems is a well-developed one, a need still exists for a television schedule system and process incorporating an improved user interface. In particular, unlike most computer menus, a grid TV guide is an array of irregular cells, where the cell size can vary from a fraction of an hour to many hours – extending well beyond the current screen. [an example of a grid guide is given]

Paragraph 0006 also identifies problems arising out of "long" cells in that, unless the problem is addressed, there can be violent and unsettling movements of the cursor when the cursor (which fills each cell) moves across the screen. A gentler cursor motion is said to be needed.

Paragraph 0007 says:

> "0007 Printed grid television schedule guides often include additional information besides the program title and broadcast names. Such grids are also typically provided in combination with a more detailed printed schedule that contains a synopsis of each program, whether the programme is a repeat, rating for movies, and other information. When using a television set as a display for a schedule system, the size and resolution of the television display limits the amount of text that can be displayed with the grid. Improved techniques are required for conveying the most amount of information to the user in an easily understood manner within the limitations of the television display. When a large number of channels are available for viewing, there is also a need to order the display of information most conveniently for the user. Various aspects of the present invention are defined in the independent claims. Some preferred features are defined in the dependent claims."

The patent then turns to a detailed description of the invention. Many of the initial paragraphs deal with solving what is said to be the problem of the cursor display, something which is outside the scope of the claims.

Paragraph 0019 starts to introduce the programme notes feature of this patent. It refers to figure 6, which appears in appendix 2 to this judgment, and reads:

> "0019 Fig 6 shows a television schedule grid screen 20 with a program note overlay 52. With limited text capacity on TV displays, it is preferable to display as many lines of TV listings as feasible. To handle program notes, which are text intensive, on-demand overlays 52 are used. Program notes overlay 52 may include any or all of the following information:
>
> - A program genre
> - Program description
> - Stars and personalities
> - Year of release
> - [and further irrelevant detail]
>
> 0020 Program notes for a selected program are overlaid over the grid guide upon request. The program note can be toggled off/on using a SELECT command. The program note 52 overlays and hides 3 or 4 listings of a guide.

> To minimise concealment of the guide, an auto-roving note is used. The program note will overlay either the top half or the bottom half of the screen, as necessary to avoid masking the title of the selected listing. If the cursor 32 is in the upper half of the screen, the note will appear in the bottom half, and vice versa. If the cursor 32 is moved to the lower half of the screen, the note will automatically position itself in the upper half of the screen."

This is the teaching which underpins Claim 3 in the patent – the programme notes feature. The notes are displayed over what would otherwise be the last three lines of the grid – one can see the boundary lines of the grid extending beyond the two vertical edges of the box. Otherwise figure 6 displays a grid programme guide with times across the top in half hour slots and channels down the left (see Appendix 4 to this judgment). The programmes are identified in the cells of the grid.

Paragraph 0027 introduces the single channel element:

> "0027 Figure 7 shows a screen 22, showing a program list 58 for a single channel, generated by toggling a user What's on TV command, which switches between the grid 24 and the list 58. The list 58 consists of rows 60 of sequential program listings on the channel and a channel information field 62. Program notes are overlaid on the list 58 in the same manner as shown in figure 6 of the grid 24.
>
> 0028 Each What's on TV command alternates between the grid guide 24 and the What's on Next on channel row guide 58. While viewing the grid guide 24, the next What's on TV command will replace the grid guide 24 with a single channel row guide 58. Figure 8 is the flow diagram for the What's on TV command.
>
> 0029 The page relationship between the two guides 24 and 58 are tightly coupled. The single channel guide will open to the channel and schedule time that was selected by the cursor 32 on the grid 24. While viewing the single channel guide 58, the Up/Down channel command may be used to change the channel to be listed. When exiting the single channel guide 58 and returning to the grid guide 24, the grid cursor 32 will be pointed to the channel and schedule time last selected on the single channel guide 58."

Figure 7 shows the single channel display that arises from clicking with an appropriate key on a cell in the grid display. It does not contain a "program note overlay".

26. It is alleged that this patent is infringed by Virgin's set-top box. The validity of this patent is disputed on the basis that it seeks to patent excluded subject matter, want of novelty and obviousness over a couple of pieces of prior art. (I shall deal with questions of infringement after I have dealt with questions of validity).

Skilled addressee and common general knowledge

27. The patents are taken to be addressed to the skilled addressee. It was accepted by both sides that this would have been a team comprising a range of skills - hardware

engineers having experience of available hardware and software engineers having relevant skills. The main dispute at one point was the extent to which the skillset would include skills in designing interfaces. In the end there seems to have been no relevant dispute. One of the team on the software side would have been tasked with considering such things, though not at the high level of skill and expertise that has subsequently been acquired by people such as Dr Maybury himself.

28. The team would have, inter alia, the following relevant knowledge (common general knowledge) and skills:

    i) An understanding of computer windows technology, and in particular WIMP (windows, icon, mouse, pointers) technology, and how to paint windows on a screen.

    ii) Universal remote controls.

    iii) Spreadsheets (and therefore cells).

    iv) The manner in which TV listings appeared in printed form - grid, single channel, multiple channel/single time format and programme notes.

    v) An ability to manage and provide access to structured and unstructured metadata containing listings.

    vi) The ability to present that information on a screen (though not necessarily optimally in terms of efficiency and effectiveness).

    vii) The ability to write software achieving the last point, including windows and pointers.

29. The team would also have known about EPGs. The idea of presenting channel information on screen had, in the context of cable TV, been in operation for many years. There had been one channel dedicated to presenting a slow-scrolling, non-viewer-controlled, listing. TV listings had appeared on teletext in the UK since the early 1980s. Teletext carried signals in the vertical blanking interval (VBI) - a portion of time between the painting of screens when video signals were not being sent (and which could be appreciated visually as the horizontal black bar seen on screen when a badly adjusted TV scrolls the picture vertically). Schemes for using Teletext to operate more elaborately than publicly distributed systems had been tried but had failed in the early 1980s. Dr Ciciora said, and I accept, that Teletext, and one or more of these more elaborate systems, would have been known to members of the skilled team. He accepted a suggestion from Mr Birss that a relatively newly graduated member of scheme would not actually remember them, but that is not the same thing. The notional knowledge of the skilled team is not necessarily based on the memory of direct experience. In a consumer electronics marketplace in which the inventions were intended to operate the skilled team would wish to inform themselves of what competitors had put into the market, both in the present and in the past.

30. On the evidence I heard from Dr Ciciora, and which I accept, there was a lot of interest in the industry in developing EPGs, and work was being done to standardise the data streams which would carry listings information. The EPGs would deliver TV

listing information to the user's screen, from which he could select what information he wished to see, and shift his view of the information and view additional content. This was described in general terms by Dr Ciciora in a trade publication called Communications Engineering and Design in May 1990. There were also well-publicised proposals to allow a user to use the EPG to control hardware, and in particular to programme a video-cassette recorder to switch itself on and off to record (a problem which was well known - manual programming could all too easily lead to errors). These ideas were, I find, common general knowledge then or by the priority dates of the 1990 patents. These were all mainstream ideas which would have been well known to the skilled team notionally put together to consider the patents and the prior art in this case.

31. As well as the foregoing, Virgin said that SuperGuide, one of the pieces of prior art, was common general knowledge. A more detailed description of SuperGuide appears below. For the present it is sufficient to describe it as piece of EPG software and hardware that was made available to satellite viewers from 1986 onwards. It was created by Mr Hallenbeck. Gemstar does not accept that this product was common general knowledge, though at the same time says that this dispute does not matter much. There is a dispute about exactly what it did, which I do not need to deal with at the moment. It was not disputed that it (whatever it was) existed and was sold from 1986 onwards.

32. Dr Ciciora's evidence was that this product was advertised and known about in the cable industry. He himself had heard of it by 1989. Attempts by Mr Birss to suggest that he had got this date wrong, and it could have been later, failed - I am satisfied that Dr Ciciora had heard of it by the date he suggested. It was referred to at an IEEE conference (a conference of electronic engineers) in 1990. The well-known chief executive officer of a large and well-known cable company (TCI) was a subscriber and known to be a "fan" of it. Although it was supplied for satellite systems, Dr Maybury accepted that those in the cable industry would keep an eye on what was going on in the satellite industry. That is entirely plausible - as I have observed, the skilled team in the consumer electronics business will want to know about open activities in the competition. Dr Ciciora's overall evidence was that SuperGuide was well known and talked about in the Cable industry. I consider that its presence and functionality will have been common general knowledge for the skilled team. It was the first interactive EPG, and the skilled team faced with the questions which face them in this case will have been aware of what it was and how it worked as far as the user was concerned.

Excluded matter - the Single Channel patent

33. Virgin claims that the subject matter of this patent is excluded from patentability by section 1(2)(c) and (d) of the Patents Act 1977. These provisions exclude:

> "(c) … anything which consists of … a program for a computer … as such"
> and
> (d) … anything which consists of … the presentation of information .. as such."

Originally Virgin had also relied on the mental act exclusion, but that was not pursued.

34. Thus this action raises yet again the troublesome question of the computer program exclusion. A decision of the Enlarged Board of Appeal is apparently awaited in this area, but I have to apply the law as it has been recently laid down in the Court of Appeal in *Symbian Ltd v Comptroller-General of Patents* [2009] RPC 1, *Aerotel v Telco; Macrossan's Application* [2007] RPC 7, together with the benefit of a helpful summary of Lewison J in *AT & T Knowledge Ventures Ltd* [2009] EWHC 343.

35. The proper approach is plainly the 4 stage test propounded in *Aerotel*:

    i) Properly construe the claim

    ii) Identify the actual contribution

    iii) Ask whether it falls solely within the excluded subject matter

    iv) Check whether the actual or alleged contribution is actually technical in nature (See *Aerotel* at paragraph 40).

36. For the purposes of this part of this judgment, there is no material construction point or dispute in relation to the claims, so the first point does not require consideration.

37. So far as the second stage is concerned, at one point there seemed to be an issue as to the baseline against which the contribution was to be measured. Gemstar was asserting that it was common general knowledge (without adding any prior art) and Virgin said it was common general knowledge plus relevant prior art. However, in his final submissions Mr Birss indicated that he did not consider that the distinction arose on the facts of the present case, and it was not necessary for me to determine that particular point (though he reserved the point should it turn out that it mattered). I think that the contribution can be adequately determined without assessing just where the baseline is, and I shall not rule on the point.

38. Mr Birss claimed that the contribution was one over other EPGs. While they were not widely used, the concept of an EPG was well understood by the skilled addressee and the general idea was well understood. On that footing, Mr Birss described the contribution in his written skeleton argument as being:

> "the provision of better situational awareness and context management … achieved by "tight coupling" of programme titles between single channel and grid guide formats"

    He also expressed the invention, or the "technical contribution" (as he put it) to be "a better user interface, a more intuitive user interface". This way of interfacing having been discovered and published by his client, others did not have to travel down a road to get there. However, in his submissions in reply he dropped the word, or concept, "better" and in essence relied on a novel aspect of an EPG.

39. Mr Mellor expressed the contribution as being the provision of listings in a grid, and highlighting the programme title as a jumping off point for the next step (which is the single channel display). In other words, he took the contribution as being the steps and order of the displays, without the evaluative concept of its being better than other

steps and orders which Mr Birss originally added on in his formulation. Thus in the end both sides seemed to have arrived at the same formulation of the contribution.

40. The next question is therefore whether this falls within the category of a program for a computer. Nothing is said in the patent about the involvement of a computer, but it was not disputed that a computer was involved and that EPGs, and the invention, were achieved by programming them. The dispute comes when applying the third and fourth stages of the *Symbian* and *Aerotel* test to the facts of this case.

41. *Aerotel*, *Symbian* and *AT&T* all contain much learning and analysis. I will not repeat it here. What I think emerges from those cases is that the touchstone (whether applied at stage 4, or as part of the means of resolving stage 3 of the 4-stage test) is whether the invention makes a technical contribution. As Lord Neuberger observed in *Symbian*, the word "technical" has its own difficulties, and to some extent its use shifts the difficulties in interpreting the section from one set of words ("as such") to another ("technical contribution"). But at least those latter words reduce the problem to the real world. Guidance on their application can be gleaned from the expressions of Lord Neuberger in *Symbian* and in the way that previous cases were actually decided (which Lord Neuberger himself did at paragraph 49). One can deduce the following points from that material.

42. It would be a relevant technical effect if the program made the computer a better computer in the sense of running more efficiently and effectively as a computer. That was the case in *Symbian* itself. This is described as a technical effect within the computer itself; it makes it a better computer, or solves a technical problem lying within the computer itself (see paragraph 54). It was also analysed as being the reasoning in *Gale's Application* [1991] RPC 305. On this analysis the present alleged invention fails. The computer program within it produces a technical effect within the computer in the sense that any functioning program does - the computer would not work in the same way without such effects. But those are not the effects referred to. More is required to avoid the exclusion, and (in this context) that "more" is something which makes the computer work better. The invention does not have this effect. It makes the computer, as a computer, work differently in the sense of processing data in a different way, but it does not make it work better, faster or differently in that sort of performance sense. The internal operation of the computer in this case therefore does not amount to a technical effect of the kind which I am considering in this section.

43. Another relevant technical effect would be an external technical effect, that is to say a technical effect outside the computer. The only thing which might qualify in this sense is the computer-generated appearance of the information on the screen of the computer (treating the screen as being separate from the computer for these purposes). There is no other candidate that I can see for this external effect. But it is hard to see how this is a technical effect in the relevant sense. True it is that it arises because of the technical consequences of firing electrons at phosphor, or applying charges across pixel cells, but that is not the right sort of technical effect. There is no technical contribution in the sense that the cases require. It is merely painting information on a screen so that it can be read, the user having had the opportunity to select the manner in which that happens by operating the controlling mechanism accordingly.

44. This has to be approached with some care. There are suggestions in the authorities that visual indications on screens can be the fruits of patentable inventions. *Vicom* (T/

0108/84) was a case involving the technical processing of images which could be manipulated. This was done by a computer which produced the images, presumably on a screen (but that does not matter). The Board of Appeal held that this was not excluded from patentability as a computer program as such. Lewison J analysed the decision in *AT&T* at paragraphs 17-20. The process involved was the manipulation of images, and the Board regarded that as a technical process. It is not clear what criteria were applied in reaching that conclusion, but the conclusion is clear enough. The fact that this technical process was achieved by a computer program did not deprive it of patentability - see paragraph 20. However, that case seems to me to differ from the present. The production of the manipulatable images in that case was a technical effect beyond the mere placing of the images on the screen. One can see how that might be said to have a technical effect for the purposes of patent law. Contrast the screen displays in the patent in suit. They do not seem to me to have the same technical effect, qualitatively speaking.

45. The difference can be defined in terms of what Lewison J said about what he described as the second of the *IBM* cases (T 0115/85). That, too, involved visual indications, but this time they were indications of what was happening inside the computer. which Lewison J contrasted with data processing:

> "The point that the Board is making is that the computer output results in something happening in the real world, namely the giving of visual indications. The claim related to things going on inside the workings of the computer, *rather than any form of data processing*." (paragraph 25, my emphasis).

He drew the same sort of distinction in paragraph 31:

> "This, too, of course leaves the phrase 'in a technical sense' undefined, but it points towards some generally applicable method of operating a computer rather than a way of handling specific data."

If that distinction is applied in the present case, then in my view it falls on the data processing side of the line. The purpose of the invention is to achieve the display of information in a user-friendly way by user-friendly means. But in reality it is data processing rather than technical effect that is in play here.

46. The position is similar to that in *Raytheon Co's Application* [2008] RPC 3, a decision which was arrived at between *Aerotel* and *Symbian* but on which, it seems to me, no doubt has been cast by *Symbian*. That case involved an inventory control system, and the second and third aspects of the contribution were said to be representations of stock items which were synthesised in real time from individual images in the computer, and a high level interactive graphical representation available to the user enabling him to 'drill down' to the rack or component of interest. As to the second aspect, Kitchin J said:

> "Nevertheless, it seems to me that this aspect of the contribution is no more than a reflection of how the programmer has chosen to create the desired representation. Just as in *Fujitsu* the programmer had to devise a program to create a pictorial display which reproduced the effect of a model, so here

> the programmer had to devise a program to produce a visual representation of the rack and all it contains. The fact he has chosen to do it by synthesising the representation from a number of smaller images is simply a matter of program design. The result is not a new combination of hardware as in *Aerotel*. Nor is it an improved computer or an improved display as in *Vicom*. The result is a computer of a known type operating according to a new program, albeit one which reduces the load on the processor and makes an economical use of the computer memory. I agree with the hearing officer that this aspect of the contribution relates to a computer program as such." (paragraph 37)

This is applicable to the case before me. The invention involves the operation of a known computer type according to a new program (or aspect of a program). Even if the more economical use of memory in *Raytheon* might push the invention towards patentability after *Symbian*, that element is not present in the present case.

47. Kitchin J went on:

> "38 I can deal with the third and final aspect of the contribution quite shortly. In my judgment it falls into the same category as the second. The display of the image in response to the user clicking on an appropriate part of the screen is once again an element of program design.
>
> 39 The final step in relation to these aspects is to ask whether there is anything technical about the contribution they have made. In my judgment the answer is that there is nothing beyond the fact that they are aspects of a computer program."

Those remarks are, in my view, equally applicable to Claims 1 and 2 of the Single Channel patent.

48. Mr Birss did not accept that analysis. He met it at various levels. First, he sought to draw a parallel with *Koch & Sterzel* (T 26/86, [1988] EPOR 72). The invention was X-ray tubes which were controlled by a computer routine so as to achieve optimum exposure and protection against overloading the tubes. This was said to produce a technical effect in the X-ray apparatus, which rendered it patentable irrespective of whether or not the X-ray apparatus without the computer program formed part of the state of the art. Mr Birss relied on this to meet a submission made by Mr Mellor to the effect that if the difference over the prior art is merely software, the claim must be excluded from patentability. I am afraid I do not understand how it helps him to achieve that. The case is about a computer producing a technical effect - in this case an external technical effect. It helped an X-ray machine to function better. But that is not the sort of technical effect that Mr Birss relies on. He relied (at this point in his submissions) on the technical effect being a better user interface. That is an abstract notion, quite unlike a more efficiently functioning X-ray machine. I do not see how this case helps him.

49. Then Mr Birss put the law in what seems to me to be a different way to the law as set out in *Symbian* and the other authorities. He said that the right approach in this case was to note that this was an EPG, which he said was inherently patentable, and then to

consider whether any of the exclusions in section 1(2), other than a computer program, applied. If it did, then it was not patentable. But if none of those other exclusions applied, then there was something more to his invention over and above its being a computer program alone and that that made it patentable. At one stage he seemed to be saying that the existence of a technical effect was the converse of the application of one or more of the other exclusions - if one or more of them applied, there was no technical effect, and if none of them did there was one. At the last minute, in his reply submissions, he withdrew from that position and acknowledged that there might be cases in which there was still no technical effect even if none of the other exclusions were operating, which somewhat undermined his original position. I cannot detect any support on the authorities for his stricter approach, and do not adopt it. His modified approach comes down to the same one as that referred to above - one ends up having to ask if there is a technical effect of the right sort.

50. So the case comes down to a consideration of whether there is a technical effect as required by step 4 (or perhaps step 3) of *Aerotel*. The technical effect relied on by Gemstar is a better interface, or a different interface if "better" is not relevant. That is an abstract concept. It does not in terms describe some physical activity or effect. There is a different display on the screen, but that is not enough, in my view. That is still part of the computer program and is not an external effect (Mr Birss did not rely on any internal effect). Many computers running a program are likely to have a display output, and if that were enough to be a technical effect then every program in such a computer would be likely to fall outside the exclusion, which is unlikely to have been the intention of the draftsman of the Act. A different display to that shown before does not seem to me to go far enough to amount to a technical effect which makes a difference. Mr Birss describes the technical content as being a better user interface (usually) or a user interface (sometimes). That way of describing it does not overcome the difficulty he faces. Ultimately they are both ways of describing, in different terms from the patent, what the invention is said to achieve. But they are both judgmental, the first more so than the second. The fact that what the user perceives and interacts with is "better" does not make the advance technical at all (nor is it part of the claims). Nor does characterising it as an interface give it a technical effect that it would not otherwise have had. One has to look to see what the effect actually is, and in my view it is not technical. In fact, in the sense in which Mr Birss uses the expression, "interface" confirms this - it is an abstract, not a physical, concept.

51. I therefore hold that Claims 1 and 3 are not properly capable of being the subject of a patent, being excluded on the computer program basis. Claims 2, 4 and 5 fare no better.

52. However, if I am wrong about that, and if the interface is capable of being a technical effect, then I consider that it fails as a presentation of information. This is for the following reasons.

53. This is an area of law which has received much less attention that the computer program exclusion. Mr Birss started by pointing out that while the English statute refers to "presentation" in the singular, the equivalent provision of the European Patents Convention referred to "presentations" in the plural, and he sought to build part of his case on the pluralised form. I can dispose of this point shortly. The plural form is used because the Convention uses plurals throughout the relevant part of

Article 52(1), and it follows naturally and consistently from that use. The English draftsman has, by and large, used singular forms; hence "presentation". Having looked at the two provisions, I do not believe that anything turns on the noun form, and will continue to use the English version.

54. Virgin's case was that the single channel element (and indeed the programme notes element) of the Single Channel patent fell squarely within this exclusion. The patent involved no more and no less than the presentation of information, and there was no technical effect element in it. It relied, by way of a parallel, on what Kitchin J had found in *Raytheon.*

55. Gemstar's case is that the exclusion of presentation of information is confined to the content of information. It is that content that is excluded from patentability. The invention is said to go beyond that. He particularly relied on a statement from the Case Law of the EPO Boards of Appeal (5th Edition) at section 1.3 for the distinction that he sought to draw between what I might call pure content (not patentable) and the way that information is processed. A method of presentation is not excluded; only the information itself is.

56. The starting point for Mr Birss's distinction is the EPO guidance to which I have referred. The guidance says:

> "A presentation of information defined solely by the content of the information is not patentable. This applies whether the claim is directed to the presentation of the information per se or to processes and apparatus for presenting information. If, however, the presentation of information, as distinct from the information content, has new technical features, there could be patentable subject-matter in the information carrier or in the process or apparatus for presenting the information (see Guidelines C-IV, 2.3.7 - June 2005 version)."

Mr Birss points particularly to the first sentence, and the concept of a presentation being defined solely by the content of the information. That founds his distinction, which he says is made in the third sentence. I do not think that the passage as a whole really justifies Mr Birss's sharp dividing line. At one level "presentation of information" means "information"; but the concept must mean more than that. Some aspects of how it is communicated must be within the concept, because otherwise the word "presentation" would be meaningless. That is borne out by the second sentence, which looks to the substance of the matter - if what is happening is that information is being presented, it remains unpatentable even if the claim includes the *processes* (an important word) or apparatus for communicating (presenting) it. So one cannot escape the exclusion by wrapping up some processes or apparatus with the claim. The distinction is made in the third sentence - if the presentation of information has some technical features over and above the information and its delivery, then it might be patentable. So the contrast is between the content or its mere delivery, on the one hand, and that material plus some additional technical aspect of its delivery, on the other. That approach is consistent with the law on computer programs, discussed above.

57. The point is made a little clearer by the full text of the guidelines, which reads as follows:

> "A representation of information defined solely by the content of the information is not patentable. This applies whether the claim is directed to the presentation of the information per se (eg by acoustical signals, spoken words, visual displays, books defined by their subject, gramophone records defined by the musical piece recorded, traffic signs defined by the warning thereon) or to processes and apparatus for presenting information (eg indicators or recorders defined solely by the information indicated or recorded). If, however, the presentation of information, as distinct from the information content, has new technical features, there could be patentable subject-matter in the information carrier or in the process or apparatus for presenting the information. The arrangement or manner of representation, as distinct from the information content, may well constitute a patentable technical feature. Examples in which such a technical feature may be present are: a telegraph apparatus or communication system using a particular code to represent the characters (eg pulse code modulation); a measuring instrument designed to produce a particular form of graph for representing the measured information; a gramophone record having a particular groove form to allow stereo recordings; a computer date structure … defined in terms which inherently comprise the technical features of the program which operates on the said data structure (assuming the program itself in the particular case, to be patentable); and a diapositive with a soundtrack arranged at the side of it."

So what achieves patentability is some real world technical achievement outside the information itself.

58. I do not consider that the single channel element of the Single Channel patent achieves this. One starts with the provision of TV programme information in a grid. This seems plainly to be the presentation of information. The raw information is the detailing of the programmes. This has to be given over somehow (otherwise it exists only in some abstract ether). If it were spoken, that would be a presentation. If it were a written list, that would be presentation. In fact it starts (in this patent) in a grid. That, equally, is presentation of that information. Then, as a result of cursor movement and marking, the information is then presented in a different format - a list. That end result is, equally, a presentation of information. All that has happened is that information is presented in a different way (and perhaps in a different quantity). So the starting point and the end point are, in my view, plainly presentation of information. The middle factor is the movement of a cursor, the marking of the chosen programme which (unstated in the claims) causes the display to change. That seems to me to be accurately described as part of the selection mechanism. No-one suggested that it involved a new technical step - selecting material on screen and clicking on it so as to cause a change in its appearance on screen was part of the common general knowledge by 1990.

59. I reach the same conclusion by standing back and looking at the thing overall. It is still the presentation of information with no, or no new, technical effect. Mr Birss sought to say that there was a technical effect, and it lay in a better user interface (his mantra in this part of the case). I think that that is a form of words which disguises the reality. Providing a better (or new) user interface is not a technical description.

What matters is technical effects, and that description does not shed any light on that. He frankly admitted that if that is not a technical effect, then he loses. It is not, and he does.

60. I therefore find that, so far as the single channel element of the Single Channel patent is not a computer program as such, it is excluded from patentability as a presentation of information. It is established on the authorities that an invention can be unpatentable as a result of a combination of two or more of the statutory exclusions - see for example *Raytheon*. In the further alternative that mixture applies to the present case – there is a mixture of computer programmes and a presentation of information.

Novelty and obviousness - Single Channel patent

61. The single channel element is said to be anticipated by a piece of prior art called IBM. Both elements are said to be obvious over IBM (if IBM does not anticipate), and alternatively obvious over pieces of prior art called Kono and Gurney (which talks about SuperGuide). Furthermore, there is said to be been prior use by SuperGuide, or it is obvious over SuperGuide. The convenient course is to take the prior art items in turn.

IBM – novelty

62. This is a document from August 1990 which is apparently an "IBM Technical Disclosure Bulletin". It is headed "Combined-user interface for computers, television, video recorders, and telephone etc." Despite the nature of the document disclosed in its overall title, it is not a highly technical document. It is more of a concept description. The relevant paragraphs read as follows (the numbering is mine, not the paper's, in order to assist exposition in this judgment):

> "1 A portable, single-user interface device is described which enables a user to implement many operational functions in systems that incorporate combined utilisation within a single logical unit, such as a computer, TV, VCR, telephone etc.
>
> 2 With the advent of integrated devices incorporated within a single system unit, the concept described herein provides a means of actuating any device function and manipulating the functions from a portable remote device. The functions are applicable to both home-related systems and industrial uses.
>
> 3 The primary physical interface is a portable hand-held remotely operated unit with a touch-pad actuating device….conventional pointing devices, such as a mouse or joystick, utilizing one or more buttons, as well as a keyboard, may also be used.
>
> 4 The touch-pad enables the user to perform several generic actions which, in turn, cause corresponding reactions by the system unit. The functions and applications are reflected on the screen through the use of action icons and windows. The term 'action icon' is used to mean a small image representing a function. The image can be shaped similar to a button

> with a label, or it may have a shape which illustrates the functional representation, such as a TV set or a telephone.
>
> …..
>
> 5 To illustrate the use of a touch-pad, when TV functions are chosen, controls and action functions are displayed on the screen overlaying the TV picture. The functions include items such as mute, channel selection, volume control, and a means to go to other functions. When channel selection is selected, the picture on the channel selected is shown in the background. The station, identification network, or other source of signal, such as videotape, is shown in the window associated with the controls. This is instead of, or in addition to, the channel number.
>
> 6 The user can pre-select the channels for viewing by calling up the appropriate function. In this case, a graphic representation of the schedule is shown, such as would be published in newspapers or TV guide-like publications. The user selects which station to view by moving the cursor to that position on the screen by using the touch-pad, positioning the cursor at the station selected, and then pressing the touch pad. This can be used to pre-select stations for viewing, or taping, by selecting programmes scheduled for future broadcast.
>
> 7 Pre-selecting is enhanced through the use of the 'view' function. The user will see in a window what is being shown on selected stations, by selecting the description function, the user can see in a window the TV guide review and/or the description of the corresponding selection. A similar arrangement can be used to programme a VCR for current or future recording.
> …
>
> 8 TV program descriptive information can be entered into the system in several ways. For example, a service may be provided whereby this information can be downloaded or captured from a cable service or from the telephone line …"

63. This piece of prior art is said to anticipate the single channel element of this patent. It describes a unit for interacting with a number of devices. The key teaching is said by Virgin to be in paragraph 6. It is said that the teaching is to call up on to a screen an EPG (distributed under paragraph 8), which is presented in a form such as would be published in a newspaper (paragraph 6) which includes a grid display because newspapers published programme grids. And because to navigate around the screen (which IBM requires) in the manner required (to select a programme scheduled for future broadcast), you have to have a grid because a single channel format does not provide for the selection of a station (there is only one on screen). So selecting a programme for future viewing (or recording) requires a grid and not single time/multiple channel format (for which there is no room for more than one time slot). The programme is selected by a cursor. The reference to pre-selection for recording must mean selecting a future programme. So this piece of prior art involves putting up a grid, and selecting a programme will put up "what is being shown on selected

stations" (paragraph 7), ie a single channel display. Thus is the invention said to be anticipated.

64. An enormous amount of time and paper was spent on this document. Every possible meaning of what this somewhat generalised document might have meant was teased out, with Virgin indulging in processes of elimination to weed out some alleged inconsistencies or illogicalities, in order to arrive at a conclusion that what is being described is the single channel element (claims 1, 2, 4 and 5) of the Single Channel patent. There was considerable debate as to where the screen was - whether it was on the touch-pad or whether the display was a TV screen. Other aspects of the overall setup were questioned, particularly by Dr Maybury. But a great deal of this was, in my view, unhelpful, save that it did assist in demonstrating the nature of the document. The document is not a detailed technical description of anything. It is dealing more in concepts and a general idea. As Dr Ciciora observed, its main function is to inform about the pressure-sensitive touch pads, and the references to EPGs (not by name) are by way of illustration of the sort of thing that can be done. It is therefore not setting out to provide a detailed description of how an EPG might be operated; it is indicating the sort of things that it can do. That does not necessarily mean that it cannot make a sufficient disclosure for the purposes of anticipation, but the skilled team would approach the document on the basis of what it is, and will bear in mind that what is being provided is an illustration of the sort of things that can be achieved with the physical device and not necessarily a full description of those illustrations. Uncertainties and missing logical links will be treated accordingly - if it is not purporting to provide a full description of these things, then it becomes less appropriate to read it with eyes that assume that full description. In other words, it is not saying: "This is what you do"; it is saying: "This is the sort of thing that you can do without going into detail".

65. With that in mind, and bearing in mind the evidence of the experts, I consider that this document does not anticipate. It certainly teaches the use of the various possible types of guide. A "graphic representation … such as would be published in newspapers or TV guide-like publications" plainly imports that. Dr Maybury here demonstrated most clearly a mindset that was determined to find difficulties (operating against Virgin) rather than achieve a fair reading of the document. He suggested that this might mean "an abstract data structure graphic representation and/or a link-node diagram showing times linked to programs linked to channels". He drew what he meant on a flip chart. I will not reproduce that drawing here; suffice it to say it did not bear the least resemblance to any form of listing on paper and was, in my view, a completely unrealistic reading which demonstrated the sort of unfortunate qualities in his evidence that I have referred to in general terms when describing him as a witness. The IBM paper is suggesting that you paint on the screen the sort of thing that you print on a page. One of those formats (but only one of them) is a grid, so that sentence taken by itself it is implicitly describing a grid, as well as the other formats. If one analyses the selection process with some care (more than the draftsman will have intended, probably) one could come to the conclusion that a grid is being described. Nonetheless I cannot quite find that that is sufficiently clear for an anticipation case.

66. Furthermore, even if it is describing a grid, and even if paragraphs 5 and 6 are describing a single channel format, it does not describe how one moves from one to

the other, or even that one moves from one to the other without some intermediate step. In his first report Dr Ciciora observed that as being a possible non-coincidence with the claims in the patent in suit, and he confirmed in cross-examination that the document did not tell you to do that. The farthest he went was to say that moving from one to the other by selecting various things as links was the sort of thing that the skilled team would try out. In his report he said that there were two alternatives as to how one moves - you either click on the station name in the grid or you click on the programme cell. Other possibilities were not canvassed.

67. On this evidence I cannot find that IBM anticipates. Clear directions are required for anticipation (there was no dispute on the law about this) and those clear directions are not there. The document does not even purport to give them. Mr Mellor sought to establish that the document posed alternatives, one of which coincided with the patent, so that the patent anticipated on that basis - see *Ranbaxy v Warner-Lambert* [2006] FSR 14 at para 52. I do not agree. It is not clearly describing alternatives. It is describing, in a generalised and not always clear way, some of the things that can be done, without seeking to disclose alternatives at all. This way of analysing it does not help Virgin.

68. Claim 3, which adds the programme notes feature to Claims 1 and 2, is dependent on claims 1 and 2. Since the novelty attack fails in relation to the first 2, it necessarily fails in respect of the third. It must also fail in respect of Claims 4 and 5.

69. Accordingly, this want of novelty attack fails.

IBM – obviousness

70. In the alternative it is said that the invention is obvious over IBM. Since I think that obviousness is more clearly established in relation to other pieces of prior art, I do not propose to deal with this topic in a lot of detail.

71. The paper describes the rendering on screen of listings (schedules) as shown in paper guides. Those guides had various ways (limited in number) of presenting their information, including grids. A grid presentation is consistent with paragraph 6. A single channel display is consistent with paragraph 7. Paragraph 7 refers to programme information appearing in a window. In my view it describes a result which is the end result of Claim 3 - it appears simultaneously with the listings. What those paragraphs do not describe is how one gets from one to the other.

72. Dr Ciciora said there were two ways of moving from a grid to a single channel display which exploited a cursor - one would click on the station cell, or the on the programme cell. They are both equally obvious to a skilled team. Both exploit familiar programming and computer techniques. The various presentation options would be metaphorically put on the table by the skilled team, and each would be an obvious one to try and consider. Which one would be finally chosen for a product would be a design choice, perhaps taken after consulting a focus group. His view was that the patent was obvious over IBM.

73. Obviousness has to be dealt with by going through the 4 steps in Pozzoli v BDMO [2007] FSR 588.

> "(1) (a) Identify the notional 'person skilled in the art'.
> (b) Identify the relevant common general knowledge of that person.
> (2) Identify the inventive concept of the claim in question or, if that cannot readily be done, construe it.
> (3) Identify what, if any, differences exist between the matter cited as forming part of the "state of the art" and the inventive concept of the claim or the claim as construed.
> (4) Ask whether, when viewed without any knowledge of the alleged invention as claimed: do those differences constitute steps which would have been obvious to the person skilled in the art or do they require any degree of invention?"

74. The first step has been done, above. The inventive concept has also been set out - it is the particular user interface in the form of the manner in which one navigates between sets of information. Mr Birss sometimes adds the "better" qualification, but that is not part of the claims. The claims describe the actual manoeuvring. IBM sets out the different manners of presentation, or identifies them by genus (those appearing in printed guides). The difference between the patent and IBM is that the patent is clearer in its identification of a grid, and it clearly sets out a method of navigation which is not spelled out in IBM.

75. In my view it is, first, obvious to start with a grid. It is one of only three standard forms of programme timetable information presentation. Each is an obvious alternative to the others. I think that Dr Ciciora is right in saying that the skilled team would consider each (put each on the table). Then comes the question of how to navigate to a single channel display. This is the key difference for the purposes of the third step. The possibilities were said to be obvious to the skilled team, and I agree. There is a range of choices, and each of them are equally obvious as possibilities. This is an "obvious to do" case, not an "obvious to try" case. They will all work to achieve their navigational ends - it would not be necessary to try them to find that out, since they all involve what would be standard programming to the skilled team. What might not be obvious, and which might have to be tried out, would be which one the consumer would like best, but that is ultimately not part of the claim, and Mr Birss accepted as much in his submissions in reply.

76. This also applies to the programme notes in Claim 3. They are plainly referred to in paragraph 7, despite Dr Maybury's attempt to suggest that the second sentence is referring to a review of a channel rather than a programme. They are plainly stated as appearing in a window, that is to say a demarcated section of the screen with other bits of the screen still apparent. The difference between that and the invention is the jumping-off point and the extent to which the listing is still visible ("simultaneously"). The choices of jumping off points are all obvious to the skilled team, and no difficulty of programming presents itself. That is enough for obviousness on that point. Just where the window is put on the screen raises a number of possibilities, all of which are obvious to do. Which is the most visually appealing is a different matter, and not part of the claim.

77. No separate point arises in relation to Claims 4 and 5.

78. I therefore find that the invention in the 662 patent is obvious over IBM.

Kono

79. Kono is "Japanese laid-open publication no 1-209399" – in essence a patent application - dated 17th February 1988. It describes itself as an application for a patent for an "information processing system". Its principal object is "to process given information according to a pre-determined schedule", and its principal embodiment is a VCR and automatic programming of recording on it. Fig 3 in the document shows an example of "the display screen", which is also described as "the program table". That figure is reproduced in appendix 2 to this judgment. In the specification the following paragraph occurs:

> "Although embodiments described above illustrate the program table as displaying two channels on one screen, more channels may be displayed thereon. Also, the table may comprise, for example, one channel with more time slots for display."

It will be noted that one of the cells in fig 3 is shaded. This is cross-referenced in a preceding paragraph which describes the process of an operator wishing to make a recording. He navigates to the desired programme by moving the cursor to the appropriate cell and then triggers the recording instructions. The specification explains:

> "The cursor indicates that the programme is selected by changing the color of the whole area displaying the program. Fig 3, in which the cursor is being displayed in oblique lines, shows a state where news A is selected."

80. There is also a reference to the equivalent of programme notes in a section of the specification dealing with the storage of data in certain specified fields:

> "a name of a program *and a summary of the program, if necessary,* are stored in the program field 11 – 1 and 11 – 2." (my emphasis – those are the relevant words).

Kono – obviousness

81. The obviousness case turns on the second sentence of the first extract set out above. As Mr Mellor summed it up, the central point in relation to Claims 1 and 2 of the Single Channel patent is whether this, against its proper background in the rest of the document, renders obvious the idea of having a single channel format and using a marked up programme title as the jumping off point.

82. Kono plainly discloses the use of a grid, and indeed the idea of selecting a programme by clicking on it in a grid. It also describes a form of single channel display in the paragraph just referred to. Dr Ciciora said, in his first report, that the skilled person would understand this as not only describing an alternative single display format in a single system; he would understand it as describing a second alternative display in a single system - ie one system with both a grid and a single channel display. This is one piece of his evidence that I do not accept. It is not plainly saying this on its face, and I do not think that this is what the skilled person would infer it is saying. The application is, after all, not about modes of EPG display. It is looking in another

direction - the control of processes. The paragraph is an incidental description of part of that central feature. The wording in the paragraph describes "the table" (my emphasis) - ie the table in the embodiment. It is not describing the possibility of more than one table. That is not surprising - this area is not the focus of the disclosure of this application.

83. Applying *Pozzoli*, the obviousness claim involves taking Kono and considering whether the following additional elements would be obvious to the skilled team:

i) putting a grid and a single channel display in the same system.

ii) switching from the former to the latter by highlighting a programme (whether or not some other way would also have occurred).

iii) (for Claim 3) taking the programme information from the field in which it is stored and (i) displaying it (ii) in a separate window.

84. The answer to this question lies in the interest that the skilled team would bring to bear on Kono. The direction in which the prior art is pointing, and the topic which it addresses, are relevant to that point. As Laddie J said in *Inhale v Quadrant* [2002] RPC 21 at para 47:

> "The notional skilled person is assumed to have read and understood the contents of the prior art. However that does not mean that all prior art will be considered equally interesting. The notional skilled person is assumed to be interested in the field of technology covered by the patent in a suit, but he is not assumed to know or suspect in advance of reading it that any particular piece of prior art has the answer to a problem he faces or is relevant to it. ... Some pieces of prior art will be much more interesting than others. A document directed at solving the particular problem at issue will be seized upon by the skilled addressee. ... But the same may not be the case where a document comes, say, from a distant and unrelated field. .. It may be that [the document] is written in such a way that, although he understands it, the skilled person will dismiss it as irrelevant after his work. The more distant a prior art document is from the field of technology covered by the patent, the greater the chance that an intelligent but uninventive person skilled in the art will fail to make the jump to the solution found by the patentee."

This is actually addressed to a slightly different situation, but it is germane to the proper approach to Kono. That is an application dealing with something other than the presentation of EPGs. The skilled addressee would not approach it as dealing directly with a problem in his own area of concern. EPGs figure in Kono as a tool. The content is dealt with incidentally in one paragraph (plus a reference to notes). I do not consider that the skilled addressee would look at that paragraph (and the table) as teaching him anything other than the possible formats for an EPG, which he will be aware of anyway. For him to start working from that paragraph *in that context* to step (i) and then to step (ii), in his own field of interest (which is related to, but not the same as, the field of interest of Kono) would require inventiveness, not a step or steps of obviousness. It is true that Kono does refer to the possibility of a switch operating by highlighting a programme in a grid, but its context would not lead to the skilled

addressee's finding it obvious to turn that to account in his own field and for his own purposes. I do not accept Dr Ciciora's evidence to the contrary. I think that this is a piece of prior art which, in relation to claims 1 and 2, would not interest the skilled addressee much at all.

85. The same is true of the additional Claim 3 (programme notes). All that Kono really tells the skilled addressee is that programme notes can be stored as part of the metadata which EPG data comprises, and which field it can be stored in. In teaching that it probably does not teach him anything he did not know already. It says nothing about the presentation of that information, and the skilled addressee would not be likely to take this piece of prior art as being any sort of useful starting point for anything when it comes to that point. It would not even prompt him to think about it, let alone lead him (them) to an obvious conclusion.

86. For those reasons, therefore, I reject the case that the Single Channel patent is obvious over Kono.

The story of SuperGuide

87. Before turning to the next piece of prior art (a magazine article and advert) it will be useful to set out some detail in relation to SuperGuide, because it, and SuperGuide itself, are closely linked both factually and by the legal issues in the case. There are findings of fact that I have to make, so I can usefully deal in a combined fashion with factual matters relating to both.

88. SuperGuide was a device developed by Mr Hallenbeck to present an EPG on the screen in relation to satellite TV in the United States. Between 1985 and 1986 he designed the equipment and wrote the software for the first model of SuperGuide, in respect of which sales started in 1986. It consisted of a set top box which was connected to the television, and a hand-held unit which connected to the set top box to issue it with instructions. At the trial, the information about SuperGuide and its functionality came from three sources:

    i) Mr Hallenbeck himself. He gave evidence as to how it worked and what he did in relation to it.

    ii) An article in a magazine called STV for May 1987 and ostensibly written by Mr John Gurney (in fact a pseudonym for somebody else). This is the piece of prior art in this case called "Gurney".

    iii) A demonstration of a prototype of SuperGuide. I was given a demonstration of the functionality of this prototype, and provided with a DVD showing Mr Hallenbeck operating it. This prototype lacked one feature which was important to this case but which Mr Hallenbeck said featured in the product as distributed, and as demonstrated by him at various trade fairs, namely a single channel listing. Whether or not the production version had this functionality is a question of fact that I have to decide.

89. SuperGuide worked as follows. EPG data was provided to the SuperGuide operating company and broadcast on a dedicated satellite channel at certain times of the day. The material was stored in the set top box in the form of a database, and that database

was accessed by the box in order to put the relevant information on screen. (There was a storm in a teacup in this case as to whether or not this database was aptly described as a relational database. In the end this point was said to go to the credit of Mr Hallenbeck. If it matters, I find that it clearly was a relational database in the sense of having data stored in tables which were related to each other by various fields. That is the sense in which Mr Hallenbeck used it, and he was accurate in so using it.)

90. The first display on the SuperGuide screen was a single time/multi channel display. That is to say, it displayed the programmes on all relevant channels which started at a given time, listed by that time. The channels were identified by satellite and by channel number within that satellite. The channels were listed vertically running down the screen. The hand-held controller controlled the position of a cursor, taking the form of arrows at each side of the screen, which were capable of marking each programme in turn as it moved vertically down the screen. By pressing a given button on the controller when the cursor was against any programme, the programme listing disappeared and was replaced by a screen showing some form of description of the programme – programme notes. This was not displayed in a window "superimposed" on the listing screen; it was a replacement screen. This programme notes feature is important to Claim 3 of the single channel patent.

91. SuperGuide also had a "favorites" functionality. One aspect of this is not important to the present proceedings. It had the ability to enable the user to confine the programmes displayed by genre. The data about programmes that were broadcast assigned programmes to various genres (films, sport etc) and the user could choose to filter information presented by genre. Of more importance to these proceedings was the ability of the user to select his own channels (up to 48 of them according to an advertisement in STV) as his or her own particular favourites.

92. The viewer made such a choice by entering a screen of the display which showed only channels, identified by satellite, channel and name. The user ran the cursor up and down the screen display, and if he or she pressed the relevant key on the controller when the cursor was against a certain station, a "+" sign appeared against that channel and an appropriate marker was inserted in the internal database. This designated that channel as a "favourite". Once that process was complete, the user could then enter another menu and, by choosing to see favourites, filter the display so that when he pressed a "What's On" button, it showed only the programmes on channels which had been designated as favourites. This manner of working was demonstrated to me in court. There is no dispute that that functionality existed at all times on SuperGuide.

93. There was, however, a dispute as to whether another principal feature of SuperGuide existed in this model. This feature was called by Mr Hallenbeck "single channel roundup". Mr Hallenbeck's evidence was that during the summer of 1986 when he was doing a field trial before finalising the production unit, he tested a new feature the idea for which had come to him following one evening when he was demonstrating the product to some friends. As I have explained, the normal listing was a fixed time/multiple channel listing. He introduced a functionality so that, when the cursor was against a given channel/programme and the user pressed the "1" key on the controller, the display switched to a single channel display, being a listing of all the programmes on the channel of the marked programme. The chosen programme was

still highlighted in the single channel display. By pressing the "1" button again, the display reverted to the single time/multiple channel display.

94. Mr Hallenbeck's evidence was that while this feature was arrived at too late to be incorporated in the prototype, it was included in the final production model which was sold from 1986 until a new model was introduced (SuperGuide II) in 1990. About 2,500 units were sold. Mr Hallenbeck's evidence was that he demonstrated both features of the unit at various trade shows from 1986 onwards. He was quite clear that the single channel roundup existed on this first version of SuperGuide right from the first production and first sale. This was challenged by Mr Birss. He based his challenge on various factors, including the following.

i) All the evidence about it turns on Mr Hallenbeck's memory, which itself related to events over 20 years ago.

ii) There are no documents or items which demonstrate the truth of what Mr Hallenbeck says in a direct way – no production units were produced, no user manuals were produced and no document directly evidenced the presence of a single channel display.

iii) The earliest form of documentary reference to the single channel roundup is a series of depictions in magazine advertisements, the first of which was May 1987 (after the production units had first been sold). Before then, a variety of magazine adverts, containing screen shots of the operation of SuperGuide, did not show the single channel roundup. It is never described in a document – contrast the Gurney article which does describe the favourites feature.

iv) Mr Birss also relied on the unsatisfactory manner in which he said potentially relevant documents had not been disclosed to Gemstar.

v) At some later point in time, Mr Hallenbeck applied for a US patent for a different invention. He did not mention SuperGuide in that, even though prior art which was equally material was mentioned.

vi) It was said that some of the supporting material that Mr Hallenbeck referred to in court was unsatisfactory, not least because some of it had not been referred to before. When being cross-examined, Mr Hallenbeck referred to a conversation that he had had with someone else in the trade known as John Roop, who had incorporated an equivalent feature to single channel roundup in his (the competitor's) product. Mr Roop was said to have remarked that he got the idea from SuperGuide. Mr Birss says that this was a lie, made up on the spot by Mr Hallenbeck. It was not referred to in his witness statement. Similarly, Mr Birss relied on some evidence which, Mr Birss said, demonstrated that Mr Hallenbeck himself was only "reminded" about the single channel roundup feature when he found a "stuffer" of SuperGuide II, which apparently certainly did have this feature.

95. All in all, in the light of the state of the evidence, which Mr Birss said was highly unsatisfactory, Mr Birss says that Mr Hallenbeck had not adequately established that the production units of SuperGuide, as sold and as demonstrated between 1986 and 1990, had the single channel roundup feature. In particular, Mr Birss says that this

point had not been "proved up to the hilt" in accordance with European Patent Office jurisprudence – see EGP 472/92 (OJ 1998 161).

96. Despite Mr Birss' attempts to undermine Mr Hallenbeck's evidence, I am quite satisfied that Mr Hallenbeck gave entirely accurate evidence about SuperGuide and its functionality, including the existence of the single channel roundup feature as described by him. The manner in which he gave his evidence was completely convincing and internally and externally consistent. He was not accused of lying about the existence of the single channel roundup feature, so if he was not giving accurate evidence it must be because he has misremembered how his first product worked. Having seen Mr Hallenbeck in the witness box and considered his evidence (and the part which SuperGuide played in his career) it seems to me to be unlikely in the extreme that Mr Hallenbeck can have misremembered any such thing. He would not only have had to have transposed a feature from SuperGuide II back into SuperGuide I, he would have had to have transposed the date of the occasion when it occurred to him that the feature would be a good idea. While it is true that early magazine advertisements did not, in their screenshots, show the single channel roundup, that is not highly significant. The articles do not purport to show all the features, and articles from a later period did show it. If the feature had not existed, someone must have created screen shots of a feature which is plainly significant but which did not exist. Not only is this unlikely, it would also be a very bad idea in advertising and customer relation terms.

97. During the trial, Mr Hallenbeck produced sections of the computer code written for SuperGuide. He produced a section which he told me (and I accept, not least because it was not challenged) was code for a single channel roundup feature. Mr Birss' response to that was to suggest that the printout, which on its face dated from 1987, was not of the code for SuperGuide but was the code produced for SuperGuide II. Mr Hallenbeck denied that suggestion, and I accept his denial. I also accept Mr Hallenbeck's explanation as to why the demonstrated model (the prototype) did not have the feature. It is not sinister; it is an aspect of how models move from prototype to final versions. Final versions have features which are not present in prototypes. Mr Hallenbeck does not have a production model. He came across the prototype fairly recently when cleaning out his garage after a flood. Despite some vague implied suggestions that this was not wholly satisfactory evidence, I nonetheless accept it.

98. In the circumstances I find that it is quite clear that the single channel roundup feature was in the SuperGuide production unit from the date of its first sale in 1986, that it was apparent to the users of those units and that it was demonstrated widely at various trade shows between 1986 and 1990. It was plainly disclosed to the public. It is proved too, and proved beyond the standard necessary to establish disclosure and public use for the purposes of English patent law.

99. There is a further piece of evidence which I accept from Mr Hallenbeck. He told me that from time to time between 1986 and 1990, at trade shows and elsewhere, he was approached by various people who asked whether he was going to add a grid display to SuperGuide. As a result of that, at some time in the first half of 1987, he spent a couple of days writing a sub-routine that displayed the listings in a grid guide format rather than the existing vertical line guide. He described this as being easy – a two day "hack" resulting in a test system which was operational and functional from a

technical standpoint. It succeeded in displaying the programmes in a grid format. He did not go further and write code which enabled the cursor to move about the format and to be used for selecting programmes and shifting the "focus" of the view. However, he did not pursue this idea because he personally did not like grids. He did not like the way the grid looked on the screen because longer show titles were truncated. While this truncation might have been acceptable when the viewer was familiar with the titles of shows (as with a national network show) it was unattractive in the satellite environment. He said that when he designed SuperGuide II he considered the introduction of a grid, but he and his set top box makers decided not to incorporate it in SuperGuide II either.

100. I accept all this evidence. Mr Birss criticised Mr Hallenbeck for the manner in which the evidence was presented, in that on one view it might have suggested that the "hack" had more navigational functionality than turned out to be the case. There is some limited basis for this criticism; perhaps his witness statement could have been phrased a little differently. However, I do not consider that this reflects adversely on Mr Hallenbeck's credibility.

Gurney

101. As identified above, this is an article in an edition of a magazine about Superguide aimed at satellite TV users and suppliers in May 1987. In the middle of the article is an advert for SuperGuide. Although the article is about how SuperGuide works, it has the air of a puff about it, which is not surprising because it was actually written by someone who had the idea of it and who invited Mr Hallenbeck into the project.

102. I shall first consider this article as a standalone piece of prior art, without the evidence of the actual use of the SuperGuide which comes from Mr Hallenbeck, on the footing (contrary to my finding above) that SuperGuide was not common general knowledge.

103. The article shows photographs of, and describes, the physical aspects of the machine - the set-top box and the remote control. It then describes the operation, including setting it up.

> "When you want to see what's on television, you don't have to search for your programming guide, you … simply pick up the remote control and push the blue button labelled 'What's On Now', and suddenly a page of schedules is displayed on the TV screen. No searching for the right page and the right time - SuperGuide does that automatically for you.
>
> Now, if there are more listings for the time slot than will fit on a single screen, simply press the 'Next Page' button, and to back up, press the 'Previous Page' button.
>
> …
>
> There are actually so many features available with SuperGuide that it is almost impossible to describe them in a magazine article. … The 'Select Favorites' mode, for instance, enables the user to access two very interesting features. In this mode, a complete listing of scheduled program

> services on each satellite is displayed on the screen. Using the 'Select' button, one can program each channel by placing a '+', a '-' or a blank spot.
>
> Next to the channel designation the '+' symbol flags a particular channel as one of your 'favorites'. … In the favorites recall mode, only the channels selected will be displayed … By programming in your favorite channels, you bypass the need to look at all the other listings.
>
> …
>
> By inserting a '-' in front of the channel designation, that channel will be completely eliminated from all displays of SuperGuide. This mode is useful for eliminating channels you never watch or that you are unable to watch (for instance, scrambled channels to which you do not subscribe). If neither a '+' nor a '-' is inserted, SuperGuide will automatically display listings for that channel in all modes."

104. The article displays screenshots of three screens. The first is an account screen. The second is a choice menu giving the viewer the opportunity to perform various functions, including "What's On", "List Favorites" and "Select Favorites". On each side of the screen there are inward pointing arrows pointing up "What's On", and at the bottom of the screen it says "'SELECT' an entry". It is apparent that the arrows are the cursor. The third screen shows an "ALL" listing for a given date - it is a regular listing by satellite and then channel, for 8pm.

105. After the third page of the article there is an advertisement for SuperGuide. It describes it as having the ability "to instantly recall and display on your TV screen complete hourly and daily listings or descriptions of upcoming programming … One very special feature of SuperGuide allows you to create a custom listing of up to 48 favorite channels. Your preselected favorites are the only programming displayed on your television screen."

106. The advertisement shows three screenshots, with curved lines suggesting some sort of link from one to another. The first is a general listing with a film, "Prizzi's Honour", indicated by the cursor. The next screen below it, partly overlaid on the first, is a screen showing a short synopsis of "Prizzi's Honour", and the third, partly overlaid on the bottom of the second, is a screen showing listings for the same date and time, this time headed "Single Channel Roundup for G1 10 [a channel on satellite G1]". On the line below that is the name of the channel (Movie Channel East), and on lines below that lines alternating with a time (apparently a start time) and the names of films. This apparently lists the films showing on that channel for a period starting at 1pm. "Prizzi's Honour" is shown starting at 4pm, and is again indicated by the cursor.

107. Some of this material is relevant to the second of the three patents in suit (the Favorites patent), but other parts of it are relevant to the Single Channel patent.

Single Channel patent - obviousness over Gurney

108. Virgin say that the invention is obvious over the Gurney article when read with the advertisement. The first question is what attention the skilled team would pay to the advertisement. This is significant because some of the features that Mr Mellor needs for his case appear only in the advertisement. The text of the article does not disclose the operation of the programme notes features, and does not refer to the Single Channel Roundup. These features only appear (graphically) in the advertisement.

109. A skilled team will give a piece of prior art the sort of attention that it would seem to them to require. Obviously they would not give an advertisement the same sort of detailed attention that they would an expert paper which seemed to be directly in point. Some advertisements would be scarcely worth a glance. This one, however, does not fall within that category. It is an advertisement with some visual detail which would not be merely glanced at and dismissed. The article itself says that it does not cover all the features and the skilled team would at least look at the advertisement to see if any other features are described there.

110. What they would see is a reference to programme notes in the text (not made in the article) and two forms of display not referred to in the article, one of which is apparently the programme notes. The other is a single channel listing. The advertisement clearly discloses at least that. Mr Birss suggested that it would not be noticed. Dr Ciciora said that it would, and I agree with him. I consider that the skilled team would look at this advert in order to see whether it told them anything about SuperGuide beyond what the article told them, though they would, of course, bear firmly in mind that it was an advertisement.

111. I also find that the team would take the screenshots as showing some sort of link from one screen to another. Even Dr Maybury was prepared to accept that. What he did not accept was that the workflow (as he described it) was clear or that it showed moving from the single time listing to the single channel listing. I also agree with that, and certainly the second part of that. The order in which the screens would be presented is not clear from these screenshots. What, however, I think is clear is that the two more forward of the screens are linked to the back one by the programme selected in the back one (ie Prizzi's Honour) in the sense that there is a flow from that to one or other of the front screens, with the link to Prizzi's Honour maintained. In other words, one or other of the two forward screens have arisen because Prizzi's Honour in the back screen was marked with the cursor, and then a selection button was clicked.

112. If that is right then the *Pozzoli* analysis distils the problem as follows. Is it obvious to add a grid display (which is in no way part of the STV-described system); and if so is it obvious to link to a single channel display by highlighting a programme in the grid?

113. In my view it would be obvious to add a grid. Dr Maybury himself accepted that people wanted grids; grids were an established format in paper guides; they were obviously useful; and apparently non-technical people had asked Mr Hallenbeck if he was going to add one. There was nothing technically difficult or unknown about programming for a grid guide. While Dr Maybury said (doubtless correctly) that there would be all sorts of things to be considered in actually implementing a grid, he did not go so far as to say that the idea of having a grid display would not occur to the

skilled team. They might decide to reject the implementation of the idea on the grounds they did not like the way it would operate, but the idea of having one was obvious. Implementing it would become a commercial decision based on perceived consumer preferences.

114. If a grid is included, navigation to and from it becomes an issue. Would it be obvious to navigate to the single channel display from the grid, and to do so by opening it from a marked title? I consider that it would. In his cross-examination, supplemented for these purposes by his re-examination, Dr Ciciora said there were two ways in which one could link the grid to the single channel display. One is by highlighting the programme; the other is by highlighting the channel. They are both obvious. There were no technical difficulties - the link would merely involve some standard programming. Yet again, the choice in the final system would be made by reference to perceived consumer preference, not by any technical matters. It is obvious to do both, and therefore obvious to link by the programme cell (opening from a marked title). Dr Maybury was very resistant to this conclusion, but I think that his resistance was based first on his reluctance to accept suggestions that might assist Virgin's case, and second on an emphasis on the "consumer choice" aspect of the decision-making, not the sort of technical considerations that are germane to an obviousness case in patent litigation.

115. Accordingly, Claim 1 of the invention is obvious over Gurney. Claim 2 merely requires moving the cursor from cell to cell in the single channel display. Having thought about the matter further, and having the benefit of the original advertisement (and not merely a copy) Dr Maybury conceded that in the advertisement it was apparent that one could navigate up and down the list. Doing the same in the single channel display in Claim 2 must be obvious over that (it is no different) and I did not understand Gemstar to defend this claim if Claim 1 was obvious.

116. Gurney is also relied on as an obviousness attack on Claim 3 - the programme notes. It is said that the advertisement shows programme notes linked to a selected programme, the notes being stored by the system and brought up in a separate screen. There was no material challenge from Gemstar to that part of the reasoning.

117. I have already found that the advertisement demonstrates linking between a programme identification in the single time display to the two other displays. One of those displays is the programme note display. I consider that the skilled team would think it obvious that the notes could be made to "spring from" the programme cell in that display. Since a grid is an obvious alternative or additional implementation, it would, in my view, be equally obvious to have it springing from the marked programme in the grid. If the grid is obvious (which, of course, Gemstar disputes as such) I did not detect in the end that they would dispute the obviousness of this particular programming step.

118. That being the case, the only other difference between the integers of Claim 3 and Gurney is the fact that the programme notes in the advertisement screenshot are a full screen, whereas Claim 3 of the 662 patent requires that the listings be displayed "simultaneously". Dr Ciciora said that the choice of whether to present this information on a full screen or in a partially overlaying window would have been viewed as a "design nicety" or "marketing issue". Dr Maybury accepted that it would be obvious to the skilled team looking at this advertisement that they had a choice

between creating a full screen version or "painting" the picture on part of the screen, and they had the technical skills to do the latter. In his written final submissions Mr Birss sought to meet this obviousness case by relying on a passage in Dr Ciciora's evidence in which Dr Ciciora is said to have accepted that there was nothing that the skilled person would get out of Gurney to encourage him to present the information by overlaying on the grid. This was his main challenge to obviousness. It fails because it misrepresents the evidence. Dr Ciciora was in effect saying no more than that Gurney did not teach the overlaying, which is plainly correct. His answer did not come from questions which properly addressed the obviousness point.

119. Accordingly, I find that creating a simultaneously-displaying window containing programme notes was an obvious step from the advertisement, so Claim 3 of the 662 patent is obvious over the advertisement and article.

120. The same obviousness points go to Claims 4 and 5. Those claims do not need to be considered separately for these purposes.

Single Channel patent - obviousness over SuperGuide itself

121. Virgin ran a distinct case to this effect, though it was plainly very closely related to the Gurney article. It was said that SuperGuide (the thing) made the 662 claims obvious.

122. On the basis of my finding that SuperGuide did indeed have the single channel display, and on the basis of Mr Hallenbeck's evidence as to how it worked, the case of obviousness of the patent over SuperGuide is easier than the case in relation to Gurney because the uncertainties about sequencing that exist so far as the advertisement is concerned do not exist in the case of the real thing, where it is apparent how it works. However, Mr Birss said that there were other points working against an obviousness point that did not arise in relation to Gurney.

123. First, it was said that a grid display was a less obvious display to add because it would have added an extra display (a 6th) to those displays that SuperGuide already had. (One display that I have not already mentioned is a block display in which the user could select, say, a film, and see by means of a block on a time line when that programme was displayed during the week.) Dr Ciciora said that one would not want to add a sixth display to the system - it would not be appealing to the user to do that. However, in my view the strength of this point is removed by at least two points. The first is the fact that Dr Ciciora's evidence, having acknowledged that you would not want to add a 6th potential display, went on to show that the skilled team could and would consider removing one of the others to make way for a grid. So it was not a real bar to satisfactory implementation, let alone obviousness. The second comes back to the point made so many times before in this judgment, that the point made by Dr Ciciora does not detract from obviousness in terms of the inventive step. Even if it would be a bad idea, in terms of usability, to add the sixth display, it would be obvious, in terms of what could be done, to add one. To say it would be obvious technically but a bad idea commercially is not to detract from obviousness as patent law views the concept. This, therefore, is not a good point for Gemstar.

124. The second point was one going to the apparent structure of SuperGuide's database. Mr Birss sought to demonstrate that the skilled team looking at how SuperGuide

actually worked would think that it contained a large flat file, or some other file format which would not be as easy to turn into a grid as other date structures would be. Dr Maybury did give some evidence to that effect, but Mr Hallenbeck, when cross-examined, did not accept that that would occur to anyone other than someone who only had experience of flat files. While his evidence might just be affected by knowing what he actually did (which was not a pure flat file structure) I thought his evidence was convincing. Nor did Dr Ciciora accept the suggestion as to what the skilled team would think. Accordingly, the premise of Mr Birss's point fails, and the rest of his point falls with it.

125. So the skilled team has SuperGuide as I have found it to have functioned. All the obviousness points that arise in relation to Gurney arise and operate in the same manner in relation to the physical thing. It would be obvious, and not technologically challenging to have a grid, whether in addition to, or even in place of, another display. It would be obvious to have the single channel display spring out of programme selection in a grid, and it would be obvious to have programme notes spring out of a programme selection in a grid.

126. No separate point arises in relation to Claims 4 and 5. The patent is therefore obvious over SuperGuide.

Conclusions on the 662 patent – validity

127. It follows that, were the 662 patent not invalid as being an attempt to patent invalid subject matter, it would fall to be revoked on the grounds of obviousness over prior art.

The Single Channel patent – infringement

128. Since I have found the patent to be invalid for a number of reasons, infringement does not arise, but I will deal with it briefly in case I am wrong.

129. Mr Mellor accepted that if the patent was valid all the integers were matched by the Virgin system, save in very limited respects. The issues on infringement were therefore very limited, and that spares me from having to set out a detailed account of the entirety of Virgin's offering. I can confine my description of it to only limited features to which the infringement points relate.

130. So far as Claim 1 is concerned, there is no relevant extent to which the Virgin product does not match all the integers. Claim 1 would be infringed if the patent were valid. The same applies to Claim 2.

131. So far as Claim 3 (program notes) is concerned, there are infringement issues over the manner in which two aspects of the presentation of information are concerned.

132. The first is a feature which displays whenever the grid is displayed. It can be illustrated by the screenshot in Appendix 3. The contents of 6 channels are listed (101 to 106).

133. Above them are the time slot indications, and above them is a reference to the programme which is highlighted in the grid as the selected programme ("Wed 13 9:00

- 12:00 Olympics 2008"). This is said by Gemstar to be a program note of the marked title, displaying simultaneously with the grid, and therefore to infringe Claim 3. Virgin says it is not. It is not a note because it adds no information beyond that which appears in the grid, and indeed is part of the grid.

134. The main question seems to me to be whether this information amounts to a "program note" within the meaning of the claim. In order to construe those words one has to resort to the specification, and in particular to paragraph 0019, set out above. From that paragraph it is apparent that notes are something other than the listings. They are indeed additional information, and being text intensive are used in a different way - on demand only. The sort of information to be included appears in the bulleted list in paragraph 0019. While that list is not expressed to be inclusive, it is information other than that which appears explicitly in the grid. The grid (as is apparent from figures in the patent) contains channel, start time, finish time and name information for a given day. The note information goes further. That is its purpose.

135. The information contained in the relevant line which is under discussion goes no further than the information in the grid together with the date. It would probably not be a program note in ordinary parlance, and I consider that it is certainly not one within the meaning of the patent. It contains no additional information to that contained in the grid, and contains none of the sort of information which the patent indicates that a program note ought to contain. This is further reinforced by the example of a program note contained in Fig 6 to the patent, reproduced at Appendix 4, which shows some of the additional information. Because Virgin's line is not additional information it is not "additionally store[d]" within the meaning of Claim 3 either. Accordingly this line on the Virgin display does not infringe.

136. Mr Mellor also said that Claim 3 required the note to overlay the grid and relied on paragraph 0020 which he said required it. He said that since Virgin's line does not overlay the grid it does not infringe for that reason either. I am not convinced that the claim actually requires overlaying - it requires simultaneous display - but since it does not infringe for other reasons I do not need to decide this point.

137. The second alleged infringing feature is something which appears in the Virgin system and which does indeed amount to a programme note within the meaning of Claim 3. It is called up by highlighting a programme and pressing a button on the controller called "Information". When that is done a note appears as shown in Appendix 5. This is said to infringe. Virgin says it does not because it does not display "simultaneously with the program listings" because it obscures them.

138. The requirement that the notes display "simultaneously with the program listings" is a significant one which is referred to further in the specification. According to paragraph 20 it hides only some of the listing ("3 or 4 listings"), and the intention is to "minimize concealment". A roving window is used "to avoid masking the title of the selected listing". It is therefore plain that at least some material part of the listing, and in particular the highlighted programme, should be visible. This is presumably done to maintain the context. The effect can be seen in Fig 6 of the patent. So simultaneity is a concept used to connote the provision of useful information in the grid along with the note window.

139. The Virgin window does not achieve this. It is true that the window overlays the grid, but it does not, within the meaning of the claim as amplified in paragraph 20, do so simultaneously with any significant part of the grid. It is true that parts of the grid peep out from underneath, but the parts one sees do not amount to a single complete programme reference. The most that can be seen is the 6 channels from which one (unidentified and invisible) was chosen as a trigger for the pop up note window. I do not consider that this amounts to simultaneously displaying the program listing. Not one listing is displayed.

140. Accordingly Virgin's system does not infringe Claim 3 even if the claim is valid.

The Favorites patent, or the 049 patent

141. This patent bears the number EP 1337049 B1; its priority date is 10th September 1990. As I have already observed, its origins in a divisional application means that it shares a lot of apparently irrelevant text with the Single Channel patent. The relevant parts of the specification are as follows.

142. Paragraph 1 has the heading "Field of the Invention" and betrays its broadly-based origin. It starts:

> "0001 The present invention relates generally to a system and process that allows a television viewer to access on screen television program listings and use the program listings in an easy and convenient way to control operation of a video cassette recorder (VCR) or other recording device…. More particularly it relates to such a system and process in which the VCR or other recording device is controlled by a simple selection of program title and a record command, even for recording at a future date and time. Most especially, it relates to such a system and process incorporating an intuitive user interface."

Paragraphs 0002 to 0007 deal with the prior art, with a heavy emphasis on VCR control. Paragraph 0007 refers to printed grid schedules and limits on the size and resolution of television displays of text. It ends:

> "Improved techniques are required for conveying the most amount of information to a user in an easily understood manner within the limitations of the television display. When a large number of channels are available for viewing, there is also a need to order the display of information most conveniently for the user."

There is then a heading "Summary of the Invention" and paragraph 0008 reads:

> "0008 Accordingly, it is an object of this invention, as defined in the claims, to provide a television schedule system and process with a user interface that is configured to compensate for the particular nature of the television schedule information.

….

0012 It is a still further object of the invention to provide such a user interface in which order of presentation of the schedule information is customizable by user preference."

What then follows is a large number of paragraphs dealing with matters which are nothing to do with the claims. They deal with such things as grids and automatic programming of VCRs by reference to an EPG. Some of the text is shared by the specification of the Single Channel patent. It is not until paragraph 0069 that one gets to paragraphs germane to the claims. At this point the relevant text reads:

"0069 Fig 20 shows a Channel Customization screen 116. The screen 116 allows the user to customize channels to match viewing interest, providing a compact listing as well as eliminating undesired channels during up down scanning. During schedule update, a list of all cable channels available at the subscriber's cable system (or broadcast stations for over-the-air subscribers) is also delivered to the VCR. This unabridged set of channels may be customized using screen 116.

0070 The Channel Customization screen 116 has two fields, a three column field 118 listing up to 36 unabridged channels and a single column field 120 listing 12 favorite MY channels. The latter is a replica of the channel descriptor column 122 (fig 1) of the opening grid guide. Additional pages are available (using the page key to swap between the pages) to accommodate systems with more than 36 channels. Each cell 124 in the three column field 118 contains the following information:

'Channel number and program service name (such as HBO or station KTVU2). The cell 124 is color-coded to indicate the following states:

ON, default state before any customization, with the cell 124 in light green background.

MY, favourite channels listed in the single column field 120, also shown in the three column field 118 with a blue background.

OFF, a channel deleted from all guides, as well as during Channel UP/Dn scanning (still accessible using the ten key channel keypad). OFF cells have a gray background.'

0071 When first installed, the system assigns the first 12 (listed in numerical order) channels as MY favorites. The channel status may be changed by selecting a channel and picking a state(s) MY, OFF or ON using the SELECT key.

0072 Since only 12 favorites are allowed, the user must first remove a favorite channel by changing the status of an existing favorite channel to

> ON or OFF. When that is done, the first column will automatically open up a space for the next MY selection. When a new MY is selected, the MY column 120 will automatically insert the new selection in the prescribed order….
>
> …
>
> 0077 In the system 180, programmable tuner 202, which may be part of a cable decoder unit, receives a TV signal from antenna 200 and/or from cable input 205. Tuner input 216 goes to a vertical blanking interval (VBI) decoder 222, which may be a closed caption decoder or a high-speed teletext decoder. Listing information and other support information, such as cable channel assignment data, will be transmitted over the VBI by one or more local stations or cable channels several times a day or continuously.
>
> …
>
> 0088 Schedule information may be downloaded from the VBI. Alternatively or supplementally, it may be downloaded from a telecommunication line 270 to the modem 268 and to CPU 228 via line 266. Other means of delivering scheduled information can be employed, including the use of a sub carrier channel on the cable service.
>
> 0089 It should now be readily apparent to those skilled in the art that a system and method incorporating a novel user interface capable of achieving the stated objects of the invention has been provided…. Order of presentation of the schedule intervention in the interface is customisable by user preference."

143. The claims appear in Appendix 6 to this judgment. In addition there is an application to amend the patent to add two extra claims, shown in that Appendix. I shall first consider the unamended claims, and then the proposed amendments.

Excluded matter

144. Virgin claim that this patent is invalid as seeking to patent excluded matter on the same basis as it attacks the 662 patent, that is to say it is a computer program as such, or the presentation of information as such. Gemstar's response is essentially the same as its response on the 662 patent.

145. I do not need to set out the legislative and case law material relevant to this point again. All that I have said above about those matters is equally applicable to this patent.

146. The result is also the same. This is a computer program for limiting an EPG's display of programmes on the screen. It is said that this manner of limitation is novel. I shall assume for the moment that it is, and that that identifies the invention for the purposes of the *Aerotel* test.

147. This seems to me plainly to be a computer program. It is a program which takes data, makes a display, permits visual and internal tagging, and then displays a subset of that data. So there is little doubt that it is a program. What is the contribution said to be? It was described by Mr Birss as being the improved use of the screen 'real estate' as per the user's interactively applied specification. So it has worked on the data and filtered it. Is that a technical contribution? In my view it is not. It does not make the computer a better computer. It does nothing to make the computer do anything other than to sort some data, and that is not sufficient. Nor does it have a relevant effect on the world external to the computer. It alters a screen display, but again that cannot be a relevant technical effect, because otherwise every computer program which reported its output on a screen would escape the exclusion. Since a very high proportion of programmes can do that, it cannot have been the intention of the draftsman that that should take a programme outside the exclusion, so that is not enough. The effect on the user can hardly be described as a technical effect.

148. Insofar as that might be wrong, nevertheless the entirety of what is propounded by Gemstar as the technical contribution is the presentation of information. It undoubtedly does present information - the whole purpose is to limit information that would otherwise be presented, and then present that limited set. I have already rejected the submission that the statutory exclusion is confined to the actual content. It is wider than that. This seems to me to be a clear example of the presentation of information in any meaningful sense of those words. The patent describes a computer taking some information, getting some input from the user, and then giving the user the information he wants. It is no more than that. There is nothing which can meaningfully be described as a technical effect. There is merely a more gratified viewer of the painted screen.

149. Accordingly, this patent will be revoked on the footing that it seeks to patent excluded matter. It will be convenient at this point to say that the amendment suffers from the same vice and suffers the same fate.

Novelty of the Favorites patent as granted - anticipation by Gurney and SuperGuide

150. Despite my conclusion on excluded matter, I shall nonetheless consider the other attacks on this patent on the footing that my first conclusion is wrong.

151. Virgin claims that the patent is anticipated by Gurney. I have already read and described the relevant passages of that article. It is said that it describes the process of obtaining a "complete listing of scheduled program services on each satellite displayed on the screen". That is said to describe "a display of a plurality of channels available for viewing by the user" as in Claim 1. The display is said to be the equivalent of a cell showing channel number and a program service name for a particular channel, though the actual form of display is not demonstrated. Then the user uses the display to select from those channels ("+" and "-" selection) with an indication on the screen - that is said to anticipate the obviously apparently corresponding integers in the patent about selection; and then the last integer is matched because the selected subset of channels can be made to appear.

152. The dispute on novelty turns on the following points.

153. First, Gemstar says that since the selection screen is not identified, it is not known how the channel is shown, and in particular it is not demonstrated that the service name is shown. That is literally true. Mr Mellor's response was that the station identification name is implicitly disclosed. I do not think that is necessarily the case. It is not known how the channel is identified, and it does not follow that the channel name, as opposed to number, would necessarily be disclosed. The strict anticipation test is therefore not fulfilled here.

154. The next point taken is that it is not known from the article whether the "+" and "-" signs are shown on the screen or whether it is merely done invisibly in the underlying database. Dr Maybury said that his first reading was that there was no on-screen display of the signs. I find that if that is his view then it completely misunderstands the target audience of this article. As the skilled team would understand, this article is aimed at the consumer or the installer, neither of whom would have the remotest interest in understanding directly what is going on in the internals of the database. What they are interested in is how the thing works in the hand. That is plainly what the article is describing. One of the signs is "placed". Where is it placed? Obviously, on the screen which is explicitly referred to in the preceding sentence which sets the scene (it is actually the last word of that sentence). It is "next to the channel designation" - that is quite plainly a reference to the designation on screen. Anything else is an almost wilful over-interpretation of this document from the wrong viewpoint. This is a thoroughly bad point. Dr Ciciora accepted that placing it in the database was a possible interpretation, but at least his first thought was that it had to go on screen.

155. The last point turns on the meaning and effect of "channels <u>available for viewing</u> by the user" (emphasis supplied). Gemstar says that this means all channels which can be received at the system level (whether or not the viewer has actually subscribed to them), and does not include any channels which cannot be received; in other words, it means "all channels which can be received for viewing, and no other channels". Virgin disputes this construction, and says it means "at least all channels available for viewing".

156. This problem of construction would not be particularly apparent as a problem to someone who did not realise why it was about to become significant (and which I will explain shortly) but it does actually arise and I will therefore have to decide it to complete the decision on the present novelty point. I consider that Virgin is right on the point, for the following reasons.

157. The background against which it arises is the possibility that an EPG distribution system will distribute information about TV programmes which a user cannot physically receive. As the skilled team would appreciate, so far as satellite transmissions were concerned that was potentially the case because someone with a smaller dish and who was trying to receive signals at the western, eastern and southern extremities of the US would not be able to pick up all channels, though someone with a larger dish would get them all. In those circumstances, unless a restricted signal was sent out to some users, or unless the receiving system could filter out of the signal those channels which physically could not be received, the EPG would present a list of channels some of which could not, under some circumstances, be viewed.

158. Providing such a filter would, in those circumstances, be of some utility. If the patent were aimed at this problem one would expect some reference to be made to it, and to the mechanism for achieving it, in the specification. However, the specification of the Favorites patent contains no explicit clue as to how the more limited listing is to be achieved. It does not even hint at a problem. This is despite the fact that it deals with all sorts of other problems going beyond the Favorites point, as I have observed. It is true that in one of the figures, which contains a schematic of a system, there is reference to a modem and telephone line, which could be used to convey a customised listing, and there is a reference in paragraph 0088 of the specification to sending schedules via that route. However, that is merely a reference to potential means of communication which might be used to address a problem to which the patent in no way otherwise refers. The real invention of the patent is the filtering of a long list to a short list of favourites. It nowhere purports to claim to contain a second inventive step, namely the reduction of a long list of broadcast channels to a shorter list of those whose signals the recipient could physically receive. This points away from the construction point on it by Gemstar.

159. This is reinforced by an absurdity point. If Gemstar were right in its construction, then anyone seeking to implement the underlying discovery of the patent (the selection of Favorites) could simply avoid infringement by adding one extraneous, non-receivable station to the EPG list. Mr Birss accepted that that would be the case. That would be a very odd effect. While avoidance of infringement is an uncertain guide to construction, I think that it is a legitimate point to make in this case. There is another oddity. A map showing the satellite footprint in about 1990 showed that someone with a smaller dish in Florida would not be able to receive all the broadcast satellite channels, while someone with a big dish could. If Gemstar were right, someone using a system like SuperGuide which broadcast all systems would infringe (assuming all integers were present) if he used his big dish (because he would get listings of all channels available to him) but could fix the problem by going out and buying a smaller dish so that he could not receive all the channels that were listed. That, again, points up the oddity of Gemstar's interpretation.

160. In support of his construction Mr Birss sought to draw support from the manner in which the patent described the process of marking channels as MY, ON and OFF. While he has a point, in my view it is not weighty enough to match the points made above.

161. Accordingly these factors, in my view, demonstrate that the reference to 'available for viewing' is not intended to introduce another feature of the system in the odd way referred to by Gemstar. It is setting out the set from which a subset is to be produced. The set is the complete set of channels which can be received even if others are received as well; "at least the channels which are available" and not "the channels which are available but no more". For the sake of completeness I should record that no-one advanced an interpretation which would have involved an infringement if some of the available channels were not listed.

162. That being the preferable construction of the two, I turn to apply it to the matter to which it is relevant in this case. The point matters because Gemstar had relied on it in drawing a distinction between Gurney and the patent. Gurney did not limit its displayed station list only to those which could be physically received, so it was said that on that point it did not anticipate. Gurney clearly expects a transmission of

information about receivable programmes, and insofar as it anticipates getting information about non-receivable channels, it matches the patent in this respect. However, this point does not matter, in relation to Gurney, since overall it does not anticipate for reasons appearing above.

163. Next, Virgin has a novelty point arising out of the SuperGuide product itself. It is said that it anticipates.

164. This time the point succeeds. All the integers are matched. The disputed areas were:

i) Originally it was said that SuperGuide did not display both a channel number and programme service name. A demonstration of the prototype (which I find to be the same as the production model in this respect) shows that SuperGuide displays both.

ii) The "available for viewing" point arose in relation to SuperGuide as well as Gurney. It is dealt with in the same way.

iii) If I were wrong as to where Gurney said the "+" sign appears, it is quite plain in SuperGuide that it appears on the screen.

165. All integers are therefore matched, and SuperGuide therefore anticipates the Favorites patent. It therefore fails for want of novelty.

Favorites patent – obviousness

166. In the light of my conclusions on novelty, I do not need to consider obviousness. It would be relevant if I were wrong on my conclusions on the construction of "available for viewing", because Mr Mellor said that if there was a non-matching of the integer he would say that the difference could be bridged by obviousness - it would be obvious to leave out unviewable channels. Obviousness was certainly pleaded, but Mr Birss took the point that Mr Mellor did not have an evidential case on obviousness. It seemed to me, at first sight, that Mr Birss had a point about that, but I do not need to rule on it.

Conclusions on the 049 patent – validity

167. It follows that, if (contrary to my finding) the 049, or Favorites, patent is not invalid under section 1(2) of the 1977 Act, it falls to be revoked for want of novelty.

The application to amend the Favorites patent

168. As Mr Birss put it, the point of this amendment is to put some more distance between the patent and SuperGuide. The wording is less than totally clear, but what it introduces is the idea of a time context in which the programme display will be driven not by the start time (as per SuperGuide) but by the time the programme is actually being broadcast. Both proposed amendments can be taken together, since they are plainly linked in their content.

169. I can deal with this point shortly. Gemstar accepted that a grid would display the information in the manner referred to in the new claims, and that if it was obvious to add a grid to SuperGuide then that would fall within this claim and make this claim,

too, obvious. I have so held. The amendment application becomes one which seeks to add an invalid claim and must fail. In those circumstances I do not have to deal with additional objections which were raised, concerning lack of clarity and added matter.

Favorites patent – infringement

170. Again, I will deal with this briefly even though the question does not arise in the light of my conclusions on validity. Virgin has a feature which enables a channel name to be highlighted on a cell and a selection of that channel as a favourite to be made, at which point a tick appears against the name on the screen.

171. The only point of distinction relied on as between the Virgin EPG and the patent arises out of words:

> "wherein each cell comprises a channel number and a program service name for a particular channel"

The Virgin offering does not do that. The channel number and the programme service name appear in different cells; or at least not in one cell. On the screen the channel number and service name appear next to each other. The name can be selected, but the number is not selected at the same time (or indeed selectable at all). Thus the name is in a cell without the number. Whether the number falls to be treated as being in a cell at all may be debatable, but it is apparently not in the name cell.

172. Literally this presentation is not within the wording of the claim. Mr Birss's answer to this was that this was an immaterial difference having regard to the purpose of the invention. The purpose is to identify a channel, and then apply the selection to it. Whether the cell contains the channel name and number, or just the name, is immaterial. The process is the same.

173. This point was not dwelt on in the evidence. It seems to me that if one applies the *Improver* questions (*Improver v Remington* [1990] FSR 181) one concludes that the variation is immaterial, that that would have been obvious to the skilled team and the team would not have understood that strict compliance with this feature was necessary. I do not think it likely that the patent's formulation was really anything to do with what the invention was really about. The point is a short one. I conclude that this distinction between Virgin's EPG and Claim 1 is immaterial, and therefore if the patent were valid the Virgin EPG would infringe.

The transfer patent

174. This patent bears the number EP1613066 B1. Its priority date is 17th September 1998. The essence of it is as follows. It assumes the existence of a set-top box capable of receiving and recording television programmes and of displaying an EPG. The EPG is used to control and programme the recording. None of that is claimed as inventive. What is said to be inventive is an additional facility in the EPG providing a means of controlling the transfer of an already recorded programme to a secondary recorder (a VCR, hard disc or something else – the nature of the secondary recorder is not within the claims). The programme to be thus transferred is identified by the EPG data

displayed on the television screen, and recording is by applying an on-screen selection mechanism to that data.

175. The claims in the patent as granted are set out in appendix 7 to this judgment. However, it appears that the form of those claims was included as a mistake. They were in the original application, but before the patent was granted the patentee sought to submit amended claims. Those amendments were accepted, but by something in the nature of a clerical error the old (wrong) claims went into the patent as granted. The claims which should have gone in are set out in the same appendix. Gemstar applies to amend the patent to substitute them. Other than validity-based objections, Virgin does not oppose that amendment. The Comptroller has no comment to make and did not wish to be represented on this application. Having considered the matter, and subject to any validity points, I would be minded to order the amendment. It is not suggested that any different considerations apply to the amended claims when compared with the unamended claims. Virgin attacks both sets of claims on the same basis. Accordingly, the fate of the amendment application follows on the determination of the validity attacks, which are want of novelty and obviousness.

176. The Background of the Invention is dealt with in paragraphs 0001 to 0005 of the specification. Paragraph 0004 ends:

> "The use of independent analog storage devices like video cassette recorders, however, does not allow for the more advanced features that might be implemented if a digital storage device were associated with a program guide.
>
> 0005 It is therefore an object of the present invention to provide an interactive television program guide with digital storage."

The "Summary of the Invention" goes on:

> "0006 This and other objects of the invention are accomplished in accordance with appended Claims 1 and 6, the principals of the present invention, by providing an interactive program guide system with digital storage that allows the program guide to be used to provide more advanced features than previously offered by interactive program guide systems."

Paragraph 0008 describes some of the controls related to a set-top box and goes on:

> "The set-top box may store television programming and program information in a digital storage device associated with the program guide. The digital storage device may be an optical or a magnetic storage device (e.g. a device using writable digital video discs, magnetic discs, or a hard drive or random access memory (RAM) etc).
>
> 0009 The use of a digital storage device associated with the program guide provides the user with more advanced features than could be performed

> using an independent analog storage device. For example, the current invention gives the user the ability to store information associated with recorded programs in a directory in the digital storage device thereby providing easy access to program information…. The program guide also allows the user to define "super-programs" for playback of a sequence of stored programs or program segments. The program guide may also provide for the transfer of programs and super-programs to other volumes of the digital storage device or to a secondary storage device."

There then follows a detailed description of preferred embodiments. Various schematics are referred to, including a fig 2 which shows a "daisy chain" arrangement in which the output from the recording box is shown as going to a "secondary storage device" and from there to the television. The teaching does not necessarily anticipate a second output for the secondary recording device. Certain other connection options are referred to in the specification; I do not need to deal with them.

177. Paragraph 0022 deals with transferring:

> "0022 When a user indicates a desire to access the main menu or other feature of the program guide (e.g. by entering a command with user interface 46), the program guide generates an appropriate program guide display screen for display on monitor 45….from the main menu the user can access any one of a number of features of the program guide. Features indicated by main-menu screen 50 may include program listings, recording schedules, the digital storage medium directory, program guide setup, transferring stored entries and super-programs to another volume or device, and global media library."

Paragraph 0076 deals with the nature of the secondary storage device:

> "The program guide may also allow the user to transfer programs and super-programs stored on digital storage device 49 to other volumes of digital storage device 49 or to secondary storage device 47…secondary storage device 47 may be another storage device available in the home network system like a video cassette recorder, a recordable digital video disc device, a computer (with an appropriate storage device), or other digital storage device."

The processes are then described in a little more detail and then:

> "0078 Transferring the data (e.g. software) associated with a program or super-program may not be possible with some analog secondary storage devices, so the program guide may accordingly ignore the associated data during transfer."

It is unnecessary to set out any more of the extensive specifications. What was described as the "meat" of the invention lies in the integer (using the amended claims for this purpose):

> "Using the interactive television program guide to enable the user to select the recorded program listing to transfer the recorded program from the digital storage device to a secondary storage device."

Points of construction

178. The only point of construction which was said might arise is one as to the meaning of "interactive television guide". However, at the end of the day I could not detect any issue which, in the real world, raised a relevant point of construction.

The attacks on the patent

179. Virgin sought to attack this patent on the basis of two pieces of prior art – one which was easy to understand ("Variety") and one which was certainly not ("Toshiba"). It was said that the invention was obvious over Variety, and anticipated by, or alternatively obvious over, Toshiba.

The skilled addressee

180. There was little material dispute over the identity of the skilled addressee. It would be a team including those with a degree in electrical or electronic engineering, and would include those with software writing experience and knowledge of MPEG-2 systems (systems for video broadcasting), and relevant hardware and software relating to digital TV broadcasting.

Common general knowledge

181. By 1998 EPGs were well known in digital TV systems and the skilled team would be familiar with them, albeit that digital TV itself had not yet arrived in the UK. There was a dispute as to whether it was common general knowledge that EPGs were or could be used to programme TV recordings. Mr Glasspool said that this was common general knowledge and cited instances of its actually being done in some devices (in the US). It had been referred to in some popular publications some 3 or 4 years previously. Although those publications themselves might not have made these devices, or at least their idea, general common knowledge, I think that they support Mr Glasspool's evidence that by 1998 it had become so. Mr Hirson originally said that he did not know whether such devices existed, but eventually accepted that they were in the mainstream consumer market by the priority date of the patent. I accept Mr Glasspool's evidence that the ability to programme a VCR to record via an EPG was common general knowledge. So was the introduction of digital storage to set-top boxes, and the transfer of stored content from one device to another by copying - for example, from one VCR to another.

Variety

182. At first sight this might be thought to be a somewhat unlikely looking disclosure to be a piece of prior art. It is in a magazine called "Daily Variety" for September 8th 1998. It is apparent from such other parts of the publication as are shown in the bundle that it is an entertainment industry newspaper with relatively lightweight news in that area. On one page there is an article entitled "Replay to bow "instant VCR"." It reports that a Silicon Valley start up company planned to start selling a new digital television recorder that would provide viewers with "vastly greater powers of control over the process of both watching and recording TV programs". It goes on to refer to a set-top device similar in physical size and shape to a VCR "that will not only enable viewers to easily record programs, but will also provide VCR-like power to pause, rewind and

fast-forward to realtime broadcast programs". Incoming cable or satellite TV programmes are compressed and recorded on a disc drive.

> "Software inside the device enables the user to easily select programs up to two weeks in the future to record on the disc drive for later viewing, as well as pause, forward, fast-forward and review programs that they're currently watching – and that's still being recorded."

Mr Hirson considered that this paragraph was referring either to the use of an EPG or possibly to programming with a Video+ type mechanism, though he thought that the skilled team would probably favour the former interpretation. Mr Glasspool considered that it must be talking about an EPG. I think that Mr Glasspool is right about that.

183. Two paragraphs further on, the article contains the crucial sentence on which Virgin hangs its obviousness case:

> "The product will be available in various models, with storage capacity ranging from seven to 30 hours. *Should users wish to save programs permanently they can be recorded from the replay TV device to a VCR."* (my emphasis)

Virgin's case is that that sentence simply means what it says – it is possible to record from the device to a VCR. Gemstar suggested two further alternative readings. The first was that the system envisages a Video+ system. I consider that, even if it did, this sentence has got nothing to do with that. It is talking about something different. The second alternative reading was, in my view, deeply contrived. There was at the time a copy-protection programme or facility called Macrovision. In the course of his cross-examination (though not in his expert report) Mr Hirson suggested that this sentence was referring to an absence of such copy-protection. It came out as a rather incidental sort of observation. By the time Mr Birss came to cross-examine Mr Glasspool it became a rather more serious suggestion, though one which Mr Glasspool firmly rejected. Having heard the evidence on the topic, and having heard the experts, I regard the suggestion as fanciful. I think that Mr Hirson was stepping beyond the normal boundaries of an expert and casting around for some interpretation which might assist those who engaged him. This is not a technical article. Variety is plainly describing a commercial product to a layman. A layman might be interested in whether or not there was copy-protection, but if the journalist had been trying to describe that feature, he would inevitably have done so in different terms. As I have said, I find that those words simply mean what they say.

184. At the same time, I think it is also clear what the sentence does <u>not</u> say. It does not give any indication of how the initiation of the recording process is controlled. Not only is it not explicit in the article, it is not implicit either.

Variety – novelty and obviousness

185. Virgin argued faintly that Variety justified a novelty attack. However, the argument was only faint and, in case it matters, my express view is that it fails. However, the basis on which it fails is of significance for the obviousness attack. Perhaps surprisingly for such a high-level newspaper article, it does actually disclose most of

the integers of Claims 1 and 6. Mr Hirson accepted Virgin's case that if it disclosed an EPG (which he said it probably did and which I find that indeed it did) then it involved displaying in a display screen at least one programme listing related to at least one programme, it enabled a user to select a programme entry, which was then recorded, and it disclosed a display of at least one recorded programme in the EPG (summarising the bulk of the relevant integers). What it does not disclose is the selection process for the programme to be secondarily recorded.

186. That is the *Pozzoli* gap. It coincides with what was described as the "meat" of the invention – the use of the EPG to initiate and control (for the set-top box end) the onward recording process. So the question becomes whether it is obvious to use the EPG to identify the programme for onward recording and to use it (via an additional on-screen control) to initiate the recording from the set-top box. (It should be noted that it is no part of the invention that the set-top box or the EPG controls the secondary recorder.)

187. Mr Hirson said that this step was not obvious.

188. The answer to this question lies in a further consideration of what it is that the article is saying about recording. If it is describing a separate recording facility, distinct from playing back and with some additional features such as, for example, a separate output port, then it is obvious that that needs controlling, and even Mr Hirson agreed that it would be obvious to do that via the EPG. It would be very strange to do it with any other control. The EPG already provides a manner of achieving a listing of recorded programmes, and of playing them back in a user-friendly manner. It would be very strange to use anything else for a secondary recording function. If, however, the sentence is saying nothing more than describing the general recordability of the output, then the position seems to me to be otherwise. It could be giving no more than a description of that feature. That would be achieved by the daisy-chaining system described in the patent – a standard output emanates from one port, passes through a VCR and passes on to a television. Such a system would not necessarily require a separate "record" feature on screen. The user could simply press play and then hit the record button on his VCR. That would not involve any separate secondary recording function controlled by the EPG. It would amount to no more than an interception of the output signal by a VCR.

189. At one level, it is not entirely clear which of those two alternatives the article is describing. However, it has to be borne in mind once again that this is not a technical article. It is giving a general appetite-whetting description at a consumer level of a forthcoming product in a general entertainment industry newspaper. I do not think that a skilled addressee would take it as describing a new technical feature in this part of the article. The sentence comes after one referring to the storage capacity of the new device. It describes the limits on that capacity. It goes on to give some reassurance that the contents can be preserved elsewhere, presumably in order to reassure the reader that deletion from the new device does not mean that the content is lost forever. If that supports either interpretation, then it would tend to point away from describing a distinct technical feature of the same quality as those described earlier in the article (pausing, fast-forwarding, creating customised channels etc).

190. In my view the critical sentence is not clearly describing a separate recording ability. In those circumstances, the question becomes whether it would be obvious to include

a separate control on the screen, labelled "record" or "transfer" or something like that, operating within the EPG, and as part of it, to initiate a process which is effectively the same as the "play" control, because the output to the output port is the same. Mr Mellor put this to Mr Hirson, and he questioned why it would occur to the skilled team to do that. I agree with him. If this sentence were describing a separate function, then it would, I think, be obvious that it had to have a separate control on the screen to govern it. However, it is not in fact describing a separate function, but merely confirming an ability, and it is not necessary to have a separate control. It therefore becomes less clear that the skilled addressee would obviously insert a special control mechanism. Mr Glasspool considered that the team would do it to "make it easy and to save the programmes you want to save". I am not convinced that that is right. I do not think that the level of teaching on this point in the article is sufficient to send the skilled addressee team into thinking about these areas much at all. Since it is not the case that this sentence is describing anything more than the recordability of output, I do not think that it has been established that it would be obvious to have a separate control in order to achieve end result A (recording or archiving) as opposed to end result B (viewing).

191. I therefore find that the invention is not obvious over Variety.

Toshiba

192. This document is a "Japanese Unexamined Patent Publication" – effectively a patent application – and was filed on 18th September 1996. It has been the subject of two translations for the purposes of this action, and a further one surfaced during the course of the trial. All this meant that it was the subject of very close scrutiny, and a textual analysis which would probably have surprised its authors.

193. The object of the invention in this application was said to be:

> " To use a medium for recording programme information and a device for programming recordings which employs this recording medium to enable the quick retrieval and viewing of various kinds of programme information and allow the recording of a desired programme to be programmed easily and accurately without the need to refer to newspapers, TV guides or the like.
>
> Solution
>
> The use of recording medium 16, such as a DVD-RAM or the like, prerecorded with programme information distributed by a TV station not only allows a variety of information such as programme listings or programme content to be displayed in a selected format based on the said programme information, it also enables a specific programme to be selected directly from this programme listing and programmed for recording. This programming data can be managed by associating it with programme information relating to the specified programme held in an area for recording index information, and when the programme is actually recorded using this programming data, index information such as the time and date of recording, start position and duration are recorded and managed as an attachment to the corresponding programme information in addition to images of the programmed recording being recorded in the video recording area."

194. The main idea behind the invention in Toshiba is to facilitate recording of programmes. It seeks to overcome the difficulties caused by input error when a programming device is programmed to record a future broadcast. It achieves this by obtaining the necessary programme details (name, date of broadcast, start and end times, channel number and so on – "metadata") from a "key station" (perhaps a kiosk at a shop) and recording this on an area on a DVD-RAM. This information is then used to control the recorder, with the actual programme content recorded on a separate area of the disc. During recording the metadata associated with the given programme remains associated with it, and in due course it provides a way of finding and playing back the desired recording. This seems to take place via an EPG which reads the metadata and allows programme selection for recording and for playback.

195. The anticipation and obviousness cases both turned on a single paragraph in the document, namely paragraph 0162, which is in the "Editing" section. That paragraph reads:

> "On the other hand, when recording the results of editing on another disk, both the edited index information and playback data for video and the like may be transferred and recorded."

196. Virgin's case is that this paragraph refers to two things – metadata relating to programmes ("index information") and the programmes themselves ("playback date for video and the like"). It is the latter that is important to this action. Virgin says that by referring to the latter the paragraph is referring the transfer of recorded content from one recordable medium to another, and on the footing that this is being done by reference to an EPG (and it was common ground that whatever was happening, it was being done through the EPG) then it anticipated the invention in the transfer patent. Alternatively, the patent is obvious over this piece of prior art (again relying on paragraph 162). Gemstar's case is that this paragraph is not referring to the transfer of content. It is describing the movement of metadata from one medium to another. Accordingly it does not anticipate; and obviousness is denied.

197. The parties' cases turn on putting the paragraph in its overall context. That requires setting out some more of the document. The first translation from which the experts were asked to work was ostensibly more explicit – the relevant Japanese characters were translated as "the TV program itself". However, at the trial the parties worked from Mr Prentis's effort, which translates the characters as set out above.

198. Toshiba has various "chapter" headings (my word). At paragraph 0017 there is a chapter headed "Embodiment of the invention". Paragraph 039 provides:

> "The operation of the "record/playback", "search/display", "programming" and "editing" functions will now be described for the case where programme information, data for programming recordings and other recorded image data are recorded using DVD-RAM 16."

199. Paragraph 0041 is the first paragraph in a chapter called "Recording/Playback". It refers to a diagram of a DVD-RAM and says that it shows programme and index information (ie metadata) allocated to the inner periphery of the disk, with a "video recording area" allocated to the outer periphery. Paragraph 0044 refers to "video

images of programmes" ie programme content. The benefits of doing this are set out in paragraphs 0053 to 0055:

> " 0053 With the present invention, details such as the programme title, cast, and synopsis can be very easily retrieved from the distributed programme information, and recorded as index information for the recording without the need for manual intervention.
>
> 0054 When the index information recorded on DVD-RAM 16 is played back, for example when the DVD-RAM 16 is placed in the recording and playback unit, the recorded programme can be easily found from the "programme title" recorded in programme and index information recording area 16a [viz the annulus on the disk referred to above] retrieved by information-searching unit 13, and output on television 10 via image interface 12. Moreover, the desired "programme title" can be selected using input means 14 or the like such as a remote control and the recorded programme played back from the corresponding "recording start position" in the index information.
>
> 0055 Thus not only can a desired recorded programme be easily selected and played back, the content of other information stored as index information can also be searched and played back in various different ways, such as finding whether information about a given performer is stored in the disk."

200. From these paragraphs one can see clear reference made to programme content, and the words used are not those of paragraph 162.

201. Although much of the focus of the work is on the use of a DVD-RAM, the embodiment described is not confined to that. Paragraph 0070 says that systems such as a CD-ROM can be used. This was important to Gemstar's case. Paragraph 0071 makes the point:

> "0071 The data provided in the programme listing (programme information) includes a large quantity of video and still images, and while it is preferable to use a medium such as DVD-RAM 51 which is rewritable and has a large storage capacity, existing memory devices such as HDD, semiconductor RAM, or MO may also be used."

202. Thus it is apparently anticipated that the programme information will include not merely such mundane things as start and finish times and channel identification; it will also contain stills and material such as trailers.

203. Paragraph 0087 starts a chapter called "Programming". It deals with the general structure of the system and has various flowcharts and menu screens and introduces various processes – a date subroutine, a genre subroutine, a child-friendly subroutine, and a "user designation" subroutine. Those are all then the subject of further chapters.

204. That is the lead up to the critical section, which is headed "Editing". It starts at paragraph 0149:

> " When editing genre categories, programme types, titles, synopses, and the dates and times of recording from a DVD-RAM 16 (refer to Fig 5) on which video and still images are recorded, it is useful to use the index information … recorded in programme and index information recording area 16a in said disk."

205. This seems to be referring to editing the metadata only (including the stills and trailer material) and not the programme content itself. Mr Glasspool said it is ambiguous in this respect; I do not think it is.

206. Paragraph 0152 refers to a figure showing a screen display of programme content details "when editing the programme recording information". This latter expression is a reference to metadata.

207. Paragraph 0153 says:

> " When DVD-RAM 16 is placed in an image output device equipped with editing functions, as shown in Fig 25, the titles of all recorded programs are automatically displayed on display device (television) 10, arranged by their index information, for example by genre, such as movie, sports, music, cartoons, cooking, news, weather forecast, drama and so on. At this point, a user can edit by selecting any title of any genre with an input device such as a mouse, keyboard, or remote control and copying it into the editing screen by dragging or clicking."

208. There is no doubt (and it is not disputed) that this paragraph refers to recorded programme material as well as metadata. However, Gemstar says that the editing referred to must be editing of metadata, and not editing (in any meaningful sense) of programme content, because otherwise there would be an unheralded change of direction – hitherto the section has been referring to editing metadata only. In support of this it relies on the fact that the original metadata might have been obtained on a CD-ROM, which cannot itself be edited, so that the details would have had to have been transferred to a DVD-RAM. I do not see how the CD-ROM point helps the argument here. It is true that the metadata might have come on that carrier, but I do not see how this helps to construe this paragraph. Nor does Fig 25 help anyone much – it is merely a representation of the screen display, which does not help one to ascertain what sort of editing is contemplated. What this paragraph certainly does, in my view, is refer to editing going on in relation to a DVD on which programmes have actually been recorded.

209. The same is true of paragraph 0155, though that is even more oblique in its reference to what is happening:

> "0155 At this time, as shown in Fig 27, a detailed listing of the programme content can be displayed, for example, synopsis of a drama, details about the performers, date and time of recording, and channels recorded. A user can use input device 14 such as a remote control, keyboard, or a mouse to select the title or number of the video and still images he wishes to edit from any of the display screens. He can also edit and record on the same disc or on a separate recording medium."

210. It was put to Mr Glasspool by Mr Birss that the expression "video and still images" is a reference to the trailer and other material that comes with the metadata, and is metadata for these purposes. He did not clearly accept that, though he did not clearly repudiate it either. I can see for myself the consistency of expression, and I accept that usually the document uses that expression to refer to the material suggested by Mr Birss. However, it is far from clear that it means it here. The first sentence refers to what is listed. The second sentence refers to the selection mechanism (remote control etc). The reference to subject matter is puzzling – why would it refer to the editing process when applied to such limited material? Why would one want to edit such material anyway? It seems to me to be more likely that it is intended to refer to the whole package – metadata and programme material – and is merely pointing up how one selects it and is careless as to its description. That makes a lot more sense to me, even though it was not how Mr Glasspool put it. Much of the process of construction of this document is a process of construing a document in a familiar manner which is not totally dependent on the views of experts. I think I can do that here.

211. Paragraph 156 does not help much, though it purports to do so.

> "0156 As an example of editing, if titles selected from the menu display screen are copied into editing screen 88 by dragging them or clicking on them with a mouse and the "Edit" button 89 is then selected, the recorded information is edited and re-recorded in the order in which the titles were copied.
>
> 0157 In such a case it is preferable to use a large-capacity DVD-RAM 16 as the recording medium, but a HDD, PD or MO may also be used.
>
> 0158 As shown in Fig 2, a variety of other information such as synopses of TV programmes, TV programme trailers and profiles of performers normally distributed at key stations 22 such as convenience stores, bookshops, or kiosks at train stations can be recorded on DVD-RAM 16 as programme and index information in addition to the information distributed by the TV station 21, the playback of this information allowing the recorded content of a programme to be easily grasped at a glance, as explained under the "Search/Display" and "Programming" sections above."

This again seems to be referring to recorded programme content and not merely metadata.

212. Paragraph 159 refers to disk capacity and foreshadows further uses set out in the following paragraphs culminating in the paragraph that is said to anticipate or to render the invention in the transfer patent obvious:

> "0159 The editing results can be organised on the same disk when a high-capacity disk like the DVD-RAM 16 is used, but can also be transferred to and edited on a different disk in an image recording playback output device which allows multiple disks to be loaded separately.
>
> 0160 In such a case, the user can prepare a separate disk for each genre, in other words a separate disk for movies, music, or drama. In the case of a

> drama series, the user can prepare a disk just for that series, and record all episodes on one disk.
>
> 0161 When editing and recording on the same disk, index information for the programme content the user wishes to edit, and address information indicating the actual image recording area, are recorded in part of index recording area 16a …"

213. And thus we arrive at the crucial paragraph, which I will set out again now that its context has been established:

> "0162 On the other hand, when recording the results of editing on another disk, both the edited index information and playback data for video and the like may be transferred and recorded."

214. Paragraphs 163 and 164 round off the section by stating that a user can play back a recorded programme by selecting it through the metadata that is recorded on the disk in question, and elaborating a little on that. I do not need to set them out.

The respective cases of the parties

215. Virgin's case, supported by the evidence of Mr Glasspool, is that the editing section deals with various processes, and includes references to a process of editing which takes place in relation to a DVD-RAM which has recorded programme material on it. It points to various paragraphs (which I identify below) which are said to include references to recorded programme material. Accordingly, when one gets to paragraph 162, the reference to "playback data for video and the like" (a phrase which has not hitherto occurred in the document) it is to be taken as a reference to programme content and not just metadata. Accordingly, the paragraph, in its context, describes a process of transferring programme content. What is more, the whole editing process (as set out in the document) is taking place under the control of an EPG. Accordingly, Claim 1 of the patent is suit is anticipated. This result is reached as a result of an analysis of the document and following the progression of language and ideas through the document.

216. Gemstar's case is that that paragraph does not have that effect. Mr Hirson's evidence was that when he first read Toshiba he could not see anything which anticipated the patent in suit. Then when his attention was drawn to paragraph 162 and its preceding paragraphs he saw there was something to be dealt with – he says he thought "Ah, that could be a problem". That is a curious turn of phrase unless one is looking for meanings which favour a non-novelty case. The translation which he was presented with at the time used the expression "the TV program itself" where Mr Prentis later had "playback data for video and the like", so on its face the paragraph seemed to refer to a transfer of programme content (which was necessary for Virgin's anticipation case). Nevertheless, Mr Hirson considered that the paragraph did not refer to the transfer of programme content (as opposed to metadata), for two principal reasons. First, the capacity of the then available DVD-RAMs was not such as to make the idea a practical one. The preceding paragraphs of the section envisage making compilations of programmes by type, genre, series, or some similar categorisation. The capacity of DVD-RAMs at the time was just over 2Gb (half the size of current standard DVDs), and that was not enough to allow for the storage or

more than one film, or more than one respectable-length sporting event, or more than one lengthy episode of a series. Second, such an idea seemed out of kilter with the rest of the document where the emphasis was on metadata and not on programme content. This led him to the conclusion that what the document was proposing was that metadata only was to be selectively copied from one disk to another, so that that disk could then be used for off-air recording of the set of programmes in question, using the metadata thus copied. His argument was strengthened when Mr Prentis produced his translation which used the words "playback data for video and the like" which were not a clear reference to programme content; it was more likely to be a reference to video and still photography material within the material acquired from the information supplier – trailers and the like. Gemstar's case then developed so as to rely quite heavily on the possibility of metadata being acquired on a CD-ROM (which is a possibility which Toshiba suggests, though not exclusively). In that event the programme content could not be recorded on to the same medium as the metadata was acquired on because a CD-ROM is not re-recordable – once recorded, the content is fixed. So if metadata was to be used to control and reference a future recording on the same medium as that on which the metadata existed, the metadata would have to be recorded on to some other recordable medium (a DVD-RAM, for instance) so that from that place it could control and reference the recording. It was this possibility that paragraph 162 was said (though not by Mr Hirson) to have in mind.

217. The two experts were each subject to a detailed cross-examination in which they were taken through Toshiba, almost paragraph by paragraph, in order to establish whether their respective contexts, perspectives and analyses were correct, or whether (in the case of Mr Birss's cross-examination of Mr Glasspool) the other side's views were at least arguable (with a view to seeking to establish that there were no "clear and unmistakable" directions to transfer programme content even if Mr Glasspool's views had merit or might be thought on balance to be correct).

218. So far as the evidence of the experts is concerned, in general terms I prefer Mr Glasspool's evidence over that of Mr Hirson. From time to time each expert seemed to be guilty of dealing with the evidence as though advancing a case rather than expressing a dispassionate view, though Mr Hirson demonstrated this more than Mr Glasspool. I am afraid that I got the impression that the former was sometimes somewhat doggedly trying to find an interpretation of Toshiba, and in particular the Editing section, which did not demonstrate the transfer of programme content, rather than considering the document with a more open mind. His task was, in one sense, eased when the Prentis translation materialised and changed the wording of paragraph 162, but I nevertheless had that clear impression. In trying to explain to me how and why his view of the effect of paragraph 162 had changed from time to time, his evidence was confused and confusing, and sometimes very unconvincing (when he said, which he did, that it had never been his view that paragraph 162 provided for the transfer of programme content).

219. That is one factor in my arriving at a conclusion that Mr Glasspool's evidence is generally to be preferred over Mr Hirson's. The other is that its content is more appealing. Although the real impact and effect of what is being suggested in the Editing section is not always clear, it seems clear to me that it does encompass a form of editing in relation to material which includes programme material. No-one suggested that the scope of the editing went as far as changing the actual recorded

material as such, but something else was going on. Paragraphs 153, 155 and 163 all refer to recorded programme content – the word "recorded" is used in that context and with that meaning. Mr Birss submitted that despite the use of the word "recorded" in paragraph 153, it must still be referring to metadata because otherwise there would be an unheralded change of context. I do not agree. The word means what it says. There is no great change in context, and certainly not one sufficient to displace the apparently clear meaning of the word. Furthermore, in my view the reference to "video and still images" in paragraph 155 is probably also such a reference, notwithstanding the fact that this phrase is generally used to refer to trailer and similar material that accompanies the metatada. Paragraph 158 probably also contains a similar reference, but the cross-reference to the previous sections (which do not refer to programme content) introduces a slight element of equivocation. Mr Mellor suggested that paragraphs 149 and 160 also contained such references, but that is not clear to me. Nevertheless, there are in my view clear references which gainsay the suggestion of Gemstar that this section is all about metadata. It is not – it is about programme content as well.

220. So the section envisages editing metadata which is unaccompanied by programme content, and editing of, or in relation to, metadata which has become associated with programme content by virtue of the recording having taken place on the same disk. The sort of editing contemplated is not always clear but some sort of re-ordering is apparently included. So is restricting the metadata to certain types of programme – paragraph 160. Then comes paragraph 161. This refers to the end of the editing process, and assumes the use of the same re-recordable medium as the metadata was on in the first place. It seems to me that it is implicit that this medium (disk) has recorded programme content on it, because of the reference to "address information indicating the actual image recording area" – there will be no relevant address until programmes are actually recorded. Mr Hirson seemed to share that view – paragraph 214 of his first report included the following sentence:

> "Paragraph [161] also points out the importance of maintaining the correct pointer to the start location of the TV programme recording in the post-recording index."

There must be some recorded programme material for that to make sense.

221. So paragraph 161 implicitly refers to recorded material. Paragraph 162 puts an alternative situation – a second disk; see the words "On the other hand …". Otherwise the situation is the same – some editing is going on in relation to metadata and recorded programme material. That material exists on one disk, the editing is carried out, and the fruits are put somewhere else – on a second disk. Those fruits would include the recorded programme information. If one were carrying out the editing exercise where a programme had been recorded, there would be no point in just transferring metadata. That was in essence Mr Glasspool's view, and I consider that he was right. Indeed, Mr Hirson accepted that it was reasonable to read the document in this way. At page 1004 of the transcript he accepted that, on its face, that appeared to be what the document was saying – programme content was being transferred. His objection was that that did not make logical sense to him in the light of the then technological background.

222. Those objections come down to the capacity point, and an inconsistency with one of Toshiba's illustrative schematics. The latter point is not at all convincing. Admittedly, the document is not always clear, and the real effect of some of the schematics is not always apparent. However, to allow the troublesome schematic (so far as it is troublesome) to override what seem to be reasonably plain words (even to the eyes of Mr Hirson) is to give it an excessive effect, particularly if it drives one to the meaning attributed to it by Mr Hirson. On analysis, the capacity point is not very compelling either. It may be true that the then capacity of DVD-RAMs was not such as to allow a single disk to hold a number of, say, films. However, if it is a problem then it would equally be an obstacle to Mr Hirson's interpretation and the teaching which he propounds. He says that paragraph 162 cannot be teaching a transfer of a number of programmes to a secondary disk because the secondary disk is not big enough. So what the paragraph means (he says) is that the metadata to control recording of the films (and any other desirable associated material) should be copied on to the secondary DVD-RAM and then recorded off-air. But the programmes thus recorded will take up just as much capacity as if transferred from another DVD-RAM. The problem is not solved. And there are other answers. First, even if long, or longish, programmes could not be stored on a single DVD-RAM in any significant numbers, shorter ones (for example, several short sitcoms) could be, and more programme material could be recorded if a reduced recording quality (requiring less digital data) were used. In this way a secondary DVD-RAM could store some 5 hours of material at VHS quality (the quality of the common videotape standard), as was established in the evidence. Some extra capacity could be released by making sure that the metadata copied with the programme content was limited by, for example, the removal of the trailer and still material. And extra capacity could be available if a hard disk was used as the secondary medium instead of a DVD-RAM (because hard disks had greater capacity at the time). Mr Hirson also pointed out that the copying process would take time, which would render it cumbersome and unappealing as a prospect, though he accepted that copying could probably take place faster than playback speeds. Mr Glasspool said copying could take place at greater than twice playback speeds if one adopted a lower bit-rate in the recording. I accept that evidence. Accordingly, another of Mr Hirson's disincentives to adopting what would otherwise be the apparent meaning falls away. There is no significant practical objection which would deflect the skilled team from that meaning.

223. Nor is Gemstar's position improved by the suggestion that paragraph 162 is to cater for the possibility that metadata can be obtained on a CD-ROM, so that it has to be copied on to a separate recording medium if it is to be used with recorded programme material. It certainly allows for it. It is, as Mr Birss constantly put it, "apt" for that purpose. But it is not confined to that.

224. Accordingly, the technical and practical obstacles to the apparent meaning fall away or are of no material significance in this context. In those circumstances I find that paragraph 162 describes the transfer of programme content from one digital storage medium to another. The patent requires that this be done by selecting a programme displayed in an EPG. Gemstar disputes that this is described in Toshiba, even if paragraph 162 describes what I have found it to describe. I find against Gemstar on that point too. The lead-up to paragraph 162 is in paragraphs describing the editing process by saying what the user does – see paragraphs 153 and 159. This process plainly involves the use of an EPG, or in the words of the relevant integer in the

unamended patent: "enabling the user to select the recorded program entry to transfer the recorded program from the digital storage device to the secondary storage device". That programme selection is what is described in those paragraphs. The programme is selected. The editing is carried out in relation to it, and the results are stored on the secondary disk. So the selection integer is anticipated.

225. There was no real dispute as to the other integers of Claim 1. I find that claim 1 is therefore anticipated by Toshiba and falls to be revoked accordingly. The amended claim fares no better than the original. There is no substantial difference in effect. It merely emphasises the use of an interactive television program guide (an EPG) to effect the transfer. All the integers are present in Toshiba. I therefore refuse permission to amend. The amendments would be amendments to an invalid patent.

226. Claim 6 is to a system which achieves the results of Claim 1. That, too, is anticipated by Toshiba for the same reasons.

227. Independent validity is claimed for Claims 2 and 7. I can deal with these shortly. Claim 2 adds an integer which refers to enabling a user to select a sequence of programmes and then transfer them to the secondary storage medium. As Mr Glasspool pointed out, paragraph 153 of Toshiba refers to selecting programmes and it cross-refers to figure 25. That figure shows a table with 4 "Titles" shown in an edit column, having been metaphorically dragged there in the editing process. Paragraph 156 provides for multiple selection, and paragraph 160 provides for the placing of more than one programme on a disk, albeit not explicitly all in one go as part of a transfer process. The combined effect of these paragraphs is to extend the editing process to multiple programmes, and that is then within the contemplation of paragraph 162. Claim 2 is thus anticipated.

228. Claim 7 adds the integer: "wherein the secondary storage device is a digital medium". Paragraph 157 of Toshiba refers to the desirability of using DVD-RAMs, hard disks (HDD), Phase Change devices (PD) and magneto-optical devices (MO). They are all digital. The reference there to their use is in the context of a use in which deployment of a secondary device has not yet been referred to, but paragraph 161 refers to a "disk" which is clearly the same digital format, so when paragraph 162 refers to "another disk" it must be referring to the same digital medium. Claim 7 is therefore also anticipated.

229. In the circumstances I find that the patent wants novelty.

Toshiba – obviousness

230. An alternative case was run of obviousness over Toshiba. In the light of my findings on anticipation I will not lengthen this judgment with a finding on this. Suffice it to say I saw much in the argument in favour of obviousness.

Infringement

231. This does not arise in the light of my findings on novelty, but in any event I can record that no issue real arises. Virgin accepts that if the patent is valid then Virgin's product infringes all claims (except Claims 5 and 14) of the patent in suit. For its part Gemstar accepts that there is no infringement of claim 5. Claim 14 is merely a system

claim corresponding to Claim 5, so it must follow that there is no infringement of that either.

The transfer patent – patentable subject matter

232. Virgin claims that the patent seeks to protect excluded subject matter on the basis that the invention is a computer program as such or the presentation of information or performing a mental act (deciding what to transfer). Gemstar disputes this and says that the contribution of the patent is a better electronic guide, being better in the sense that the guide itself has a function dedicated to the process of transfer. It is a tool for doing something in a better way.

233. I do not need to set out the law again. All that I have set out above applies here. It is, again, appropriate to apply the 4 stage *Aerotel* test.

234. Again the question is whether what the invention achieves has a relevant technical effect. This time I think that it does. This is not merely a computer running a program without any effect in what might be regarded as the outside world. While it does not produce a "better computer" it does actually achieve something which can be regarded as a physical effect, namely the initiation of movement of data from one disk to another (both metadata and TV programme content). That seems to me to be enough to prevent it being just a computer program as such and to render it patentable material. It is true that it does not produce an effect outside the system itself, but it is still an effect.

235. Nor is the patent disqualified as being presentation of information. It involves the presentation of information, but it is more than that – there is, again, a separate independent effect which is outside that concept. I do not see how it can be even argued that the invention is the performance of a mental act (though the point was taken). A machine has to do something that the brain cannot. Once a human has decided what to do and pressed the button, the machine operates in the physical world and produces a result that a mental act cannot achieve (short of telekinesis, which is not claimed as part of the invention).

236. Accordingly the patent is not disqualified for want of patentable subject matter.

Gemstar-TV Guide International Inc v Virgin Media Ltd

Appendices

Appendix 1 – Single Channel Patent – relevant claims

1. A method for navigating about a television programme listing (20) comprising the steps of:

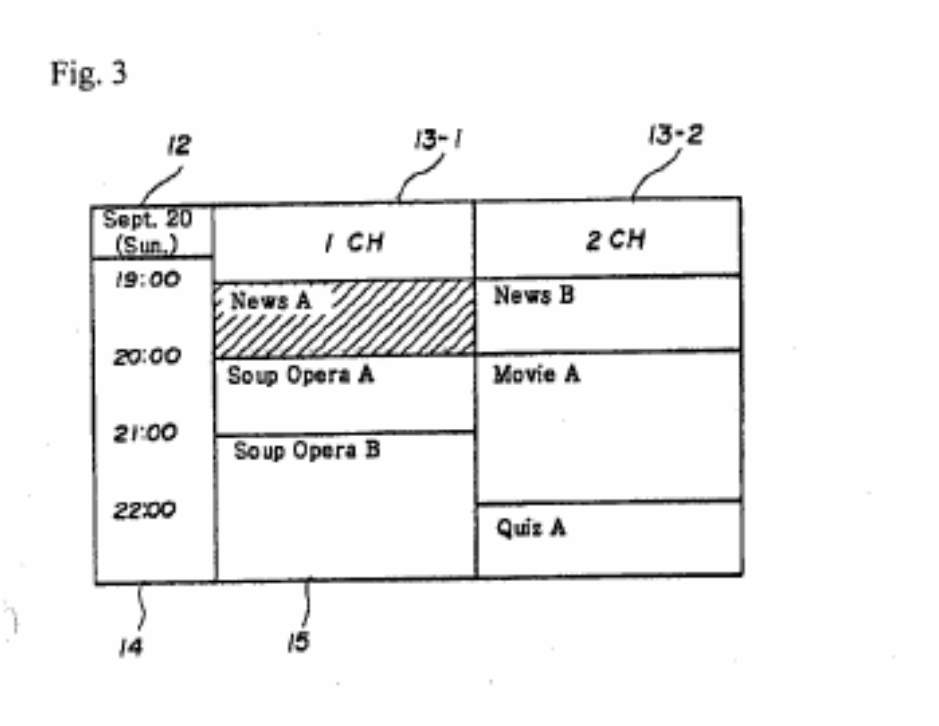
> Storing in electronic memory a plurality of television programme listings, each listing including title, telecast time and channel;
> displaying on a monitor screen some of the titles of programme listings in a grid guide format of time and channel;
> Moving a cursor (32) on the screen to mark one of the displayed titles in the grid guide format;
> and
> opening to the marked title in a single channel format (58) instead of the grid guide format (24);

wherein the single channel format (58) includes rows of sequential television program listings for the channel corresponding to the marked title.

2. A method as claimed in claim 1, additionally comprising the steps of moving the cursor on the screen to mark a different displayed title in the single channel format.

3. A method as claimed in claim 1 or 2, in which the storing step additionally stores programme notes (52) that correspond to the programme listings and the displaying step displays simultaneously with the programme listings the programme notes (52) corresponding to the marked title.

Appendix 2 – Kono Fig 3



Appendix 3 – Virgin grid display

Figure 6

Appendix 4 – Single Channel Patent Fig 6

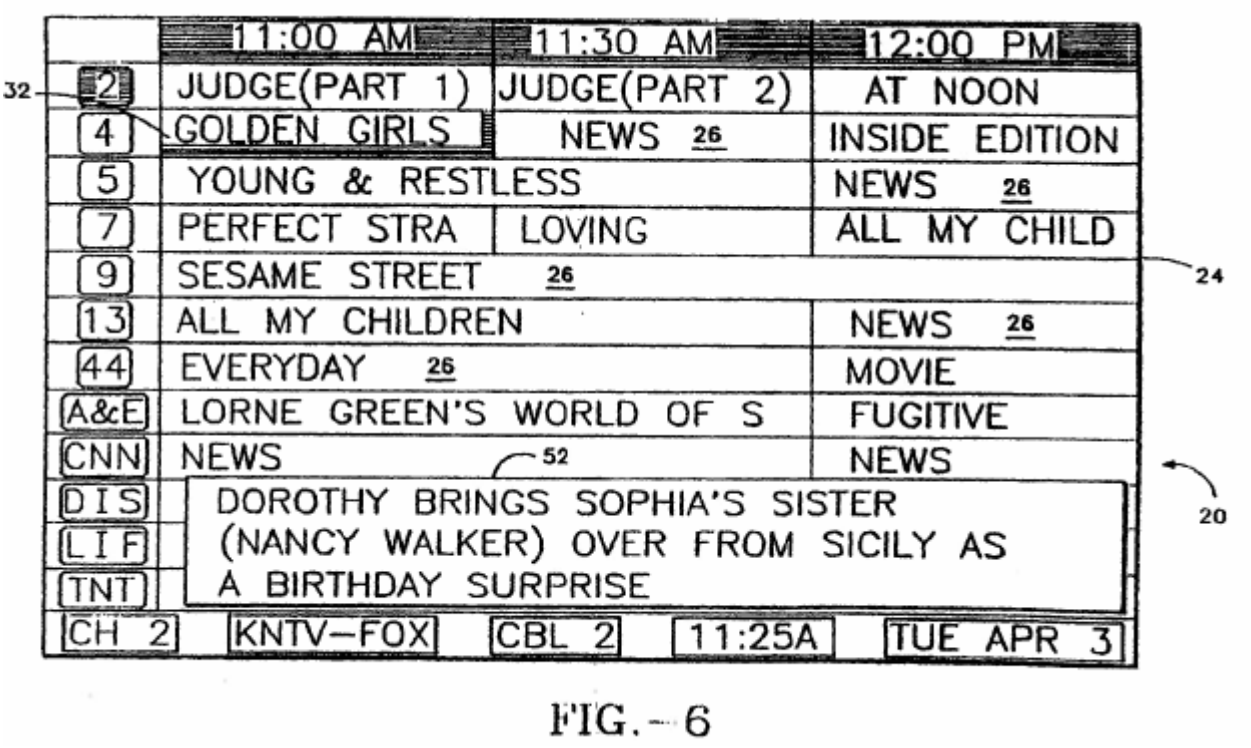


FIG.–6

Appendix 5 – Virgin's programme note

Figure 8

Appendix 6 – Favorites Patent Claims

1. A method for allowing a user to select favorite channels in an electronic program guide, the method comprising:

providing a display (116) of a plurality of cells (124) representing a corresponding plurality of channels available for viewing by the user, wherein each cell comprises a channel number and a program service name for a particular channel of the plurality of channels;
allowing the user to use the display to select a channel among the plurality of channels;
changing a status of said selected channel to that of a favorite channel in response to the user selection;
displaying in cells corresponding to the favorite channels a visual indication that the selected channels are favorite channels; and
providing program guide information for the subset of channels having said favorite status in response to a user indication to view the program guide information.

2. The method of claim 1 wherein said electronic program guide displays the title of each program broadcast on the subset of channels for each interval displayed by said electronic program guide during which the corresponding program is broadcast.

~~2.~~3. The method of claim 1 or 2 wherein providing a display compromises providing a display of a plurality of cells representing a corresponding plurality of cable channels available for viewing by the user.

~~3.~~ 4. The method of claim 1 or 2 further compromising displaying cells representing additional channels available for viewing by the user in response to a user selection from a remote control.

~~4.~~ 5. A system for allowing a user to select favorite channels in an electronic program guide, the system comprising:

means for providing a display (116) of a plurality of cells (124) representing a corresponding plurality of channels available for viewing by the user, wherein each cell comprises a channel number and a program service name for a particular channel of the plurality of channels;
means for allowing the user to use the display to select a channel among the plurality of channels;
means for changing a status of said selected channel to that of a favorite channel in response to the user selection;
means for displaying in cells corresponding to the favorite channels a visual indication that the selected channels are favorite channels; and
means providing program guide information for the subset of channels having said favorite status in response to a user indication to view the program guide information.

6. The system of claim 5 wherein the means providing program guide information for the subset of channels having favourite status comprises means for displaying the title of each program broadcast on the subset of channels for each interval displayed by said electronic program guide during which the corresponding program is broadcast.

~~5~~ 7. The system of claim 5 or 6 wherein the means for providing a display comprises means for providing a display of a plurality of cells representing a corresponding plurality of cable channels available for viewing by the user.

~~6~~ 8. The system of claim 5 or 6 further comprising means for displaying cells representing additional channels available for viewing by the user in response to a user selection from a remote control.

Appendix 7 – Transfer Patent Claims

1. A method for transferring ~~recorded~~ programs to a secondary storage device using an interactive television program guide implemented on user television equipment, ~~the method comprising~~ to cause a first display:

   ~~Displaying~~ in a display screen of at least one program listing related to at least one program;
   ~~Enabling~~ using the interactive television program guide to enable a user to select a program ~~entry~~ listing from at least one displayed program listing;
   ~~Recording the selected~~ using the interactive television program guide to cause the program related to the ~~at least one displayed~~ selected program listing to be recorded on a digital storage device;
   ~~Displaying~~ using the interactive television program guide to cause a second display in the display screen that includes at least one recorded program listing for at least one program recorded on the digital storage de
   vice, wherein at least one recorded program listing includes a recorded program ~~entry~~ listing for the program recorded on the digital storage device;
   ~~Enabling~~ using the interactive television program guide to enable the user to select the recorded program ~~entry~~ listing to transfer the recorded program from the digital storage device to a secondary storage device; and
   ~~Transferring~~ using the interactive television program guide to transfer the recorded program from the digital storage device to the secondary storage device.

2. The method of claim 1 further comprising:

   Enabling the user to select a sequence of programs recorded on the digital storage device; and

Transferring the sequence of programs to the secondary storage device.

…..

6. An interactive television program guide system for transferring ~~recorded~~ programs implemented on user television equipment, the system comprising:

Means for displaying in a display screen at least one program listing related to at least one program (45, 60);
Means for enabling a user to select a program ~~entry~~ listing (61) from at least one displayed program listing;
Means responsive to program listing selection to cause recording ~~for recording~~ (49) the ~~selected~~ program related to at least one displayed program listing on the digital storage device;
Means for displaying (80) at least one recorded program listing for at least one program recorded on the digital storage device, wherein at least one recorded program listing includes a recorded program ~~entry~~ listing for the program recorded on the digital storage device;
Means for enabling the user to select the recorded program ~~entry~~ listing to thereby cause transfer to the recorded program from the digital storage device to a secondary storage device (47); and
Means for transferring the recorded program from the digital storage device to a secondary storage device.

7. The method of claim 1 or the system of claim 6, wherein the secondary storage device is a digital medium.