

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent of Wolzien	§	
	§	
U.S. Patent No. 6,233,736	§	Petition for <i>Inter Partes</i> Review
	§	
Issued: May 15, 2001	§	Attorney Docket No.: 50796.5
	§	Customer No.: 27683
Title: MEDIA ONLINE	§	Real Party in Interest: Netflix, Inc.
SERVICE ACCESS SYSTEM	§	
AND METHOD	§	

Declaration of Richard Kramer
Under 37 C.F.R. § 1.68

I, Richard Kramer, declare:

1. I am making this declaration at the request of Netflix, Inc. in the matter of the Inter Partes Review of U.S. Patent No 6,233,736 (“the ’736 Patent”) to Wolzien.

2. I am being compensated for my work in this matter. My compensation in no way depends upon the outcome of this proceeding.

3. In the preparation of this declaration, I have studied:

- (1) The ’736 Patent, NTFX-1001;
- (2) The prosecution history of the ’736 Patent, NTFX-1002;

(3) U.S. Patent No. 5,818,441 (“Throckmorton”), NTFX-1004;

(4) U.S. Patent No. 5,701,161 (“Williams”), NTFX-1005; and

(5) U.S. Patent No. 5,659,366 (“Kerman”), NTFX-1006.

4. In forming the opinions expressed below, I have considered:

(1) The documents listed above,

(2) The relevant legal standards, including the standard for obviousness provided in *KSR International Co. v. Teleflex, Inc.*, 550 U.S. 398 (2007), and

(3) My knowledge and experience based upon my work in this area, as described below.

Qualifications and Professional Experience

5. My qualifications are set forth in my curriculum vitae, a copy of which is attached as an exhibit to this declaration. As set forth in my curriculum vitae:

6. I received a Bachelor’s of Science degree in Electrical Engineering from the University of Toledo in 1984. I have over 29 years of experience successfully developing and launching commercially-implemented software and hardware products and systems, including 18 years in the video industry developing commercially successful products related to subscriber television systems, IP networking, cable and satellite TV systems and equipment, cable TV

set-top boxes, remote controls, video networking, software, and other technologies relevant to the subject matter of the '736 Patent. The cable TV video, video surveillance and IP network video products and systems that I have developed have been successfully launched under respected brands such as General Electric and Scientific-Atlanta (now Cisco). My experience also included the development of new technologies within pioneering high-tech start-up companies like Ivex Corporation (acquired in 2001 by Axxess, Inc.), where we developed one of the first IP network Video Streaming Appliances (called the "VSA") for the video surveillance industry. I hold two patents.

7. In the 1990s, I was the engineering/technology leader for cable TV set-top boxes in North America for Scientific-Atlanta, Inc. (prior to being acquired by Cisco Systems, Inc.). I was responsible for all set-top devices for the Advance Video Systems group. My group and the people that reported to me developed and successfully launched Scientific-Atlanta's first internally designed set-top (also called HCTs which means Home Communication Terminals). The sales volumes of the products we developed exceeded 1 million units per year. The position required me to be astute to each facet of the cable system technology and the overall system. I was later promoted and served as the top technology leader on the Strategic Planning Team for the "Advanced Video Systems" Division. There I worked on the next generation, advanced video products. In this role, each of the

functional technology areas including firmware, hardware, system software and headend equipment reported to me in a dotted line matrix/cross-functional organizational structure for the development of our next generation of products.

8. In 2001, I joined and served as Vice President of Product Development at Miraxis Corporation (a division of EMS Technologies, Inc., now Honeywell, Inc.) developing IP network and digital video solutions in the satellite industry. At Miraxis, we were focused on the design of an entirely new DBS/DTH (Direct Broadcast Satellite/Direct to Home) television and multimedia solution. Overall, Miraxis was responsible for the design of the satellite payload, the associated ground based systems, and the CPE (Customer Premise Equipment). As the Vice President of Product Development, I was responsible for all aspects of the system solution; I was immersed in the leading-edge state of the industry. In fact, we were one of only a handful of companies that received a newly allowed Ka-Band satellite license. The new Ka-Band frequency spectrum opened significant new opportunities for providing entertainment content to homes across America.

9. In summary, I have a deep familiarity with subscriber television systems, including first-hand experience at the relevant time of the '736 Patent invention and before.

10. I am familiar with the knowledge and capabilities of one of ordinary skill in the software/hardware engineering and, specifically, the interactive

television field in the 1990s. Specifically, my extensive experience (1) in the industry and (2) with engineers practicing in the industry allowed me to become personally familiar with the level of skill of individuals and the general state of the art. Unless otherwise stated, my testimony below refers to the knowledge of one of ordinary skill in the interactive television field in 1996, the year in which the parent patent application of the '736 was filed.

11. In my opinion, the level of ordinary skill in the art needed to have the capability of understanding the scientific and engineering principles applicable to the '736 Patent is (i) a B.S. degree in Electrical Engineering or equivalent training, and (ii) approximately three years of direct experience in developing subscriber television solutions and technologies. Relevant industry experience would include experience with interactive television system development and deployment, including development of head-end, transport, and customer premise equipment in order to appreciate what was obvious and/or anticipated in the industry and what a person having ordinary skill in the art would have thought at the time.

Relevant Legal Standards

12. I have been asked to provide my opinions regarding whether the claims 1-12 of the '736 Patent are anticipated or would have been obvious to a person having ordinary skill in the art at the time of the alleged invention, in light of the prior art. It is my understanding that, to anticipate a claim under 35 U.S.C. §

102, a reference must teach every element of the claim. Further, it is my understanding that a claimed invention is unpatentable under 35 U.S.C. § 103 if the differences between the invention and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. I also understand that the obviousness analysis takes into account factual inquiries including the level of ordinary skill in the art, the scope and content of the prior art, and the differences between the prior art and the claimed subject matter.

13. It is my understanding, based on my review of *KSR*, that the Supreme Court has recognized several rationales for combining references or modifying a reference to show obviousness of claimed subject matter. Some of these rationales include the following: combining prior art elements according to known methods to yield predictable results; simple substitution of one known element for another to obtain predictable results; use of a known technique to improve a similar device (method, or product) in the same way; applying a known technique to a known device (method, or product) ready for improvement to yield predictable results; choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success; and some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed

invention.

Background Of '736 Patent

14. The '736 Patent describes a method of providing access to online information to a user through an address provided with a video program. (NTFX-1001, Abstract).

15. Claim 1 provides a basic overview of the teachings of the '736 Patent:

1. A method of providing to a user of online information services automatic and direct access to online information through an address associated with an online information source provided with a video program comprising:

indicating to the user that an address has been provided with said video program; and

electronically extracting said address and automatically establishing, in response to a user initiated command, a direct communication link with the online information source associated with said address so that the user has direct access to the online information.

16. The '736 Patent has five independent claims (claims 1, 6, 7, 8 and 9) and a total of 12 claims. In general, the '736 Patent describes an access controller that “incorporates all components necessary to provide online access and to access online information signals.” (NTFX-1001, 4:65-5:1). The access control receives “a broadcast, cable or prerecorded medium program in conventional form from a

video signal source.” (NTFX-1001, 5:1-4). The access control is also “provided with an address extractor 42 which receives the electronic signal 12.” (NTFX-1001, 5:44-45). The address extractor “is constructed to electronically store, e.g., via a register or memory device... the detected address for use in accessing the online services at the selection of the user.” (NTFX-1001, 5:57-60).

17. Upon successfully extracting the electronic address, a message is displayed on a video screen to indicate that more information is available to the user. (NTFX-1001, 3:58-61). For example, an “indicator signal generator” causes a video image (such as a picture within picture, logo or icon) to be displayed “with the video program signal” to “signal the user that an address of an online provider has been stored and that additional information is available.” (NTFX-1001, 6:14-18).

18. The access controller “is provided with a user input interface 56 for receiving a user command which automatically initiates establishment of a direct digital communication link to an online information provider.” (NTFX-1001, 6:27-30). “Once access to the online information service provider has been established, access control 10 can automatically receive digital information signals ... from the online information provider.” (NTFX-1001, 7:54-57).

19. The ’736 Patent issued on May 15, 2001, from U.S. Patent Application No. 09/054,740 (“the ‘740 application”) filed on April 3, 1998, by

Thomas R. Wolzien. The '736 Patent is purportedly a continuation of U.S. Patent No. 5,761,606 filed on February 8, 1996.

Claim Construction

20. It is my understanding that in order to properly evaluate the '736 Patent, the terms of the claims must first be interpreted. It is my understanding that the claims are to be given their broadest reasonable interpretation in light of the specification. It is my further understanding that claim terms are given their ordinary and accustomed meaning as would be understood by one of ordinary skill in the art, unless the inventor has set forth a special meaning for a term.

21. In order to construe the following claim terms, I have reviewed the entirety of the '736 Patent, as well as its prosecution history. Any claim term not construed below should be given its ordinary and customary meaning.

“automatically establishing, in response to a user initiated command, a direct communication link with the online information source”

22. The claim term “automatically establishing, in response to a user initiated command, a direct communication link with the online information source” is found in claim 1. The portion of the claim term reciting “automatically establishing, in response to a user initiated command, a direct” was added in an amendment during the prosecution of the '736 Patent. (NTFX-1002 at 120.) The

Patent Owner did not indicate where in the specification support for amendment could be found.

23. The specification does not provide any specific definition for “automatically establishing, in response to a user initiated command, a direct communication link with the online information source.”

24. In the prosecution history, the Patent Owner argued that:

In Applicant's amended claims, the choice for the user is from the video or audio program directly to the additional content, without the need of intermediate steps. In Applicant's invention, the user need not have to select amongst several different links. Therefore, in Applicant's invention, the user never has to leave the screen to access additional content because access is “direct” from the user to the content. Based on the above, the difference is substantial because Throckmorton does not teach “direct” and “automatic” access to the online information from the primary video or audio program and thus, the differences between Wolzien's claims and the Throckmorton reference are such that the subject matter as a whole would not have been obvious to one of ordinary skill in the art. (NTFX-1002 at 123.)

25. I note that Patent Owner’s arguments are based upon some form of relationship between accessing online information and viewing a video program, but claim 1 does not recite viewing, displaying, or presenting any “video or audio program.”

26. It is therefore my opinion that a person of ordinary skill in the art would understand the broadest reasonable interpretation of “automatically establishing, in response to a user initiated command, a direct communication link with the online information source” in view of the specification and file history to include at least: *in response to a user initiated command, establishing a communication link to an online information source without the user performing additional steps.*

“so that the user has direct access to the online information”

27. The claim term “so that the user has direct access to the online information” is found in claims 1 and 6-9. This claim term was added in an amendment during the prosecution of the ’736 Patent. (NTFX-1002 at 120-121.) The Patent Owner did not indicate where in the specification support for amendment could be found.

28. The specification does not provide any specific definition for “so that the user has direct access to the online information.”

29. In the prosecution history, the Patent Owner argued that:

In Applicant’s amended claims, the choice for the user is from the video or audio program directly to the additional content, without the need of intermediate steps. In Applicant’s invention, the user need not have to select amongst several different links. Therefore, in

Applicant's invention, the user never has to leave the screen to access additional content because access is “direct” from the user to the content. Based on the above, the difference is substantial because Throckmorton does not teach “direct” and “automatic” access to the online information from the primary video or audio program and thus, the differences between Wolzien’s claims and the Throckmorton reference are such that the subject matter as a whole would not have been obvious to one of ordinary skill in the art. (NTFX-1002 at 123.)

30. I note that Patent Owner’s arguments are based upon some form of relationship between accessing online information and viewing a video program, but claims 1 and 6-8 do not recite viewing, displaying or presenting any “video or audio program.” Claim 9 does mention “while viewing listening to a video or audio program” in its preamble.

31. It is therefore my opinion that a person of ordinary skill in the art would understand the broadest reasonable interpretation of “so that the user has direct access to the online information” in view of the specification and file history to include at least: *displaying online information without the user leaving the screen to access the online information.*

“means for indicating to the user that an address is available for extraction from said electronic signal”

32. The claim term “means for indicating to the user that an address is

available for extraction from said electronic signal” is found in claim 9.

33. It is my opinion that the particular function of this limitation is “indicating to the user that an address is available for extraction from said electronic signal.”

34. With respect to corresponding structure in the specification associated with this function, the specification states that “[t]he indicator signal may take the form of a message displayed on a video screen, or other indicators such as a light, a sound or a wireless tactile indicator, e.g., vibrating wristband or clip-on unit.” (NTFX-1001, 3:60-63.)

35. It is therefore my opinion that a person of ordinary skill in the art would understand the broadest reasonable interpretation of “means for indicating to the user that an address is available for extraction from said electronic signal” in view of the specification and file history to be as follows:

- a. Function: *indicating to the user that an address is available for extraction from said electronic signal.*
- b. Structure: *a message or other indicator, or equivalents.*

“means for extracting an address associated with an online information source from an information signal embedded in said electronic signal, and for automatically establishing, in response to a user initiated command, a

direct link with the online information source

36. The claim term “means for extracting an address associated with an online information source from an information signal embedded in said electronic signal, and for automatically establishing, in response to a user initiated command, a direct link with the online information source” is found in claim 9.

37. It is my opinion that the particular functions of this limitation are (i) “extracting an address associated with an online information source from an information signal embedded in said electronic signal” and (ii) “automatically establishing, in response to a user initiated command, a direct link with the online information source.”

38. With respect to corresponding structure in the specification associated with this function, the specification describes an “access controller 10.” (NTFX-1001, Fig. 1.) The access controller, as shown in Fig. 2, includes (i) an address extractor 42 and (ii) a modem 54. (NTFX-1001, Fig. 2.) The specification states that the address extractor 42 is hardware and/or software components that extract addresses, and that the modem 54 is hardware and/or software to establish direct links to online information sources. (NTFX-1001, 5:42-53 and 8:60-65).

39. Specifically, the specification states:

Access controller 10 is provided with an address extractor 42 which

receives the electronic signal 12. Address extractor 42 includes hardware and/or software to detect, decode and store an address which has been embedded in a video or audio program signal. Among the ways which exist to detect an address signal transmitted in conjunction with an analog video signal, address extractor 42 may be constructed to detect a digital address which is transmitted during a vertical blanking interval or other portion of a conventional video signal in such manner that displayed image quality is not affected. (NTFX-1001, 5:43-53)

40. Further, the specification states:

Modem 54 is provided with hardware and/or software to automatically establish, upon receiving a user command to initiate online access, a direct digital communication link with the online information provider associated with the next received online information provider address. (NTFX-1001, 8:60-65).

41. It is therefore my opinion that a person of ordinary skill in the art would understand the broadest reasonable interpretation of “means for extracting an address associated with an online information source from an information signal embedded in said electronic signal, and for automatically establishing, in response to a user initiated command, a direct link with the online information source” in view of the specification and file history to be as follows:

- a. Function: *(i) extracting an address associated with an online information source from an information signal embedded in said*

electronic signal and (ii) automatically establishing, in response to a user initiated command, a direct link with the online information source.

b. Structure: *hardware and/or software*

“means for receiving an information signal from said online information source”

42. The claim term “means for receiving an information signal from said online information source” is found in claim 10.

43. It is my opinion that the particular function of this limitation is “receiving an information signal from said online information source.”

44. With respect to corresponding structure in the specification associated with this function, the specification states that “Access controller 10 is provided with a modem 54 for transmitting and receiving digital information signals between access controller 10 and public switching network through an information signal carrier line 32.” (NTFX-1001, 6:59-62).

45. It is therefore my opinion that a person of ordinary skill in the art would understand the broadest reasonable interpretation of “means for receiving an information signal from said online information source” in view of the specification and file history to be as follows:

- a. Function: *receiving an information signal from said online information source.*
- b. Structure: *a modem, or equivalents.*

“means for displaying an image signal detected from said received information signal”

46. The claim term “means for displaying an image signal detected from said received information signal” is found in claim 10.

47. It is my opinion that the particular function of this limitation is “displaying an image signal detected from said received information signal.”

48. With respect to corresponding structure in the specification associated with this function, the specification describes a “conventional TV reproducing system 22 or high resolution reproducing system 40, e.g., a computer monitor or other display device.” (NTFX-1001, 7:57-61 (emphasis added)).

49. It is therefore my opinion that a person of ordinary skill in the art would understand the broadest reasonable interpretation of “means for displaying an image signal detected from said received information signal” in view of the specification and file history to be as follows:

- a. Function: *displaying an image signal detected from said received information signal.*

b. Structure: *computer monitor or other display device, or equivalents.*

Challenge #1: Claims 1-3 and 6-12 are obvious over Throckmorton

50. Throckmorton renders obvious each and every element of at least claims 1-3 and 6-12 of the '736 Patent.

51. Throckmorton teaches two systems: a one-way communication system and a two-way communication system.

52. In Throckmorton, “broadcasting and entertainment industries” create a “stream of data” containing “live or pre-recorded information.” (NTFX-1004, 3:36-45). The live or pre-recorded information may be delivered to consumers over broadcast television. (NTFX-1004, 3:36-45).

53. The stream of data contains two data streams: the “primary data stream” and the “associated data stream.” The primary data stream is “programming content,” such as television news or pre-recorded programming. (NTFX-1004, 3:45-50). In the one-way communication system of Throckmorton, the associated data stream contains “World Wide Web pages, closed captioning, stock quotes, sports scores, [and] control commands.” (NTFX-1004, 6:60-63). In the two-way communication system of Throckmorton, the associated data stream could include “references such as uniform resource locations (‘URL’) which are WWW page references.” (NTFX-1004, 9:2-5).

54. At a consumer's location, Throckmorton's system includes "equipment to receive the primary and associated data streams." (NTFX-1004, 6:4-8). In one embodiment, the equipment includes a personal computer with a "receiver for receiving the primary data stream and a receiver for receiving the associated data," where the receivers "may be the same unit." (NTFX-1004, 2:64-67). The receiver "could be a personal computer add-in adapter board, a television or radio broadcast receiver, a cable television converter box or it could be a satellite receiver for digital broadcast." (NTFX-1004, 6:8-11). Additionally, the receiver "could be part of a standard television." (NTFX-1004, 6:19-20).

55. The two streams of data are transmitted to the consumer equipment. Throckmorton describes that "the primary data stream could be delivered by broadcast television and the associated data could be delivered over a high speed digital network." (NTFX-1004, 4:1-20).

56. When the delivered data reaches the receiver, the receiver "decodes the signal, separates the primary data from the associated data and passes the associated data on to the processor." (NTFX-1004, 4:21-25).

57. The viewer may interact with the received associated data (which could be a WWW page or a URL to a WWW page) with a keyboard and mouse. (NTFX-1004, 4:27-30). For instance, when a user clicks on a URL, the system "connects to and retrieves the referenced information from the appropriate source,"

which may be viewed in a “Web Browser.” (NTFX-1004, 9:1-14; 7:42-45).

58. Additionally, Throckmorton teaches that the delivered data “could be interactively displayed and manipulated by consumers.” (NTFX-1004, 1:59-67 (emphasis added)). Further, the “consumer receives and has access to the relevant data during the process of program reception. Therefore the data becomes an integral part of the experience desired by the program producers.” (NTFX-1004, 1:59-67 (emphasis added)).

59. In my review of the file history for the '736 Patent, I note that the Patent Owner attempted to distinguish the claims of the '736 Patent over Throckmorton by amending the claims and arguing:

In Applicant’s amended claims, the choice for the user is from the video or audio program directly to the additional content, without the need of intermediate steps. In Applicant’s invention, the user need not have to select amongst several different links. Therefore, in Applicant’s invention, the user never has to leave the screen to access additional content because access is ‘direct’ from the user to the content. (NTFX-1002 at 123.)

60. However, contrary to Patent Owner’s arguments, Throckmorton teaches to a person of ordinary skill in the art that a user has direct access to

Internet content from a video program. Specifically, Throckmorton discloses that Internet content can be “interactively displayed and manipulated by consumers on a real time basis” and that “the consumer receives and has access to the relevant data during the process of program reception.” (NTFX-1004, 1:59-67, emphasis added). Most tellingly, “the data becomes an integral part of the experience desired by the program producers.” (NTFX-1004, 1:59-67 (emphasis added)).

61. Since Throckmorton discloses that a user can interact with the Internet content during program reception and that the data is an integral part of the television watching experience, Throckmorton discloses the exact ‘direct’ access argued by the Patent Owner during prosecution of the ’736 Patent.

62. Even though Throckmorton discloses two communication systems, a one-way communication system and a two-way communication system, it is my opinion that a person of ordinary skill in the art, when reading Throckmorton would be motivated to combine the features of the two systems for a number of reasons. For example, the combination amounts to simply combining elements contained in the same reference in precisely the manner described in the reference. Combining the retrieving-internet-information-using-a-URL as described in the two-way embodiment, with the known method of displaying a web page simultaneously with a video program as described in the one-way embodiment, yields the predictable result of displaying a web page retrieved with a URL

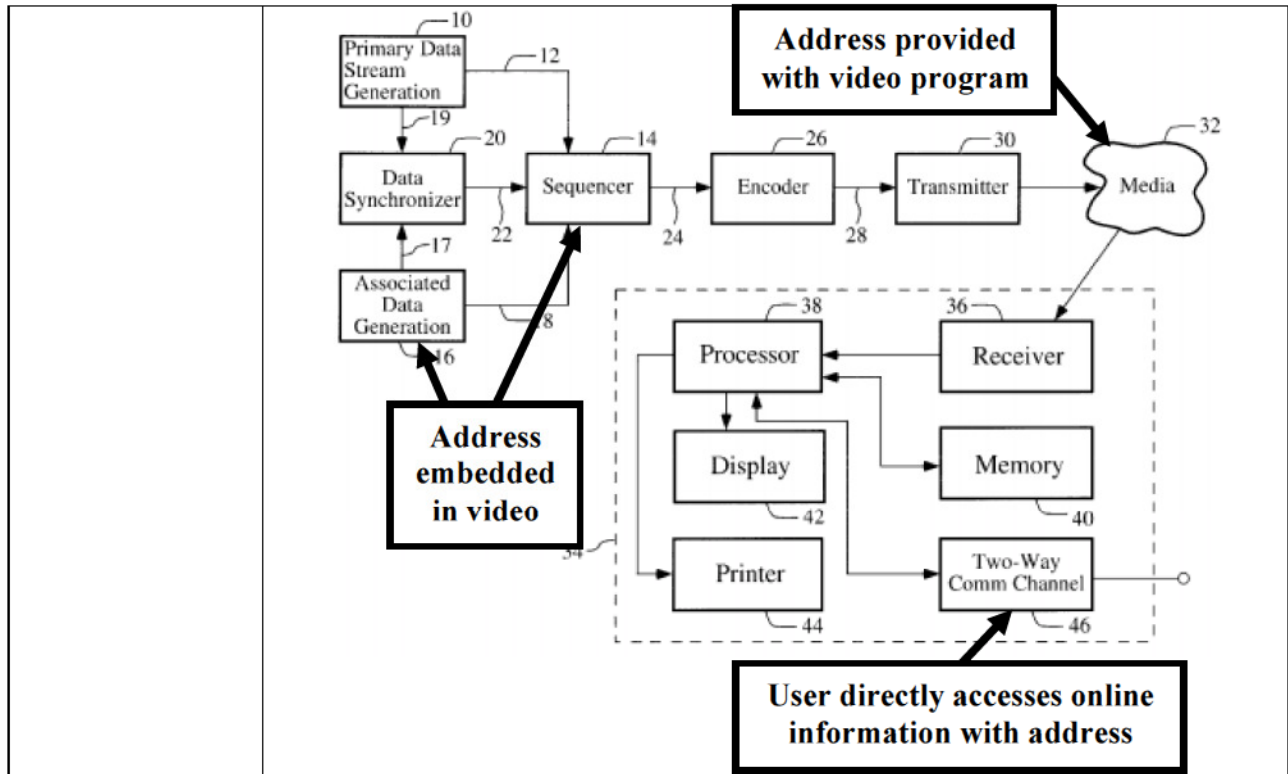
simultaneously with a video program. This result is predictable because Throckmorton specifically teaches such a result.

63. This implementation of the teachings of Throckmorton would be desirable because it would allow the user to have direct access to relevant online information during the program reception without the need for changing screens. Throckmorton specifically provides a motivation to make this combination, because it was desirable to make an experience for viewers that integrated data with television program reception.

64. The following claim chart describes how Throckmorton renders obvious each and every element of at least claims 1-3 and 6-12.

Claim 1	
<p>[1.0] A method of providing to a user of online information services automatic and direct access to online information through an address associated with an online information source provided with</p>	<p>[1.0] <i>“A method of providing to a user of online information services automatic and direct access to online information through an address associated with an online information source provided with a video program”</i></p> <p>First, Throckmorton teaches a method of providing a user automatic and direct access to online information through an address associated with an online information source:</p> <p>“Up until now, there has been no way for producers of mass market broadcast programming to <u>deliver data associated by its relevancy to its subject matter that could be interactively displayed and manipulated by consumers on a real time basis.</u> What is meant by real time is that the <u>consumer receives and has access to the relevant data during the process of program reception.</u> Therefore the data becomes an integral part of the experience desired by the program producers. NTFX-1004, 1:59-</p>

<p>a video program comprising:</p>	<p>67 (emphasis added).</p> <p>“FIG. 4 is a block diagram of a second preferred embodiment of the invention that includes <u>interactive communications</u>. . . . Referring now to FIG. 4, a two-way communication channel 46 is connected to microprocessor 38 and <u>provides interactive access to remote computers</u> over such media as the analog telephone network, the ISDN digital network, a wide area packet switched network such as X25, frame relay or asynchronous transfer mode.” NTFX-1004, 8:16-24 (emphasis added).</p> <p>“Additional interactivity may be achieved by adding an actual two way communication channel to the personal computer <u>so that online services or the Internet may be accessed</u>. This two way communication channel is made particularly effective if the <u>associated data contains pointers to locations in the online services or the Internet which are particularly relevant to the television program</u>.” NTFX-1004, Abstract (emphasis added).</p> <p>“The addition of a two-way communication channel <u>allows a consumer to also access online services</u>. In this case, <u>associated data may consist of references such as uniform resource locations (‘URL’) which are WWW page references</u>. . . . Or, <u>associated data may include pointers to information on an online service</u> such as America Online, Prodigy or Compuserve.” NTFX-1004, 9:1-12 (emphasis added).</p> <p>Second, Throckmorton teaches that the associated data (e.g., URLs/pointers) may be provided with a video program:</p> <p>“The associated data is generally (but not always) sent by the same delivery medium as the primary data. In the case of television, <u>the associated data is encoded in the VBI of the television signal</u>.” NTFX-1004, 7:61-65 (emphasis added).</p> <p>Fig. 4 of Throckmorton, as annotated below, illustrates Throckmorton’s system:</p>
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NTFX-1004, Fig. 4 (annotated).

Thus, a method of providing a user direct access to online information through a URL/pointer provided in the VBI of a television signal, as taught by Throckmorton, discloses “a method of providing to a user of online information services automatic and direct access to online information through an address associated with an online information source provided with a video program,” as recited in the claim.

[1.1] indicating to the user that an address has been provided with said video program; and

[1.1] *“indicating to the user that an address has been provided with said video program”*

Throckmorton teaches indicating to the user that an address has been provided with said video program:

“The addition of a two-way communication channel allows a consumer to also access online services. In this case, associated data may consist of references such as uniform resource locations (‘URL’) which are WWW page references. . . . Or, associated

	<p>data may include <u>pointers to information on an online service</u> such as America Online, Prodigy or Compuserve. Thus <u>a menu may list several references</u>. And by clicking on a reference, the system actually connects to and retrieves the referenced information from the appropriate source.” NTFX-1004, 9:1-14 (emphasis added).</p> <p>“Up until now, there has been no way for producers of mass market broadcast programming to <u>deliver data associated by its relevancy to its subject matter that could be interactively displayed and manipulated by consumers on a real time basis</u>. What is meant by real time is that the <u>consumer receives and has access to the relevant data during the process of program reception</u>. Therefore the data becomes an integral part of the experience desired by the program producers.” NTFX-1004, 1:59-67 (emphasis added).</p> <p>“The associated data is generally (but not always) sent by the same delivery medium as the primary data. In the case of television, <u>the associated data is encoded in the VBI of the television signal</u>.” NTFX-1004, 7:61-65 (emphasis added).</p> <p>Thus, a clickable list of URLs (which were transmitted with the video program) that are interactively displayed, as taught by Throckmorton, discloses “indicating to the user that an address has been provided with said video program,” as recited in the claim.</p>
<p>[1.2a] electronically extracting said address and</p>	<p>[1.2a] <i>“electronically extracting said address”</i></p> <p>First, as shown in [1.0], Throckmorton teaches an embodiment in which associated data contains a URL/pointer, and the associated data is embedded in a television signal.</p> <p>Second, Throckmorton teaches electronically extracting associated data (e.g., URLs/pointers):</p> <p>“Associated data protocol manager 60 performs the function of <u>extracting the different forms of associated data from the</u></p>

	<p><u>incoming digital data stream</u> and converting them to a form that can be used by communications manager 66.” NTFX-1004, 6:56-60 (emphasis added).</p> <p>Thus, extracting associated data (e.g., URLs/pointers) from an incoming digital data stream, as taught by Throckmorton, discloses “electronically extracting said address,” as recited in the claim.</p>
<p>[1.2b] automatically establishing, in response to a user initiated command, a direct communication link with the online information source associated with said address so that the user has direct access to the online information.</p>	<p>[1.2b] <i>“automatically establishing, in response to a user initiated command, a direct communication link with the online information source associated with said address so that the user has direct access to the online information”</i></p> <p>First, Throckmorton’s two-way embodiment teaches automatically establishing, in response to a user initiated command, a direct communication link with the online information source associated with said address:</p> <p>“The addition of a <u>two-way communication channel</u> allows a <u>consumer to also access online services</u>. In this case, associated data may consist of references such as uniform resource locations (‘URL’) which are WWW page references. . . . Thus a menu may list several references. <u>And by clicking on a reference, the system actually connects to and retrieves the referenced information from the appropriate source.</u>” NTFX-1004, 9:1-14 (emphasis added).</p> <p>“Remote data manager 92 <u>receives commands from human interface 88 to retrieve data from remote computers through two-way communications channel 74 and to send that data to human interface 88 for presentation to the consumer.</u>” NTFX-1004, 8:30-34 (emphasis added).</p> <p>Accordingly, in Throckmorton’s two-way embodiment, when a user clicks on a reference (e.g., a URL/pointer) a connection is automatically made with an online service/WWW page and online information addressed by the reference is retrieved, without further human interaction.</p>

Second, Throckmorton’s one-way embodiment teaches that the user has direct access to information associated with the video program:

“[A] broadcaster may want viewers to see a certain page of information as part of a program that is being viewed.” NTFX-1004, 7:26-28 (emphasis added).

“For example, data synchronizer 20 creates a script that specifies that a detailed data sheet will be delivered to the consumer prior to a specific television product advertisement, and that the data sheet will be displayed on the consumer's personal computer display when a certain television advertisement starts.” NTFX-1004, 4:60-65 (emphasis added).

“Up until now, there has been no way for producers of mass market broadcast programming to deliver data associated by its relevancy to its subject matter that could be interactively displayed and manipulated by consumers on a real time basis. What is meant by real time is that the consumer receives and has access to the relevant data during the process of program reception. Therefore the data becomes an integral part of the experience desired by the program producers. NTFX-1004, 1:59-67 (emphasis added).

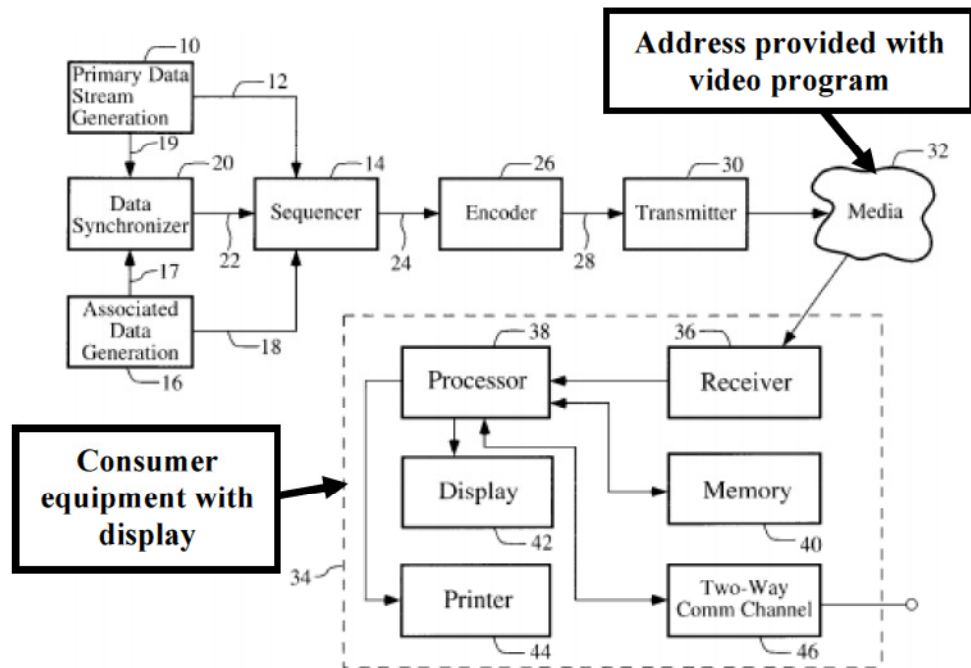
“Up until now, there has been no way for producers of mass market broadcast programming to deliver data associated by its relevancy to its subject matter that could be interactively displayed and manipulated by consumers on a real time basis. What is meant by real time is that the consumer receives and has access to the relevant data during the process of program reception. Therefore the data becomes an integral part of the experience desired by the program producers. NTFX-1004, 1:59-67 (emphasis added).

Accordingly, in Throckmorton’s one-way embodiment, information related to the video program is displayed together with the video program so that a viewer has direct access to the information without leaving the main video program screen.

	<p>Thus, automatically establishing, in response to a consumer clicking a reference, a direct connection to an online information source associated with the reference, as taught by Throckmorton’s two-way embodiment, in view of displaying information related to a video program together with the video program so that a viewer has direct access to the information, as taught by Throckmorton’s one-way embodiment, renders obvious “automatically establishing, in response to a user initiated command, a direct communication link with the online information source associated with said address so that the user has direct access to the online information,” as recited in the claim.</p>
<p>Claim 2</p>	
<p>[2.0] The method in accordance with claim 1 further comprising,</p>	<p>See the analysis of portions [1.0] – [1.2b] above.</p>
<p>[2.1] using said communication link to provide interactive exchange of information between said online information source and the user.</p>	<p>[2.1] <i>“using said communication link to provide interactive exchange of information between said online information source and the user”</i></p> <p>Throckmorton teaches using a communication link to provide interactive exchange of information between an online information source and a user:</p> <p>“The addition of a <u>two-way communication channel</u> allows a <u>consumer to also access online services</u>. In this case, associated data may consist of references such as uniform resource locations (‘URL’) which are WWW page references. . . . Or, associated data may include pointers to information on an online service such as America Online, Prodigy or Compuserve. Thus a menu may list several references. <u>And by clicking on a reference, the system actually connects to and retrieves the referenced</u></p>

	<p><u>information from the appropriate source.</u>” NTFX-1004, 9:1-14 (emphasis added).</p> <p>“Two-way communications channel sub-system 74 provides the function of <u>connecting the client system interactively to remote computers that may be server machines, machines at online service providers, the Internet or independent Bulletin Board Systems (‘BBS’).</u>” NTFX-1004, 8:53-57 (emphasis added).</p> <p>“Network protocol manager 68 performs the function of formatting <u>data received and transmitted over two-way communication channel 74.</u> . . . ” NTFX-1004, 8:37-40 (emphasis added).</p> <p>“Up until now, there has been no way for producers of mass market broadcast programming to <u>deliver data associated by its relevancy to its subject matter that could be interactively displayed and manipulated by consumers on a real time basis.</u> What is meant by <u>real time</u> is that the <u>consumer receives and has access to the relevant data during the process of program reception.</u> Therefore the <u>data becomes an integral part</u> of the experience desired by the program producers. NTFX-1004, 1:59-67 (emphasis added).</p> <p>Thus, using the two-way communication channel to interactively retrieve and transmit data between remote computers providing online services and a consumer, as taught by Throckmorton, discloses “using said communication link to provide interactive exchange of information between said online information source and the user,” as recited in the claim.</p>
Claim 3	
[3.0] The method in accordance with claim 1	See the analysis of portions [1.0] – [1.2b] above.
[3.1] wherein	[3.1] <i>“wherein said step of indicating includes producing a</i>

<p>said step of indicating includes producing a visual indication to be displayed on the system wherein said program is displayed.</p>	<p><i>visual indication to be displayed on the system wherein said program is displayed.”</i></p> <p>First, Throckmorton teaches producing a visual indication that an address has been provided:</p> <p>“The addition of a two-way communication channel allows a consumer to also access online services. In this case, associated data may consist of references such as uniform resource locations (‘URL’) which are WWW page references. . . . Thus <u>a menu may list several references</u>. And by clicking on a reference, the system actually connects to and retrieves the referenced information from the appropriate source.” NTFX-1004, 9:1-14 (emphasis added).</p> <p>Second, Throckmorton teaches that the visual indication is displayed on the system wherein the program is displayed:</p> <p>“<u>Reference numeral 34 generally indicates the equipment that must be present at the consumer's location. In general, system 34 is a computer. . . . Microprocessor 38 is connected to human interface 42, which is typically a CRT monitor, and to printer 44.</u>” NTFX-1004, 6:4-18 (emphasis added).</p> <p>“Primary data rendering sub-system 54 performs the function of <u>presenting the primary data stream to the consumer</u> in the manner in which a typical consumer would expect to see the data presented. For example, <u>in the case of television, the primary data rendering takes the form of a video image typically supplied by a cathode ray tube screen, or possibly a liquid crystal display screen</u> and audio provided by an audio amplifier and speakers. In the preferred embodiment <u>these components are in a personal computer.</u>” NTFX-1004, 6:36-44 (emphasis added).</p>
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NTFX-1004, Fig. 4 (annotated).

Accordingly, as shown in Fig. 4, annotated above, Throckmorton’s system displays both the primary data stream (e.g., television program) and the menu containing the references (e.g., URLs/pointers) on the display of the consumer equipment (e.g., personal computer).

Thus, listing in a menu, which may be clicked by a user, a reference provided with video programming on a display associated with consumer equipment that also displays the video programming, as taught by Throckmorton, discloses “producing a visual indication to be displayed on the system wherein said program is displayed,” as recited in the claim.

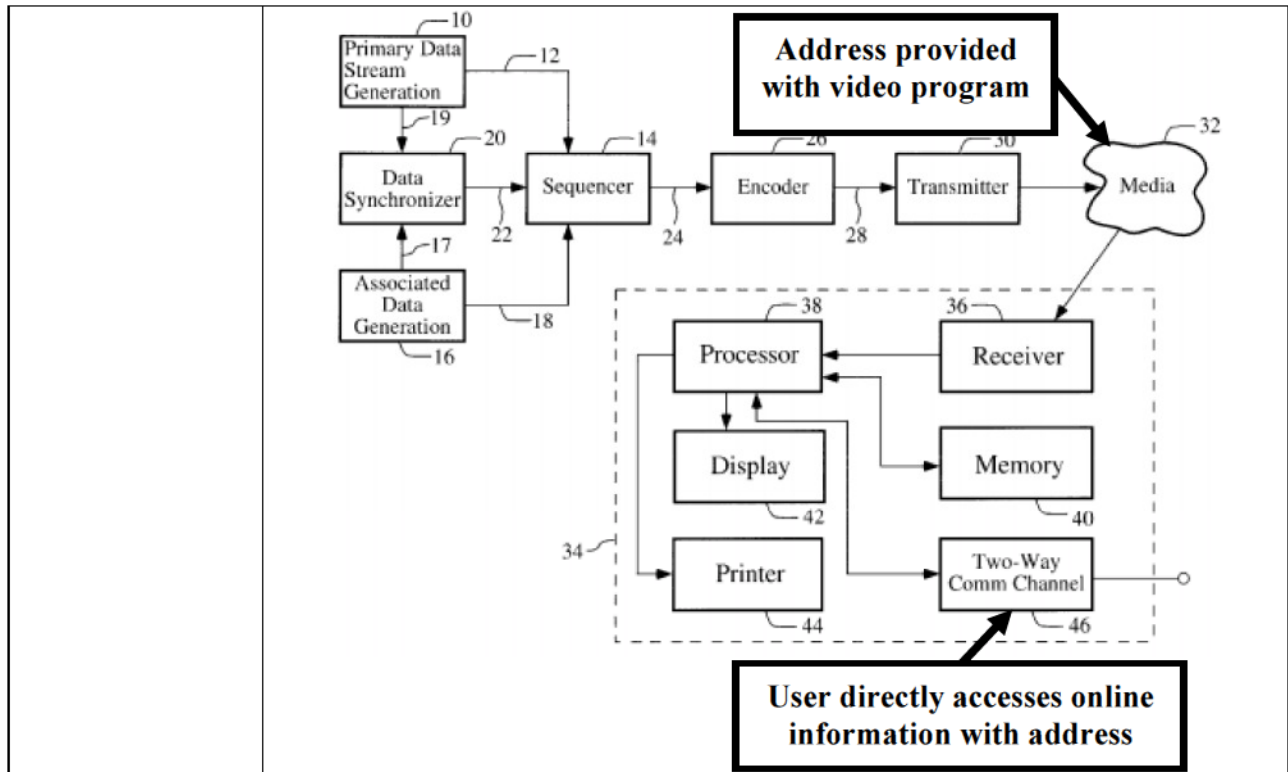
Claim 6

[6.0] A method of providing to a user of online information services

[6.0] *“A method of providing to a user of online information services automatic and direct access to online information”*

Throckmorton teaches providing a user automatic and direct access to online information

<p>automatic and direct access to online information, comprising the steps of:</p>	<p>“Up until now, there has been no way for producers of mass market broadcast programming to <u>deliver data associated by its relevancy to its subject matter that could be interactively displayed and manipulated by consumers on a real time basis</u>. What is meant by real time is that the <u>consumer receives and has access to the relevant data during the process of program reception</u>. Therefore the data becomes an integral part of the experience desired by the program producers. NTFX-1004, 1:59-67 (emphasis added).</p> <p>“Additional interactivity may be achieved by adding an actual two way communication channel to the personal computer <u>so that online services or the Internet may be accessed</u>. This two way communication channel is made particularly effective if the associated data contains pointers to locations in the online services or the Internet which are particularly relevant to the television program.” NTFX-1004, Abstract (emphasis added).</p> <p>“The addition of a two-way communication channel <u>allows a consumer to also access online services</u>. In this case, associated data may consist of references such as uniform resource locations (‘URL’) which are WWW page references. . . . Or, associated data may include pointers to information on an online service such as America Online, Prodigy or Compuserve.” NTFX-1004, 9:1-12 (emphasis added).</p> <p>Fig. 4 of Throckmorton, as annotated below, illustrates Throckmorton’s system:</p>
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NTFX-1004, Fig. 4 (annotated).

Thus, a method of providing a user access to online services through a two-way communication channel, as taught by Throckmorton, discloses “A method of providing to a user of online information services automatic and direct access to online information,” as recited in the claim.

[6.1] receiving a television broadcast signal having an information signal representing the address of an online information source;

[6.1] *“receiving a television broadcast signal having an information signal representing the address of an online information source”*

First, Throckmorton teaches receiving a television broadcast signal having an information signal:

“[T]he system includes a personal computer capable of receiving the television program and storing the associated data locally.”
NTFX-1004, Abstract.

“At the consumer location, the system includes a receiver for

	<p>receiving the primary data stream and a receiver for receiving the associated data. These may be the same unit. NTFX-1004, 2:64-67.</p> <p>“In the case of television, the <u>associated data is encoded in the VBI of the television signal.</u>” NTFX-1004, 7:63-65 (emphasis added).</p> <p>Second, Throckmorton teaches that the associated data (information signal) represents the address of an online information source:</p> <p>“The addition of a two-way communication channel allows a consumer to also access online services. In this case, <u>associated data may consist of references such as uniform resource locations (‘URL’) which are WWW page references. . . . Or, associated data may include pointers to information on an online service such as America Online, Prodigy or Compuserve.</u>” NTFX-1004, 9:1-12 (emphasis added).</p> <p>Thus, receiving a television program having associated data in the VBI that represents a URL/pointer to an online information such as a WWW page, as taught by Throckmorton, discloses “receiving a television broadcast signal having an information signal representing the address of an online information source,” as recited in the claim.</p>
<p>[6.2] extracting the address of said online information source from said received television broadcast signal;</p>	<p>[6.2] <i>“extracting the address of said online information source from said received television broadcast signal”</i></p> <p>First, as shown in [6.1], Throckmorton teaches an embodiment in which associated data contains a URL/pointer, and the associated data is embedded in a television signal.</p> <p>Second, Throckmorton teaches electronically extracting associated data (e.g., URLs/pointers):</p> <p>“Associated data protocol manager 60 performs the function of <u>extracting the different forms of associated data from the</u></p>

	<p><u>incoming digital data stream</u> and converting them to a form that can be used by communications manager 66.” NTFX-1004, 6:56-60 (emphasis added).</p> <p>Thus, extracting associated data (e.g., URLs/pointers) from an incoming television program, as taught by Throckmorton, discloses “extracting the address of said online information source from said received television broadcast signal,” as recited in the claim.</p>
<p>[6.3] automatically using said address, in response to a user initiated command, to transmit a signal to connect said user directly with the online information source associated with said address so that the user has direct access to the online information; and</p>	<p>[6.3] <i>“automatically using said address, in response to a user initiated command, to transmit a signal to connect said user directly with the online information source associated with said address so that the user has direct access to the online information”</i></p> <p>Throckmorton teaches automatically using an address, in response to a user initiated command, transmitting a signal to connect the user directly with the online information source associated with the address so that the user has direct access to the online information:</p> <p>“The addition of a <u>two-way communication channel</u> allows a <u>consumer to also access online services</u>. In this case, associated data may consist of references such as uniform resource locations (‘URL’) which are WWW page references. . . . Thus a menu may list several references. <u>And by clicking on a reference, the system actually connects to and retrieves the referenced information from the appropriate source.</u>” NTFX-1004, 9:1-14 (emphasis added).</p> <p>“Remote data manager 92 <u>receives commands from human interface 88 to retrieve data from remote computers through two-way communications channel 74</u> and to send that data to human interface 88 for presentation to the consumer.” NTFX-1004, 8:30-34 (emphasis added).</p> <p>“Up until now, there has been no way for producers of mass market broadcast programming to <u>deliver data associated by its relevancy to its subject matter that could be interactively</u></p>

	<p><u>displayed and manipulated by consumers on a real time basis.</u> What is meant by real time is that the <u>consumer receives and has access to the relevant data during the process of program reception.</u> Therefore the data becomes an integral part of the experience desired by the program producers. NTFX-1004, 1:59-67 (emphasis added).</p> <p>Thus, automatically establishing, in response to a consumer clicking a reference, a direct connection to an online information source associated with the reference so the consumer has access to relevant data during the process of program reception, as taught by Throckmorton, discloses “automatically using said address, in response to a user initiated command, to transmit a signal to connect said user directly with the online information source associated with said address so that the user has direct access to the online information,” as recited in the claim.</p>
<p>[6.4] receiving online information signals from said online information provider.</p>	<p>[6.4] <i>“receiving online information signals from said online information provider”</i></p> <p>Throckmorton teaches receiving online information signals from an online information provider:</p> <p>“The addition of a <u>two-way communication channel allows a consumer to also access online services.</u> In this case, associated data may consist of references such as uniform resource locations (‘URL’) which are WWW page references. . . . Thus a menu may list several references. <u>And by clicking on a reference, the system actually connects to and retrieves the referenced information from the appropriate source.</u>” NTFX-1004, 9:1-14 (emphasis added).</p> <p>“Remote data manager 92 <u>receives commands from human interface 88 to retrieve data from remote computers through two-way communications channel 74</u> and to send that data to human interface 88 for presentation to the consumer.” NTFX-1004, 8:30-34 (emphasis added).</p> <p>Thus, retrieving online information from an online service or WWW page via the two-way communication channel, as taught</p>

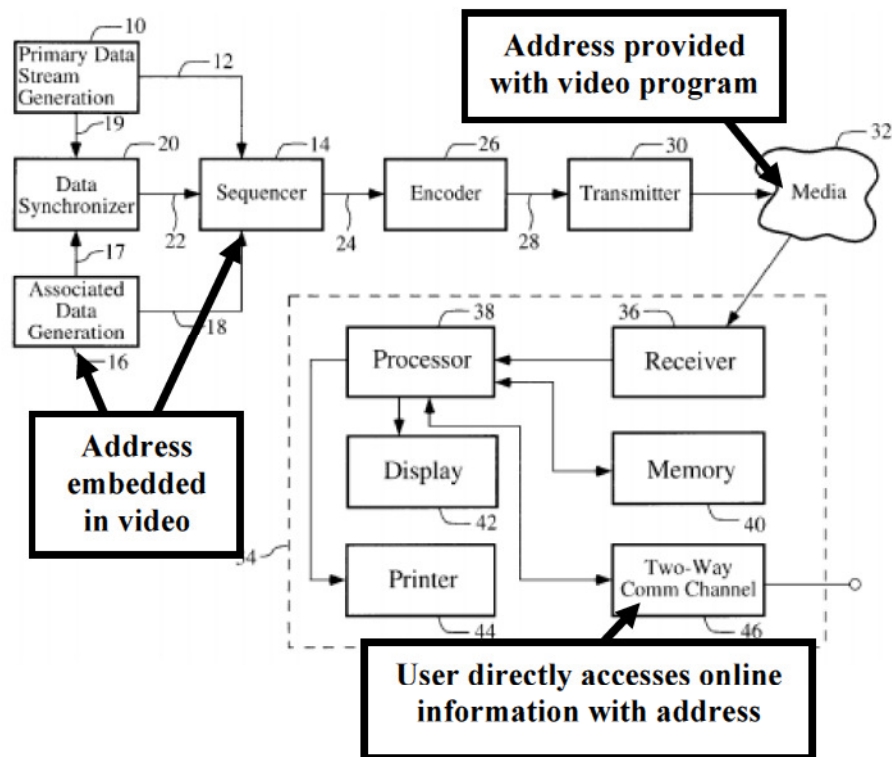
	<p>by Throckmorton, discloses “receiving online information signals from said online information provider,” as recited in the claim.</p>
<p>Claim 7</p>	
<p>[7.0] A method of providing to a user of online information services, at the time of viewing a video program represented by an electronic signal, automatic and direct access to online information through a link provided in said video program, comprising</p>	<p>[7.0] <i>“A method of providing to a user of online information services, at the time of viewing a video program represented by an electronic signal, automatic and direct access to online information through a link provided in said video program”</i></p> <p>Throckmorton teaches a method of providing a user automatic and direct access to online information, at the time of viewing a video program, through a link provided in the video program:</p> <p>“Up until now, there has been no way for producers of mass market broadcast programming to <u>deliver data associated by its relevancy to its subject matter that could be interactively displayed and manipulated by consumers on a real time basis.</u> What is meant by real time is that the <u>consumer receives and has access to the relevant data during the process of program reception.</u> Therefore the data becomes an integral part of the experience desired by the program producers. NTFX-1004, 1:59-67 (emphasis added).</p> <p>“FIG. 4 is a block diagram of a second preferred embodiment of the invention that includes <u>interactive communications.</u> . . . Referring now to FIG. 4, a two-way communication channel 46 is connected to microprocessor 38 and <u>provides interactive access to remote computers</u> over such media as the analog telephone network, the ISDN digital network, a wide area packet switched network such as X25, frame relay or asynchronous transfer mode.” NTFX-1004, 8:16-24 (emphasis added).</p> <p>“Additional interactivity may be achieved by adding an actual two way communication channel to the personal computer <u>so that online services or the Internet may be accessed.</u> This two way communication channel is made particularly effective if the associated data contains <u>pointers to locations in the online services or the Internet which are particularly relevant to the television program.</u>” NTFX-1004, Abstract (emphasis added).</p>

“The addition of a two-way communication channel allows a consumer to also access online services. In this case, associated data may consist of references such as uniform resource locations (‘URL’) which are WWW page references. . . . Or, associated data may include pointers to information on an online service such as America Online, Prodigy or Compuserve.” NTFX-1004, 9:1-12 (emphasis added).

“The associated data is generally (but not always) sent by the same delivery medium as the primary data. In the case of television, the associated data is encoded in the VBI of the television signal.” NTFX-1004, 7:61-65 (emphasis added).

“[A] broadcaster may want viewers to see a certain page of information as part of a program that is being viewed.” NTFX-1004, 7:26-28.

Fig. 4 of Throckmorton, as annotated below, illustrates Throckmorton’s system:



NTFX-1004, Fig. 4 (annotated).

	<p>Thus, a method of providing a user access to online services through a URL provided in the VBI of a television signal, as taught by Throckmorton, discloses “a method of providing to a user of online information services, at the time of viewing a video program represented by an electronic signal, automatic and direct access to online information through a link provided in said video program,” as recited in the claim.</p>
<p>[7.1] indicating to the user that an address is available for establishing communication with an online information source;</p>	<p>[7.1] <i>“indicating to the user that an address is available for establishing communication with an online information source”</i></p> <p>Throckmorton teaches indicating to the user that an address is available for establishing communication with an online information source:</p> <p>“The addition of a two-way communication channel allows a consumer to also access online services. In this case, associated data may consist of references such as uniform resource locations (‘URL’) which are WWW page references. . . . Or, <u>associated data may include pointers to information on an online service such as America Online, Prodigy or Compuserve. Thus a menu may list several references.</u> And by clicking on a reference, the system actually connects to and retrieves the referenced information from the appropriate source.” NTFX-1004, 9:1-14 (emphasis added).</p> <p>“Up until now, there has been no way for producers of mass market broadcast programming to <u>deliver data associated by its relevancy to its subject matter that could be interactively displayed and manipulated by consumers on a real time basis.</u> What is meant by real time is that the <u>consumer receives and has access to the relevant data during the process of program reception.</u> Therefore the data becomes an integral part of the experience desired by the program producers. NTFX-1004, 1:59-67 (emphasis added).</p> <p>Thus, listing in a menu, which may be clicked by a user, a reference provided with a television program that may be used to</p>

	<p>establish communication with a WWW page, as taught by Throckmorton, discloses “indicating to the user that an address is available for establishing communication with an online information source,” as recited in the claim.</p>
<p>[7.2a] electronically extracting, in response to a user initiated command, an address associated with an online information source from an information signal embedded in said electronic signal, and</p>	<p>[7.2a] <i>“electronically extracting, in response to a user initiated command, an address associated with an online information source from an information signal embedded in said electronic signal”</i></p> <p>First, as shown in [7.0], Throckmorton teaches an embodiment in which associated data (information signal) contains a URL/pointer, and the associated data is embedded in a television signal (electronic signal).</p> <p>Second, Throckmorton teaches that the associated data (information signal) is stored upon receipt:</p> <p>“[T]he system includes a personal computer capable of receiving the television program and <u>storing the associated data locally.</u>” NTFX-1004, Abstract (emphasis added).</p> <p>Third, Throckmorton teaches electronically extracting the address (e.g., URL/pointer) from the stored associated data (information signal) in response to a user initiated command to browse the associated data:</p> <p>“The human interface is user friendly and will allow the consumer to browse through the associated data.” NTFX-1004, 8:7-9.</p> <p>“Thus <u>a menu may list several references.</u> And by clicking on a reference, the system actually connects to and retrieves the referenced information from the appropriate source.” NTFX-1004, 9:12-14 (emphasis added).</p> <p>“The consumer of the primary data stream may interact with the associated data via user interface 6 such as a keyboard, mouse or voice activation electronics through which <u>the consumer gives commands to processor 4 and which in turn causes the associated</u></p>

	<p><u>data to be accessed and processed.”</u> NTFX-1004, 4:28-32 (emphasis added).</p> <p>Accordingly, in Throckmorton’s system: (i) a television signal is received that includes embedded associated data containing URLs/pointers, (ii) the associated data is stored locally, (iii) a user initiates a command to browse the associated data, and (iv) the URLs/pointers are retrieved from the stored associated data and listed in a menu.</p> <p>Thus, retrieving the URLs/pointers from the stored associated data (information signal) and listing them in a menu in response to a consumer command to browse the associated data (which was originally embedded in a television signal), as taught by Throckmorton, discloses “electronically extracting, in response to a user initiated command, an address associated with an online information source from an information signal embedded in said electronic signal,” as recited in the claim.</p>
<p>[7.2b] automatically using said extracted address to establish a direct communication link with the online information source associated with said extracted address so that the user has direct access</p>	<p>[7.2b] <i>“automatically using said extracted address to establish a direct communication link with the online information source associated with said extracted address so that the user has direct access to the online information”</i></p> <p>First, Throckmorton teaches automatically using the extracted address to establish a direct communication link with the online information source associated with the extracted address:</p> <p>“The addition of a <u>two-way communication channel</u> allows a <u>consumer to also access online services</u>. In this case, associated data may consist of references such as uniform resource locations (‘URL’) which are WWW page references. . . . Thus a menu may list several references. <u>And by clicking on a reference, the system actually connects to and retrieves the referenced information from the appropriate source.</u>” NTFX-1004, 9:1-14 (emphasis added).</p> <p>“Remote data manager 92 <u>receives commands from human</u></p>

<p>to the online information.</p>	<p><u>interface 88 to retrieve data from remote computers through two-way communications channel 74 and to send that data to human interface 88 for presentation to the consumer.</u>” NTFX-1004, 8:30-34 (emphasis added).</p> <p>Second, Throckmorton teaches that the user has direct access to the online information:</p> <p>“Up until now, there has been no way for producers of mass market broadcast programming to <u>deliver data associated by its relevancy to its subject matter that could be interactively displayed and manipulated by consumers on a real time basis.</u> What is meant by <u>real time</u> is that the <u>consumer receives and has access to the relevant data during the process of program reception.</u> Therefore the data becomes an integral part of the experience desired by the program producers. NTFX-1004, 1:59-67 (emphasis added).</p> <p>Accordingly, in Throckmorton’s system, when a user clicks on a reference (e.g., a URL/pointer) a connection is automatically made with an online service/WWW page and online information addressed by the reference is retrieved, thus giving the user direct access to the information at the online service during the process of program reception.</p> <p>Thus, automatically establishing, in response to a consumer clicking a reference, a direct connection to an online information source associated with the reference so the consumer has access to relevant data during the process of program reception, as taught by Throckmorton, discloses “automatically using said extracted address to establish a direct communication link with the online information source associated with said extracted address so that the user has direct access to the online information.” as recited in the claim.</p>
<p>Claim 8</p>	
<p>[8.0] A method of providing to a</p>	<p>[8.0] <i>“A method of providing to a user of online information services automatic and direct access to online information through a link provided in a video program”</i></p>

user of online information services automatic and direct access to online information through a link provided in a video program, comprising:

First, Throckmorton teaches providing a user automatic and direct access to online information through a link:

“Up until now, there has been no way for producers of mass market broadcast programming to deliver data associated by its relevancy to its subject matter that could be interactively displayed and manipulated by consumers on a real time basis. What is meant by real time is that the consumer receives and has access to the relevant data during the process of program reception. Therefore the data becomes an integral part of the experience desired by the program producers. NTFX-1004, 1:59-67 (emphasis added).

“FIG. 4 is a block diagram of a second preferred embodiment of the invention that includes interactive communications. . . . Referring now to FIG. 4, a two-way communication channel 46 is connected to microprocessor 38 and provides interactive access to remote computers over such media as the analog telephone network, the ISDN digital network, a wide area packet switched network such as X25, frame relay or asynchronous transfer mode.” NTFX-1004, 8:16-24 (emphasis added).

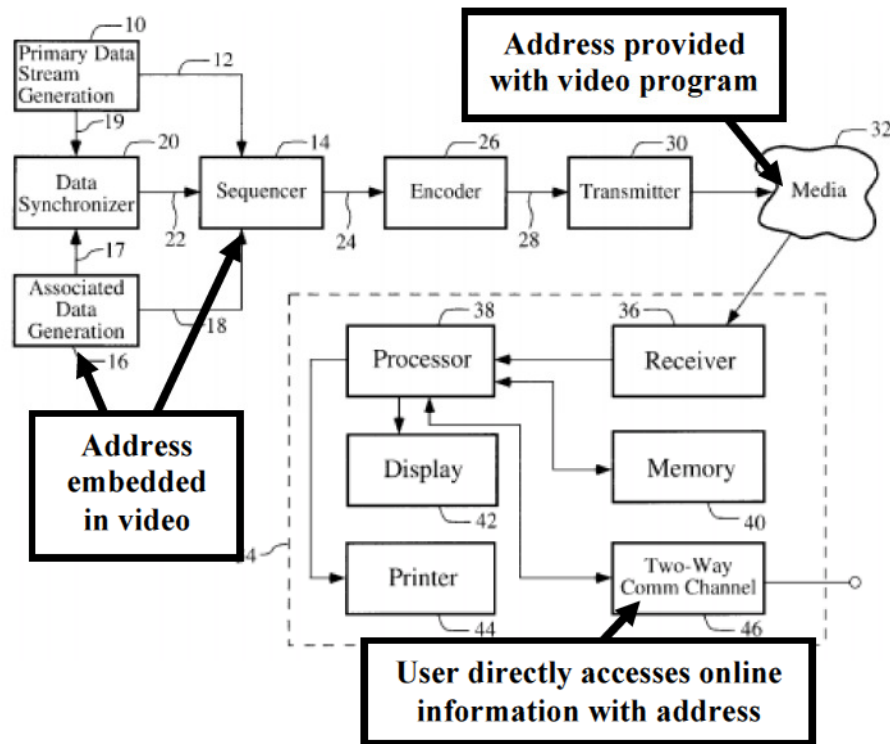
“Additional interactivity may be achieved by adding an actual two way communication channel to the personal computer so that online services or the Internet may be accessed. This two way communication channel is made particularly effective if the associated data contains pointers to locations in the online services or the Internet which are particularly relevant to the television program.” NTFX-1004, Abstract (emphasis added).

“The addition of a two-way communication channel allows a consumer to also access online services. In this case, associated data may consist of references such as uniform resource locations (‘URL’) which are WWW page references. . . . Or, associated data may include pointers to information on an online service such as America Online, Prodigy or Compuserve.” NTFX-1004, 9:1-12 (emphasis added).

Second, Throckmorton teaches that the associated data (e.g., URLs/pointers) is provided with a video program:

“The associated data is generally (but not always) sent by the same delivery medium as the primary data. In the case of television, the associated data is encoded in the VBI of the television signal.” NTFX-1004, 7:61-65 (emphasis added).

Fig. 4 of Throckmorton, as annotated below, illustrates Throckmorton’s system:



NTFX-1004, Fig. 4 (annotated).

Thus, a method of providing a user access to online services through a URL/pointer provided in the VBI of a television signal, as taught by Throckmorton, discloses “a method of providing to a user of online information services automatic and direct access to online information through a link provided in a video program,” as recited in the claim.

[8.1] indicating to

[8.1] *“indicating to the user that a link to online information services is available for receiving the online information”*

<p>the user that a link to online information services is available for receiving the online information; and</p>	<p>Throckmorton teaches indicating to the user that a link to online information services is available:</p> <p>“The addition of a two-way communication channel allows a consumer to also access online services. In this case, associated data may consist of references such as uniform resource locations (‘URL’) which are WWW page references. . . . Or, associated data may include pointers to information on an online service such as America Online, Prodigy or Compuserve. Thus <u>a menu may list several references</u>. And by clicking on a reference, the system actually connects to and retrieves the referenced information from the appropriate source.” NTFX-1004, 9:1-14 (emphasis added).</p> <p>“Up until now, there has been no way for producers of mass market broadcast programming to <u>deliver data associated by its relevancy to its subject matter that could be interactively displayed and manipulated by consumers on a real time basis</u>. What is meant by real time is that the <u>consumer receives and has access to the relevant data during the process of program reception</u>. Therefore the data becomes an integral part of the experience desired by the program producers. NTFX-1004, 1:59-67 (emphasis added).</p> <p>Thus, listing in a menu, which may be clicked by a user, a link provided with a television program, as taught by Throckmorton, discloses “indicating to the user that a link to online information services is available for receiving the online information,” as recited in the claim.</p>
<p>[8.2] automatically and directly electronically accessing said online information associated</p>	<p>[8.2] <i>“automatically and directly electronically accessing said online information associated with said link in response to a user initiated command so that the user has direct access to the online information”</i></p> <p>Throckmorton teaches automatically and directly electronically accessing online information associated with the link in response to a user initiated command so that the user has direct access to</p>

with said link in response to a user initiated command so that the user has direct access to the online information

the online information:

“The addition of a two-way communication channel allows a consumer to also access online services. In this case, associated data may consist of references such as uniform resource locations (‘URL’) which are WWW page references. . . . Thus a menu may list several references. And by clicking on a reference, the system actually connects to and retrieves the referenced information from the appropriate source.” NTFX-1004, 9:1-14 (emphasis added).

“Remote data manager 92 receives commands from human interface 88 to retrieve data from remote computers through two-way communications channel 74 and to send that data to human interface 88 for presentation to the consumer.” NTFX-1004, 8:30-34 (emphasis added).

“Up until now, there has been no way for producers of mass market broadcast programming to deliver data associated by its relevancy to its subject matter that could be interactively displayed and manipulated by consumers on a real time basis. What is meant by real time is that the consumer receives and has access to the relevant data during the process of program reception. Therefore the data becomes an integral part of the experience desired by the program producers. NTFX-1004, 1:59-67 (emphasis added).

Accordingly, in Throckmorton’s system, when a user clicks on a reference (e.g., a URL/pointer) a connection is automatically made with an online service and online information addressed by the reference is retrieved, thus giving the user direct access to the information at the online service during the process of program reception.

Thus, automatically establishing, in response to a consumer clicking a reference, a direct connection to an online information source associated with the reference so the consumer has access to relevant data during the process of program reception, as taught by Throckmorton, discloses “automatically establishing, in response to a user initiated command, a direct communication link

	with the online information source associated with said address so that the user has direct access to the online information.” as recited in the claim.
Claim 9	
<p>[9.0] A media online services access system for providing to a user of online information services while viewing or listening to a video or audio program represented by an electronic signal, automatic and direct access to online information by establishing a direct digital communication link with an online information source through a link provided in said electronic signal, comprising:</p>	<p>[9.0] <i>“A media online services access system for providing to a user of online information services while viewing or listening to a video or audio program represented by an electronic signal, automatic and direct access to online information by establishing a direct digital communication link with an online information source through a link provided in said electronic signal”</i></p> <p>First, Throckmorton teaches a system for providing to a user viewing or listening to a video or audio program represented by an electronic signal automatic and direct access to online information by establishing a direct digital communication link with an online information source through a link provided in the electronic signal:</p> <p>“Up until now, there has been no way for producers of mass market broadcast programming to <u>deliver data associated by its relevancy to its subject matter that could be interactively displayed and manipulated by consumers on a real time basis.</u> What is meant by real time is that the <u>consumer receives and has access to the relevant data during the process of program reception.</u> Therefore the data becomes an integral part of the experience desired by the program producers. NTFX-1004, 1:59-67 (emphasis added).</p> <p>“FIG. 4 is a block diagram of a second preferred embodiment of the invention that includes <u>interactive communications.</u> . . . Referring now to FIG. 4, a two-way communication channel 46 is connected to microprocessor 38 and <u>provides interactive access to remote computers</u> over such media as the analog telephone network, the ISDN digital network, a wide area packet switched network such as X25, frame relay or asynchronous transfer mode.” NTFX-1004, 8:16-24 (emphasis added).</p>

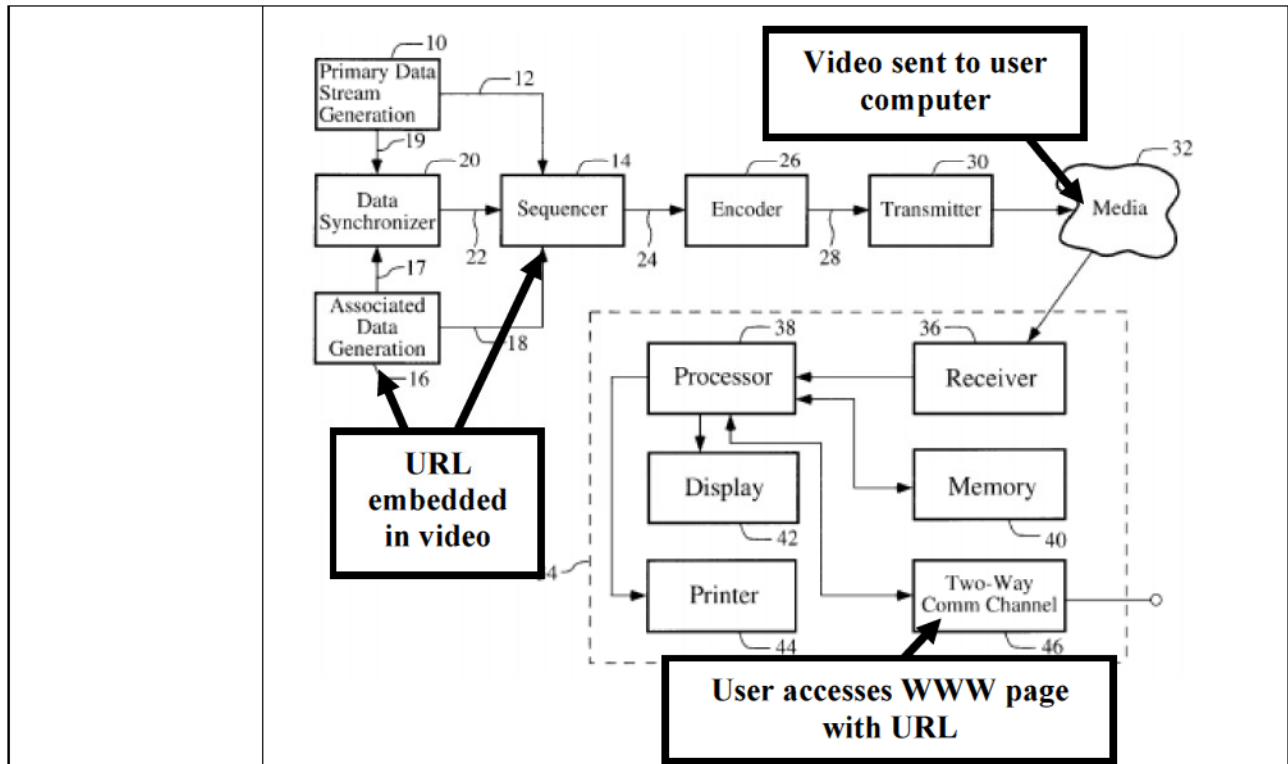
“Additional interactivity may be achieved by adding an actual two way communication channel to the personal computer so that online services or the Internet may be accessed. This two way communication channel is made particularly effective if the associated data contains pointers to locations in the online services or the Internet which are particularly relevant to the television program.” NTFX-1004, Abstract (emphasis added).

“The addition of a two-way communication channel allows a consumer to also access online services. In this case, associated data may consist of references such as uniform resource locations (‘URL’) which are WWW page references. . . . Or, associated data may include pointers to information on an online service such as America Online, Prodigy or Compuserve.” NTFX-1004, 9:1-12 (emphasis added).

“[A] broadcaster may want viewers to see a certain page of information as part of a program that is being viewed.” NTFX-1004, 7:26-28.

Second, Throckmorton teaches that the associated data (e.g., URL/pointer) is provided with a video program:

“The associated data is generally (but not always) sent by the same delivery medium as the primary data. In the case of television, the associated data is encoded in the VBI of the television signal.” NTFX-1004, 7:61-65 (emphasis added).



NTFX-1004, Fig. 4 (annotated).

Thus, a method of providing a user access to online services through a URL/pointer provided in the VBI of a television signal, as taught by Throckmorton, discloses “a media online services access system for providing to a user of online information services while viewing or listening to a video or audio program represented by an electronic signal, automatic and direct access to online information by establishing a direct digital communication link with an online information source through a link provided in said electronic signal,” as recited in the claim.

[9.1] means for indicating to the user that an address is available for extraction from said electronic

[9.1] ***“means for indicating to the user that an address is available for extraction from said electronic signal which permits communication with an online information source”***

Throckmorton teaches means for indicating to the user that an address is available for extraction from the electronic signal which permits communication with an online information source:

<p>signal which permits communication with an online information source; and</p>	<p>“The addition of a two-way communication channel allows a consumer to also access online services. In this case, associated data may consist of references such as uniform resource locations (‘URL’) which are WWW page references. . . . Thus <u>a menu may list several references. And by clicking on a reference, the system actually connects to and retrieves the referenced information from the appropriate source.</u>” NTFX-1004, 9:1-14 (emphasis added).</p> <p>“Microprocessor 38 is connected to <u>human interface 42, which is typically a CRT monitor,</u> and to printer 44. Human interface 42 and receiver 36 <u>could be part of a standard television.</u>” NTFX-1004, 6:17-20 (emphasis added).</p> <p>“Up until now, there has been no way for producers of mass market broadcast programming to <u>deliver data associated by its relevancy to its subject matter that could be interactively displayed and manipulated by consumers on a real time basis.</u> What is meant by real time is that the <u>consumer receives and has access to the relevant data during the process of program reception.</u> Therefore the data becomes an integral part of the experience desired by the program producers. NTFX-1004, 1:59-67 (emphasis added).</p> <p>Thus, the human interface (e.g., monitor, television) that lists in a menu a reference provided with a television program, which, when clicked by a user, permits communication with an online service/WWW page, as taught by Throckmorton, discloses “means for indicating to the user that an address is available for extraction from said electronic signal which permits communication with an online information source,” as recited in the claim.</p>
<p>[9.2a] means for extracting an address associated with an online information</p>	<p>[9.2a] <i>“means for extracting an address associated with an online information source from an information signal embedded in said electronic signal”</i></p> <p>First, as shown in [9.0], Throckmorton teaches an embodiment in which associated data contains a URL/pointer, and the associated</p>

<p>source from an information signal embedded in said electronic signal</p>	<p>data is embedded in a television signal.</p> <p>Second, Throckmorton teaches electronically extracting associated data (e.g., URLs/pointers):</p> <p><u>“Associated data protocol manager 60 performs the function of extracting the different forms of associated data from the incoming digital data steam and converting them to a form that can be used by communications manager 66.”</u> NTFX-1004, 6:56-60 (emphasis added).</p> <p>“Reference numeral 34 generally indicates the equipment that must be present at the consumer's location. In general, system 34 is a computer.” NTFX-1004, 6:4-6.</p> <p>Thus, the system of Throckmorton that has associated data protocol manager in the consumer equipment that extracts associated data (e.g., URLs/pointers) from an incoming digital data stream, as taught by Throckmorton, discloses “means for extracting an address associated with an online information source from an information signal embedded in said electronic signal,” as recited in the claim.</p>
<p>[9.2b] and for automatically establishing, in response to a user initiated command, a direct link with the online information source associated with said extracted address so that the user has</p>	<p>[9.2b] <i>“and for automatically establishing, in response to a user initiated command, a direct link with the online information source associated with said extracted address so that the user has direct access to the online information”</i></p> <p>Throckmorton teaches automatically establishing, in response to a user initiated command, a direct link with the online information source associated with the extracted address so that the user has direct access to the online information:</p> <p>“The addition of a <u>two-way communication channel allows a consumer to also access online services</u>. In this case, associated data may consist of references such as uniform resource locations (‘URL’) which are WWW page references. . . . Or, <u>associated data may include pointers to information on an online service</u> such as America Online, Prodigy or Compuserve. Thus a menu</p>

direct access to the online information.

may list several references. And by clicking on a reference, the system actually connects to and retrieves the referenced information from the appropriate source.” NTFX-1004, 9:1-14 (emphasis added).

“Remote data manager 92 receives commands from human interface 88 to retrieve data from remote computers through two-way communications channel 74 and to send that data to human interface 88 for presentation to the consumer.” NTFX-1004, 8:30-34 (emphasis added).

“Reference numeral 34 generally indicates the equipment that must be present at the consumer's location. In general, system 34 is a computer.” NTFX-1004, 6:4-6.

“The network to which two-way communication channel 74 is connected may be a conventional switched analog telephone system interfaced to a modem, a digital switched system such as ISDN interfaced to an appropriate adapter card, a wide area network connected through an access device, satellite technologies, and the like.” NTFX-1004, 8:57-63 (emphasis added).

“Up until now, there has been no way for producers of mass market broadcast programming to deliver data associated by its relevancy to its subject matter that could be interactively displayed and manipulated by consumers on a real time basis. What is meant by real time is that the consumer receives and has access to the relevant data during the process of program reception. Therefore the data becomes an integral part of the experience desired by the program producers. NTFX-1004, 1:59-67 (emphasis added).

Accordingly, in Throckmorton’s system, when a user clicks on a reference (e.g., a URL) a connection is automatically made with an online service/WWW page and online information addressed by the reference is retrieved, thus giving the user direct access to the information at the online service during the process of program reception.

	<p>Thus, the the system of Throckmorton that has a two-way communications channel (e.g., modem) in the consumer equipment that automatically establishes, in response to a consumer clicking a reference, a direct connection to an online information source associated with the reference so that the consumer has access to relevant data during the process of program reception, as taught by Throckmorton, discloses “automatically establishing, in response to a user initiated command, a direct link with the online information source associated with said extracted address so that the user has direct access to the online information.” as recited in the claim.</p>
<p>Claim 10</p>	
<p>[10.0] The media online services access system in accordance with claim 9</p>	<p>See the analysis of portions [9.0] – [9.2b], immediately above.</p>
<p>[10.1] wherein said program is a video program, further comprising:</p>	<p>[10.1] <i>“wherein said program is a video program”</i></p> <p>Throckmorton teaches that the program is a video program:</p> <p>“A system supplying information associated with a <u>broadcast television program</u> to a consumer . . .” NTFX-1004, Abstract (emphasis added).</p> <p>“In the case of television, the associated data is encoded in the VBI of the television signal.” NTFX-1004, 7:61-65.</p> <p>Thus, the broadcast television program that includes data encoded in the VBI of the signal, as taught by Throckmorton, discloses “wherein said program is a video program,” as recited in the claim.</p>
<p>[10.2] means</p>	<p>[10.2] <i>“means for receiving an information signal from said</i></p>

for receiving an information signal from said online information source; and

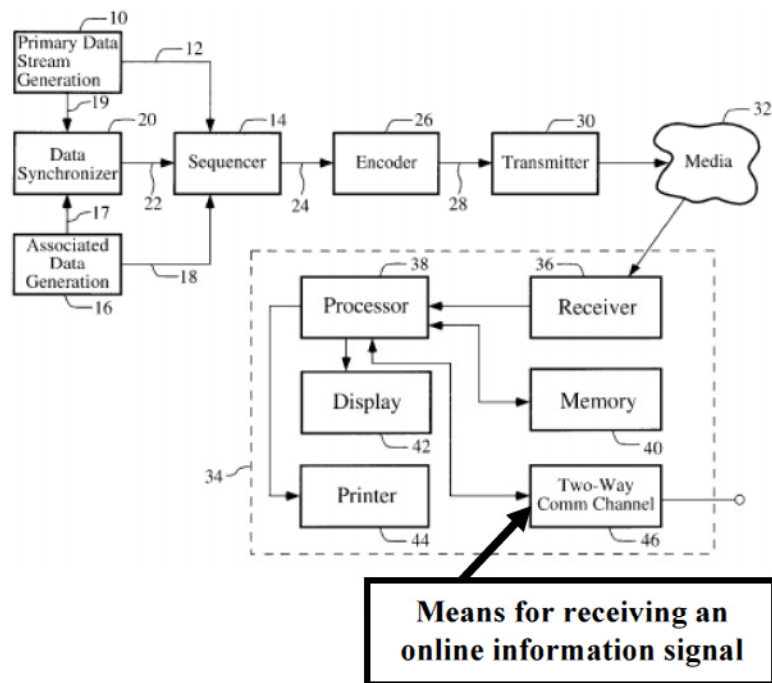
online information source”

Throckmorton teaches means for receiving an information signal from an online information source:

“The addition of a two-way communication channel allows a consumer to also access online services.” NTFX-1004, 9:1-2 (emphasis added).

“Remote data manager 92 receives commands from human interface 88 to retrieve data from remote computers through two-way communications channel 74 and to send that data to human interface 88 for presentation to the consumer.” NTFX-1004, 8:30-34 (emphasis added).

“The network to which two-way communication channel 74 is connected may be a conventional switched analog telephone system interfaced to a modem, a digital switched system such as ISDN interfaced to an appropriate adapter card, a wide area network connected through an access device, satellite technologies, and the like.” NTFX-1004, 8:57-63 (emphasis added).



NTFX-1004, Fig. 4 (annotated).

Thus, the two-way communication channel (e.g., modem) that receives data from remote computers, as taught by Throckmorton, discloses “means for receiving an information signal from said online information source,” as recited in the claim.

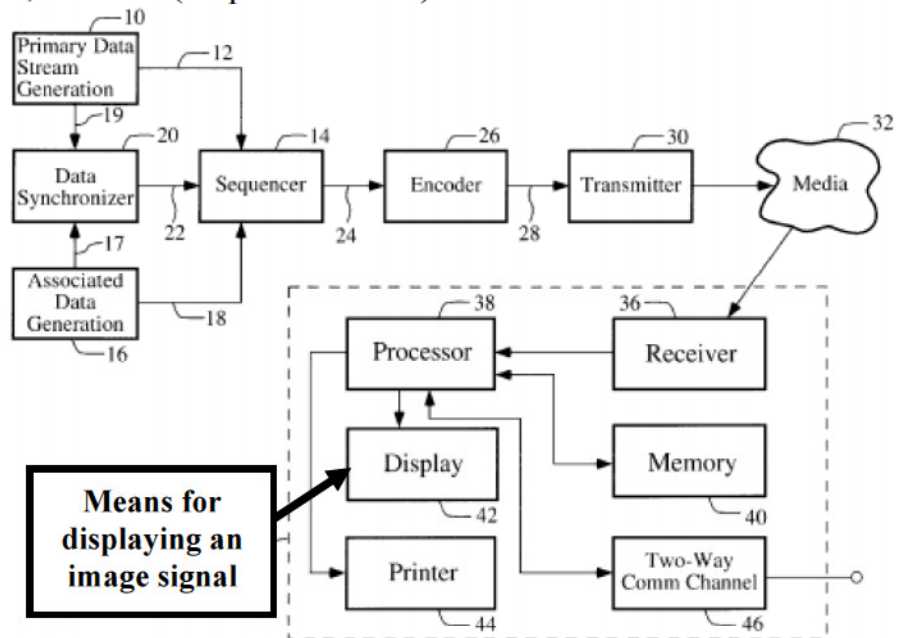
[10.3] means for displaying an image signal detected from said received information signal.

[10.3] ***“means for displaying an image signal detected from said received information signal”***

Throckmorton discloses means for displaying an image signal detected from a received information signal:

“Remote data manager 92 receives commands from human interface 88 to retrieve data from remote computers through two-way communications channel 74 and to send that data to human interface 88 for presentation to the consumer.” NTFX-1004, 8:30-34 (emphasis added).

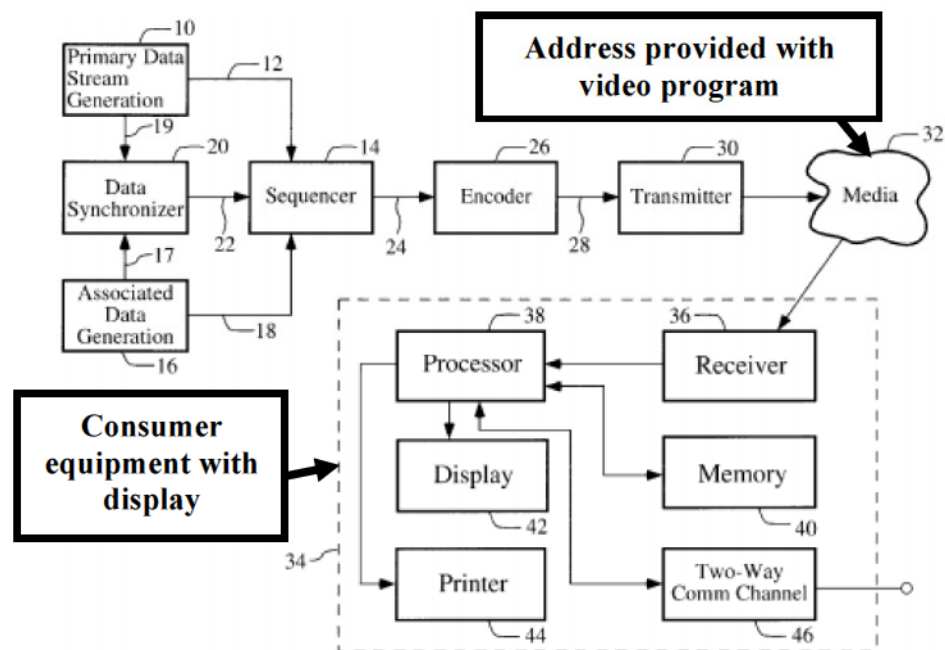
“Microprocessor 38 is connected to human interface 42, which is typically a CRT monitor, and to printer 44. Human interface 42 and receiver 36 could be part of a standard television.” NTFX-1004, 6:17-20 (emphasis added).



NTFX-1004, Fig. 4 (annotated).

	<p>Thus, the human interface (e.g., monitor, television) that presents data visually to the user retrieved from remote computers, as taught by Throckmorton, discloses “means for displaying an image signal detected from said received information signal,” as recited in the claim.</p>
<p>Claim 11</p>	
<p>[11.0] The media online services access system in accordance with claim 9</p>	<p>See the analysis of portions [9.0] – [9.2b] above.</p>
<p>[11.1] wherein said indicating means comprises a visual indicator displayed on a system on which said program is displayed.</p>	<p>[11.1] <i>“wherein said indicating means comprises a visual indicator displayed on a system on which said program is displayed”</i></p> <p>First, Throckmorton teaches that the human interface (indicating means) displays a visual indicator of a received address:</p> <p>“The addition of a two-way communication channel allows a consumer to also access online services. In this case, associated data may consist of references such as uniform resource locations (‘URL’) which are WWW page references. . . . Thus <u>a menu may list several references</u>. And by clicking on a reference, the system actually connects to and retrieves the referenced information from the appropriate source.” NTFX-1004, 9:1-14 (emphasis added).</p> <p><u>“Reference numeral 34 generally indicates the equipment that must be present at the consumer's location. In general, system 34 is a computer. . . . Microprocessor 38 is connected to human interface 42, which is typically a CRT monitor, and to printer 44.”</u> NTFX-1004, 6:4-18 (emphasis added).</p> <p>Second, Throckmorton teaches that the visual indication is displayed on the same consumer equipment wherein the program is displayed:</p>

“Primary data rendering sub-system 54 performs the function of presenting the primary data stream to the consumer in the manner in which a typical consumer would expect to see the data presented. For example, in the case of television, the primary data rendering takes the form of a video image typically supplied by a cathode ray tube screen, or possibly a liquid crystal display screen and audio provided by an audio amplifier and speakers. In the preferred embodiment these components are in a personal computer.” NTFX-1004, 6:36-44 (emphasis added).



NTFX-1004, Fig. 4 (annotated).

Accordingly, as shown in Fig. 4, annotated above, Throckmorton’s system displays both the primary data stream (e.g., television program) and the menu containing the references (e.g., URLs/pointers) on the display of the consumer equipment (e.g., personal computer).

Thus, the display/human interface (e.g., monitor, television) in the personal computer that (i) includes an on-screen menu that visually indicates the presence of a reference to a user and (ii)

	displays a television program, as taught by Throckmorton, discloses “wherein said indicating means comprises a visual indicator displayed on a system on which said program is displayed,” as recited in the claim.
Claim 12	
[12.0] The media online services access system in accordance with claim 9 further comprising	See the analysis of portions [9.0] – [9.2b] above.
[12.1] a user control device coupled to said system to permit said user to interactively communicate with said online information source.	<p>[12.1] <i>“a user control device coupled to said system to permit said user to interactively communicate with said online information source”</i></p> <p>Throckmorton teaches a user control device coupled to the system to permit a user to interactively communicate with an online information source:</p> <p>“Human interface 88 provides the consumer with input and output to the system. In the preferred embodiment, <u>human interface 88 uses the keyboard and alternate input devices such as a mouse of a personal computer as input for requests and the display of the personal computer for displaying the data.</u>” NTFX-1004, 7:15-20 (emphasis added).</p> <p>“The <u>consumer of the primary data stream may interact with the associated data via user interface 6 such as a keyboard, mouse or voice activation electronics through which the consumer gives commands to processor 4 and which in turn causes the associated data to be accessed and processed.</u> The resulting data is then supplied to display 7.” NTFX-1004, 4:28-33 (emphasis added).</p> <p>“The addition of a <u>two-way communication channel allows a consumer to also access online services.</u> In this case, associated</p>

data may consist of references such as uniform resource locations ('URL') which are WWW page references. . . . Thus a menu may list several references. And by clicking on a reference, the system actually connects to and retrieves the referenced information from the appropriate source." NTFX-1004, 9:1-14 (emphasis added).

Thus, the mouse and keyboard that allow the consumer to click on URLs and retrieve data from online services, as taught by Throckmorton, discloses "a user control device coupled to said system to permit said user to interactively communicate with said online information source," as recited in the claim.

Challenge #2: Claim 4 is obvious over Throckmorton in view of Williams

65. It is my understanding that there are many legal bases under which two prior art references could be combined. It is my opinion that a person of ordinary skill in the art would have found it obvious to combine the system and method of Throckmorton with elements of Williams because the combination amounts to applying a known technique to a known system ready for improvement to yield predictable results.

66. Throckmorton teaches that its system may be used to present important information—such as financial data, emergency broadcast information, and weather information—to viewers of video programming. (See NTFX-1004 5:34-35).

67. Williams recognized a need for a better way to alert television viewers to important information on a television screen: “Besides cable and satellite television, viewers are inundated with video games, VCR programming (sic.), video shopping, video cameras, disks, home computers, and so on, each of which takes them out of the ‘real time’ world. Thus, new emergency alert and information means must be capable of interrupting VCR programming and video games and the like.” (NTFX-1005, 2:41-47.)

68. One of ordinary skill in the art would have been motivated to modify the system of Throckmorton to improve in it the same way as taught in Williams – for instance, so that it produced an auditory indication on the program-producing speaker when a URL reference had been received and displayed on the screen. Such a modification would have improved Throckmorton system’s because users of Throckmorton’s system would have been less likely to miss important information—such as financial data, emergency broadcast information, and weather information—delivered via a URL presented on the screen.

69. Additionally, one of ordinary skill in the art would have been motivated to implement such a combination because the teachings in Williams sought to improve upon previous television-based information presentation systems. (NTFX-1005, 1:12 – 2:61.) In that regard, Williams taught an improved television-based information presentation system that superimposed information on

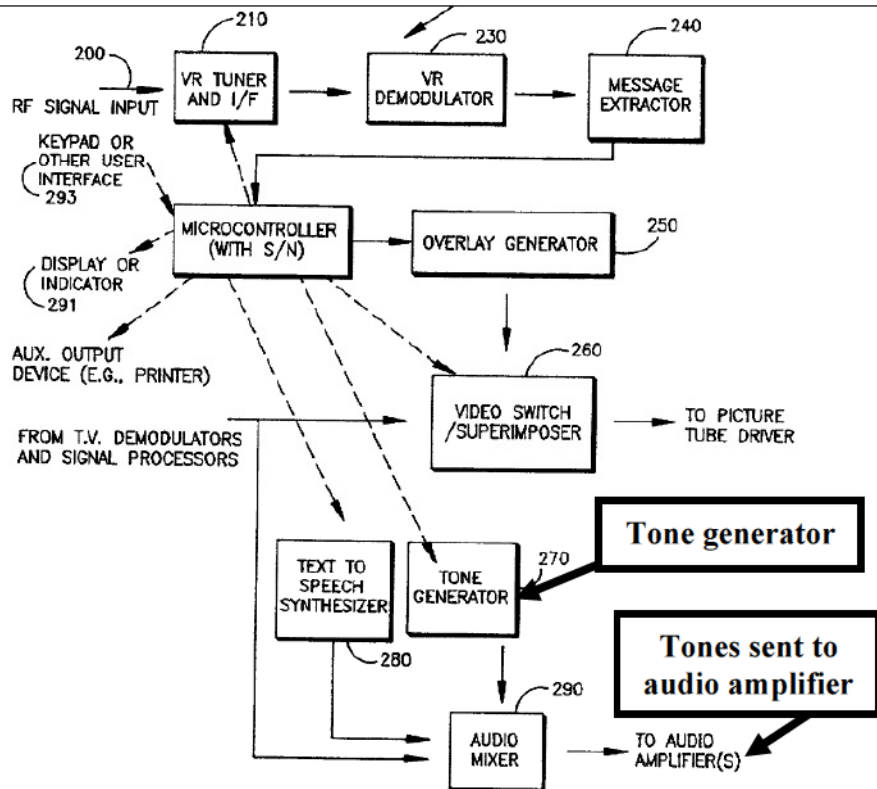
a television picture and generated an audible signal with the television speaker.

(NTFX-1005, 2:62-65; 8:60-63.)

70. It is therefore my opinion that a person of ordinary skill in the art would find that Throckmorton in view of Williams renders obvious each and every element of at least claim 4.

71. The following claim chart describes how Throckmorton in view of Williams renders obvious each and every element of at least claim 4.

Claim 4	
[4.0] The method in accordance with claim 1	See the analysis of Throckmorton in portions [1.0] – [1.2b] in Challenge #1 above.
[4.1] wherein said step of indicating includes producing an auditory indication to be sounded on a speaker where an audio portion of said program is reproduced.	<p>[4.1] <i>“wherein said step of indicating includes producing an auditory indication to be sounded on a speaker where an audio portion of said program is reproduced.”</i></p> <p>First, Williams teaches producing an auditory indication with a tone generator that sends tones to an audio amplifier in a TV system:</p> <p>“[M]icrocontroller 225 causes tone generator 270 to generate an audible signal (beep or buzz) to alert the viewer of the emergency message or information on the TV screen.” NTFX-1005, 8:60-63.</p>



NTFX-1005, Fig. 2 (annotated).

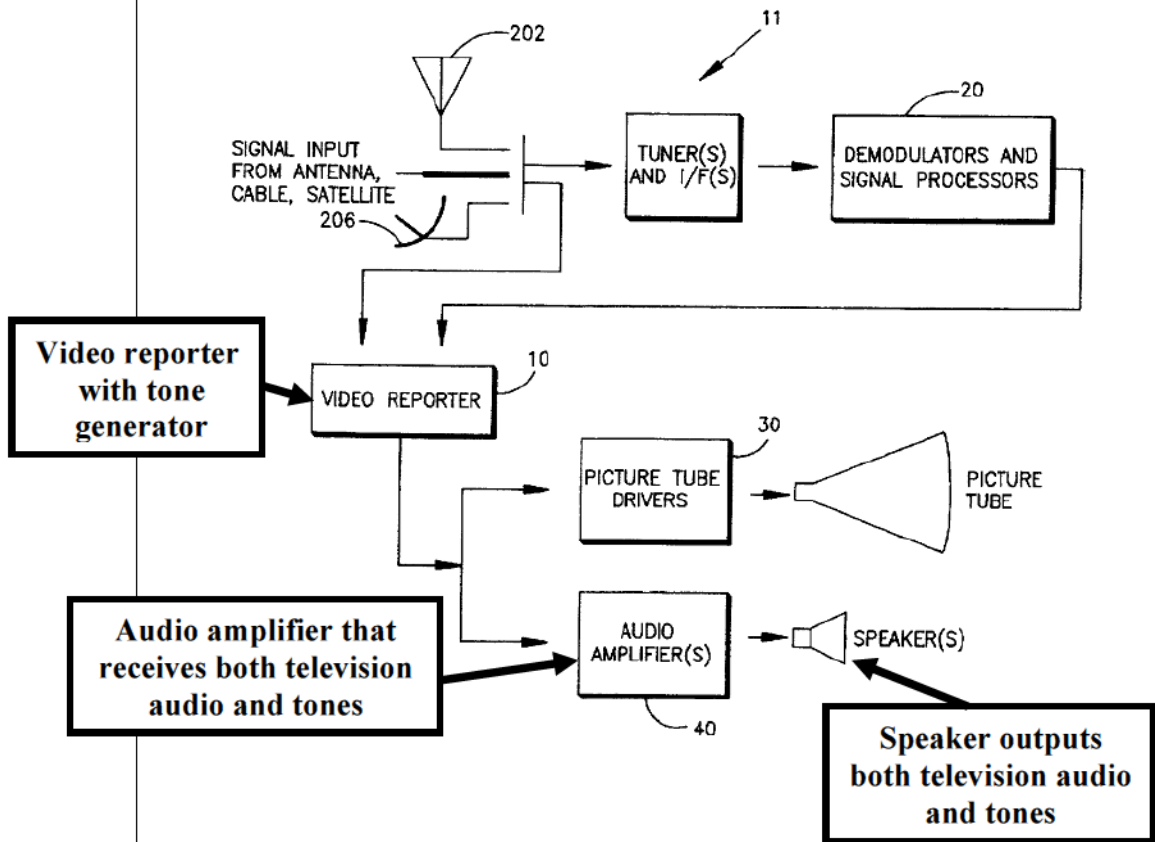
Second, Williams teaches that the information messages that trigger the tone are received with a television program signal, and that the tones are produced by the same speakers that produce the audio associated with the television program signal:

“As shown in the simplified block diagram in FIG. 1, video reporter 10 resides between the demodulators and signal processors 20 and the picture tube drivers 30 and audio amplifiers 40 of television control system 11. In an embodiment, video reporter 10 is connected to the radio frequency (RF) input 200 to a television. In another embodiment, video reporter 10 receives its input as intermediate frequency (IF) signal or from a baseband signal. Signal 200 comes from an antenna 202, cable 204, satellite 206, or other means as desired and includes teletext and closed caption text data. In the preferred embodiment signal 200 includes video reporter messages (emergency messages). A video reporter message is encoded and transmitted during the horizontal blanking period, which is not used for television picture transmission.”

NTFX-1005, 6:60-7:7 (emphasis added).

“Therefore, it is an object of the invention to provide an improved apparatus and method for superimposing real time emergency broadcast messages and information on a television picture concurrently with any programing (sic.) in progress.” NTFX-1005, 3:66-4:2 (emphasis added).

“There is a text to speech synthesizing means for synthesizing an audio message from the messages to be superimposed and a tone generating means for generating an audible tone and a visual indicator producing means for producing a visual indicator, both to alert a viewer to the messages to be superimposed. NTFX-1005, 5:30-35 (emphasis added)



NTFX-1005, Fig. 1 (annotated).

Accordingly, when an information message is received in a television transmission, a tone is generated and sent to the audio amplifier where is it produced by the same speaker that produces

the audio portion of the television transmission.

Thus, producing an auditory tone on a speaker where an audio portion of a television program is reproduced, as taught by Williams, in view of the teachings of Throckmorton, renders obvious “producing an auditory indication to be sounded on a speaker where an audio portion of said program is reproduced,” as recited in the claim.

Challenge #3: Claim 5 is obvious over Throckmorton in view of Kerman

72. It is my understanding that there are many legal bases under which two prior art references could be combined. It is my opinion that a person of ordinary skill in the art would have found it obvious to combine the system and method of Throckmorton with elements of Kerman because the combination amounts to applying a known technique to a known system ready for improvement to yield predictable results.

73. Throckmorton teaches a known system that extracts URL/pointer data from the VBI of a television signal and displays an indication that the URL/pointer data has been received on a monitor. (*See* NTFX-1004, 9:1-14.) Throckmorton also teaches that its system may be used to present important information—such as financial data, emergency broadcast information, and weather information—to viewers of video programming. (*See* NTFX-1004, 5:34-35).

74. As shown by Kerman, it was a known technique at the time of the

'736 Patent to indicate that a data message has been received in the VBI of a television signal with an alarm independent of a television. (*See* NTFX-1006, 3:35-42; 5:16-21.) Kerman further teaches that such a technique allows an alarm to be activated even when the television is not in use. (*See* NTFX-1006, 5:16-21.)

75. One skilled in the art would have been motivated to improve Throckmorton's system by modifying it to include a television-independent alarm to indicate that data has been received over the VBI of a television signal, as taught by Kerman. Throckmorton's system would be improved, for example, because a user would be alerted when a URL/pointer is received in the VBI of a video program even if the video display monitor is powered off. The user could then turn on Throckmorton's display monitor to view and select the URL/pointer. Users of Throckmorton's system would therefore have been less likely to miss important information—such as financial data, emergency broadcast information, and weather information—delivered via a URL.

76. Additionally, one of ordinary skill in the art would have been motivated to implement such a combination because the teachings in Kerman sought to improve upon previous television-based information presentation systems, such as the prior art system illustrated in Fig. 1. (*See* NTFX-1006, Fig. 1.) In that regard, Kerman taught an improved television-based information presentation system that included a television-independent alarm to indicate that

data had been received. (See NTFX-1006, 4:47-50; Fig. 2.)

77. It is therefore my opinion that a person of ordinary skill in the art would find that Throckmorton in view of Kerman renders obvious each and every element of at least claim 5.

78. The following claim chart describes how Throckmorton in view of Kerman renders obvious each and every element of at least claim 5.

Claim 5	
[5.0] The method in accordance with claim 1	See the analysis of Throckmorton in portions [1.0] – [1.2b] in Challenge #1 above.
[5.1] where said step of indicating includes activating a sensory indicator on a system separate from that on which said program is reproduced .	<p>[5.1] <i>“where said step of indicating includes activating a sensory indicator on a system separate from that on which said program is reproduced.”</i></p> <p>First, Kerman teaches activating a sensory indicator when data is received over a television signal:</p> <p>“A television receiver notification system in accordance with a first exemplary embodiment of the present invention includes circuitry which <u>collects data during the vertical blanking interval (VBI) of the television signal</u>, circuitry which extracts an information signal from the data, circuitry which determines, from the extracted data, if an event has occurred, and, <u>if the event has occurred, activates a notification alarm.</u>” NTFX-1006, 3:35-42 (emphasis added).</p> <p><u>If the data decoder determines, from the information signal, that a particular event has occurred, the host microcontroller 110 sends a control signal to activate either the light source 200, the audio source</u></p>

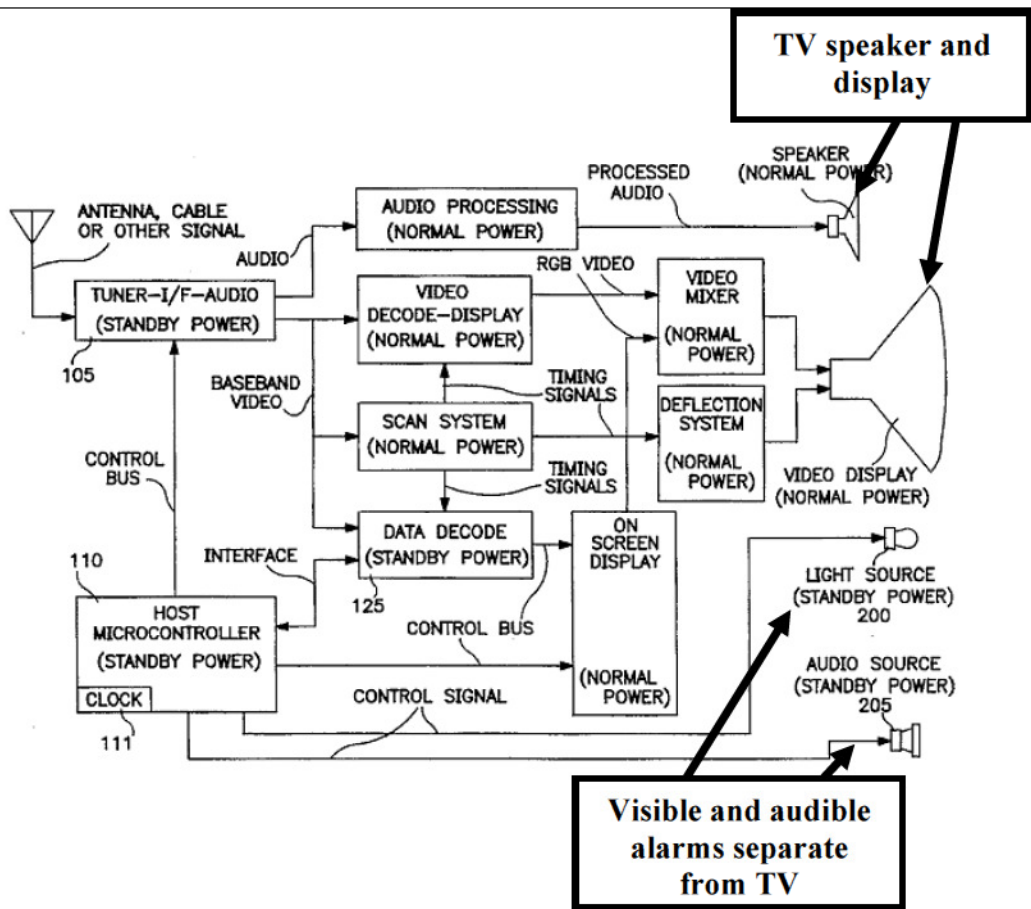
205 or both, to indicate the occurrence of that event. NTFX-1006, 5:10-14 (emphasis added).

“The present invention provides a television receiver notification system which alerts the television owner of the occurrence of an event, such as the reception of a data message or the airing of a certain television program, through the use of a notification signal. This notification signal, or alarm, can be visible (such as the light provided by a light-emitting diode) or audible (such as a beep tone).” NTFX-1006, 3:25-31 (emphasis added).

Second, Kerman teaches that the sensory indicator is on a system separate from that on which said program is reproduced:

“Because the tuner 105, the host microcontroller 110, the data decoder 125, the light source 200 and the audio source 205 are operable on standby power (i.e., when the television receiver is turned off), an event may be detected, and the alarms activated, even when the television receiver is not in use.” NTFX-1006, 5:16-21 (emphasis added).

The incoming television signal is received by an antenna or a cable 100. A tuner 105, controlled by a host microcontroller 110, selects a particular channel signal and demodulates the signal to recover a baseband video signal and an audio signal. . . . The audio signal is passed to audio processing circuitry 115 which produces a signal for the speaker 116 when the television is turned on.” NTFX-1006, 2:14-23 (emphasis added).



NTFX-1006, Fig. 2 (annotated).

Accordingly, the audio source 205 and light source 200 indicators are (i) physically distinct from the television speaker and video display and (ii) operate on a different power system than the television speaker and video display.

Thus, activating a light and/or audio source to indicate that an event has occurred in association with a television program, where the light and/or audio source is separate from the television on which the television program is reproduced, as taught by Kerman, in view of the teachings of Throckmorton, render obvious “where said step of indicating includes activating a sensory indicator on a system separate from that on which said program is reproduced.”

Declaration

79. I declare that all statements made herein on my own knowledge are true and that all statements made on information and belief are believed to be true, and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

Executed:

A handwritten signature in cursive script, appearing to read "Richard A. Kramer", written over a horizontal line.

By: Richard Kramer

RICHARD A. KRAMER

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E X E C U T I V E S U M M A R Y

Results oriented technologist and engineering leader with 20+ years of demonstrated achievements.

P R O F E S S I O N A L E X P E R I E N C E

SIS DEVELOPMENT INC.

2006-PRESENT

President

SIS Development, Inc. ("SIS") is a full-service technical organization focused on enabling OEMs and Technology Companies to win in a tough competitive environment. We specialize in product development, intellectual property matters, and R&D (research and development).

Intellectual property expertise and patent litigation experience includes (* denotes client):

- E-Watch Inc. v. * Lorex Technology, Inc. / FLIR Systems Inc. – IPR Declaration
- E-Watch Inc. v. * Avigilon, Inc. – Consultant on Invalidity and Claim Construction
- * Cisco Systems, Inc. vs. OpenTV – Expert Witness/Consultant
- OpenTV vs. * NDS (a division of Cisco Systems, Inc.) – Expert Witness/Consultant
- * J2 Global Communications v. Ring Central - Expert for Patent Reexamination
- * Rovi Corporation et. al. v. Hulu LLC - Expert Witness
- * Rovi Corporation et. al. v. Amazon.Com Inc. et. al. - Expert Witness
- Object Video Inc. v. *Sony Corporation – Consultant on Prior-Art
- Object Video Inc. v. * Bosch GMBH – Consultant on Prior-Art
- * Honeywell International Inc., v. 2GIG Technologies – Expert Witness
- * Elbex Video, Ltd. v. Axis Communications, Inc. – Expert Witness
- Gemstar TV Guide v. * Scientific-Atlanta, Inc. (now Cisco) – Advisor
- ABB Automation Incorporated v. * Schlumberger, Inc. – Advisor and Deposed
- IP matters relating to advanced technologies including: video, IP networking, security, protocols, wireless, and software including source code.

GENERAL ELECTRIC, GE-SECURITY

2003 - 2006

General Manager – Technology / Vice President, Engineering

Leader of progressive 300+ person technology and engineering organization: 16 orgs in 11 geographically dispersed locations. Responsible for technology development for \$500M+/year in products worldwide for General Electric's Video Systems Group (VSG) and other advanced Enterprise/Commercial/Residential solutions: video surveillance (IP network video products and software, DVRs, cameras), burglar alarm systems (ITI, Caddx and other lines), burglar alarm monitoring software (MAS), and life-safety markets (access control systems, real-estate mobile keys, smoke detectors, etc.).

- Execution & Innovation - Developed leading-edge new customer solutions, successfully launching 20+ major new products/platforms per year, resulting in double-digit organic market growth
- Held leading industry market share (90 %+) position in key vertical and unique markets with technically innovative products and software in a wide variety of security applications.
- Strategy Leader of GE FY2005 "Session 2" strategy creation and multiple technical M&A due-diligence teams for numerous acquisition targets. Leader of negotiations: closed numerous key strategic partnerships/agreements. 2005 OM +50% above plan
- High-Performance - Advanced with increasing levels of responsibilities from \$120M to \$500M+ in revenue/year accountability; rated as "Top-20%" talent and nominate/attended executive leadership training at GE's legendary Jack Welch Executive Training Center

GM/VP/C-LEVEL ROLES, NEW VENTURES AND DIVESTITURES**1998-2003**

Norcross, GA

VP Engineering /GM/Officer for start-ups and corporate sponsored diversification ventures

- Ivex Corporation – Launched/Pioneered first IP network video surveillance solution for the security industry (partnered with Loronix, now Verint): Developed an online video monitoring software service and the revolutionary IP network video appliance. Successfully acquired by a public entity. Stock went from \$3.60 to \$8.60 within 30 days
- Home Wireless Networks - Built team/leader of R&D for world's first combined voice plus data wireless home gateway. Products "Bell" approved. Launched under BellSouth and MCI brands. Launched first low-cost 802.11 access point by Telnor in Europe. Acquired
- Miraxis; parent EMS TECHNOLOGIES, \$309M, NASDAQ: ELMG; corporate technology diversification new business based on new network and wireless Ka-band combined 2-way wireless WAN/Internet/video connectivity and DTH/DBS video distribution satellite technology

SCIENTIFIC-ATLANTA, BROADBAND COMM. DIV. (\$2.5B, NYSE: SFA)**1995 – 1998**

Acquired by CISCO SYSTEMS

Norcross, GA

Project Director, Advanced Video Systems (AVS)**1997-1998****Engineering Manager, Home Communications Terminals****1996-1997****Engineering Manager, 8600x****1995-1996**

Led director-level cross-functional team developing next generation interactive TV (iTV) 2-way video cable set-top boxes to replace \$400M/year Advanced Video Systems (AVS) broadband products. Built engineering department and provided daily direction to multi-disciplined engineering department responsible for S-A's highest revenue earning product, the 8600x cable set-top. Direct engineering management responsibility for AVS high-volume domestic set-tops, remote controls and third-party partnerships.

- Reversed 10-year legacy of re-branding Panasonic set-tops by successfully building new engineering organization and launching the company's first successful internally designed high-volume, low-cost product. Volumes reached 80K/month. Reduced COGS by 40%, from \$154 to \$78
- Engineering manager for consumer iTV video products – the company's highest revenue-earning product lines (\$200M/year) with volumes over 1M+/year (8600x, 8600, etc.)
- Spearheaded launch of company's first high-volume product into a brand new S-A international plant located in Mexico. Proactively developed processes and infrastructure
- Led introduction of new development process and successfully completed business plan, product definitions, ROI analysis, forecasts, and resource plans for next-generation set-top products to replace existing \$400M/year broadband AVS products
- Managed daily design engineering activities and contract manufacturing support with international third-party partners: Panasonic, WKK and others

SCHLUMBERGER INDUSTRIES, EMNA (\$14B, NYSE: SLB)**1987 – 1995**

Norcross, GA

Engineering Manager, Residential and Commercial Metering	1994-1995
Hardware Manager, Recorders and Translation Systems	1990-1994
Senior Electronic Design Engineer	1989-1990
Electronic Design Engineer	1987-1989

Engineering manager for Schlumberger's Electricity Management, North America (EMNA) division. Managed supervisors, multi-disciplined developers and QA/SQA personnel developing high-volume electronic communication products, meter reading, modems and power monitoring equipment used by the electric utility industry to monitor and control power on the power grid.

- Managed R&D organization for residential and commercial product lines, obtaining over \$60M/year in revenue with product line volumes ranging from 10Ks/year to 100Ks/year
- Promoted, dynamically improved and launched division's highest revenue product (the "Vectron") after a two-year delay within another R&D organization
- As hardware manager, launched new product lines that spawned new services business
- Annually selected to participate in the "Best Program" for high potential managers
- As a hands-on developer, primary designer for division's top two highest ASP products (GM 55%, ASP \$2,000). Designed working ASIC on first pass. Granted two patents

BABCOCK & WILCOX, NUCLEAR POWER DIVISION**1984 - 1987****ELECTRONIC DESIGN ENGINEER / SR. ELECTRONICS DESIGN ENGINEER**

As part of the "Special Products and Integrated Field Services" team, I was a designer and developer of electronic inspection systems and robotic repair systems for nuclear power plant components inside the nuclear containment building.

- Provided system, circuit and software design for advanced video/CCTV, ultrasound, and other imaging solutions to inspect internal radioactive components inside the nuclear containment building.
- Board level designer of electronic hardware using a multitude of CPU/MPUs, high-speed communication interfaces, control circuits, and complex test/measurement ADC circuits.
- Software programmer using high-level software programming languages and assembly code firmware for robotic/automation repair and inspection equipment

E D U C A T I O N & A F F I L I A T I O N S

BSEE, Magna cum laude
The University of Toledo

1984
Toledo, Ohio

Executive MBA, 16 Credit Hours
Emory University, Goizueta Business School

Attended 2003
Atlanta, Georgia

Executive business program ranked in the top 10 globally by Business Week and The Financial Times.

GE Six Sigma, Black Belt Training Certified

Additional post-graduate studies and certificates: finance, project management, leadership, Java 2, DSP, computer architecture and PACE product development process.

Java 2, Sun Certified Programmer.

Member, IEEE.

P A T E N T S

U.S. Patent No. 5,701,253 - Isolated Current Shunt Transducer; December 23, 1997

U.S. Patent No. 5,422,939 - Parallel Off-Hook Detection for Both Line Available and Phone Pick-up Detection, June 6, 1995

U.S. Patent 7,956,735 (78% ownership stake – rights sold) – Automated remotely-verified alarm system with intrusion and video surveillance and digital video recording, June 7, 2011