IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

TV GUIDE ONLINE, INC. AND TV GUIDE ONLINE, LLC	)	
Plaintiffs,	)	**Civil Action No.: 05-CV-725-KAJ**
vs.	)	
TRIBUNE MEDIA SERVICES, INC.,	)	
Defendant	)	

EXPERT REPORT OF DR. GARY S. TJADEN REGARDING INVALIDITY OF UNITED STATES PATENT NO. 5,988,078

1. My name is Gary S. Tjaden. I currently reside at 2820 GlenEagles Pointe, Alpharetta, Georgia 30005.

I. Background and Qualifications

2. I am currently Founder and President of COCOMO ID, LLC, a developer of technology for mobilized speech-audio publishing. From 1993 through 2004 I was a Principal Research Engineer and Director of the Center for Enterprise Systems at the Georgia Institute of Technology. Before coming to the Georgia Institute of Technology I held numerous executive positions with NYNEX Corporation (1987-92), a regional telecommunication service provider, and with Burroughs/Unisys (1984-87), a manufacturer of computer systems and provider of information technology services. I also was Senior Vice President of Engineering and Technology for Cox Cable Communications from 1979 to 1984, where I was involved in various

company activities and ventures, including supervising development and implementation of the company's interactive cable-based videotext system known as INDAX. Prior to joining Cox, I held research and development posts with Sperry Corporation in both the Sperry Research Center located in Sudbury, Massachusetts (1975-76) and the Univac Division located in Bluebell, Pennsylvania (1976-79) and with the Bell Telephone Laboratories Electronic Switching Systems Division located in Naperville, Illinois (1966-70 and 1972-75).

3. I am a named inventor of eight issued U.S. patents, and thus I am familiar with the prosecution of patent applications before the United States Patent & Trademark Office ("USPTO").

4. I hold a Bachelor of Science degree in Electrical Engineering (B.S.E.E.), which I received from the University of Utah in 1966. I received a Master of Science degree in Electrical Engineering (M.S.E.E.) in 1969 from Northwestern University. In 1973, I received a Doctor of Philosophy (Ph.D.) degree in Computer Science from the Johns Hopkins University.

5. My detailed educational and professional background and a list of my technical publications for the preceding ten years are described in my curriculum vitae, attached hereto as EXHIBIT 1. My curriculum vitae also lists the cases in which I have testified as an expert at trial or by deposition during the last four years.

II. Subject Matter of This Report

6. I have been retained by TRIBUNE MEDIA SERVICES, Inc. ("TMS") as an expert witness in this action to provide my technical assessment and opinions regarding U.S. Patent No. 5,988,078 ("the '078 Patent"), entitled "Method And Apparatus For Receiving Customized

Television Programming Information By Transmitting Geographic Location To A Service Provider Through A Wide-Area Network". In making my analyses I have been informed that the Court has not yet adopted the constructions of specific claim terms, so I have assumed constructions where necessary. I have used these assumed constructions, stated in the attached claim charts, in forming my opinions. I reserve the right to revise my opinions in light of other constructions given to me in the future by the Court or others. I am being compensated for my time at my normal hourly rate, which is $400. No part of my compensation depends on the outcome of this litigation, the opinions I express, or my testimony.

7. I have been informed that TV Guide Online, Inc. and TV Guide Online, LLC (collectively, "TV Guide") have alleged that TMS' zap2it.com services or systems infringe claims 1, 2, 3, 4, 5, 6, 7, 8 and 10 of the '078 Patent. It is the validity or invalidity of these asserted claims with which this Report deals.

8. It is my opinion that, under the assumed claim constructions, all of the asserted claims of the '078 Patent are invalid because the prior art anticipates the claims and/or the claims would have been obvious to one of ordinary skill in the art at the time of the filing of the '078 patent application.

9. I am informed that plaintiffs assert a priority filing date for the '078 Patent of March 9, 1992. In formulating my opinion I have assumed that the date of invention is no earlier than March 9, 1992 for all asserted claims.

10. In formulating my opinion, I have carefully reviewed the '078 patent, its prosecution history, and some of the references cited in the prosecution history. I have also considered the level of skill in the art, the scope and content of the prior art, and the differences between the

prior art and the claimed invention. In addition, I have and/or will consider any objective evidence relating to the obviousness issue, including any alleged commercial success, failure or success by others in developing the alleged invention, any unexpected results, any long felt need, and any other evidence submitted on this point. A list of the materials I reviewed in reaching the opinions set forth in this Report is attached as EXHIBIT 2. At this time I have not determined what exhibits I may use in connection with my testimony at trial, but they will most likely be derived from the materials that I considered.

III. Technology Background

11. The patent in question is generally related to the field of mass, consumer-oriented, electronic information distribution systems and, more specifically, to the sub-field of electronic information distribution systems based upon bi-directional wide-area networks. Additionally, within this sub-field, it is related to the downloading of subsets of electronic databases to a multiplicity of end-user terminals, where the subsets include information regarding television programming. Such systems and their underlying technologies are generally known as Electronic Program Guides ("EPGs").

12. Well before the assumed date of invention for the '078 Patent, March 9, 1992, various technologies were well known for implementing mass electronic information distribution systems, including systems for distributing databases (comprising, for example, financial data, television programming information, executable computer program code and classified advertising) to television receivers, personal computers and other types of terminal devices. About 1970, some twenty years before the '078 Patent's named inventor filed his patent application, a British postal worker, Sam Fedida, invented a technology that would permit such

information to be distributed to and displayed with properly equipped television receivers. This technology came to be known as "videotext." (E. Sigel, et al., The Future of Videotext, Worldwide Prospects for Home/Office Electronic Information Services, Knowledge Industry Publications, Inc., 1983 (hereinafter "Sigel") at pp. 1-2, and Fig. 1.1). Others in the United Kingdom (e.g., engineers at the British Broadcasting Company (the "BBC")) developed and commercialized a version of such a system that used the public telephone network by 1979. (*Id.*) The BBC's videotext service came to be known as "Prestel." (*Id.*) The French began development of their version in 1973, called "Antiope," and commenced experimental transmission of the Antiope videotext service in 1977. *(Id.)*

13. Development of videotext systems and the underlying technology quickly spread to many countries of the world, including the United States. By 1980 the Knight-Ridder Co. and AT&T began a trial of a videotext system using telephone network distribution in Coral Gables, Florida. *(Id.)* Soon after, by 1982, Time Inc., Cox Cable and Times Mirror offered videotext services based upon cable television for the distribution network. *(Id.)* Another major U.S. videotext service provider in this time frame was the CompuServe Corporation, with its 1979 initiation of CompuServe Information Service. While the other above services were offered by media companies and targeted for information display on television sets, CompuServe began business as a computer time-sharing service provider, and expanded into the database/information distribution business to further utilize its centralized computer systems and the telephone-based distribution network it already had in place. *(Id.*, at pp. 59-62.) CompuServe targeted users having personal computers and telephone modems for network access and information downloading. Information was displayed on the personal computer monitor rather than a television screen.

14. With the advent of videotext, the BBC and others began electronically distributing information of all types, digitally encoded and formatted into top-level records called magazines. Each magazine record was further formatted into sub-records called pages. Thus, the logical structure of the information in these databases was that of a hierarchy. The information in some of the pages would be lists, or menus, of either information categories or specific bottom-level (leaf) pages from the database. The user would select items from the menus to navigate through the database. (See, e.g., *Id.,* Fig. 5.1, at p. 87, showing traversing a Prestel menu hierarchy for finding movies playing at cinemas by location of the cinema.) Videotext systems also offered the user the capability of bypassing the menu hierarchy and selecting a page directly by simply entering the page number on their keypad or keyboard. (*Id.* at p. 86.)

15. Techniques and methods for storing and searching information in computer databases were very well known by 1980. Indeed, such problems had been studied from the inception of the modern digital computer in the late 1950's because the manipulation of large amounts of data was one of the primary commercial uses of these computers. A classic textbook on this subject, running some 700 pages, was published in 1973 by Professor Donald Knuth of Stanford University (The Art of Computer Programming, Volume 3 / Sorting and Searching; Addison-Wesley Publishing Company, 1973 (hereinafter "Knuth")). Knuth himself used this book to teach university courses at the "junior-to-graduate level" (Knuth, Preface, at p. *vi*).

16. The issue of searching a large database for data items matching one or more selection criteria was well known to skilled artisans by the early 1980's. Knuth discusses such techniques in his Section 6.5 Retrieval On Secondary Keys (*Id.*, at pp. 550-570). He outlines the problem thusly: "In general, we assume that each record contains several attributes, and we want to search for all records that have certain values of certain attributes. The specification of which

records are desired is called a *query*. Queries are usually restricted to at most the following three types: a) A *simple query* ... b) A *range query* ... c) A *Boolean query*..." (*Id.*, at p. 550.)

17. By 1980, technology specifically intended for storing in a computer system large databases of information, and selectively retrieving subsets of these data based on queries involving multiple criteria combined in complex expressions, was well known. In fact, the computer industry had developed and was marketing commercial database software products for this purpose based on the technology of "relational data" developed by E. F. Codd in the late 1960's at IBM. With the advent of the IBM PC in the early 1980's, the computer industry also began supplying such database software suitable for executing on the microcomputers used in videotext decoders and personal computers. Additionally, by the early 1980's, technology for applying these same notions of relational data and complex queries was developed for the selection of complex subsets of data delivered in a broadcast stream. U.S. Patent No. 4,429,385, "Method and Apparatus For Digital Serial Scanning With Hierarchical and Relational Access," issued January 31, 1984 to Richard Cichelli (hereinafter "Cichelli"), teaches these techniques specifically applied to the broadcast teletext medium. (Cichelli at Abstract.) Before describing his new methods for performing relational queries against broadcast databases, Cichelli provides a review of the major issues involved in searching videotext databases in general. (*Id.*, at Cols. 2-6.)

18. An excellent overview of the state of videotext database technology in the early 1980s is given by Jan Gecsei in his book The Architecture of Videotex Systems, Prentice-Hall, 1983 (hereinafter "Gecsei"). See especially his discussion on pp. 167-173 and pp. 213-232. Both Cichelli and Gecsei refer to the CompuServe system as an example embodiment of the database technologies to which they refer. And, indeed, the CompuServe database capabilities were

extensive, as a review of the CompuServe references in EXHIBIT 2 attests. Particularly relevant to the issues of this Report are the "Schepp," "Glossbrenner," "Today 1982" and "Today 1985" references. It was well-known prior to 1990, and the CompuServe system illustrated this, that the selection information entered by the user and sent to the central database system to specify the information desired by the user could be equivalently, for example: (1) a word or phrase typed by the user with his keyboard or keypad, (2) a menu item selected by highlighting the item and pressing a selection key or by typing the number of the menu item, or (3) a unique identifier of a particular information item, such as the "page" number of the item.

19. The telephone-based method for distributing data to intelligent home terminal units (set-top boxes or HTU's) and personal computers was not the only method known or in use by the late 1980's. As described by Sigel (at p. 1): "There are two principal versions of videotext. One, a broadcast system known as teletext, involves the one-way sending of pages of information from the TV transmitter. ... The other version, known as viewdata or videotext or videotex, involves the sending of information from a central computer to an individual terminal over telephone lines." Other electronic media known in the art included RF subcarriers, cable television systems and satellites. Systems involving all of these media, as well as numerous other related technologies for storing, manipulating and displaying information, are described throughout Sigel, as well as in a lengthy transcript of an international conference, called Viewdata '80, held to discuss "[t]he use of the ubiquitous TV set as an information display and interactive personal electronic communication device..." (VIEWDATA AND VIDEOTEXT, 1980-81: A Worldwide Report, published by Knowledge Industry Publications, Inc., White Plains, New York, 1980 (hereinafter "Viewdata '80"), at p. iii.) Both Sigel and Viewdata '80 describe systems that combine one-way (broadcast) and two-way (e.g., telephone or two-way

cable television) technologies such that users can request specific data items of interest with a two-way capability, and have those items delivered with a one-way technology.

20. The notion of television programming information is as old as television itself (circa 1950). By 1985, newspapers in markets of any size printed such information presented in the form of a listing of television programs together with information about the programs, such as time of broadcast, channel to which to tune to view the program, title of the program, and perhaps a brief description. In cities with cable television (CATV) systems having upwards of 30 channels of programming, the supplier or provider of the program (e.g., ABC, HBO, Cinemax) would also be included because CATV viewers would not necessarily find the program on the same channel number as viewers using the standard off-air version of the TV signal. Also, since there were so many channels from which to choose, programs were categorized and listed by subject or type (e.g., sports, movies) and sometimes by subtype (e.g., Sports, then Football, then College or Professional). In fact, well before the filing of the '078 Patent, electronic versions of television programming information were available from multiple publishers for downloading to local computers. The CompuServe system, for example, included in its database the contents of multiple newspapers in different areas of the country, each of which contained television programming information for its locality. This information could be accessed by users of CompuServe by selecting the location of interest. (See, e.g., CompuServe Information Service Today, January 1982, TMS 0001076-0001083 (hereinafter "Today 1982")).

21. In summary, an engineer skilled in the art relevant to the claims of the '078 Patent prior to its invention priority date would have possessed knowledge and understood technologies that included at least the following:

- Distributing data residing in a centralized information database by connecting large numbers of consumer home terminal units or personal computers to the database computer via a telephone-based or cable television-based wide area network.

- Distributing data residing in a centralized information database by selecting portions of it with a specific request transmitted from a consumer terminal unit to the database system over a wide-area network.

- The data residing in the centralized information database could be for virtually any kind of information, including television programming information.

- The selection information entered by the user and sent to the central database system to specify the information desired by the user could be equivalently, for example: (1) a word or phrase typed by the user with his keyboard or keypad, (2) a menu item selected by highlighting the item and pressing a selection key or by typing the number of the menu item, or (3) a unique identifier of a particular information item, such as the "page" number of the item.

- The selection information so entered by the user could include an identification of geographical location.

- The requested data could be received by HTUs (home terminal units) or personal computers, and presented to a microcomputer in the units for storage and/or display.

- The microcomputers in HTUs were general purpose computers consisting of a few relatively inexpensive components, and comprised of the functional elements of a central processing unit (CPU), memory (RAM and ROM), data buses interconnecting

the components, data or text display on a monitor or TV, and input/output capabilities and interfaces (including user input from a keyboard or remote keypad and via selections from on-screen menus).

IV. The Perspective of One of Ordinary Skill in the Art

22. I understand that determinations of whether prior art invalidates a claim in a patent are performed from the perspective of a hypothetical person having ordinary skill in the field of the invention at the time of the invention.

23. During my thirty years in the fields of computer systems, electronic communications and television broadcasting, I have often worked with engineers and other technical personnel in the field of interactive information distribution systems. Based on this experience, I conclude that the level of ordinary skill in the relevant art in 1990-92 would best be defined as a combination of education and experience. For example, I would consider an engineer with a bachelor of science degree in electrical engineering (including classes in computer systems and software engineering) or computer science (with classes in electronics and data communications) and three to five years of experience in electronic communications (including computer systems and software engineering) in the pertinent relevant time period to posses an "ordinary level of skill" in the field. The more formal education one possesses, the less industry experience needed to attain an "ordinary level of skill." For example, an engineer with a master of science degree in electrical engineering or computer science would need only two to three years of experience to attain an "ordinary level of skill" in the field of data communications. Similarly, the more industry experience one possesses, the less formal education needed to attain this "ordinary level of skill."

24. In expressing my opinions below, I will use the term "Skilled Artisan" to refer to a person who, in the relevant time period, possessed the level of ordinary skill described above in the field of electronic consumer information distribution systems.

V. Invalidity in View of the Prior Art

25. I understand that a patent claim is invalid under 35 U.S.C. § 102 if a Skilled Artisan would reasonably understand or infer that each and every element as set forth in the claim is either expressly or inherently described in a single prior art reference. The reference is then said to "anticipate" the claimed invention.

26. I understand that the prior art reference anticipates the claimed invention if it discloses the claimed invention sufficiently to teach all elements of the claimed invention to one of skill in the art (i.e., enables a Skilled Artisan to make and use the claimed invention).

27. I understand that a prior art reference inherently describes a claim element when one of ordinary skill would know that the element is necessarily present, not just possibly or probably present, in what is described in the prior art reference.

28. For purposes of rendering an opinion regarding anticipation under the above understandings I have used the following definitions, taken from the Eleventh Edition of Merriam-Webster's Collegiate Dictionary (2003):

> **Infer:** **1**: to derive as a conclusion from facts or premises **... 3 a**: to involve as a normal outcome of thought **b**: to point out: INDICATE **4**: SUGGEST, HINT
>
> **Imply**: **2**: to involve or indicate by inference, association, or necessary consequence rather than by direct statement **3**: to contain potentially **4**: to express indirectly
>
> **Necessary**: **1 a**: of an inevitable nature: INESCAPABLE **b(1)**: logically unavoidable **b(2)**: that cannot be denied without contradiction **c**: determined or produced by the previous condition of things **d**: COMPULSORY **2**: absolutely needed: REQUIRED

29. I understand that although references may not be combined to show anticipation, additional references may be used to interpret the allegedly anticipating reference and shed light on what it would have meant to those skilled in the art at the time of the invention. These additional references must make it clear that the matter not expressly described is necessarily present in the system or other subject matter disclosed in the anticipating reference, and that it would be so recognized by persons of ordinary skill.

30. I also understand that under 35 U.S.C. § 103 a patent may not be obtained even though the invention is not identically disclosed or described in the prior art if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious to a person having ordinary skill in the art in the relevant subject matter at the time the invention was made.

31. Furthermore, I understand that the "obviousness" determination of an invention turns on whether a hypothetical person with ordinary skill and full knowledge of all the pertinent prior art, when faced with the problem to which the claimed invention is addressed, would be led naturally to the solution adopted in the claimed invention or at least would naturally view that solution as an available alternative.

32. I also understand that in considering whether one of ordinary skill in the art would have combined the information found in different prior art documents or devices placed on sale, one should consider whether there is any suggestion or basis for motivating such a combination found in prior art documents, in the art as a whole, the nature of the problem to be solved, or in the knowledge that one of ordinary skill would have. I further understand that without any reason, suggestion, or motivation for the proposed combination, a combination under 35 U.S.C.

§ 103 currently would be improper for determining obviousness. Finally, I understand that issues of the conditions required for showing obviousness are being reviewed by higher courts, and I therefore reserve the right to review and possibly modify the opinions expressed in this Report in light of any decisions by the courts in this regard.

33. From these understandings I distill the following specific criteria for motivating combinations for obviousness, any one of which by itself is sufficient motivation according to my understanding of the applicable law.

1. The references explicitly refer to each other.
2. The references' teachings are based upon, either explicitly or implicitly, the same technologies (art).
3. The references discuss or teach solutions to the same problem(s).
4. A skilled artisan would know, by virtue of the skills necessarily acquired, that the references' teachings are combinable (i.e., compatible within the art or technology taught).

34. I further understand that a claim or claim element is rendered obvious by a prior art reference if what is claimed is only a specific limitation or instance of a broader teaching in the reference, unless the claim also discloses a new or unexpected benefit not disclosed in the prior art reference or not already known to one of ordinary skill. I further understand that a claim element covering several structures or compositions, either generically or as alternatives, is rendered obvious if the prior art reference discloses any of the structures or compositions within the scope of the claim.

35. I understand that certain objective factors (or the lack thereof) may also be considered in determining whether an invention was obvious to one of ordinary skill at the time the invention was made. These factors include, among other considerations: 1) whether there was long-felt, but unsatisfied, need for the claimed invention; 2) whether others attempted, but failed, to invent the claimed invention; 3) whether others copied the claimed invention; 4) whether the claimed

invention achieved any unexpected results; and 5) whether there was any commercial success (or lack thereof) of the claimed invention.

36. In addition, I understand that § 102(b) may create a bar to patentability either alone, if a device placed on sale anticipates the claimed invention, or in combination with § 103, if the claimed invention would have been obvious from consideration of the on-sale device in conjunction with the other prior art.

37. I also understand that patent claims may be invalid, as indefinite, if they fail to recite with particularity the subject matter regarded as the invention. Furthermore, a patent claim is invalid if the specification fails to enable one of ordinary skill in the art, as of the filing date of the patent, to practice the claimed invention without undue experimentation.

38. In analyzing claims of the '078 Patent and reaching the conclusions expressed below, I have:

- reviewed the prior art identified in EXHIBIT 2 to determine what each item of prior art would have taught a Skilled Artisan in the appropriate time frames;
- identified similarities and differences between the asserted claims and the teachings of the prior art identified in EXHIBIT 2; and
- applied the above understandings regarding the invalidity of patent claims to the identified similarities and differences.

39. In the following paragraphs, and the detailed claim charts referred to therein (attached as EXHIBITS 3-8), I set forth my present opinions as to the invalidity of each of the asserted claims

of the '078 Patent with regard to the prior art, and assuming the constructions shown in the claim charts. Although the claim charts cite to particular pages and/or lines of many of the references discussed, these citations are intended to assist the reader in understanding the various bases and prior art teachings used in my conclusions, and are not intended to be an exhaustive recitation of every page, line number, or paragraph in which these teachings may be found. Similar teachings may be found at other pages and/or lines, as well as in other references discussed above, and it should be understood that my opinions and statements provided herein are made in view of all of the references, teachings, and claim constructions I have reviewed. Furthermore, similar teachings may be found in other references (discussed herein or otherwise), and I expressly reserve the right to affirm, update, or modify my present opinions based on such references as necessary. Furthermore, I expressly reserve the right to affirm, update, or modify my opinions herein should I be presented with additional prior art to consider.

40. In the paragraphs below, I enumerate various references as rendering obvious the particular claimed invention being addressed. In enumerating these references, I have endeavored to identify the most pertinent reference for the obviousness determination, and it should be understood that these pertinent references may be combined with the references, knowledge and teachings I have detailed above or in the Exhibits attached to this report in rendering the claims obvious.

41. In the paragraphs below, it should be understood that the various bases for anticipation and/or obviousness of dependent claims will incorporate by reference the various bases enumerated for the claims from which the dependent claims depend. I have been informed that a dependent claim contains each and every feature recited in the claim(s) from which it depends,

and if these features are anticipated/obvious in the claim depended from, they will also be anticipated/obvious when they reappear in the dependent claims.

42. The paragraphs below address anticipation by a single reference, as well as obviousness using one or more of the listed references. I note that one of ordinary skill in the art would have been motivated to combine the various teachings of the cited references for many reasons. For example, all of the art listed below relates to the electronic distribution, and subsequent use, of computer readable data to user microcomputer-based terminals. The various references all relate to the display of this data to the user and to the use of this data to, for example, select data from an information database for storage or display. This commonality of goals, methods and technologies places this art squarely within the same field of endeavor. Practitioners in this field were also well aware of what their counterparts were doing, partly due to the various technical publications that were disseminated. For example, the 1983 "Architecture of Videotext" article (Gecsei) enumerates in detail the various videotext efforts underway not only in the USA, but in England, France, Canada and Japan. (See, e.g., Gecsei, at pp. 9-13.)

43. As another example, persons of ordinary skill in the art would have been motivated to combine the references I discuss because of the rapid pace at which technologies were combined with each other into new types of videotext systems. As described in Viewdata and Videotext, 1980-1981: A Worldwide Report, Knowledge Industry Publications, White Plains, NY, 1980, p. 8, "[w]e are heartened by the announcement of ANTIOPE which seemed at the time to be more readily adaptable to NTSC. We were just on the verge of starting a field trial when in August 1978, the Department of Communications (DOC) unveiled Telidon, Canada's alphageometric Videotex system. Telidon forced us to reappraise our expectations for teletext applications. With high resolution graphics available we now looked on Telidon as an educational medium in

its own right. It also made us decide to look at all modes of delivery: telephone, cable television, broadcast, and even physical delivery."

44. Another motivating factor for combining the various references lies in the economics of providing a saleable customer product. In some of the earlier art, design features may have been heavily influenced by the high cost of electronic components, particularly memory. As the years progressed, however, the cost of these components dropped due at least in part to improvements in manufacturing capabilities and increased demand. By the time the newer prior art was available, those in the field familiar with the limitations of the early systems would have been motivated to modify or update those earlier systems to take advantage of both the newly-available teachings in the references, and the lower cost of electronic components.

VI. The '078 Patent

45. The USPTO issued the '078 Patent on November 23, 1999, based on multiple patent application continuations by the named inventor, Michael R. Levine, dating back to a filing on March 9, 1992. Claims 1, 2, 3, 4, 5, 6, 7, 8 and 10 are asserted by the plaintiff in this matter, and are the subject of my invalidity analysis discussed below.

46. The '078 patent description, in the section entitled "FIELD OF THE INVENTION" ('078 at 1:15-22) states: "This invention relates to a method and apparatus for controlling a video recorder to allow the unattended recording of future occurring programs using a personal computer and more particularly to such a method and apparatus which provides a display of a schedule of future programming available to the recorder on the personal computer." In studying the patent's prosecution history, I note that the originally proposed claims did indeed relate to methods for controlling television recording devices. After the many continuations and

amendments in response to the examiner's rejections, the resulting asserted claims do not even mention a VCR, or controlling the recording of television programs with a VCR or equivalent recording device. Rather, the asserted claims all deal with electronic information distribution systems that are used to electronically distribute information regarding television programming. Thus, the asserted claims are only loosely reflective of the teachings of the '078 patent description.

47. In arriving at my current opinions regarding invalidity under § 102 (anticipation) of the asserted '078 claims by prior art references, I have produced detailed claim charts for six such references. These claim charts are attached as Exhibits to my report. The references and their associated claim charts are:

- The **CompuServe** system, described in, among other publications, B. Schepp and D. Schepp, The Complete Guide to CompuServe, Osborne McGraw-Hill, 1990 ("Schepp"), TMS 0058354; CompuServe Information Service Today, January 1982, TMS 0001076-0001083 ("Today 1982"); Alfred Glossbrenner's Master Guide to CompuServe, 1987, TMS 0054630-0054645 ("Glossbrenner") and Online Today, January 1985. TMS 0054628-0054629 ("Today 1985"). Collectively these references are denoted herein as "**CompuServe**," and the claim chart is attached as **Exhibit 3**.
- J. Tydeman, et al., Teletext And Videotex In The United States: Market Potential, Technology, Public Policy Issues, McGraw-Hill Publications Company, 1982 (herein "**Tydeman**"), claim chart attached as **Exhibit 4**.
- U.S. Patent No. 4,706,121, issued Nov. 10, 1987 to Patrick Young (herein "**Young**"), claim chart attached as **Exhibit 5**.
- U.S. Patent No. 4,787,063, Issued Nov. 22, 1988 to Francis Muguet (herein "**Muguet**"), claim chart attached as **Exhibit 6**.
- The **Personal Entertainment Guide ("PEG")**, described in, among other publications, the Personal Entertainment Guide User's Guide Version 1.0, Copyright 1991 by Lookahead Communications Inc. (herein "**PEG**"), claim chart attached as **Exhibit 7**.
- The **Prodigy** system, described in, among other publications, J. L. Viescas, THE OFFICIAL GUIDE TO THE PRODIGY SERVICE, Microsoft Press, 1991 (herein "**Prodigy**"), claim chart attached as **Exhibit 8**.

48. I note that Young was cited by the patent examiner during the application prosecution as rendering obvious all of the proposed claims pending at the time and asserted in this action (see

TG 002258-002261). In response to this rejection the patentee argued that the rejection was inappropriate, saying, "The Examiner argues that the Young patent teaches 'transmitt[al of], from the computerized unit, information to a service provider (Compuserve or The Source—col. 22 lines 1-9) regarding the geographic location (locality—col. 22 lines 1-9) of the particular viewing location.' However, retrieval of information from a database does not, by definition, include or even suggest transmittal of a viewer's geographic location. The '121 patent describes the process of 'download[ing] the program schedule information for his or her locality' (Young patent—col. 22, ln. 5-7). *This description does not imply transmitting particular geographic location information.* Most database applications allow a user to passively select information from a list/menu, or to search a database without transmitting location-specific information. Such applications provide choices from which a user may select without transmitting a request. *In contrast, Applicant's claim 19 clearly sets forth the active transmittal of 'geographical location of the particular viewing location.'*" (See TG 002282-002283, italics mine; underlining in original.)

49. The above characterization of Young by the patentee is incorrect. Young teaches embodiments that include downloading television schedule information from CompuServe. As is clearly shown in the claim chart of Exhibit 3, the CompuServe system at the time Young's application was filed (May 6, 1986) included television schedule information in its database that was downloaded to the user's personal computer as a result of the user transmitting geographical information to CompuServe. I do not agree that "Applicant's claim 19 clearly sets forth the active transmittal of 'geographical location'" as defined in the above quoted Response To Office Action, but to the extent it did, the CompuServe system clearly provided to the user the capability to perform such "active transmittal of 'geographical location.'" The patentee's gross

mischaracterization of Young's teachings was accepted by the Examiner as being an accurate representation, and the rejection of the claims was withdrawn based upon it. I therefore conclude that the Young reference may be used in my invalidity analysis without prejudice of its use in the '078 prosecution.

50. Regarding invalidity due to indefiniteness, it is my considered opinion that Claim 3 is invalid due to indefiniteness. Claim 3 requires: *"wherein the information received from the service provider includes a schedule of the television programming available to the particular viewing location."* The patent description in no way explicitly or implicitly defines the term "schedule." In fact, the term "schedule" is used to mean something at 2:1-6 of the '078 Patent that is different than the meaning given "schedule" at 4:66-5:4 of the '078 Patent. Without any clarification from the specification, I am unable to determine how the "information received" in Claim 3 differs from that required by claim element 1.5. I therefore conclude that Claim 3 is invalid due to indefiniteness.

51. Regarding invalidity due to lack of enablement, it is my considered opinion that claims 1, 6 and 8 (the asserted independent claims) are each invalid due to lack of enablement. Claim element 1.5, as shown in the attached claim charts, requires: *"receiving, from the service provider, information specific to the type of programming available to the particular viewing location."* Claim elements 6.4 and 8.5 have equivalent requirements.

52. The information specific to the type of programming available to a particular viewing location cannot be determined solely from the geographical information transmitted; whenever more than one programming source is offered in a location (which I understand to be the case for the vast majority of locations), the programming source must also be identified. Indeed,

dependent claim 2 (and also claim 7) adds the limitation that the information transmitted must include Zip Code, and the patentee has admitted that Zip Code itself is often not specific enough to determine the programming available to the particular viewing location (see '078 at 3:50-54). And, at the time of the invention, a skilled artisan would have known that information other than just geographical information would be required to identify the programming available to the particular viewing location. However, because only geographic information is transmitted to the program schedule information source (in claim elements 1.4, 6.3 and 8.4, respectively), the information received in return will at least sometimes contain information in addition to that specifically available to the viewing location. Therefore, in order for the claimed system to meet its objective of automatically controlling a VCR to record television programming (see, for example, '078 at Abstract), the application residing within the "computerized unit" or "controller" of these claims must necessarily include functionality to search the received information to extract only that programming information broadcast to the television receiver of the viewing location, or otherwise identify the programming source. This functionality is not taught in the patent description. Furthermore, it would not have been obvious to a skilled artisan, based upon the patent description, how to implement such functionality. Therefore I conclude that claims 1, 6 and 8 are invalid because they are not enabled.

53. Regarding invalidity under § 102 (anticipation) of the asserted '078 claims, it is my considered opinion, as detailed in Exhibits 3, 4 and 5 respectively, that each of CompuServe, Tydeman and Young anticipate all asserted claims of the '078 Patent, rendering them invalid. And, as detailed in Exhibit 6, Muguet anticipates claims 1, 3, 4, 5, 6, 8 and 10, rendering them invalid. Furthermore, PEG, as detailed in Exhibit 7, anticipates claims 1, 3, 4, 5 and 6, rendering

them invalid. Finally, as detailed in Exhibit 8, Prodigy anticipates claims 1, 3, 4, 5, 6, 8 and 10, rendering them invalid.

54. Regarding invalidity under § 103 (obviousness) of the asserted '078 claims by prior art references, it is my opinion that each and every prior art reference listed in EXHIBIT 2, for the reasons I have stated above, can be combined with one or more other prior art references for purposes of determining obviousness of each of the asserted claims. I shall not list all of the possible combinations here. However, with respect to the references for which I have produced claim charts, and as shown in the respective claim charts, it is my opinion that claims 2 and 7 are obvious in view of Muguet because what is claimed is only a specific limitation or instance of a broader teaching in Muguet, and the claims do not disclose a new or unexpected benefit. Furthermore, Claims 2 and 7 are rendered obvious by each of PEG and PRODIGY in combination with at least each of CompuServe, Tydeman or Young. And claims 8 and 10 are rendered obvious by PEG in combination with at least each of CompuServe, Tydeman, Muguet, Young or PRODIGY.

55. Additionally, it is my opinion that each of the charted references, in combination with any one or more of the other prior art or charted references listed in EXHIBIT 2, renders all asserted claims invalid due to obviousness.

Dated: December 14, 2006

Gary S. Tjaden

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