



## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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| <p>(21) International Application Number: PCT/US97/20995</p> <p>(22) International Filing Date: 14 November 1997 (14.11.97)</p> <p>(30) Priority Data:<br/>08/751,537 15 November 1996 (15.11.96) US</p> <p>(71) Applicant: HYUNDAI ELECTRONICS AMERICA [US/US];<br/>3101 North First Street, San Jose, CA 95134 (US).</p> <p>(72) Inventor: BEDARD, Karen; 2275 Glenkirk Drive, San Jose,<br/>CA 95124 (US).</p> <p>(74) Agents: STARK, Jon, R. et al.; Pennie &amp; Edmonds LLP, 1155<br/>Avenue of the Americas, New York, NY 10036 (US).</p> | <p>(81) Designated States: AL, AM, AU, AZ, BA, BB, BG, BR, BY, CA, CN, CU, CZ, EE, GE, GH, HU, ID, IL, IS, JP, KG, KP, KR, KZ, LC, LK, LR, LT, LV, MD, MG, MK, MN, MX, NO, NZ, PL, RO, RU, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UZ, VN, YU, ARIPO patent (GH, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).</p> <p><b>Published</b><br/><i>With international search report.</i><br/><i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i></p> <p>(88) Date of publication of the international search report:<br/>15 October 1998 (15.10.98)</p> |  |

(54) Title: MEANS FOR CREATING A TELEVISION VIEWER PROFILE

| CHANNEL | TOTAL UNITS | 208    |      |       |        |          |       |      |        |           |         |
|---------|-------------|--------|------|-------|--------|----------|-------|------|--------|-----------|---------|
|         |             | MOVIES | NEWS | SHOWS | SPORTS | CHILDREN | MUSIC | ARTS | SOCIAL | EDUCATION | LEISURE |
| ESPEN   | 20          |        | 5    |       | 15     |          |       |      |        |           |         |
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| SC      | 50          |        | 4    |       | 30     |          |       |      |        |           | 16      |
| DSC     | 24          |        |      | 8     |        |          |       |      |        | 4         | 4       |
| TOTALS  | 126         | 20     | 9    | 8     | 45     | 4        | 4     | 4    |        | 12        | 20      |

## (57) Abstract

A method and apparatus are disclosed for monitoring television viewing activity to determine preferred categories of programming (208) and channels of a viewer (202). To facilitate viewer access to preferred programming, the display of an electronic program guide (200) may be configured in accordance with the monitored viewing activity (204, 206) to provide fast access to preferred programming. The monitored viewing activity may also be used to provide a lock-out feature to prevent or limit the viewing of specific channels or categories of programming, or to identify and provide information of interest from the Internet. In yet another embodiment of the invention, a viewer may automatically circulate through his or her preferred programming, as is determined by monitoring the viewing activity of that viewer.

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## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US97/20995

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(6) : H04N 7/17, 5/45, 5/50

US CL : 348/1, 563

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 348/1, 2, 6, 563, 567, 569, 725, 731

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

APS

television receiver, viewer access, viewer monitor, computer, access blocking, internet, viewing behavior

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

| Category*                      | Citation of document, with indication, where appropriate, of the relevant passages                                 | Relevant to claim No.                          |
|--------------------------------|--|--|
| A                              | US 5,694,176 A (BRUETTE et al) 02 December 1997, abstract, Fig. 2, col. 2, lines 1-9.                              | 1-4  |
| X, P<br>----<br>A<br>----<br>Y | US 5,635,989 A (ROTHMULLER) 03 June 1997<br>abstract, lines 3-11, Fig. 4, col. 5, lines 59-68, col. 6, lines 1-59. | 15<br>----<br>1-14, 16, 20-21<br>----<br>17-19 |
| A                              | US 5,382,970 A (KIEFL) 17 January 1995<br>abstract, lines 1-12, col. 1, lines 7-12, col. 2, lines 40-46            | 1-9  |
| A                              | US 4,566,030 A (NICKERSON) 21 January 1986<br>Fig. 6, col. 1, lines 18-40, col. 2, lines 18-20                     | 1-9  |



Further documents are listed in the continuation of Box C.



See patent family annex.

|   |  |
|---|--|
| * Special categories of cited documents:  | *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention  |
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| *P* document published prior to the international filing date but later than the priority date claimed  |  |

Date of the actual completion of the international search

15 APRIL 1998

Date of mailing of the international search report

19 AUG 1998

Name and mailing address of the ISA/US  
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## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US97/20995

| C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT |  |                       |
|---|--|-----------------------|
| Category*   | Citation of document, with indication, where appropriate, of the relevant passages   | Relevant to claim No. |
| A   | US 5,734,444 A (YOSHINOBU) 31 March 1998<br>abstract, col. 8, lines 5-68.  | 1-16, 20-21           |
| A   | US 5,323,240 A (AMANO) 21 June 1994<br>abstract, Figs. 2-4, col. 3, lines 15-68.   | 3                     |
| Y   | US 5,231,661 A (HARNUM, et al) 27 June 1993<br>abstract, col. 3, lines 34-45.  | 17                    |
| Y   | US 4,317,213 A (DILORENZO) 23 February 1982<br>abstract, col.1, lines 62-66, col. 2, lines 21-31.  | 17                    |
| Y   | US 5,331,353 A (LEVENSON, et al) 19 July 1994, abstract, col. 2,<br>lines 15-20, col. 2, lines 54-63.  | 17                    |
| Y   | US 5,734,720 A (SALGANICOFF) 31 March 1998<br>abstract, lines 1-5, col. 1, lines 63-65, col. 4, line 10-14, col. 6,<br>lines 60-63, col. 7, lines 10-12, col. 8, lines 17-25, col. 50, lines<br>39-47. | 18, 19                |

INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US97/20995

**Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)**

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2.  Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
  
3.  Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

**Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)**

This International Searching Authority found multiple inventions in this international application, as follows:

Please See Extra Sheet.

1.  As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2.  As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3.  As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
  
4.  No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

**BOX II. OBSERVATIONS WHERE UNITY OF INVENTION WAS LACKING**

This ISA found multiple inventions as follows:

This application contains the following inventions or groups of inventions which are not so linked as to form a single inventive concept under PCT Rule 13.1. In order for all inventions to be searched, the appropriate additional search fees must be paid.

Group I, claim(s)1-16 AND 20-21, are drawn to method and apparatus for monitoring viewer behavior.

Group II, claim(s) 17, is drawn to viewing access blocking.

Group III, claim(s) 18-19, are drawn to Internet television.

The inventions listed as Groups I, II and III do not relate to a single inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: The groups represent distinct processes that may be practiced by another materially different apparatus, and each of the respective inventions has utility as in a system not having the other two.