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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.



WO 00/59212 A3

(54) Title: METHOD AND APPARATUS FOR AN INTUITIVE UNIVERSAL REMOTE CONTROL SYSTEM

(57) Abstract: The present invention discloses a novel universal remote control system. Specifically, the remote control system according to the present invention provides the following features: bidirectional communications between the remote control and at least one of the audio/video devices; dual communication mode; automatic communication mode selection; loading and processing electronic program guide in the remote control; soft graphical user interface in the remote control; expanding the television set functions by the remote control; calibration handshake between the remote control and the audio/video device; passive updating the remote control; lost beacon signal in the remote control; handwriting recognition mechanism, and voice recognition mechanism in the remote control.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 00/04407

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 H04N5/445 H04N5/45

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)
IPC 7 H04N

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 practical, search terms used)

EPO-Internal, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 98 43158 A (EVOLVE PRODUCTS INC ;DARBEE PAUL (US); DONNELL FRANK O (US); THOMS) 1 October 1998 (1998-10-01)	1-4, 7-12, 15-19, 22-24, 29,32
A	page 3, line 13 - line 16; figures 1,2,6,7 page 3, line 32 - line 34 page 4, line 17 - line 23 page 5, line 8 -page 6, line 3 page 6, line 14 - line 16 page 6, line 21 - line 24 page 6, line 32 -page 7, line 5 page 7, line 9 - line 19 page 7, line 32 -page 8, line 9 --- -/--	33,41

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
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- *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
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *Z* document member of the same patent family

Date of the actual completion of the international search

4 September 2000

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INTERNATIONAL SEARCH REPORT

Internal Application No
PCT/US 00/04407

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 410 326 A (GOLDSTEIN STEVEN W) 25 April 1995 (1995-04-25)	23-29, 32-34, 37,38 41
A	column 7, line 4 - line 50 column 9, line 56 - line 66 column 11, line 8 - line 10 column 12, line 13 - line 53 column 17, line 23 - line 25; figures 1,2C,10	
A	--- PATENT ABSTRACTS OF JAPAN vol. 017, no. 331 (E-1386), 23 June 1993 (1993-06-23) & JP 05 037873 A (SANYO ELECTRIC CO LTD), 12 February 1993 (1993-02-12) abstract -----	44

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 00/04407

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

This International Search 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:

see additional 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.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-22

remote control unit with a screen for displaying electronic program guide received from audio-video device

2. Claims: 23-52

remote control unit with a screen for displaying parameters or buttons related to display or control functions and/or characteristics of audio-video device

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 00/04407

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9843158 A	01-10-1998	US 6002450 A AU 6582298 A CN 1251182 T EP 0970418 A	14-12-1999 20-10-1998 19-04-2000 12-01-2000
US 5410326 A	25-04-1995	NONE	
JP 05037873 A	12-02-1993	NONE	