

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
9 August 2001 (09.08.2001)

PCT

(10) International Publication Number
WO 01/58146 A3

(51) International Patent Classification⁷: **H04N 5/00**

(74) Agents: **GARDNER, Kelly, A.** et al.: Scientific-Atlanta, Inc., Intellectual Property Dept., 5030 Sugarloaf Parkway, Lawrenceville, GA 30044 (US).

(21) International Application Number: PCT/US01/03198

(22) International Filing Date: 31 January 2001 (31.01.2001)

(81) Designated States (*national*): BR, CA, JP.

(25) Filing Language: English

(84) Designated States (*regional*): European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR).

(26) Publication Language: English

(30) Priority Data:

60/180,284 4 February 2000 (04.02.2000) US
09/549,292 14 April 2000 (14.04.2000) US

Published:

— with international search report

(71) Applicant: **SCIENTIFIC-ATLANTA, INC.** [US/US];
Gardner, Kelly, A., Scientific-Atlanta, Inc., Intellectual Property Dept., 5030 Sugarloaf Parkway, Lawrenceville, GA 30044 (US).

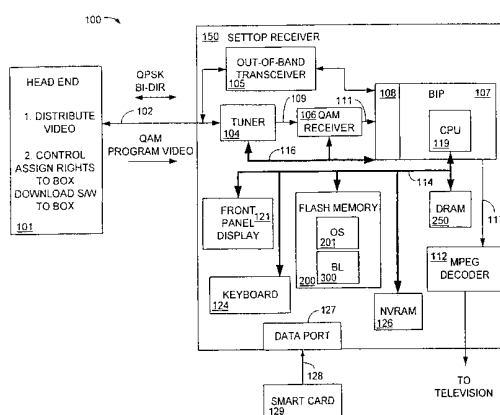
(88) Date of publication of the international search report:

21 February 2002

(72) Inventors: **PRUS, Bohdan**; 3295 Arborwoods Drive, Alpharetta, GA 30022 (US). **LETT, David, B.**; 1987 Misty Woods Drive, Duluth, GA 30097 (US).

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.

(54) Title: SETTOP CABLE TELEVISION CONTROL DEVICE AND METHOD INCLUDING BOOTLOADER SOFTWARE AND CODE VERSION TABLE FOR MAINTAINING AND UPDATING SETTOP RECEIVER OPERATING SYSTEM SOFTWARE



(57) Abstract: A cable television settop receiver and method includes a software component and a frequency acquisition method for determining the ability of the operating system/control program in the settop receiver to operate the settop receiver. The software component, referred to as a "bootloader", executes on the processor contained in the settop receiver and determines the capability and version of the settop receiver operating system/control program. If the bootloader determines that the operating system/control program should be updated, the bootloader initiates a download sequence, the performance of which allows the proper operating system/control program to be downloaded to the settop receiver. The download occurs after receipt, by the settop receiver, of a code version table (CVT). The CVT includes information that the settop receiver uses to determine which frequency to tune to receive the replacement operating system/control program. In accordance with another aspect of the invention, the bootloader initiates a frequency hunt sequence to determine the proper frequency to which to tune to receive the CVT. The frequency hunt sequence covers the entire spectrum of possible frequencies over which to receive the CVT.

INTERNATIONAL SEARCH REPORT

International Application No.

PC1/Us 01/03198

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 H04N5/00

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, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 978 855 A (DESA COLIN JOSEPH ET AL) 2 November 1999 (1999-11-02) column 26, line 25 -column 28, line 6 ----	1-3, 8-10, 13-15, 20-22, 25-27, 32-34
X	US 5 666 293 A (HUDSON JR HENRY G ET AL) 9 September 1997 (1997-09-09) column 6, line 50 -column 39, line 37 ----- -/--	1-3, 8-10, 13-15, 20-22, 25-27, 32-34



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

P document published prior to the international filing date but later than the priority date claimed

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.

8 document member of the same patent family

Date of the actual completion of the international search

8 August 2001

Date of mailing of the international search report

17/08/2001

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Materne, A

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 01/03198

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 5 734 589 A (HUDSON JR HENRY G ET AL) 31 March 1998 (1998-03-31) column 6, line 35 -column 32, line 27 ----	1-3, 8-10, 13-15, 20-22, 25-27, 32-34
A	EP 0 803 812 A (SONY CORP) 29 October 1997 (1997-10-29) column 3, line 45 -column 9, line 37 ----	1-36
P,X	WO 00 40005 A (POWERTV INC) 6 July 2000 (2000-07-06) page 2, line 19 -page 7 ----	1,13,25
A	EP 0 907 285 A (CANAL PLUS SA) 7 April 1999 (1999-04-07) column 7, line 22 -column 22, line 7 ----	1-36
P,X	WO 00 64179 A (GEN INSTRUMENT CORP) 26 October 2000 (2000-10-26) page 6, line 5 -page 14 -----	1-5, 13-17, 25-30

INTERNATIONAL SEARCH REPORT

Information on patent family members

Inter Application No

PCT/US 01/03198

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5978855 A	02-11-1999	US 5768539 A US 5666293 A US 5734589 A US 5635979 A AU 2657995 A WO 9533338 A	16-06-1998 09-09-1997 31-03-1998 03-06-1997 21-12-1995 07-12-1995
US 5666293 A	09-09-1997	US 5734589 A US 5635979 A US 5768539 A US 5978855 A AU 2657995 A WO 9533338 A	31-03-1998 03-06-1997 16-06-1998 02-11-1999 21-12-1995 07-12-1995
US 5734589 A	31-03-1998	US 5666293 A US 5768539 A US 5978855 A	09-09-1997 16-06-1998 02-11-1999
EP 0803812 A	29-10-1997	JP 10083309 A US 5960445 A	31-03-1998 28-09-1999
WO 0040005 A	06-07-2000	NONE	
EP 0907285 A	07-04-1999	AU 9278398 A BR 9813235 A CN 1280740 T EP 1020078 A HU 0100358 A WO 9918724 A NO 20001651 A PL 339580 A TR 200001280 T ZA 9808996 A	27-04-1999 22-08-2000 17-01-2001 19-07-2000 28-06-2001 15-04-1999 05-06-2000 18-12-2000 22-01-2001 24-05-1999
WO 0064179 A	26-10-2000	AU 4241500 A AU 4241600 A AU 4348600 A AU 4459600 A WO 0064178 A WO 0064180 A WO 0064181 A	02-11-2000 02-11-2000 02-11-2000 02-11-2000 26-10-2000 26-10-2000 26-10-2000