

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
11 December 2003 (11.12.2003)

PCT

(10) International Publication Number
WO 03/103284 A1

(51) International Patent Classification⁷: **H04N 5/761**

(21) International Application Number: PCT/SE03/00863

(22) International Filing Date: 27 May 2003 (27.05.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0201652-5 3 June 2002 (03.06.2002) SE

(71) Applicant (for all designated States except US): **TELIA AB(PUBL)** [SE/SE]; Mårbackagatan 11, S-123 86 Farsta (SE).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **NILSSON, Jörgen** [SE/SE]; Kronborgsgränd 16, S-164 47 Kista (SE).

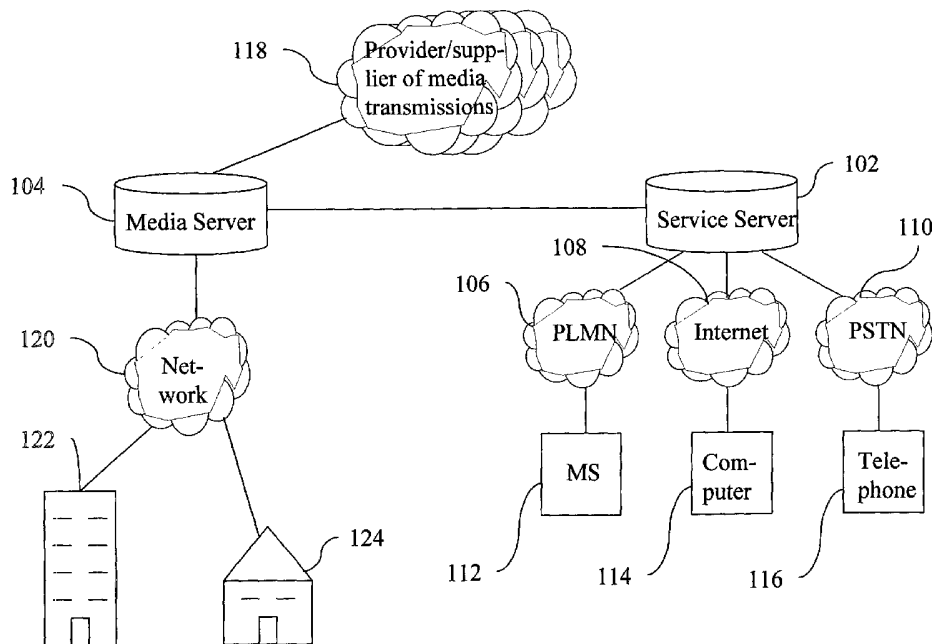
(74) Agent: **SVENSSON, Peder**; TeliaSonera Sverige AB, Vitsandsgatan 9, S-123 86 Farsta (SE).

Published:

— with international search report

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: PROCEDURE AND SYSTEM FOR FACILITATING OF ACCESS TO MEDIA TRANSMISSIONS



(57) Abstract: Procedure and system for facilitating of access to media transmissions. The procedure is executed by control of a media server which is centrally located and which has access to the media transmissions. The procedure includes the steps: To receive an order for a recording of at least one wanted media transmission, control the media server to record said ordered media transmissions, and control access to said recording.

WO 03/103284 A1

PROCEDURE AND SYSTEM FOR FACILITATING OF ACCESS TO
MEDIA TRANSMISSIONS

Technical field

5 The present invention relates generally to media transmissions and particularly to a procedure for facilitating of access to media transmissions.

Prior art

10 Today there are many different technologies for recording of and access to media transmissions. Utilization of video recorders for recording of and access to TV-programs has been and is a dominating method. A disadvantage of/with this method is that one physically has to be at the place at the video recorder, both to prepare
15 the recording and to watch the recorded program.

 Another disadvantage is that the video cassettes only hold a certain number of minutes of recording, and that one for that reason is limited in one's choice of recordings if
20 one wants to record a plurality of programs. When one then wants to watch the recorded program, and doesn't do it all at once afterwards, it also may be difficult to find the recorded program, because the used tape has not been
25 marked. Besides, one may have to find where on the tape the program is, which can be time-wasting and annoying.

 One solution to the problem of being physically present at the video recorder to start the recording is shown in the patent document EP 1133088. According to this document, a video/audio server is used for ordering of
30 recording of programs which then are recorded on a video recorder which is physically located in/at a user's home. The user, however, still must be at the home to watch the recorded programs, and the disadvantages of handling video tapes and the recorded programs remains.

35 Other solutions for facilitating of access to media transmissions are for instance utilization of the PPV-

technology (Pay Per View), which means that the user - from a list of a certain number of different films - can order, load down and pay for the films he/she actually is watching. Examples of such PPV-technology imply that the TV-device also is connected to the telecommunications network via a modem which is used at control of downloading of the films for showing on the TV-set. The user, however, is limited to the program offer which is offered by the cable-TV company and he/she has no possibility to record "ordinary" programs himself/herself, and load them down for showing on his/her TV-set. It also only will be possible for him/her to utilize the service to watch the program at his/her own home, because the service is limited to a subscription to which it is associated.

15

Summary of the invention

The aim of the following invention is to eliminate the above mentioned problems and also in other respects make a more flexible access to media transmissions possible.

20

According to a first aspect of the invention this aim is achieved by a procedure according to the patent claim 1, where a media server is controlled which is centrally located and which has access to the media transmissions, which procedure includes the steps: To receive an order for a recording of at least one wanted media transmission; to control the media server to record ordered media transmissions; and to control access to said recording.

25

The interpretation of that a media server is centrally located is preferably that the media server is generally accessible in a data communications network which can have interfaces towards other networks and towards users' media receivers in form of, for instance, gateways, routers, GPRS, UMTS, WAP etc.

30

According to a second aspect of the invention the aim is achieved by a computer program which performs/executes the steps in the procedure according the patent claim 1.

35

The computer program as such can be included by the media server, or more preferably, by a server which is a separate unit in relation to the media server, for instance a service server.

5 According to a third aspect of the invention the aim is achieved by a system which includes a media server equipped with device to: Receive an order for a recording of a wanted media transmission, record ordered media transmissions and make access to said recording possible.

10 One advantage with the utilization of a media server and a procedure for control of a media server in this way is that the user not physically need to be at place at the media server to prepare recording of a program. It is not unusual that one wants to watch a program one has no
15 opportunity to see, and that one does not have possibility to be physically present at the video recorder to prepare recording of the program. The user is by the invention provided with possibility to control the media server for recording via for instance a cellular mobile telephone, a
20 computer with Internet-connection, the fixed telecommunications network etc.

Another advantage is that the user not physically need to be at the place at the media server in order to afterwards watch the recorded program. By the expression
25 access to a recording is meant that the user can choose to watch the recorded program from optional place which has access to possibility to establish connection to the media server. The playback of the program is done/made via a network, for instance via the cable-TV network, via
30 satellite or via Internet.

Yet another advantage with the invention is the fact that a user who utilizes the invention does not need to have a video recorder at hand at all to record or watch the program.

35 According to one preferred embodiment of the invention the recording of the media recording is controlled by

selecting place of storing and type of way of storing for the recording.

One advantage with this is that the user can choose to watch the program any time afterwards, because it is stored on selected place of storing. Another advantage is that the user does not "lose/mislay" the recording and that he/she does not need find out where on the video tape the program is.

The advantages of the present invention can be summarized by that the user any time and anywhere on the one hand is provided with the possibility to record a program, and on the other to watch the program. He/she does not even need to have a video recorder at hand for this purpose.

15

Brief description of the drawings

The invention will be described in more details in the following with reference to enclosed drawings, in which

Figure 1 schematically shows a system in which one embodiment of the invention is realized, and

Figure 2 schematically shows a procedure in which one aspect of the invention is realized.

Detailed description of the drawings

Figure 1 shows schematically a system in which one embodiment of the invention is realized. A service server 102 is connected to a media server 104 which in its turn is connected to one or more providers/suppliers of media transmissions 118 and, via a network 120, to a user's home 124 and an office 122.

A user who wants to record one or more programs can control the media server 104 by establishing connection to the service server 102. This can be made in a number of different ways. The user can for this purpose for instance utilize a mobile telephone 112 in the mobile telephone network 106 (PLMN, Public Land Mobile Network), a computer

114 on the Internet 108, or a telephone 116 in the fixed public telephone network 110 (PSTN, Public Switched Telephone Network).

The service server 102 includes computer software on the one hand to receive orders for recordings of programs from the user, on the other to control the media server to record these programs, and on the other to make the programs accessible to the user for showing.

One example now will be provided to illustrate how the invention can be utilized to facilitate access to media transmissions.

A user is obliged to work overtime, which means that he will not be home in time to watch the final of the world championship in football. However, he is eager for watching it afterwards, so he logs in on a home page on the Internet 108 by means of a computer 114 to make an order for a recording of the football match. The home page constitutes an interface between the service server 102 and the user and includes the parts which are necessary to make it possible for the user to make an order for a recording via Internet 108. The user enters on the home page that he wants to record the final of the world championship in football which is transmitted on TV4 between 5.00 - 7.30 p.m. He selects to store the recording on a hard disk which belongs to the media server 104 and that the storing shall be made in a suitable storing format. The service server 102 transmits the order for the recording to the media server 104 which in its turn establishes a connection to selected provider/supplier 118 of the media transmission, TV4, for execution of the recording of the match.

On his way home from the job, the car breaks down and he will be further delayed. On the car radio he is informed about that the football match has ended in a draw and for that reason has been subject to 30 minutes extra time. If also the extra time ends in a draw, there will penalty kicks until there is a winner. The user realizes that the

match will not be finished at 7.30 p.m., so he needs to prolong the recording. He takes his mobile telephone 112 and utilizes its WAP-function to prolong the recording by 60 minutes. In similar way as the home page 114, the mobile
5 telephone 112, together with the WAP-function, constitutes an interface between the service server 102 and the user and includes the parts which are necessary for the user to make an order (or a change) for/of a recording, this time via the mobile telephone network 106.

10 Later in the evening he visits his girlfriend in order to, together with her, watch the football final. He uses her ordinary telephone 116, which communicates via the fixed public telephone network 110, to call one for the service server 102 intended telephone number. He makes an
15 order for the program via interactive voice response and enters that the match shall be shown on his girlfriend's TV-set. The service server 102 transmits the order for the playback to the media server 104 which executes a playback of the match via the cable-TV network to a set-top-box
20 which is connected to the girlfriend's TV-set.

In similar way as earlier, the fixed telephone 116, together with the interactive voice response function, constitutes an interface between the service server 102 and the user and includes the parts which are necessary to make
25 it possible for the user to make an order for a recording (or a play back), this time via the fixed public telephone network 110.

Half a year later the user shall set out for a mountain holiday journey together with his pals and there
30 they want to watch the exciting football match again. Before starting the mountain journey, he consequently makes an order that this time he wants to load down the program to the hard disk of his portable computer. In this way now the user and his pals are provided with the possibility to
35 watch the program in a mountain cabin which does not have access to establish a connection to the service server 102.

They choose to watch the match by means of the user's portable computer and a connected projector.

For commercial purpose the invention might among other things be possible to utilize so that the service server is provided by an operator who charges to make recordings and
5 play back of programs. Another operator provides the media server which executes these orders. Of course the present invention can be utilized so that the media server and the service server are provided by one and the same operator.

10 Even if the invention has been described with reference to specific exemplified embodiments, many different changes, modifications and the like will be obvious to the expert in the field. The described embodiments therefore are not intended to limit the scope
15 of the invention, such as it is defined by the enclosed patent claims.

For instance has the invention been illustrated with the media server and the service server as two separate units. Of course the present invention can be modified and
20 utilized in such a way that the media server and the service server are one and the same server.

Further, the invention has been illustrated so that establishing of connection to the service server can be made in three different ways. Of course this also can be
25 made by means of other means such as a PDA, notebook or laptop which can establish connection to/with the service server.

The present invention neither is limited by recording of TV-programs, but it of course can be modified and
30 utilized for recording of and access to media transmissions which are made via radio, Internet or the like.

PATENT CLAIMS

1. A procedure for facilitating of access to media transmissions by control of a media server which is centrally located and which has access to the media transmissions, consisting of the steps:

to receive an order for a recording of at least one wanted media transmission;

to control the media server to record ordered media transmissions; and

to control access to said recording, characterized in that access to said recording is controlled by said recording being selected to be watched from optional place which can establish a connection to the media server;

and that said step for control of the media server is executed by a service server.

2. Procedure as claimed in patent claim 1, where reception of the order includes to analyze at least one of:

- type of media transmission;
- source of said media transmission;
- starting point of time of said media transmission; and
- ending point of time of said media transmission.

3. Procedure as claimed in patent claim 1 or 2, where control of the media server to record ordered media transmissions includes at least one of the steps to:

- select wanted media transmission;
- select source of/for said media transmission;
- select storing place for the recording;
- select type of way of storing for the recording;
- start the recording of said media transmission at the starting point of time of the media transmission; and

- end/stop the recording of said media transmission at the ending point of time of the media transmission.

5 4. Procedure as claimed in any of the patent claims 1-3, where control of the access includes at least one of the steps to:

- receive an instruction to start the playback of said media transmission;
- 10 - select destination for reception of said media transmission.

 5. Computer program, including program steps which execute a procedure as claimed in any of the patent claims
15 1-4.

 6. System for facilitating of access to media transmissions, which system includes device for control of a media server which is centrally located and which has
20 access to the media transmissions, where said device for control include devices to:

- receive an order for a recording of at least one wanted media transmission;
- control the media server to record ordered media
25 transmissions; and
- control the access to said recording,
c h a r a c t e r i z e d in that said devices are arranged to control the access to said recording in such a way that said recording
30 optionally can be watched from optional place which can establish connection to the media server; and
- that said device for control of the media server is arranged in a service server.

35

7. System for facilitating of access to media

transmissions as claimed in patent claim 6, at which the service server is part of a telecommunications network which is provided by a telecommunications operator.

5 8. System for facilitating of access to media transmissions as claimed in any of the patent claims 6 or 7, including device for communication with a wireless mobile station.

10 9. System for facilitating of access to media transmissions as claimed in any of the patent claims 6 or 7, including device for communication via Internet with a computer.

15 10. System for facilitating of access to media transmissions as claimed in any of the patent claims 6 or 7, including device for communication via with a PSTN-telephone.

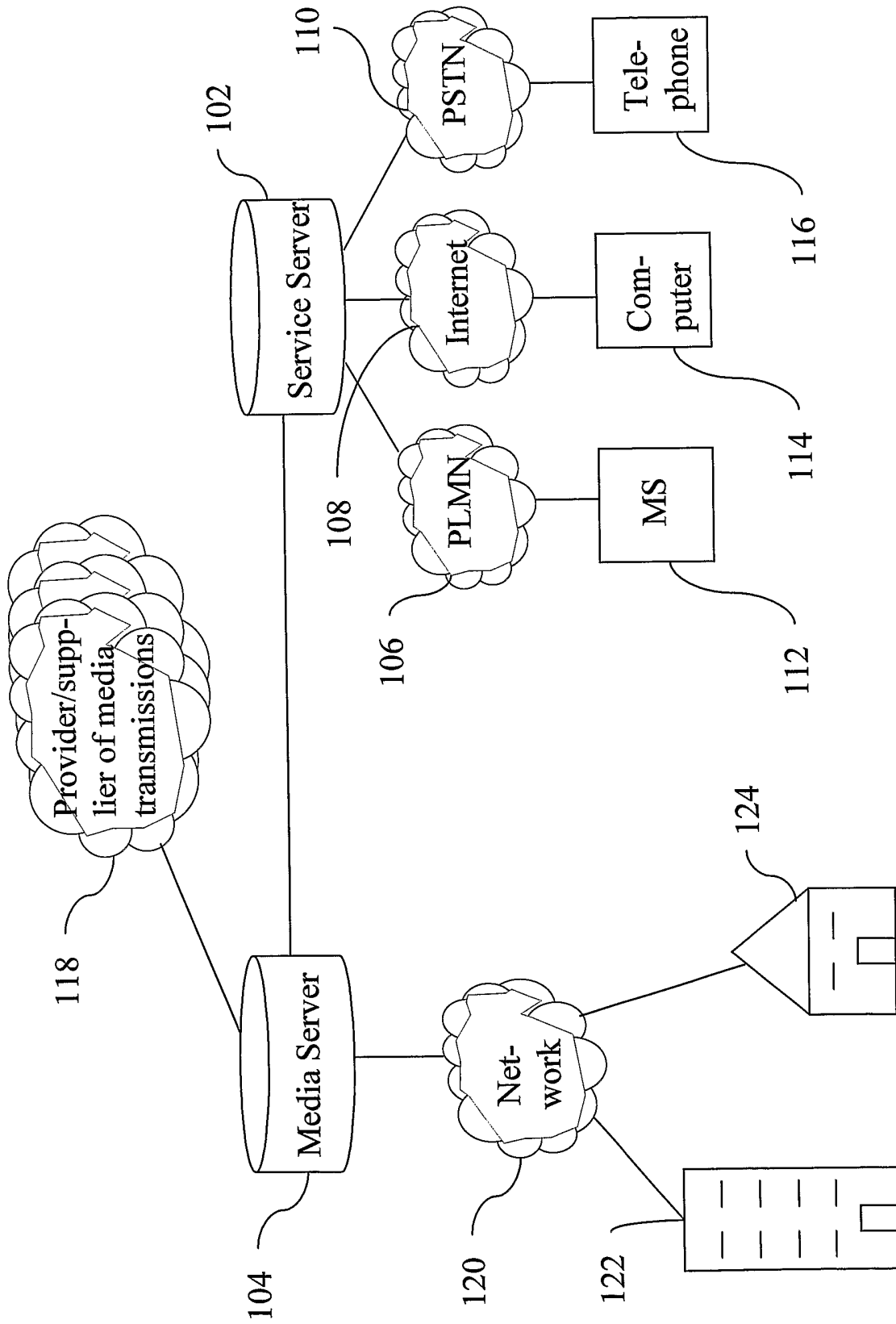


Figure 1

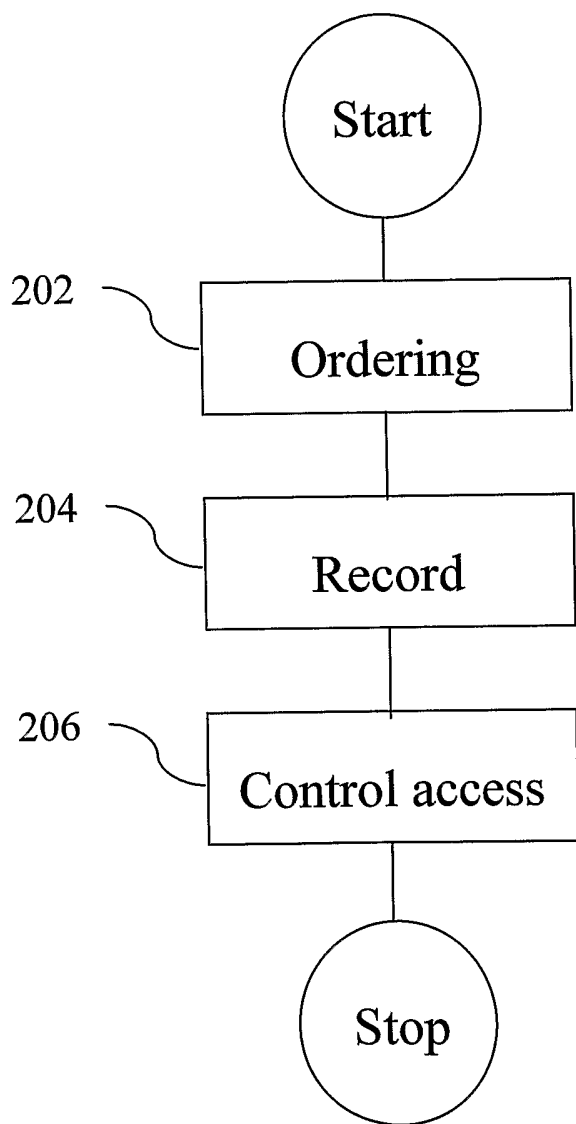


Figure 2

INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 03/00863

A. CLASSIFICATION OF SUBJECT MATTER

IPC7: H04N 5/761

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)

IPC7: H04N

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

SE,DK,FI,NO classes as above

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

EPO-INTERNAL, WPI DATA

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 0195621 A1 (LANGBERG, MIKAEL), 13 December 2001 (13.12.01), page 2, line 20 - page 5, line 29; page 3, line 9; page 5, line 7, abstract, claim 13,16,21,23-25; page 9 line 24 - line 27	1-10
	--	
A	EP 1152609 A1 (SAGEM S.A.), 7 November 2001 (07.11.01), abstract	1-10
	--	
A	DE 4434044 A1 (BARME, RALF ET AL), 28 March 1996 (28.03.96), abstract	1-10
	--	
A	EP 0805594 A2 (SONY CORPORATION), 5 November 1997 (05.11.97), abstract	1-10
	--	

 Further documents are listed in the continuation of Box C.
 See patent family 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 application or patent 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

"&" document member of the same patent family

Date of the actual completion of the international search

15 July 2003

Date of mailing of the international search report

23 -07- 2003

 Name and mailing address of the ISA/
 Swedish Patent Office
 Box 5055, S-102 42 STOCKHOLM
 Facsimile No. +46 8 666 02 86

Authorized officer

 Asa Viken/SN
 Telephone No. +46 8 782 25 00

INTERNATIONAL SEARCH REPORT
Information on patent family members

29/06/03

International application No.

PCT/SE 03/00863

Patent document cited in search report			Publication date	Patent family member(s)		Publication date
WO	0195621	A1	13/12/01	AU	1427001 A	30/05/01
				AU	7472401 A	17/12/01
				SE	0002163 A	09/12/01
EP	1152609	A1	07/11/01	FR	2808399 A	02/11/01
DE	4434044	A1	28/03/96	NONE		
EP	0805594	A2	05/11/97	AT	233977 T	15/03/03
				CN	1166122 A	26/11/97
				DE	69719400 D	00/00/00
				JP	9298775 A	18/11/97
				SG	64423 A	27/04/99
				US	6408435 B	18/06/02
				US	6526579 B	25/02/03
				US	2002036721 A	28/03/02
US	2002083455 A	27/06/02				