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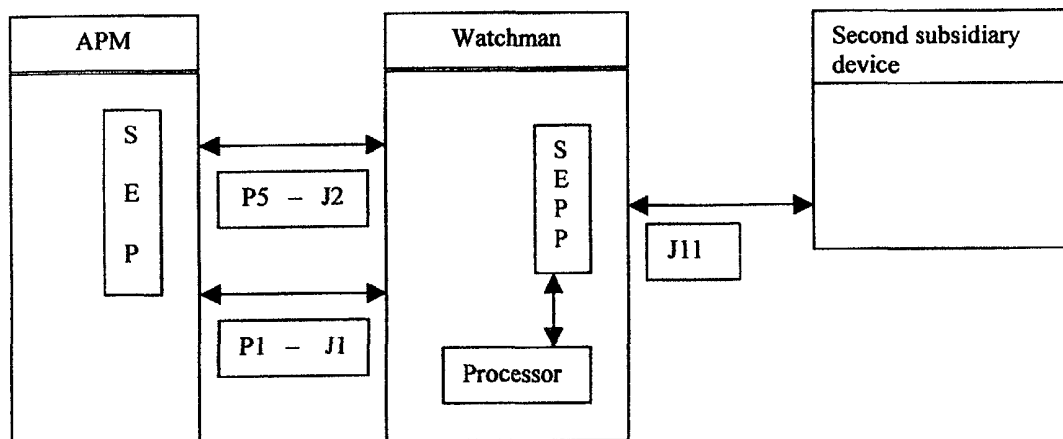
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[Continued on next page]

(54) Title: METHOD OF PROVIDING SECONDARY CONNECTIONS TO GAME DEVICE SUBSIDIARY INTERFACE PORTS



(57) Abstract: A method of providing a connection of a plurality of subsidiary equipment devices to a game device (APM), the games device (APM) having a plurality of one-way serial ports for game information data transmission, and at least one two-way serial port for connection to control equipment, the at least one two-way serial port being a subsidiary equipment interface port (SEP), the method including the steps of connecting a first one of the subsidiary equipment devices to the interface port (SEP), the first one of the subsidiary equipment devices having a secondary equipment port (SEPP) which is controlled by a control means associated with the first one of the subsidiary equipment devices, connecting at least a second one of the subsidiary equipment devices to the secondary equipment port (SEPP), whereby the information data sent from the games device via the interface port (SEP) to the secondary equipment port (SEPP) is retransmitted to the other subsidiary equipment devices, and all information data/request addressed to the interface port (SEP) from the first one of the subsidiary equipment devices or from other subsidiary equipment devices through the secondary equipment port (SEPP) are transmitted or retransmitted to the interface port (SEP).

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METHOD OF PROVIDING SECONDARY CONNECTIONS TO GAME DEVICE  
SUBSIDIARY INTERFACE PORTS

The present invention relates to game devices that feature ports for interfacing to subsidiary equipment.

5 BACKGROUND TO THE INVENTION

In general, game or games devices, and in particular, gaming machines currently have a number of one way serial ports used for broadcasting game related information and one serial port that works in both ways and is designed for communications with centralised cash control equipment. In gaming machines, apart from serial communications,  
10 functionally all ports have a subsidiary equipment function input for the purpose of disabling the gaming machine in certain prescribed situations. All ports also have a machine power good function output used to signalise normal operation of the gaming machine. All the inputs and outputs on the ports are generally of the RS422 physical interface type and are intended for peer-to-peer connections only.

15 The present invention relates specifically to a method that overcomes the peer-to-peer limitation and allows multiple subsidiary devices communicating to the same approved gaming machine subsidiary interface ports.

Existing types of subsidiary equipment used in conjunction with gaming machines are connected to the dedicated subsidiary interface ports on the gaming machine. Each port  
20 usually has a specific regulation authority defined function that can not be replicated on a different port. This creates a situation that two or more pieces of subsidiary equipment can not be connected to the gaming machine if they perform similar functions and if they are prescribed to use the same dedicated port.

Some other types of electronic games devices are also restricted in their ability to overcome  
25 peer-to-peer limitations that exist and therefore their operation can benefit from the apparatus and method of the present invention.

## OBJECT OF THE INVENTION

It is an object of the present invention to provide a method of interfacing to games device subsidiary interface ports in the way that more than one apparatus of subsidiary equipment can share the existing communication ports without jeopardising the integrity of the communications. At the very least, the object of the invention is to provide an alternative to known methods and apparatus.

## DISCLOSURE OF THE INVENTION

According to one aspect of the present invention there is disclosed a method of providing a connection to a games device of a plurality of subsidiary equipment devices, the games device having a plurality of one-way serial ports for broadcasting game information data and at least one two-way serial port for connection to control equipment, said at least one two-way serial port being a subsidiary equipment interface port, said method including the steps of connecting a first one of said subsidiary equipment devices to said subsidiary equipment interface port, said first one of subsidiary equipment devices having a secondary equipment passthrough port which is controlled by a control means associated with said first one of said subsidiary equipment devices, connecting at least a second one of said subsidiary equipment devices to said secondary equipment passthrough port on said first one of said subsidiary equipment devices, whereby broadcast data sent from the games device via said subsidiary equipment interface port to said secondary equipment passthrough port of said first one of subsidiary equipment devices is retransmitted to said other subsidiary equipment devices; and all data and/or requests addressed to said subsidiary equipment interface port of said games device from said first one of said subsidiary equipment devices or from said other subsidiary equipment devices via said secondary equipment passthrough port on said first one of said subsidiary equipment devices are transmitted or retransmitted to said subsidiary equipment interface port of said games device.

According to another aspect, there is provided apparatus for providing connection of a plurality of subsidiary equipment devices to a games device, the games device having a plurality of one-way serial ports for broadcasting game information data and at least one

two-way serial port for connection to control equipment, said at least one two-way serial port being a subsidiary equipment interface port, said apparatus including a first one of said subsidiary equipment devices connected to said subsidiary equipment interface port, said first one of subsidiary equipment devices having a secondary equipment passthrough port  
5 which is controlled by a control means associated with said first one of said subsidiary equipment devices, at least a second one of said subsidiary equipment devices connected to said secondary equipment passthrough port on said first one of said subsidiary equipment devices, whereby broadcast data sent from the games device via said subsidiary equipment interface port to said secondary equipment passthrough port of said first one of subsidiary  
10 equipment devices is retransmitted to said other subsidiary equipment devices; and all data and/or requests addressed to said subsidiary equipment interface port of said games device from said first one of said subsidiary equipment devices or from said other subsidiary equipment devices via said secondary equipment passthrough port on said first one of said subsidiary equipment devices are transmitted or retransmitted to said subsidiary equipment  
15 interface port of said games device.

Preferably, the data and/or requests transmitted or retransmitted are prioritised in accordance to status and outcome of a previous communication session.

Preferably the priority depends on protocol, regulations and application itself.

Preferably the control means is the device main processor or some other programmable  
20 artificial intelligence integrated circuit built in to the device. This means that the first one of said subsidiary equipment devices has internal software tasks.

Preferably, the first one of subsidiary equipment devices having a secondary equipment passthrough port, is adapted to receive game status information from the games device, transfer credits, and provide enable/disable signals to the games device as prescribed  
25 according to preselected requirements.

Preferably, the first one of subsidiary equipment devices having a secondary equipment passthrough port connected thereto is connected to central monitoring apparatus which also monitors a number of other games devices, the central monitoring apparatus being adapted

to receive and send from and to the first one of subsidiary equipment devices different signals and/or commands according to system requirements and/or regulations.

Preferably, the first one of subsidiary equipment devices has a plurality of ports, a first one of the ports connecting to the one port of the subsidiary equipment interface ports to gather  
5 game status information. Preferably, a second one of the ports being connected to the subsidiary equipment interface port to provide for centralised cash control equipment functionality.

Preferably, the at least a second one of said subsidiary equipment devices connected to the secondary equipment passthrough port is a subsidiary equipment device associated with  
10 another system. Preferably, the secondary equipment passthrough port supports centralised cash control equipment functionality on the subsidiary equipment device of that other system.

Preferably, the secondary devices connected to the first one of subsidiary equipment devices include any ancillary devices suitable for use with games systems, and includes within this  
15 scope the use of hardware, software, firmware and the like. This can involve the use of daughterboards or similar such devices.

#### BRIEF DESCRIPTION OF THE DRAWINGS

The present invention will be now described with reference to the accompanying drawings in which:

20 Fig. 1 is a block diagram of the network of gaming devices that operate according to the method of the present invention; and

Fig. 1 is a block diagram of a network of gaming devices that operate according to an embodiment of the method of the present invention.

## BEST MODE OF CARRYING OUT THE INVENTION

The method described in this document is implemented on the proprietary Mikohn Gaming Australasia Pty Ltd device called Watchman™ interface board as seen in Fig. 2 while the generic embodiment is illustrated in Fig. 1.

- 5 The Watchman™ interface board of the preferred embodiment is designed to gather game status information from gaming machines (or approved poker machines) APM , transfer credits to the APM and disable/enable the APM in situations prescribed by government regulations and by the algorithms of Jackpot or Monitoring systems operation. After the information is collected it is then transmitted further to the central site of the Jackpot or
- 10 Monitoring System whichever is applicable. The Watchman™ is also used to receive different commands from the central site and act upon them accordingly to the government regulations and the algorithms of the Jackpot or Monitoring System operation whichever is applicable.

The Watchman™ has two specialised ports to interface to the subsidiary equipment

15 interface ports SEP of the APM. One of them (J2) is normally connected to port P5 of the APM and gathers the game status information.

The other port (J1) is normally connected to port P1 of the APM and provides for Centralised Cash Control Equipment functionality.

The Watchman™ also has one secondary equipment passthrough port SEPP (J11) that

20 provides the connection point for a secondary subsidiary device belonging to another system. The primary intention for the use of the SEPP (J11) is to support Centralised Cash Control Equipment functionality on that secondary device. For that reason all the pins on the SEPP (J11) connector act as an exact copy of port P1 on the APM that is dedicated for Centralised Cash Control Equipment.

25 Based on the status of the game, the status and priorities of the tasks running on the Watchman™ device and the status of the secondary device connected to SEPP (J11) the

Watchman™ processor will redirect messages coming from APM P1 port to the internal software tasks or to the secondary device connected to SEPP (J11).

Messages coming from secondary device connected to SEPP (J11) and addressed to the APM port P1, and messages coming from internal software tasks and addressed to APM  
5 port P1 will be redirected to the APM port P1 in accordance to the status of the game, the status and priorities of the tasks running on the Watchman™ device and the status of the secondary device connected to the SEPP.

This allows for the primary and secondary devices both having a possibility to perform functions of the Centralised Cash Control Equipment on the NSW APM.

10 When required by the system environment and allowed by government regulations the game status broadcasts coming out of the APM port P5 can also be retransmitted to the second subsidiary device via the SEPP (J11).

The secondary devices connected to the Watchman™ include any ancillary devices suitable for use with gaming systems, and includes within this scope the use of hardware, software,  
15 firmware and the like. This can involve the use of daughterboards or similar such devices.

The foregoing describes only one embodiment of the present invention, and modifications obvious to those skilled in the art can be made thereto without departing from the scope of the present invention.

For example, the present invention is described with respect to the gaming machine APM of  
20 the preferred embodiment, however, a games devices which has ports to communicate with other games devices, like or unlike, can implement the method and apparatus of the present invention such that the apparatus of the present invention connects subsidiary devices to the games device. These games devices include within their scope all games devices or any machine used for amusement purposes including gambling and is capable of  
25 communication with other devices.



## CLAIMS

1. A method of providing a connection to a games device of a plurality of subsidiary equipment devices, the games device having a plurality of one-way serial ports for broadcasting game information data and at least one two-way serial port for connection to control equipment, said at least one two-way serial port being a subsidiary equipment interface port, said method including the steps of connecting a first one of said subsidiary equipment devices to said subsidiary equipment interface port, said first one of subsidiary equipment devices having a secondary equipment passthrough port which is controlled by a control means associated with said first one of said subsidiary equipment devices, connecting at least a second one of said subsidiary equipment devices to said secondary equipment passthrough port on said first one of said subsidiary equipment devices, whereby broadcast data sent from the games device via said subsidiary equipment interface port to said secondary equipment passthrough port of said first one of subsidiary equipment devices is retransmitted to said other subsidiary equipment devices; and all data and/or requests addressed to said subsidiary equipment interface port of said games device from said first one of said subsidiary equipment devices or from said other subsidiary equipment devices via said secondary equipment passthrough port on said first one of said subsidiary equipment devices are transmitted or retransmitted to said subsidiary equipment interface port of said games device.
2. The method according to claim 1, wherein the data and/or requests transmitted or retransmitted are prioritised in accordance to status and outcome of a previous communication sessions.
3. The method according to claim 2, wherein the priority depends on protocol, regulations and application itself.
4. The method according to claim 1, wherein the control means is the device main processor or some other programmable artificial intelligence integrated circuit built in to the device.

5. The method according to claim 4, wherein the first one of said subsidiary equipment devices has internal software tasks.
6. The method according to claim 1, wherein, the first one of subsidiary equipment devices having a secondary equipment passthrough port, is adapted to receive game status information from the games device, transfer credits, and provide enable/disable signals to the games device as prescribed according to preselected requirements.
7. The method according to claim 1, wherein the first one of subsidiary equipment devices having a secondary equipment passthrough port connected thereto is connected to central monitoring apparatus which also monitors a number of other games device, the central monitoring apparatus being adapted to receive and send from and to the first one of subsidiary equipment devices different signals and/or commands according to system requirements and/or regulations.
8. The method according to claim 1, wherein first one of subsidiary equipment devices has a plurality of ports, a first one of the ports connecting to the one port of the subsidiary equipment interface ports to gather game status information.
9. The method according to claim 8, wherein, a second one of the ports is connected to the subsidiary equipment interface port to provide for centralised cash control equipment functionality.
10. The method according to claim 1, wherein, the at least a second one of said subsidiary equipment devices connected to the secondary equipment passthrough port is a subsidiary equipment device associated with another system.
11. The method according to claim 10, wherein, the secondary equipment passthrough port supports centralised cash control equipment functionality on the subsidiary equipment device of that other system.
12. The method according to claim 1, wherein, the secondary devices connected to the first one of subsidiary equipment devices include any ancillary devices suitable for use with

games systems, and includes within this scope the use of hardware, software, firmware and the like.

13. The method according to claim 12, wherein the hardware, software, firmware and the includes the use of daughterboards or similar such devices.

5 14. Apparatus for providing connection of a plurality of subsidiary equipment devices to a games device, the games device having a plurality of one-way serial ports for broadcasting game information data and at least one two-way serial port for connection to control equipment, said at least one two-way serial port being a subsidiary equipment interface port, said apparatus including a first one of said subsidiary equipment devices connected to said  
10 subsidiary equipment interface port, said first one of subsidiary equipment devices having a secondary equipment passthrough port which is controlled by a control means associated with said first one of said subsidiary equipment devices, at least a second one of said subsidiary equipment devices connected to said secondary equipment passthrough port on said first one of said subsidiary equipment devices, whereby broadcast data sent from the  
15 games device via said subsidiary equipment interface port to said secondary equipment passthrough port of said first one of subsidiary equipment devices is retransmitted to said other subsidiary equipment devices; and all data and/or requests addressed to said subsidiary equipment interface port of said games device from said first one of said subsidiary equipment devices or from said other subsidiary equipment devices via said  
20 secondary equipment passthrough port on said first one of said subsidiary equipment devices are transmitted or retransmitted to said subsidiary equipment interface port of said games device.

15. The apparatus according to claim 14, wherein the data and/or requests transmitted or retransmitted are prioritised in accordance to status and outcome of a previous  
25 communication sessions.

16. The apparatus according to claim 15, wherein the priority depends on protocol, regulations and application itself.

17. The apparatus according to claim 14, wherein the control means is the device main processor or some other programmable artificial intelligence integrated circuit built in to the device.

18. The apparatus according to claim 17, wherein the first one of said subsidiary  
5 equipment devices has internal software tasks.

19. The apparatus according to claim 14, wherein, the first one of subsidiary equipment devices having a secondary equipment passthrough port, is adapted to receive game status information from the games device, transfer credits, and provide enable/disable signals to the games device as prescribed according to preselected requirements.

10 20. The apparatus according to claim 14, wherein the first one of subsidiary equipment devices having a secondary equipment passthrough port connected thereto is connected to central monitoring apparatus which also monitors a number of other games device, the central monitoring apparatus being adapted to receive and send from and to the first one of subsidiary equipment devices different signals and/or commands according to system  
15 requirements and/or regulations.

21. The apparatus according to claim 14, wherein first one of subsidiary equipment devices has a plurality of ports, a first one of the ports connecting to the one port of the subsidiary equipment interface ports to gather game status information.

22. The apparatus according to claim 21, wherein, a second one of the ports is  
20 connected to the subsidiary equipment interface port to provide for centralised cash control equipment functionality.

23. The apparatus according to claim 14, wherein, the at least a second one of said subsidiary equipment devices connected to the secondary equipment passthrough port is a subsidiary equipment device associated with another system.

24. The apparatus according to claim 23, wherein, the secondary equipment passthrough port supports centralised cash control equipment functionality on the subsidiary equipment device of that other system.

25. The apparatus according to claim 14, wherein, the secondary devices connected to  
5 the first one of subsidiary equipment devices include any ancillary devices suitable for use with gaming systems, and includes within this scope the use of hardware, software, firmware and the like.

26. The apparatus according to claim 25, wherein the hardware, software, firmware and the includes the use of daughterboards or similar such devices.

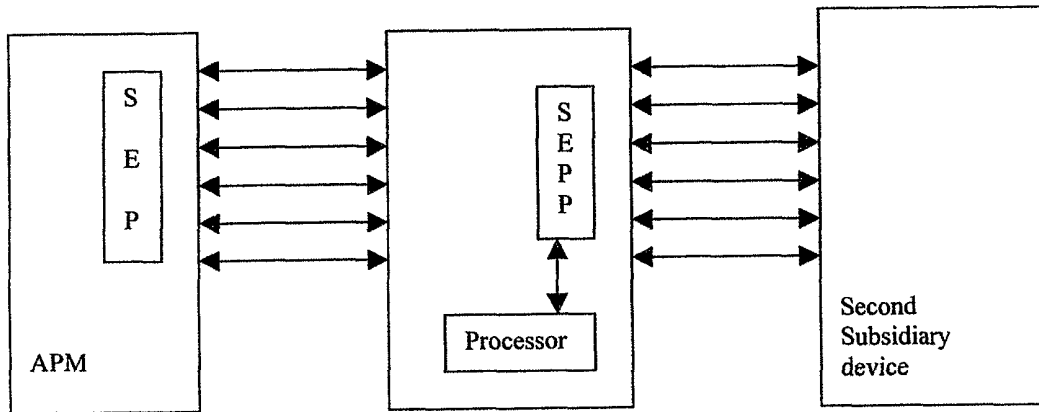


Fig. 1

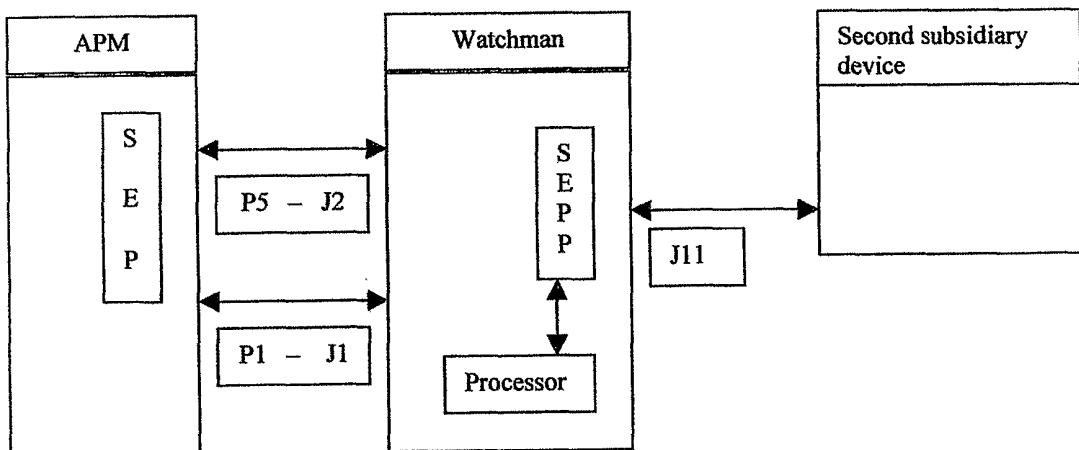


Fig. 2

## INTERNATIONAL SEARCH REPORT

International application No.

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<b>A. CLASSIFICATION OF SUBJECT MATTER</b>												
Int. Cl. <sup>7</sup> : A63F 13/12; G07F 17/32, 17/34; H04L 12/00												
According to International Patent Classification (IPC) or to both national classification and IPC												
<b>B. FIELDS SEARCHED</b>												
Minimum documentation searched (classification system followed by classification symbols)												
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)												
DWPI and key words GAME, MACHINE, PORT, SUBSIDIARY, TWO WAY												
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>												
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.										
X	EP 402067 B1 (CODEMASTERS LIMITED) 10 September 1997 Whole document	1-26										
X	US 5292125 A (HOCHSTEIN et al.) 8 March 1994 Whole document	1-26										
X	US 4636951 A (HARLICK) 13 January 1987 Whole document	1-26										
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C <input checked="" type="checkbox"/> See patent family annex												
<p>* Special categories of cited documents:</p> <table border="0"> <tr> <td>"A" document defining the general state of the art which is not considered to be of particular relevance</td> <td>"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</td> </tr> <tr> <td>"E" earlier application or patent but published on or after the international filing date</td> <td>"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</td> </tr> <tr> <td>"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)</td> <td>"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</td> </tr> <tr> <td>"O" document referring to an oral disclosure, use, exhibition or other means</td> <td>"&amp;" document member of the same patent family</td> </tr> <tr> <td>"P" document published prior to the international filing date but later than the priority date claimed</td> <td></td> </tr> </table>			"A" document defining the general state of the art which is not considered to be of particular relevance	"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	"E" earlier application or patent but published on or after the international filing date	"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	"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)	"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	"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family	"P" document published prior to the international filing date but later than the priority date claimed	
"A" document defining the general state of the art which is not considered to be of particular relevance	"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											
"E" earlier application or patent but published on or after the international filing date	"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											
"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)	"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											
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family											
"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 6 June 2002	Date of mailing of the international search report 12 JUN 2002											
Name and mailing address of the ISA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaustalia.gov.au Facsimile No. (02) 6285 3929	Authorized officer  <b>L. DESECAR</b> Telephone No : (02) 6283 2381											

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU02/00267

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 99/59289 A (SONY COMPUTER ENTERTAINMENT INC.) 18 November 1999 Whole document	1-26
X	US 4494197 A (TROY et al.) 15 January 1985 Whole document	1-26
X	US 4283709 A (LUCERO et al.) 11 August 1981 Whole document	1-26
X	US 4072930 A (LUCERO et al.) 7 February 1978 Whole document	1-26



## INTERNATIONAL SEARCH REPORT

International application No.

Information on patent family members

PCT/AU02/00267

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report		Patent Family Member					
EP	402067	AU	56287/90	CA	2018165	JP	3114489
		US	5112051				
US	5292125	US	5350176				
US	4636951	AT	1451/84	AU	27572/84	DE	3416229
		ES	531967	ES	8507274	GB	2139390
		JP	59209374	NL	8401380	ZA	8403276
WO	99/59289	AU	36304/99	BR	9906433	EP	1024869
		ZA	9903236				
US	4494197	US	4689742				
US	4283709	AU	66683/81	DE	3101480	ES	498950
		ES	8202170	FR	2474723	GB	2068615
		JP	57001376	MC	1368		
US	4072930	AU	84569/75	BE	833370	DE	2540632
		DK	4085/75	FR	2284935	GB	1512857
		JP	51076944	NL	7510783	SE	7510118
							END OF ANNEX