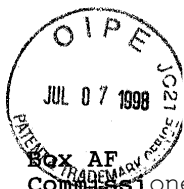


EXHIBIT 1



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Commissioner of Patents and Trademarks
Washington, D. C. 20231

Attention Patent Examiner: J. Suraci Art Unit: 2775

RESPONSIVE TO FINAL ACTION

Re: Patent Application of Brad A. Armstrong

Serial No.: 08/677,378 Filed: 07/05/96

Title: 6 DOF GRAPHIC CONTROLLERS WITH SHEET CONNECTED SENSORS

Applicant's address: Brad A. Armstrong
P.O. Box 1419
Paradise, CA 95967

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IN RESPONSE TO THE OUTSTANDING OFFICE ACTION OF 06/26/98

Sir:

REMARKS

This is responsive to the Office Action mailed 06/26/98, paper # 8, which is responsive my communication filed April 10, 1998, paper #7 regarding the above specified application.

The consideration of this response, and the reconsideration of allowance of the application is requested for the reasons detailed below.

Regarding the Office Action Summary: This page has been reviewed, and it is noted with dismay that pending claims 1-15 and 19-22 are again rejected and the Action made Final because the Hoyt et al patent 5,687,080, as described in the balance of paper #8, was not set aside as it should have been as shown in paper #7. The effective date of the Hoyt et al patent '080 was clearly and properly antedated by the declaration of paper #7.

Regarding page 1 and point "1" of the Office Action: This has been read and considered.

Applicant is very confused as to what was "incorrect" about the filing of the declaration and as to why Hoyt patent '080 continues to be treated as prior art and used to bar the issuance of applicant's patent when it is clearly and properly antedated by the declaration of paper #7.

Applicant requests a detailed explanation as to what specifically allegedly made or makes the declaration filing of paper #7 to have been "filed incorrectly" as stated in point 1 page 1 of page #8, and "improperly filed" as stated in point 8 page 5 of paper #8. Such information will be of value should applicant be required to file a continuation application in order to further prosecute this application and receive a patent on the invention which is a clearly patentable advancement in the art.

If it is the "evidence" considered insufficient by the examiner to show priority of invention, and the evidence is not insufficient to antedate the effective date of the Hoyt et al patent, applicant does not believe this constitutes the declaration being "filed incorrectly" or "improperly filed". Is this what the examiner means? It is not clear in paper #8.

MPEP 715.07 states "The purpose of filing a 37 CFR 1.131 affidavit (declaration in the present situation) is not to demonstrate prior invention, per se, but merely to antedate the effective date of a reference..." Thus, "the conception and reduction to practice which must be established under the rule need not be the same as what is required in the interference sense of these terms."

The declaration embodied in paper #7 appears quite proper in

accordance with MPEP 715.04; MPEP 715.07 and 37 CFR 1.68 and 1.131, and thus the Hoyt et al reference is antedated, and should have been and now should be set aside.

The statements pertaining to the swearing behind of Hoyt et al '080 were made in declaration form in paper #7 above an acknowledgement (in the same document) by declarant that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon. See page 4 of paper #7.

In accordance with 37 CFR 1.68, the declaration of paper #7 is in "the same document" on which declarant is warned that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon. Again, see page 4 of paper #7. All of the formal requirements for a proper declaration were fulfilled in paper #7.

In reference to the statement on page 1 of paper #8 regarding "The facts and documentary evidence" which also must be followed in accordance with MPEP 715.07; the facts supporting priority of invention sufficient to antedate the Hoyt reference were clearly and properly provided, my U.S. patent 5,565,891 filed Feb 23, 1995 and issued Oct. 15, 1996 was and is the "exhibit" showing clear priority of invention by factual evidence, not conclusion. The filing and issue dates of my patent 5,565,891 are provided by the U.S. Patent and Trademark Office and are accurate in this case. The filing date of patent '891 was accurately addressed in the declaration as being earlier than the earliest applicable date of Hoyt et al patent '080. My patent 5,565,891 was filed as a U.S. patent application before

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the effective date of the Hoyt's patent 5,687,080, and was also issued before the issuance of the Hoyt patent. The exhibit, i.e., patent 5,565,891 is the evidence specifically addressed in the declaration paper #7, and in reading the patent '891, one finds a highly detailed description of a 6 degree of freedom controller having at least enough sensors all mounted on a single plate-like board member 20 which is stated as being a circuit board in one structural arrangement of the invention. The specific points of fact within patent '891 were specifically addressed in paper #7 by stating "In my patent '891 is shown a multi-axes controller having sensors for 3, 4, 5 and 6 degrees of freedom, the sensors connected by a sheet member. See Figs. 2 and 3...". Shown in Figs. 2 and 3 and thoroughly structurally described in the patent '891 as a whole is a fully functional multi-axis controller with sufficient numbers of sensors all mounted on a single member 20 to convert six degrees of freedom of an input member (trackball 12) relative to a reference member (housing 10), and clearly the member 20 is in cooperative interaction with the input member 12 and reference member 10 with sensors mounted on member 20 for converting at least three degrees of freedom into representative electrical outputs. The patent '891 states the fact that "Lower member 20 may be a printed circuit board having sensors, integrated and or discrete electronic components thereon..", which is a statement of fact, whether brief or not, the statement of fact is further supported by the drawing Figs. 2 and 3 (and the written description of the Figs.) clearly showing sensors 102, 106, 108, 114, 118 and 120 all mounted or attached to circuit board member 20. Additionally, sensors 124, 126 and 128 are indicated as mounted on member 20 in the Fig. 2 and 3 drawings of patent '891 and provide three more degrees of control for a full compliment of 6 degrees of freedom. Would the examiner please note the following from patent '891 col. 11, lines 37-42;

"I prefer, in all embodiments of the invention, although it is not essential to be within the scope of the

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invention, that most all of the circuits, switches and sensors be mounted on the carriage **14**, and more particularly the lower member **20**, and this being an advantage for maintaining low cost of manufacturing."

Additionally, the multiple axes physical to electrical converter of the referred to drawing Figs. 2 and 3 of patent '891 also clearly includes **"return-to-center** resiliency along at least three mutually perpendicular linear axes" as presently claimed in the instant application, see element **30** in Figs. 2 and 3 of patent '891 and the written description therein for element 30.

Additionally, the multiple axes physical to electrical converter of the referred to drawing Figs. 2 and 3 of patent '891 is clearly shown in **"a conventional computer keyboard"** **140** in Fig. 10 further supporting the claimed invention of claims **19-22** in the instant application. A conventional computer keyboard includes at least **40** alpha-numeric keys operable by depression.

The disclosure as a whole in patent '891 is factual evidence which does not require conclusion for the antedation of the Hoyt patent. The present claimed invention is clearly shown and described, but not claimed, in my earlier patent '891.

Furthermore, paper #7 states, and these statements are considered herein again stated or incorporated herein:

"I hereby swear behind, per 37 CFR 1.131, the Hoyt et al patent **5,687,080** filed June 20, 1995 and issued Nov. 11, 1997. All criteria for a proper swearing behind per 37 CFR 1.131 has been met, in the five ways noted below, as follows:

First, my present invention, in one embodiment, was disclosed but not claimed in my U.S. Patent **5,565,891** filed Feb.

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23, 1995 and issued Oct. 15, 1996. In my patent '891 is shown a multi-axes controller having sensors for 3, 4, 5 and 6 degrees of freedom, the sensors connected by a sheet member. See Figs. 2 and 3 in both patent '891 and in the present application. The filing date of my patent '891 is prior to the filing date of Hoyt.

Second, the reference patent, Hoyt, clearly is not the same invention as the present invention. Hoyt does not claim the same patentable invention as the present application. Hoyt specifically claims an input apparatus comprising at least a source of magnetic flux and specialized magnetic flux sensitive sensors. The Hoyt invention can clearly be made as claimed without sheet connected sensors. The present invention can clearly be made as claimed without a source of magnetic flux and without specialized magnetic flux sensitive sensors. Hoyt and the present invention are clearly patentably distinct inventions.

Third, the present application was filed before publication of my patent '891 and also before publication of the Hoyt patent. The present application has a filing date less than one year after any public disclosure of the claimed invention.

Fourth, my claimed invention of the present application, including matter shown but not claimed in my earlier patent '891, was invented and reduced to practice here in the U.S.

Fifth, a copy of my U.S. patent 5,565,891 is hereto attached as evidence of fact.

In summary, Hoyt is not prior art to my present invention. Therefore, it is requested the Hoyt patent 5,687,080 be set aside and the rejection of the present claims in view of Hoyt, and Hoyt in view of Yoshida et al be withdrawn."

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Furthermore, the evidence addressed and specifically relied upon in the paper #7 declaration is not based on **"conclusions"**, but clearly established facts indisputably existing within U.S. Patent **5,565,891**. The six degree of freedom controller of patent **'891** having enough or a sufficient number of sensors for interpreting **6** DOF all mounted on a single plate-like member **20** such as a printed circuit board is far more than **"conception"** as implied by the examiner on page **2** point 2 of paper **#8**. It is not vague, and those skilled in the art would have no problem building and using that which is described, and would not have to resort to undue experimentation. The **6** DOF controller **is** described in patent **'891** as a complete structural, fully functional and operational arrangement filed in a U.S. patent application and constituting constructive reduction to practice, and this prior to the filing date of the Hoyt et al patent **'080**. Trackball **12** is clearly an input member, housing **10** is clearly a reference member, member **20** is a plate-like circuit board or sheet clearly in cooperative interaction with said input member and said reference member, and member **20** clearly connects a full **6** DOF worth of sensors mounted thereon for converting operations of said input member in at least three degrees (six degrees are shown and described) of freedom into representative electrical output signals. This **is** all shown in the drawing Figs. **2** and **3** made specific reference to in the paper # 7 declaration, and one would assume the description of the part numbers shown in the referred to drawing figures would be read to fully appreciate the structures shown in the referred to drawing figures.

Applicant notes the examiner's statement of point 2 page 2 of paper **8** that the statement in lines **56-68**, col. **11** of patent **'891** is not enough information to support the claimed invention comprising "...a sheet member in cooperative interaction with said input member and said reference member, said sheet member connecting at least a sufficient number of said sensors for converting operations of said input member in at least three

degrees of freedom into representative electrical output **signal.**" Applicant never stated that the statement in lines **56-68**, col. **11** of patent **'891** is not enough information to support the claimed invention, these are the examiner's words, not applicant's. Clearly the present invention is fully described but not claimed in my patent **'891**. Applicant **is** confused as to what the examiner believes is actually disclosed in my patent **'891** as a whole and in the specific drawing figures referenced in the paper **# 7** declaration. "**sheet**" in the present application **is** defined in one manner as "**a circuit board sheet.**", and in patent **'891** as "**plate-like**" and a "circuit board", which has mounted thereto all of the sensors required to interpret **6** degrees of freedom of the "input member", i.e. trackball **12** relative to the reference member, i.e. housing **10**. Furthermore, "**sheet**" in the present application **is** also defined in one form of the invention as "**a rigid circuit board sheet**", which again is clearly "**plate-like**" as used in defining member **20** of patent **'891** which is shown and described as holding enough to interpret **6** degrees of freedom of inputs to trackball **12**. Additionally, the **disclosure** as a whole in patent **'891** without question provides enough information to support the claimed invention and provide clear invention priority over the Hoyt et al patent.

Thus, the Hoyt patent is antedated, and cannot be used as a reference to bar patentability of the present invention, and therefore the rejection grounds based on Hoyt or Hoyt in combination with **Yoshida** should be withdrawn, obviating all grounds for rejection and any need for applicant to attack the specific **35 USC 102** and **103** grounds of rejection set forth in papers **#6** and **#8** where Hoyt **was** used as the primary reference.

Since clearly the Hoyt patent **'080** was properly sworn behind in paper **#7**, and holding of finality should now be withdrawn, and the application and claims reexamined in view of this response and in view of paper **#7** and the declaration thereof, and all claims **1-15** and **19-22** found allowable over the prior art of

record.

If, after considering this response, the examiner still believes the declaration of paper #7 is improper or inadequate, he may wish to consult with his supervisory examiner on the matter.

In reference to page 2 point 2 of paper #8, the examiner states "The application filed on July 5, 1997" states the year incorrectly, and should state July 5, 1996.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure, but not so pertinent as to prevent allowance of the present claims.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Respectfully;

 Date: July 7, 1998
Brad A. Armstrong, Inventor / Applicant / Declarant

CERTIFICATE OF EXPRESS MAILING

Commissioner of Patents and Trademarks
Washington, D. C. 20231

I hereby certify that this correspondence is being deposited with the United States Postal Service as EXPRESS MAIL article **EI751955893US** with sufficient postage paid in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, D. C. 20231, on this

date: July 7, 1998

Brad A. Armstrong, Inventor / Applicant

