

# EXHIBIT 10



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Butt

Assistant Commissioner of Patents  
Box CPA  
Washington, D. C. 20231

By Express Mail No. EK797321441US

PRELIMINARY AMENDMENT

Re: Patent Application of Brad A. Armstrong  
Serial No.: 08/677,378 Filed: 07/05/96  
Title: IMAGE CONTROLLERS AND SENSORS (as Amended)  
Applicant's address: Brad A. Armstrong  
P.O. Box 1419  
Paradise, CA 95967  
Patent Examiner: Brier, J. Art Unit: 2775

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CPA IN RESPONSE TO THE OUTSTANDING OFFICE ACTION OF 03/13/00

Sir:

ATTACHMENTS

- A return receipt postcard.
- A request for making the application a 37 C.F.R. 1.53(d) continuation CPA and the filing fee are attached.
- Supplemental Declaration for Patent Application (Rule 1.63).
- Small entity declaration for Inventor.
- Small entity declaration for Assignee small business.
- A certificate of Express Mailing is attached.
- A Petition for Extension of Time under 37 CFR 1.136 and the fee for TWO additional months is hereto attached.

REMARKS

This is responsive to the Office Action mailed 03/13/00, paper # 13, regarding the above specified application. Please amend the above specified application as herein requested and reexamine the amended application in view of the remarks.

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The entire Detailed Action of the 03/13/00, which was made final, has been carefully read, including points 1-7.

On 07/31/00 Applicant spoke with Examiner Brier, J. by telephone mainly regarding the prior art of Hoyt, U.S. Patent No. 5,687,080 and Yoshida et al, U.S. Patent No. 5,250,930 regarding claims 19-22. Agreement as to allowability of the claims as currently written was not reached, but the Examiner indicated that while a new search would be needed, he thought that a sheet connecting both buttons and multi-axes joystick would be allowable, if claimed. The Examiner agreed that Yoshida having a joystick internally connected with individual electrical wires (see Yoshida Fig.2 and column 7 lines 9-11) is expensive in high volume compared to Applicant's sheet connected buttons and multi-axes input devices. The Examiner further agreed, that pending a search, the sheet integration of multi-axes input devices and a plurality of buttons was likely allowable. The above is a summary of the telephone interview to Applicant's best recollection.

Under amendments, claims 19-37 will be cancelled, and new claims inserted and submitted as allowable.

AMENDMENTS

In the specification:

Applicant wishes to amend the specification to claim the 35 U.S.C. 120 priority benefit of Applicant's earlier U.S. application 847,619 which was pending when the instant application was filed, in addition to application 393,459 already claimed on page 1. Therefore, please insert the following into page 1 of the specification below the title and above BACKGROUND OF THE INVENTION:

~~--This application claims the benefits of the earlier filing date under 35 U.S.C. 120 of U.S. Patent application Serial No. 847,619 filed March 5, 1992, now U.S. Patent 5,589,828.--~~

In order that the title closely reflect the current claimed invention, please amend the title of the application to read:  
--IMAGE CONTROLLERS WITH SHEET CONNECTED SENSORS--

Amendments to the claims:

Please insert into the claims section and examine the following new claims 38-60.

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38. An image controller comprising:  
an input member with associated sensors, said input member moveable on at least two axes; and  
a plurality of finger depressible buttons with associated sensors; and

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at least one sheet structurally connecting, at least in part, to the sensors of said input member, and said at least one sheet structurally connecting, at least in part, to the sensors of said finger depressible buttons; said at least one sheet having

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electrically conductive traces located on said at least one sheet, said electrically conductive traces electrically connecting with the sensors of said input member, and said electrically conductive traces electrically connecting with the sensors of said finger depressible buttons.

39. An image controller according to claim 38 in which said image controller is connected to an image generation device.

40. An image controller according to claim 39 in which at least one of the finger depressible buttons is structured with a resilient dome cap.

41. An image controller according to claim 40 in which said resilient dome cap is structured to provide a tactile feedback to a human hand.

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42. An image controller according to claim 41 in which a plunger is positioned above said dome cap, said plunger comprising a non-conductive rigid plastic material.

43. An image controller according to claim 41 in which said at least one of the finger depressible buttons is associated with a pressure-sensitive variable sensor, whereby depression of said at least one of the finger depressible buttons provides a proportional signal representing the level of depressive pressure applied.

44. An image controller according to claim 43 in which said at least one sheet further comprises a flexible membrane sheet connected to a rigid circuit board sheet.

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45. An image controller according to claim 43 in which said plurality of finger depressible buttons are at least 10 in number, at least some of said buttons represent keys for numbers 1-9.

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46. An image controller according to claim 45 in which said plurality of finger depressible buttons are at least 40 in number, at least some of said buttons represent keys for the alphabet, and at least one of said buttons represents a spacebar.

47. An image controller according to claim 46 in which said input member is operable on at least six axes.

48. An image controller comprising:  
an input member movable on at least two axes, said input member having associated sensors; and  
a plurality of finger depressible buttons, said finger depressible buttons having associated sensors; and

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at least one ~~sheet~~ connecting to the sensors of said input member, and said at least one sheet connecting to the sensors of said finger depressible buttons.

49. An image controller according to claim 48 in which said at least one sheet includes electrically conductive traces, said traces engaging the sensors.

50. An image controller according to claim 49 in which at least one of the finger depressible buttons is structured with a resilient dome cap.

51. An image controller according to claim 50 in which said resilient dome cap is structured to provide a tactile feedback to a human hand.

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52. An image controller according to claim 51 in which a plunger is positioned to press against said dome cap.

53. An image controller according to claim 51 in which said at least one sheet further comprises a flexible membrane sheet connected to a rigid circuit board sheet.

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54. An image controller according to claim 53 in which said at least one of the finger depressible buttons is associated with a pressure-sensitive variable sensor, whereby depression of said at least one of the finger depressible buttons provides a proportional signal representing the level of depressive pressure applied.

55. An image controller according to claim 53 in which said plurality of finger depressible buttons are at least 10 in number, at least some of said buttons represent keys for numbers 1-9.

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<sup>P</sup>  
56. An image controller according to claim <sup>7</sup>55 in which said plurality of finger depressible buttons are at least 40 in number, at least some of said buttons represent keys for the alphabet, and at least one of said buttons represents a spacebar.

<sup>9</sup>  
57. An image controller according to claim <sup>7</sup>55 in which said input member is operable on at least six axes.

<sup>10</sup>  
58. An image controller according to claim <sup>8</sup>56 in which said input member is operable on at least six axes.

<sup>11</sup>  
59. An image controller according to claim <sup>9</sup>57 in which said at least one of the finger depressible buttons is associated with a pressure-sensitive variable sensor, whereby depression of said at least one of the finger depressible buttons provides a proportional signal representing the level of depressive pressure applied.

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60. An image controller comprising:  
a plurality of finger depressible buttons, said finger depressible buttons having associated sensors; and  
at least one sheet electrically connecting the sensors; and  
at least one of the sensors, comprising:  
a body;  
at least two conductive tang elements fixed to said body and in-part within said body;  
a depressible plunger retained by said body and in-part exposed external to said body;  
a resilient snap-through dome-cap positioned within said body and depressible with force from said plunger applied to said dome-cap to cause said dome-cap to snap-through and create a tactile feedback;  
pressure-sensitive variable-conductance material within said body and positioned as a variably conductive element electrically

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between said two ~~conductive~~ tang elements, and further positioned for receiving force ~~applied~~ to said dome-cap, whereby electrical conductivity of ~~said~~ pressure-sensitive variable-conductance material is altered ~~relative~~ to received force and electrical output of said ~~sensor~~ **is variable.**

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REMARKS

No new matter has been added via this amendment.

The claim language is fully supported in the originally filed specification.

Applicant acknowledges and appreciates that Examiner Brier ~~is~~ an examiner with a great deal of experience and familiarity with the procedures and rules of the Patent Office. Applicant relies on the Examiner's knowledge of the Constitution of the United States of America, wherein the founding Fathers set-forth "To Authors and Inventors the Exclusive Right to Their Respective Writings and Discoveries" Article I, Section 8, thus establishing the purpose upon which the U.S. Patent Office ~~is~~ founded.

New claims 38-60 are believed novel and inventive over the prior art, and thus allowable within the rules of the Patent Office and the spirit of the Constitution of the United States of America.

Allowance of the new claims is very respectfully requested.

I hereby declare and swear 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

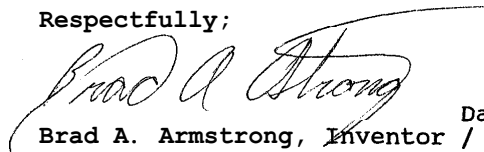
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jeopardize the validity of the application or any patent issued thereon.

Respectfully;



Date:

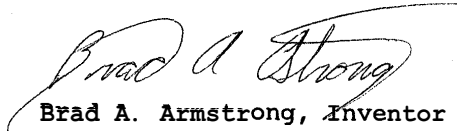
4 Aug. 2000

Brad A. Armstrong, Inventor / Applicant

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Washington, D. C. 20231

I hereby certify that this correspondence is being deposited with the United States Postal Service as EXPRESS MAIL article EK797321441US with sufficient postage pre-paid in an envelope addressed to: Assistant Commissioner of Patents, Washington, DC 20231, on this

date: August 4, 2000



Brad A. Armstrong, Inventor / Applicant

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date: 4 Aug. 2000.

A handwritten signature in cursive script that reads "Brad A. Armstrong".

Brad A. Armstrong, Inventor / Applicant



+ #18

<b>SUPPLEMENTAL DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR 1.63)</b>	Attorney Docket Number	
	First Named Inventor	Brad A. Armstrong
	<b>COMPLETE &amp; KNOWN</b>	
	Application Number	08 / 677,378
	Filing Date	07/05/96
	Group Art Unit	2775
	Examiner Name	Brier, J.

As a below named inventor, I hereby declare that:

My residence, post office address, and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

IMAGE CONTROLLERS AND SENSORS (as amended)

*(Title of the invention)*

the specification of which

is attached hereto  
OR  
 was filed on (MM/DD/YYYY) 07/05/96 as United States Application Number or PCT International Application Number 08/677,378 and was amended on (MM/DD/YYYY) \_\_\_\_\_ (if applicable).

hereby declare that the subject matter of the  attached amendment  amendment filed on \_\_\_\_\_ as part of my or our invention and was invented before the filing date of the original application, above identified for such invention.

hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.

acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56.

hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or 65 (a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or of any PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application Number(s)	Country	Foreign Filing Date (MM/DD/YYYY)	Priority	Certified Copy Attached?	
			Not Claimed	YES	NO
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Application Number(s)	Filing Date (MM/DD/YYYY)

Additional provisional application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto.

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[Page 1 of 2]

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Type a plus sign (+) inside this box →

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 Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE  
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**SUPPLEMENTAL DECLARATION — UTILITY OR DESIGN PATENT APPLICATION**

I hereby claim the benefit under 35 U.S.C. 120 of any United States application(s), or 365(c) of any PCT International application designating the United States of America, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. 112, I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application.

U.S. Parent Application or PCT Parent Number	Parent Filing Date (MM/DD/YYYY)	Parent Patent Number (if applicable)
08/393,459 and also	02/23/1995	U.S. 5,565,891
07/847,619	03/05/1992	u.s. 5,589,828

practitioner(s) to prosecute this application and to transact all business in the Patent Office.   Place Customer Number Bar Code

Name	Registration Number	Name	Registration Number

Additional registered practitioner(s) named on supplemental Registered Practitioner Information sheet PTO/SB/02C attached hereto.

Direct all correspondence to:  Customer Number or Bar Code Label  OR  Correspondence address below.

Name: Brad A. Armstrong  
 Address: P.O. Box 1419  
 Address:  
 City: Paradise, State: CA ZIP: 95967  
 Country: US Telephone: 755 721 6958 Fax:

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 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued hereon.

Name of Sole or First Inventor:  A petition has been filed for this unsigned inventor

Given Name (first and middle (if any)): Brad, A. Family Name or Surname: Armstrong

Inventor's Signature: *Brad A. Armstrong* Date: 4 Aug. 2000  
 Residence: City: Carson City State: NV Country: US Citizenship: US

Post Office Address: Brad A. Armstrong, P.O. Box 1419, Paradise, CA 95967

Port Office Address:  
 City: Paradise State: CA ZIP: 95967 Country: us

Additional Inventors are being named on the \_\_\_\_\_ supplemental Additional Inventor(s) sheet(s) PTO/SB/02A attached hereto



PTO/SB/09 (12-97)  
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#19

**STATEMENT CLAIMING SMALL ENTITY STATUS  
(27 CFR 1.9(f) & 1.27(b))--INDEPENDENT INVENTOR**

Docket Number (Optional)

Applicant, Patentee, or Identifier: Brad A. Armstrong, Inventor / Applicant

Application or Patent No.: application 08/677.378

Filed or Issued: 07/05/96

Title: IMAGE CONTROLLERS AND SENSORS (as Amended)

As a below named inventor, I hereby state that I qualify as an independent inventor as defined in 37 CFR 1.9(c) for purposes of paying reduced fees to the Patent and Trademark Office described in:

- the specification filed herewith with title as listed above.
- the application identified above.
- the patent identified above.

I have not assigned, granted, conveyed, or licensed, and am under no obligation under contract or law to assign, grant, convey, or license, any rights in the invention to any person who would not qualify as an independent inventor under 37 CFR 1.9(c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

Each person, concern, or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below:

- No such person, concern, or organization exists
- Each such person, concern, or organization is listed below.

ANASCAPE (a Nevada Limited Partnership)

Address; 723 South Casino Center Blvd., 2nd Floor

Las Vegas, NV 89125-2346

Separate statements are required from each named person, concern, or organization having rights to the invention stating their status as small entities. (37 CFR 1.27)

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

Brad A. Armstrong

NAME OF INVENTOR

NAME OF INVENTOR

NAME OF INVENTOR

*Brad A. Armstrong*  
Signature of inventor

Signature of inventor

Signature of inventor

4 Aug. 2000  
Date

Date

Date

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**STATEMENT CLAIMING SMALL ENTITY STATUS**  
**(37 CFR 1.9(f) & 1.27(c))—SMALL BUSINESS CONCERN**

Docket Number (Optional)

Applicant, Patentee, or Identifier: Brad A. Armstrong, Inventor/Applicant  
 Application or Patent No.: 08/677,378  
 Filed or Issued: 07/05/96  
 Title: IMAGE CONTROLLERS ANT) SENSORS (as Amended)

I hereby state that I am

- the owner of the small business concern identified below;
- an official of the small business concern empowered to act on behalf of the concern identified below.

NAME OF SMALL BUSINESS CONCERN ANASCAPE (a Nevada Limited Partnership)

ADDRESS OF SMALL BUSINESS CONCERN 723 South Casino Center Blvd., 2nd Floor  
Las Vegas, NV 89125-2346

I hereby state that the above identified small business concern qualifies as a small business concern as defined in 13 CFR Part 121 for purposes of paying reduced fees to the United States Patent and Trademark Office. Questions related to size standards for a small business concern may be directed to: Small Business Administration, Size Standards Staff, 409 Third Street, SW, Washington, DC 20416.

I hereby state that rights under contract or law have been conveyed to and remain with the small business concern identified above with regard to the invention described in:

- the specification filed herewith with title as listed above.
- the application identified above.
- the patent identified above.

If the rights held by the above identified small business concern are not exclusive, each individual concern, or organization having rights in the invention must file separate statements as to their status as small entities, and no rights to the invention are held by any person, other than the inventor, who would not qualify as an independent inventor under 37 CFR 1.9(c) if that person made the invention, or by any concern which would not qualify as a small business concern under 37 CFR 1.9(d), or a nonprofit organization under 37 CFR 1.9(e).

- Each person, concern, or organization having any rights in the invention is listed below:
- no such person, concern, or organization exists.
  - each such person, concern, or organization is listed below.

Brad A. Armstrong, Inventor Small entity statement attached.  
 Separate statements are required from each named person, concern or organization having rights to the invention stating their status as small entities. (37 CFR 1.27) Attached

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

NAME OF PERSON SIGNING Kelly Tyler

TITLE OF PERSON IF OTHER THAN OWNER General Partner / Manager

ADDRESS OF PERSON SIGNING P.O. Box 841, Jamul, CA 91935

SIGNATURE [Signature] DATE Aug. 2, 2000

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UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office

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Washington, D.C. 20231

*BCS*

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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08/677,378	07/05/96	ARMSTRONG	B
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BRAD A ARMSTRONG  
P.O. BOX 1419  
PARADISE CA 95967

LM01/0831

EXAMINER

BRIER, J

ART UNIT	PAPER NUMBER
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2779

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DATE MAILED:

08/31/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

*BCS*  
1- File Copy

<b>Office Action Summary</b>	<b>Application No.</b> 08/677,378	<b>Applicant(s)</b> ARMSTRONG, BRAD A.	
	<b>Examiner</b> Jeffery A Brier	<b>Art Unit</b> 2779	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

**Status**

1)  Responsive to communication(s) filed on 04 August 2000.

2a)  This action is **FINAL**.      2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)  Claim(s) 38-60 is/are pending in the application.

    4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)  Claim(s) \_\_\_\_\_ is/are allowed.

6)  Claim(s) 38-43, 45-52, and 54-60 is/are rejected.

7)  Claim(s) 44 and 53 is/are objected to.

8)  Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on 05 July 1996 is/are objected to by the Examiner.

11)  The proposed drawing correction filed on \_\_\_\_\_ is: a)  approved b)  disapproved.

12)  The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. § 119**

13)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

    a)  All    b)  Some \*    c)  None of the CERTIFIED copies of the priority documents have been:

        1.  received.

        2.  received in Application No. (Series Code / Serial Number) \_\_\_\_\_.

        3.  received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    \* See the attached detailed Office action for a list of the certified copies not received.

14)  Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

**Attachment(s)**

15)  Notice of References Cited (PTO-892)      18)  Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_

16)  Notice of Draftsperson's Patent Drawing Review (PTO-948)      19)  Notice of Informal Patent Application (PTO-152)

17)  Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_      20)  Other: \_\_\_\_\_



Application/Control Number: 08/677,378  
Art Unit: 2779

Page 2

#### **DETAILED ACTION**

##### ***Continued Prosecution Application***

1. The request filed on 08/04/2000 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 08/677,378 is acceptable and a CPA has been established. An action on the CPA follows.

##### ***Response to Amendment***

2. The amendment filed on 08/04/2000 has been entered.

##### ***Priority***

3. This application repeats a substantial portion of prior Application No. 08/847,619, filed March 05, 1992, and adds and claims additional disclosure not presented in the prior application. Since this application names an inventor or inventors named in the prior application, it may constitute a continuation-in-part of the prior application rather than a continuation. MPEP 201.08. The same applies to 08/393,459. In the preliminary amendment filed on 09/23/96 applicant deleted reference to 08/393/459. Now at page 2 of applicants 08/04/2000 amendment applicant states that an additional application is being claimed in "addition to application 393,459 already claimed on page 1 of the specification". Thus, if applicant wishes to claim benefit to 393,459 then applicant will have to add this application back to the specification. Applicant may wish to rewrite his claim to priority as "This application is a continuation-in-part of U.S. Patent Application Serial No. 08/847,619 filed on March 5, 1992, now

Application/Control Number: 081677,378  
Art Unit: 2779

Page 3

U.S. Patent No. 5,589,828 and this application is a continuation-in-part of U.S. Patent Application Serial No. 08/393,459 filed on February 23, 1995, now U.S. Patent No. 5,565,891.".

***Drawings***

4. Figures 37 and 38 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Page 38 line 32 and page 39 line 16 describes figures 37 and 38 as typical sensor packages.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

6. Claim 60 is rejected under 35 U.S.C. 102(a) as being anticipated by applicants admission of the prior art. Figure 38 shows and page 39 lines 16-30 describes that which applicant has admitted as being prior art and now claimed in claim 60.

Application/Control Number: 081677,378  
Art Unit: 2779

Page 4

7. Claims 38, 39, 48, and 49 are rejected under 35 U.S.C. 102(e) as being anticipated by Brandenburg et al., U. S. Patent No. 5,231,386, of record. Base plate 64 (column 9 lines 43 and 44) is a PC board for supporting the pointing device and keyboard keys and it is well known that PC boards has electrical conductive traces. A PC board is a sheet.

8. Claims 38, 39, 48, and 49 are rejected under 35 U.S.C. 102(e) as being anticipated by Sekine, U. S. Patent No. 5,898,425, newly cited. Column 4 lines 60-62 and column 5 lines 30-33 describes a sheet with conductive traces which are connected to the keyboard keys and the pointing stick. These claims are written broadly and cover that which has been made before applicants filing date.

**Claim Rejections - 35 USC § 103**

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 40-43, 45, 46, 50, 51, <sup>52,</sup> 54-56, and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brandenburg et al., U. S. Patent No. 5,231,386, as applied to claims 38, 39, 48, and 49 above, and further in view of applicants admission of the prior art. Brandenburg does not describe how the finger depressible buttons are made. Figure 38 shows and page 39 lines 16-30 describes the finger depressible buttons

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8-29-00

Application/Control Number: 08/677,378  
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which applicant has admitted as being prior art and is now claiming. It would have been obvious to one of ordinary skill in the art at the time of applicants invention to use the finger depressible buttons of figure 38 in Brandenburg because the pointing device key shown on the front of Brandenburg has the same features that applicant is claiming for the finger depressible buttons.

11. Claims 40-43, 45, 46, 50, 51, <sup>52,</sup> 54-56, and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sekine, U. S. Patent No. 5,898,425, as applied to claims 38, 39, 48, and 49 above, and further in view of applicants admission of the prior art. Figure 38 shows and page 39 lines 16-30 describes the finger depressible buttons which applicant has admitted as being prior art and is now claiming. It would have been obvious to one of ordinary skill in the art at the time of applicants invention to use the finger depressible buttons of figure 38 in Sekine because Sekine fails to describe the type of finger depressible buttons used in Sekine's system. Thus, prior art finger depressible buttons are to be used in Sekine's system and figure 38 is a prior art finger depressible button.

12. Claims 47, 57, and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brandenburg et al., U. S. Patent No. 5,231,386, in view of applicants admission of the prior art ,as applied to claims 46, 55, and 56 above, and further in view of Hoyt et al., U. S. Patent No. 5,687,080, of record. These claims limit the input member as operable on at least six axes. Hoyt teaches that six degree of freedom joysticks are well known. It would have been obvious to one of ordinary skill in the art

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1/8-29-00

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to place a six degree of freedom joystick onto Brandenburg's base plate because a six degree of freedom joystick is more desirable than a three degree of freedom joystick.

13. Claims 47, 57, and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sekine, U. S. Patent No. 5,898,425, in view of applicants admission of the prior art, as applied to claims 46, 55, and 56 above, and further in view Hoyt et al., U. S. Patent No. 5,687,080, of record. These claims limit the input member as operable on at least six axes. Hoyt teaches that six degree of freedom joysticks are well known. It would have been obvious to one of ordinary skill in the art to place a six degree of freedom joystick onto Sekine's internal keyboard unit 29 because a six degree of freedom joystick is more desirable than a three degree of freedom joystick.

***Allowable Subject Matter***

14. Claims 44 and 53 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art of record does not teach or suggest placing an input member movable in at least two axes and finger depressible buttons of claim 43/41/40/39/38 or claim 51/50/49/48 onto a flexible sheet.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffery A Brier whose telephone number is (703) 305-4723. The examiner can normally be reached on M-F from 8:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Powel, can be reached on (703) 305-9703. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-6606.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3800.

J ffery A Brier  
Primary Examiner  
Art Unit 2779  
8-29-00

<b>Notice of References Cited</b>				Application/Control No. 081677,378		Applicant(s)/Patent Under Reexamination ARMSTRONG, BIR?ADA.			
				Examiner Jeffery A Brier		Art Unit 2779	Page 1 of 1		
<b>U.S. PATENT DOCUMENTS</b>									
*		DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	DOCUMENT SOURCE**		
							APS	OTHER	
<input type="checkbox"/>	A	5,898,425	Apr. 1999	Sekine	345	168	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	B						<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	C						<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	D						<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	E						<input type="checkbox"/>	<input type="checkbox"/>	
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<input type="checkbox"/>	M						<input type="checkbox"/>	<input type="checkbox"/>	
*		DOCUMENT NO.	DATE	COUNTRY	NAME	CLASS	SUBCLASS	DOCUMENT SOURCE**	
								APS	OTHER
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<input type="checkbox"/>	W							<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	X							<input type="checkbox"/>	<input type="checkbox"/>

\* If this reference is not being furnished with this Office action. (See Manual of Patent Examining Procedure, Section 707.05(a).)

\*\*AP encompasses any electronic search i.e. text, image, and Commercial Databases.

U.S. Patent and Trademark Office  
 PTO-892 (Rev. 03-98)

Notice of References Cited

Part of Paper No. 20

Form PTO 948 (Rev. 10-94)

U.S. DEPARTMENT OF COMMERCE - Patent and Trademark Office

Application No. 81677398

**NOTICE OF DRAFTSPERSON'S PATENT DRAWING REVIEW**

PTO Draftpersons review all originally filed drawings regardless of whether they are designated as formal or informal. Additionally, patent Examiners will review the drawings for compliance with the regulations. Direct telephone inquiries concerning this review to the Drawing Review Branch, 703-305-8404.

The drawings filed (insert date) 7/3/96, are

A.  not objected to by the Draftsperson under 37 CFR 1.84 or 1.152.

objected to by the Draftsperson under 37 CFR 1.84 or 1.152 as indicated below. The Examiner will require submission of new, corrected drawings when necessary. Corrected drawings must be submitted according to the instructions on the back of this Notice.

**DRAWINGS.** 37 CFR 1.84(a): Acceptable categories of drawings:  
 Black ink. Color.   
 Not black solid lines. Fig(s)   
 Color drawings are not acceptable until petition is granted. Fig(s)

**PHOTOGRAPHS.** 37 CFR 1.84(b)  
 Photographs are not acceptable until petition is granted. Fig(s)   
 Photographs not properly mounted (must use bristol board or photographic double-weight paper). Fig(s)   
 Poor quality (half-tone). Fig(s)

**GRAPHIC FORMS.** 37 CFR 1.84 (d)  
 Chemical or mathematical formula not labeled as separate figure. Fig(s)   
 Group of waveforms not presented as a single figure, using common vertical axis with time extending along horizontal axis. Fig(s)   
 Individuals waveform not identified with a separate letter designation adjacent to the vertical axis. Fig(s)

**TYPE OF PAPER.** 37 CFR 1.84(c)  
 Paper not flexible, strong, white, smooth, nonshiny, and durable. Sheet(s)   
 Erasures, alterations, overwritings, interlineations, cracks, creases, and folds copy machine marks not accepted. Fig(s)   
 Mylar, velum paper is not acceptable (too thin). Fig(s)

**SIZE OF PAPER.** 37 CFR 1.84(f): Acceptable sizes:  
 21.6 cm. by 35.6 cm. (8 U2 by 14 inches)  
 21.6 cm. by 33.1 cm. (8 1/2 by 13 inches)  
 21.6 cm. by 27.9 cm. (8 U2 by 11 inches)  
 21.0 cm. by 29.7 cm. (DIN size A4)  
 All drawing sheets not the same size. Sheet(s)   
 Drawing sheet not an acceptable size. Sheet(s)

**MARGINS.** 37 CFR 1.84(g): Acceptable margins:

Paper size			
1.6 cm. X 35.6 cm.	21.6 cm X 33.1 cm.	21.6 cm. X 21.9 cm.	21.0 cm. X 29.1 cm.
(8 1/2 X 14 inches)	(8 1/2 X 13 inches)	(8 1/2 X 11 inches)	(DIN Size A4)
1.5 cm. (2)	2.5 cm. (1")	2.5 cm. (1")	2.5 cm.
.64 cm. (1/4")	.64 cm. (1/4")	.64 cm. (1/4")	2.5 cm.
.64 cm. (1/4")	.64 cm. (1/4")	.64 cm. (1/4")	1.5 cm.
.64 cm. (1/4")	.64 cm. (1/4")	.64 cm. (1/4")	1.0 cm.

Margins do not conform to chart above. Sheet(s)   
 Top (T)  Left (L)  Right (R)  Bottom (B)

**VIEWS.** 37 CFR 1.84(h)  
 REMINDER: Specification may require revision to correspond to drawing changes.  
 All views not grouped together. Fig(s)   
 Views connected by projection lines or lead lines. Fig(s)   
 Partial views. 37 CFR 1.84(h) 2

View and enlarged view not labeled separately or properly. Fig(s)   
 Sectional views. 37 CFR 1.84 (h) 3  
 Hatching not indicated for sectional portions of an object. Fig(s)   
 Cross section not drawn same as view with parts in cross section with regularly spaced parallel oblique strokes. Fig(s)

**8. ARRANGEMENT OF VIEWS.** 37 CFR 1.84(i)  
 Words do not appear on a horizontal, left-to-right fashion when page is either upright or turned so that the top becomes the right side, except for graphs. Fig(s)

**9. SCALE.** 37 CFR 1.84(k)  
 Scale not large enough to show mechanism with crowding when drawing is reduced in size to two-thirds in reproduction. Fig(s)   
 Indication such as "actual size" or scale 1/2" not permitted. Fig(s)

**10. CHARACTER OF LINES, NUMBERS, & LETTERS.** 37 CFR 1.84(l)  
 Lines, numbers & letters not uniformly thick and well defined, clean, durable, and black (except for color drawings). Fig(s)

**11. SHADING.** 37 CFR 1.84(m)  
 Solid black shading areas not permitted. Fig(s)   
 Shade lines, pale, rough and blurred. Fig(s)

**12. NUMBERS, LETTERS, & REFERENCE CHARACTERS.** 37 CFR 1.84(p)  
 Numbers and reference characters not plain and legible. 37 CFR 1.84(p)(l) Fig(s)   
 Numbers and reference characters not oriented in same direction as the view. 37 CFR 1.84(p)(l) Fig(s)   
 English alphabet not used. 37 CFR 1.84(p)(2) Fig(s)   
 Numbers, letters, and reference characters do not measure at least .32 cm. (1/8 inch) in height. 37 CFR(p)(3) Fig(s)

**13. LEAD LINES.** 37 CFR 1.84(q)  
 Lead lines cross each other. Fig(s)   
 Lead lines missing. Fig(s)

**14. NUMBERING OF SHEETS OF DRAWINGS.** 37 CFR 1.84(t)  
 Sheets not numbered consecutively, and in Arabic numerals, beginning with number 1. Sheet(s)

**15. NUMBER OF VIEWS.** 37 CFR 1.84(u)  
 Views not numbered consecutively, and in Arabic numerals, beginning with number 1. Fig(s)   
 View numbers not preceded by the abbreviation Fig. Fig(s)

**16. CORRECTIONS.** 37 CFR 1.84(w)  
 Corrections not made from prior PTO-948. Fig(s)

**17. DESIGN DRAWING.** 37 CFR 1.152  
 Surface shading shown not appropriate. Fig(s)   
 Solid black shading not used for color contrast. Fig(s)

COMMENTS:

ATTACHMENT TO PAPER NO. \_\_\_\_\_ REVIEWER: JMC DATE: 8/20/96

PTO Copy





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V. Dutt

**Box Non-Fee Amendments**  
Assistant Commissioner of Patents  
Washington, D. C. 20231

By Express Mail article **EK797321469US**

Re: Patent Application of Brad A. Armstrong

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

Title: **IMAGE CONTROLLERS WITH SHEET CONNECTED SENSORS**  
(as amended)

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

Patent Examiner: Brier, J. Art Unit: **2779**

IN RESPONSE TO THE OUTSTANDING OFFICE ACTION OF **08/31/00**

Sir:

REMARKS

This is responsive to the Office Action mailed **08/31/00**, paper #20, regarding the above specified application wherein claims **38-60** are pending, and **38-43**, **45-52**, and **54-60** are rejected, and claims **44** and **53** are objected to.

A certificate of Express mailing is attached.

The consideration of this response, and the reexamination of the application and pending claims in view of this response is requested.

The entire Detailed Action of the **08/31/00** has been carefully read, including points **1-15**.

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Point 1 has been read, and it is noted that the CPA is acceptable and has been established. Applicant notes that the original application number 08/677,378 and filing date are being used in reference to the CPA.

Point 2 is noted.

Point 3 has been read. Applicant will amend, under amendments below, the specification to include the rewritten priority claim as suggested by the Examiner. The Examiner's suggestion is appreciated. Thank you.

Point 4 has been read. Drawing Figure 37 is prior art and is labeled as such in the new substitute formal drawing included herewith. A Letter to the Official Draftsperson is also herewith included. Would the Examiner please be so kind as to properly route the substitute drawing so that it is the drawing used for the Patent publication. Thank you.

Regarding the issue of Fig. 38. Applicant understands that the Examiner may have perceived Fig. 38 as prior art from reading the first sentence starting on line 16 on page 39, but therein Applicant is only describing a "typical package body 600" meaning that the body of the Fig. 38 sensor may use a prior art style body, not meaning that the sensor of Fig. 38 is prior art, rather lines 17-29 assert that Fig, 38 is a novel sensor.

Figure 38 is NOT a prior art figure or device. In the specification, on page 39 lines 17-29, describes the sensor of Fig. 38 as being novel at least due to the inclusion of "an additional very important element" (line 17), being a "pressure sensitive electrical element 612" (line 20). Applicant does not admit Fig. 38 is prior art and in fact states on lines 27-29 "I believe that integration of pressure sensitive technology into a tactile-snap through sensor package is novel...".

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Applicant has recently received a U.S. Patent on the novel sensor of Fig. 38, U.S. Patent 5,999,084 issued Dec. 7, 1999. A Copy of patent 5,999,084 is herewith included for the Examiner's convenience.

Point 5 is noted.

Point 6 has been read. Applicant will cancel claim 60 below under amendments, but Applicant does not admit claim 60 is not allowable because the Examiner's reasoning depends on the reliance of the "Fig. 38" sensor being prior art, which it is not as discussed above in response to point 4.

Point 7 has been read.

Point 8 has been read.

Point 9 has been read.

Points 10-13 have been read and Applicant again directs the Examiner's attention to the discussion of point 4 above and Fig. 38 not being prior art.

Point 14 noting the "Allowable Subject Matter" has been read and understood.

The Examiner states: "The prior art of record does not teach or suggest placing an input member movable in at least two axes and finger depressible buttons of claim 43/41/40/39/38 or claim 51/50/49/48 onto a flexible sheet."

Accordingly, in the Amendments below, the independent claim 38 (once amended) now includes the elements of claims 44/43/41/40/39/38, and also the independent claim 48 (once amended) now includes the elements of claims 53/51/50/49/48.

Point 15 has been noted.

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In the Aug. 4, 2000 amendment, Applicant stated in Remarks that he would cancel claims 19-37, but forgot to formally request cancelation of the claims under Amendments. It is noted the Examiner correctly understood Applicant's intention regarding claims 19-37 in his response of 08/31/00 by treating the claims as having been cancelled. For the sake of clarity, Applicant will formally cancel claims 19-37 below under Amendments for the record. Thank you.

AMENDMENTS

In the Specification:

Please rewrite the priority claim in the specification to read:

--This application is a continuation-in-part of U.S. Patent Application Serial No. ~~08/847,619~~<sup>08/847,619</sup> filed on March 5, 1992, now U.S. Patent No. 5,589,828 and this application is a continuation-in-part of U.S. Patent Application Serial No. 08/393,459 filed on February 23, 1995, now U.S. Patent No. 5,565,891.--

Amendments to the claims:

Please cancel claims 19-37 per the above discussion.

The claim amendments will be made by way of underlining that which is being added, and bracketing "[ ]" around that which is being deleted.

Please amend claim 38 as follows.

38: (once amended) An image controller comprising:  
an input member with associated sensors, said input member moveable on at least two axes; and  
a plurality of finger depressible buttons with associated

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sensors; and

at least one sheet structurally connecting, at least in part, to the sensors of said input member, and said at least one sheet structurally connecting, at least in part, to the sensors of said finger depressible buttons; said at least one sheet having

electrically conductive traces located on said at least one sheet, said electrically conductive traces electrically connecting with the sensors of said input member, and said electrically conductive traces electrically connecting with the sensors of said finger depressible buttons;

eg. conf.

said image controller is connected to an image generation device;

at least one of the finger depressible buttons is structured with a resilient dome cap:

said resilient dome cap is structured to provide a tactile feedback to a human hand:

a pressure-sensitive variable sensor is the sensor associated with said at least one of the finger depressible buttons, whereby depression of said at least one of the finger depressible buttons provides a proportional signal representing the level of depressive pressure applied; said at least one sheet comprises

a flexible membrane sheet connected to a rigid circuit board sheet.

Please cancel claims 39-44.

Please amend claim 45 to read as follows.

45. (once amended) An image controller according to claim [43] 38 in which said plurality of finger depressible buttons are at least 10 in number, at least some of said buttons represent

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keys for numbers 1-9.

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Please amend claim 48 to read as follows.

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48. (once amended) An image controller comprising:  
an input member movable on at least two axes, said input member having associated sensors; and  
a plurality of finger depressible buttons, said finger depressible buttons having associated sensors; and  
at least one sheet connecting to the sensors of said input member, and said at least one sheet connecting to the sensors of said finger depressible buttons;  
said at least one sheet includes electrically conductive traces. said traces engaging the sensors;  
at least one of the finger depressible buttons is structured with a resilient dome cap;  
said resilient dome cap is structured to provide a tactile feedback to a human hand; said at least one sheet comprises  
a flexible membrane sheet connected to  
a rigid circuit board sheet.

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Please cancel claims 49-53.

Please amend claims 54-55 to read as follows.

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54. (once amended) An image controller according to claim [53] 48 in which said at least one of the finger depressible buttons is associated with a pressure-sensitive variable sensor, whereby depression of said at least one of the finger depressible buttons provides a proportional signal representing the level of depressive pressure applied.

55. (once amended) An image controller according to claim [53] 48 in which said plurality of finger depressible buttons are at least 10 in number, at least some of said buttons represent

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34  
Cont'd

keys for numbers 1-9.

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Please cancel claim 60.

Please insert the following new claims 61-72 presented for examination and allowance. Thank you.

---

1<sup>st</sup> 61. An image controller comprising:  
an input member with associated sensors, said input member moveable on at least two axes; and  
a plurality of finger depressible buttons with associated sensors; and  
at least one sheet connecting to the sensors of said input member, and said at least one sheet connecting to the sensors of said finger depressible buttons;  
said at least one sheet comprising at least a flexible membrane sheet.

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62. An image controller according to claim <sup>12</sup>61 in which at least one of the finger depressible buttons is structured with a resilient dome cap.

63. An image controller according to claim <sup>13</sup>62 in which said image controller is connected to an image generation device.

64. An image controller according to claim <sup>14</sup>63 in which said image generation device includes a television based electronic game.

65. An image controller according to claim <sup>13</sup>62 in which said resilient dome cap is structured to provide a tactile feedback to a human hand.

66. An image controller according to claim <sup>10</sup>65 in which

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a plunger is positioned above said dome cap, said plunger comprising a non-conductive rigid plastic material.

67. An image controller according to claim <sup>61</sup> in which said at least one of the finger depressible buttons is associated with a pressure-sensitive variable sensor for providing a proportional signal, whereby depression of said at least one of the finger depressible buttons provides a proportional signal representing the level of depressive pressure applied.

68. An image controller according to claim <sup>61</sup> in which said at least one sheet comprises said flexible membrane sheet connected to a second sheet.

69. An image controller according to claim <sup>68</sup> in which said second sheet is a circuit board.

70. An image controller according to claim <sup>68</sup> in which said second sheet is a rigid membrane support structure.

71. An image controller according to claim <sup>69</sup> in which said at least one sheet comprises said flexible membrane sheet further supported by a third sheet, said third sheet is a rigid membrane support structure.

72. An image controller according to claim <sup>71</sup> in which said at least one of the finger depressible buttons is associated with a pressure-sensitive variable sensor for providing a proportional signal, whereby depression of said at least one of the finger depressible buttons provides a proportional signal representing the level of depressive pressure applied.

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REMARKS

No additional fees are required as the total number of independent and dependent claims is now the same as was paid for in the CPA filing of Aug. 4, 2000.

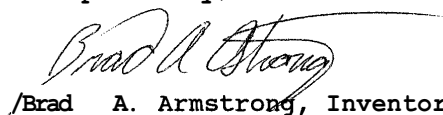
No new matter has been added with the now (once amended) claims 38/45/48/54/55, and no new matter has been added with the newly written claims 61-72. New claims 61-72 are believed to be within the scope of the recent CPA prior art search. The claim wording and concepts are fully supported in the originally filed specification.

Claims 61-72 are allowable over the prior art of record for the same reasoning once amended claims 38 and 48 are allowable.

Independent claims 38 and 48 have been amended by inclusion of the elements of their respective dependant claims, as suggested by the Examiner, (see above response to point 14, "Allowable Subject Matter"), thus bringing amended claims 38 and 48 into proper form for allowance.

Allowance of all pending claims is respectfully requested. Thank you.

Respectfully;


 Date: 7 September 2000  
/Brad A. Armstrong, Inventor / Applicant / Declarant

**CERTIFICATE OF EXPRESS MAILING**

Assistant Commissioner for Patents  
Washington, D. C. 20231

I hereby certify that this correspondence is being deposited with the United States Postal Service as EXPRESS MAIL article EK797321469US with sufficient postage paid in an envelope addressed to: Assistant Commissioner of Patents, Washington, D. C. 20231, on this

date: Sept. 7, 2000

  
Brad A. Armstrong, Inventor / Applicant

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Assistant Commissioner for Patents  
Washington, DC 20231  
Attn: Chief Draftsperson

Re: Patent Application of Brad A. Armstrong

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

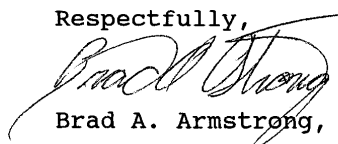
Title: **IMAGE** CONTROLLERS WITH SHEET CONNECTED SENSORS  
(as amended)

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

Patent Examiner: Brier, J. Art Unit: 2779

Sir:  
New formal drawing sheet 32 of 50 originally submitted for the above application is enclosed, corrected as required by the Patent Examiner to include the words "PRIOR ART" associated with Fig. 37. The sheet includes only drawing Figs. 37 and 38. Please substitute this sheet for the corresponding sheet on file. Thank you.

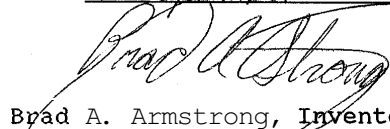
Respectfully,

 Date: 7 September 2000  
Brad A. Armstrong, Inventor / Applicant

**CWTFIFICATE OF EXPRESS MAILING**

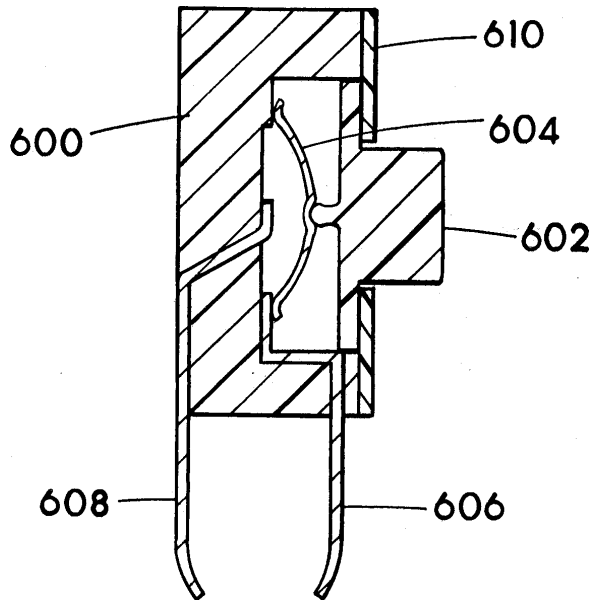
Assistant Commissioner for Patents  
Washington, D. C. 20231  
I hereby certify that this correspondence regarding my above referenced patent application is being deposited with the U.S. Postal Service as EXPRESS mail, article EK797321469US with sufficient postage pre-paid in an envelope addressed to: Box Non-fee Amendments, Assistant Commissioner for Patents, Washington, D. C. 20231, on this

date: 7 September 2000.

  
Brad A. Armstrong, Inventor / Applicant

*C*

APPROVED	O.G. FIG.	
BY	CLASS	SUBCLASS
C. RAFTSMAN		



PRIOR ART  
FIG. 37

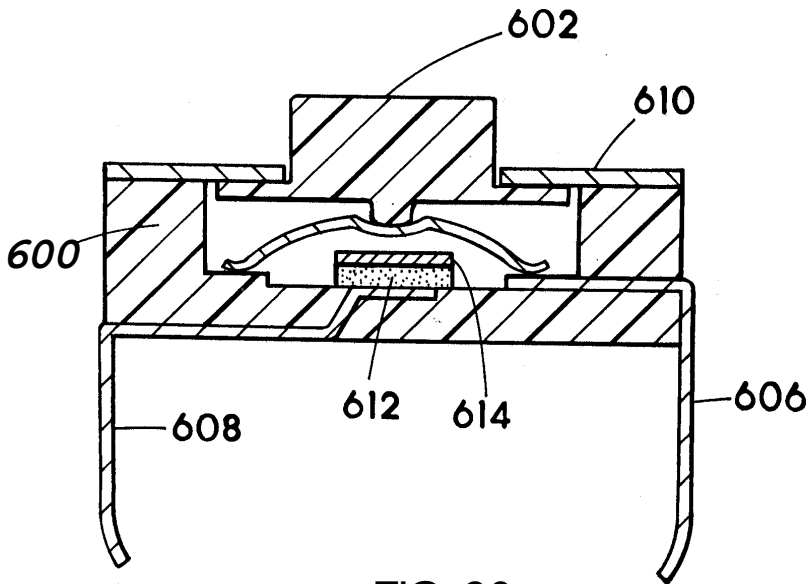


FIG. 38



**CWTFIFICATE OF EXPRESS MAILING**

Assistant Commissioner for Patents  
Washington, D. C. 20231

I hereby certify that this correspondence is being deposited with the United States Postal Service as EXPRESS MAIL POST OFFICE TO ADDRESSEE, mail article EK797321469US with sufficient postage pre-paid in an envelope addressed to: Assistant Commissioner of Patents, Washington, DC 20231, on this

date: 7 September 2000

Brad A. Armstrong, Inventor / Applicant

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**UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office**

Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

APPLICATION NO. 07/057,376	FILING DATE 07/05/96	FIRST NAMED INVENTOR ARMSTRONG	ATTORNEY DOCKET NO.
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BRAD A ARMSTRONG  
P.O. BOX 1419  
PARADISE CA 95967

WM11/1010

EXAMINER  
BRIER, J

ART UNIT 2672	PAPER NUMBER 22
------------------	--------------------

DATE MAILED:

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

THE PATENT TERM ADJUSTMENT TO DATE IS 00 DAYS. IF THE PATENT ISSUE FEE IS PAID ON THE DATE THAT IS THREE MONTHS AFTER THE MAILING DATE OF THIS NOTICE AND THE PATENT ISSUES ON THE TUESDAY BEFORE THE DATE THAT IS 28 WEEKS (SIX AND A HALF MONTHS) AFTER THE MAILING DATE OF THIS NOTICE, THE TERM ADJUSTMENT WILL BE 00 DAYS.

<b>Notice of Allowability</b>	Application No.	Applicant(s)	
	08/677,378	ARMSTRONG, BRADA	
	Examiner	Art Unit	
	Jeffery A. Brier	2672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--  
 All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance and Issue Fee Due or other appropriate communication will be mailed in due course.

1.  This communication is responsive to *the amendment filed on 09/07/2000*.
2.  The allowed claim(s) is/are *38, 45-48, 54-59, and 67-72 renumbered as 1-23 respectively*.
3.  The drawings filed on *07/05/96 and 09/07/00 (sheet 32)* are acceptable.
4.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
  - a)  All b)  Some\* c)  None of the CERTIFIED copies of the priority documents have been
    1.  received.
    2.  received in Application No. (Series Code / Serial Number) \_\_\_\_\_ .
    3.  received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.
5.  Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

A SHORTENED STATUTORY PERIOD FOR REPLY to comply with the requirements noted below is set to EXPIRE **THREE MONTHS FROM THE "DATE MAILED"** of this Office Action. Failure to timely comply will result in ABANDONMENT of this application. Extensions of time may be available under the provisions of 37 CFR 1.136(a).

6.  Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient. A SUBSTITUTE OATH OR DECLARATION IS REQUIRED.
7.  Applicant MUST submit NEW FORMAL DRAWINGS
  - (a)  because the originally filed drawings were declared by applicant to be informal.
  - (b)  including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
    - 1)  hereto or 2)  to Paper No. \_\_\_\_\_.
  - (c)  including changes required by the proposed drawing correction filed \_\_\_\_\_, which has been approved by the examiner.
  - (d)  including changes required by the attached Examiner's Amendment / Comment.


Identifying indicia such as the application number (see **37 CFR 1.84(c)**) should be written on the reverse side of the drawings. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

8.  Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Any reply to this letter should include, in the upper right hand corner, the APPLICATION NUMBER (SERIES CODE/ SERIAL NUMBER). If applicant has received a Notice of Allowance and Issue Fee Due, the ISSUE BATCH NUMBER and DATE of the NOTICE OF ALLOWANCE should also be included.

**Attachment(s)**

- |  |  |
|--|--|
| <input type="checkbox"/> Notice of References Cited (PTO-892)  | <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                    | <input type="checkbox"/> Interview Summary (PTO-413), Paper No. _____    |
| <input type="checkbox"/> Information Disclosure Statements (PTO-1449), Paper No. _____               | <input type="checkbox"/> Examiner's Amendment/Comment                    |
| <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | <input type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|  | <input type="checkbox"/> Other   |

  
 Jeffery A. Brier  
 Primary Examiner  
 Art Unit: 2672



UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office

**NOTICE OF ALLOWANCE AND ISSUE FEE DUE**

SPAD A ARMSTRONG  
P.O. BOX 1419  
WACAPRE, CA 95066

09/17/2010

22

APPLICATION NO.	FILING DATE	TOTAL CLAIMS	EXAMINER AND GROUP ART UNIT	DATE MAILED
07/07, 078	07/05/96	023	ERIER, J	2672 10/10/00
First Named Applicant	ARMSTRONG, 35 USC 154(b) term. ext. = 0 Days.			
TITLE OF INVENTION: BOARD CONTROLLERS WITH SHEET CONNECTED SENSORS				

ATTY'S DOCKET NO.	CLASS-SUBCLASS	BATCH NO.	APPLN. TYPE	SMALL ENTITY	FEE DUE	DATE DUE
	345-161,000	T54	UTILITY	YES	\$620.00	01/10/01

**THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED.**

**THE ISSUE FEE MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED.**

Review the SMALL ENTITY status shown above.  
If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

If the SMALL ENTITY is shown as NO:

- A. If the status is changed, pay twice the amount of the FEE DUE shown above and notify the Patent and Trademark Office of the change in status, or
- B. If the status is the same, pay the FEE DUE shown above.

- A. Pay FEE DUE shown above, or
- B. File verified statement of Small Entity Status before, or with, payment of 1/2 the FEE DUE Shown above.

- i. Part B-Issue Fee Transmittal should be completed and returned to the Patent and Trademark Office (PTO) with your ISSUE FEE. Even if the ISSUE FEE has already been paid by charge to deposit account, Part B Issue Fee Transmittal should be completed and returned. If you are charging the ISSUE FEE to your deposit account, section "4b" of Part B-Issue Fee Transmittal should be completed and an extra copy of the form should be submitted.
- ii. All communications regarding this application must give application number and batch number. Please direct all communications prior to issuance to Box ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.**

PATENT AND TRADEMARK OFFICE COPY

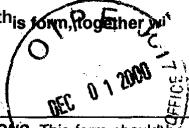
**PART B—ISSUE FEE TRANSMITTAL**

2-04-00

Complete and mail this form, together with applicable fees, to: **Box ISSUE FEE**

**Assistant Commissioner for Patents  
Washington, D.C. 20231**

B/S



**MAILING INSTRUCTIONS:** This form should be used for transmitting the ISSUE FEE. Blocks 1 through 4 should be completed where appropriate. All further correspondence including the Issue Fee Receipt, the Patent, advance order and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

Note: The certificate of mailing below can only be used for domestic mailings of the Issue Fee Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing.

**Certificate of Mailing**

I hereby certify that this Issue Fee Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Box issue Fee address above on the date indicated below.

CURRENT CORRESPONDENCE ADDRESS (Note: Legibly mark-up with any corrections or use Block 1)

WM111 / 2010

**BRAD A ARMSTRONG**  
~~P.O. BOX 1419~~ (Note address change for residence and mailing)  
~~PARADISE CA 95967~~  
P.O. Box 2048  
Carson City, NV 89702

**Brad A. Armstrong** (Depositor's name)

*Brad A. Armstrong* (Signature)

*December 1, 2000* (Date)

APPLICATION NO.	FILING DATE	TOTAL CLAIMS	EXAMINER AND GROUP ART UNIT	DATE MAILED
08/677,378	07/05/96	023	BRIER, J 2672	10/10/00
First Named Applicant <b>ARMSTRONG,</b>		35 USC 154(b) term ext. = 0 Days.		

TITLE OF INVENTION: **IMAGE CONTROLLERS WITH SHEET CONNECTED SENSORS**

ATTY'S DOCKET NO.	CLASS-SUBCLASS	BATCH NO.	APPLN. TYPE	SMALL ENTITY	FEE DUE	DATE DUE
2	345-161.000	T54	UTILITY	YES	\$211.00	81/10/01

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363). Use of PTO form(s) and Customer Number are recommended, but not required.

**See address change above**

- Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- "Fee Address" indication (or "Fee Address" indication form PTO/SB/47) attached

2. For printing on the patent front page, list (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

- 1 \_\_\_\_\_
- 2 \_\_\_\_\_
- 3 \_\_\_\_\_

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)  
PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. Inclusion of assignee data is only appropriate when an assignment has been previously submitted to the PTO or is being submitted under separate cover. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY & STATE OR COUNTRY)

Please check the appropriate assignee category indicated below (will not be printed on the patent)

- individual
- corporation or other private group entity
- government

4a. The following fees are enclosed (make check payable to Commissioner of Patents and Trademarks):

- Issue Fee
- Advance Order - # of Copies \_\_\_\_\_

4b. The following fees or deficiency in these fees should be charged to:

DEPOSIT ACCOUNT NUMBER \_\_\_\_\_  
(ENCLOSE AN EXTRA COPY OF THIS FORM)

- Issue Fee
- Advance Order - # of Copies \_\_\_\_\_

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 11-10-00

**TRANSMIT THIS FORM WITH FEE**





UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office

Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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08/677,378 07/05/96 ARMSTRONG

B

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EXAMINER

WM02/1213

BRAD A ARMSTRONG  
P.O. BOX 1419  
PARADISE CA 95967

BRIEF, I	PAPER NUMBER
----------	--------------

ART UNIT

PAPER NUMBER

23

2672

DATE MAILED:

12/13/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

<i>Supplemental</i> <b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	08/677,378	ARMSTRONG, BRADA.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Jeffery A. Brier	2672	

-- **The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**  
All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance and Issue Fee Due or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to \_\_\_\_\_.
2.  The allowed claim(s) is/are **as indicated in paper no. 22**.
3.  The drawings filed on \_\_\_\_\_ are acceptable as formal drawings.
4.  Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
  - a)  All b)  Some\* c)  None of the:
    1.  Certified copies of the priority documents have been received.
    2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_ .
    3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

5.  Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

6.  Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient. A SUBSTITUTE OATH OR DECLARATION IS REQUIRED.
7.  Applicant MUST submit NEW FORMAL DRAWINGS
  - (a)  including changes required by the Notice of Draftsperson's Patent Drawing Review( PTO-948) attached
    - 1)  hereto or 2)  to Paper No. \_\_\_\_\_.
  - (b)  including changes required by the proposed drawing correction filed \_\_\_\_\_, which has been approved by the examiner.
  - (c)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper NO. \_\_\_\_\_.

**Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.**

8.  Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Any reply to this letter should include, in the upper right hand corner, the APPLICATION NUMBER (SERIES CODE / SERIAL NUMBER). If applicant has received a Notice of Allowance and Issue Fee Due, the ISSUE BATCH NUMBER and DATE of the NOTICE OF ALLOWANCE should also be included.

**Attachment(s)**

- |  |  |
|--|--|
| 1 <input type="checkbox"/> Notice of References Cited (PTO-892)  | 2 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                    | 4 <input type="checkbox"/> Interview Summary (PTO-413), Paper No. _____ .  |
| 5 <input type="checkbox"/> Information Disclosure Statements (PTO-1449), Paper No. _____.              | 6 <input checked="" type="checkbox"/> Examiner's Amendment/Comment         |
| 7 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8 <input type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|  | 9 <input type="checkbox"/> Other   |

Jeffery A. Brier  
Primary Examiner  
Art Unit: 2672

Application/Control Number: 08/677,378  
Art Unit: 2672

Page 2


1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The continuing data found on page 4 of the 09/07/2000 amendment has been amended by the examiner by changing "08/847,619" to --07/847,619--.

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffery A Brier whose telephone number is (703) 305-4723. The examiner can normally be reached on M-F from 8:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi, can be reached on (703) 305-4713. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-6606.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

  
Jeffery A Brier  
Primary Examiner  
Art Unit 2672

11-06-00 2672 GP2779

Please type a plus sign (+) in this box  for use through 10/31/2002. OMB 0651-0035  
 U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE  
 Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

<p align="center"><b>CHANGE OF CORRESPONDENCE ADDRESS</b> <i>Application</i></p> <p>Address to: Assistant Commissioner for Patents Washington, D.C. 20231</p>	Application Number	08/67? 378
	Filing Date	07/05/96
	First Named Inventor	Brad A. Armstrong
	Group Art Unit	2779
	Examiner Name	Brier, J.
	Attorney Docket Number	

Please change the Correspondence Address for the above-identified application to:

Customer Number  → Place Customer Number Bar Code Label here

OR

<input checked="" type="checkbox"/> Firm or Individual Name	Brad A. Armstrong		
Address	P.O. Box 2048		
Address			
City	Carson City	State	NV
Country	USA		
Telephone	775 721 6958	Fax	

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This form cannot be used to change the data associated with a Customer Number. To change the data associated with an existing Customer Number use "Request for Customer Number Data Change" (PTO/SB/124).

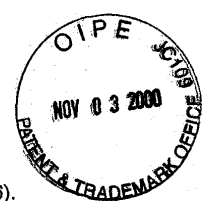
I am the :

Applicant/Inventor.

Assignee of record of the entire interest. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96).

Attorney or Agent of record.

Registered practitioner named in the application transmittal letter in an application without an executed oath or declaration. See 37 CFR 1.33(a)(1). Registration Number \_\_\_\_\_



Typed or Printed Name: Brad A. Armstrong

Signature: *Brad A. Armstrong*

Date: 3 November 2000

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below\*.

Total of 1 forms are submitted.

Burden Hour Statement. This Form is estimated to take 3 minutes to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.