

No. 6,064,970. In compliance with 37 CFR §1.98(a)(3), provided herewith are English language abstracts which serve as concise explanations for each reference not in the English language. By submitting this Statement, Patent Owner is attempting to fully comply with the duty of candor and good faith mandated by 37 CFR §1.555, and the requirements of 37 CFR §1.98. This Statement is not intended to constitute an admission that any of the enclosed references, or other information referred to therein, constitutes "prior art" or is otherwise "material to patentability," as that phrase is defined in 37 CFR §1.555(b). Patent Owner reserves the right to file supplemental IDS(s) if additional references are found.

Patent Owner also respectfully requests the Office to review the claims and the prosecution history, including any Office Actions issued by the U.S. Patent and Trademark Office and any responses filed by Patent Owner, for Serial No. 08/592,958 (now U.S. Pat. No. 5,797,134), Serial No. 09/571,650 (now U.S. Pat. No. 6,868,386), Serial No. 10/764,076, Serial No. 11/868,827, and Serial No. 12/132,487.

U.S. Patent No. 6,064,970 is the subject of litigation in *Progressive Casualty Insurance Company v. Safeco Insurance Company of Illinois, et al.*, Case No. 1:10-cv-01370-PAG, in the U.S. District Court for the Northern District of Ohio. On November 12, 2010, the court stayed the litigation pending the outcome of this reexamination. Therefore, the litigation is currently closed, but will be reopened upon immediate notification of either party after the conclusion of the reexamination process.

Patent Owner has calculated no fee due upon filing this Information Disclosure Statement. However, the Director is authorized to charge any fee deficiency associated with the filing of this Information Disclosure Statement to a deposit account, as authorized in the accompanying Transmittal.

Respectfully submitted,

February 1, 2011

Date

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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

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Filing Date: August 17, 1998	§ Confirmation No. 4116
	§
Application No. 90/011,252	§ Attorney Docket No. 12741-32

For: Motor Vehicle Monitoring System for Determining a Cost of Insurance

MAIL STOP *EX PARTE* REEXAM  
Central Reexamination Unit  
Commissioner for Patents  
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**AMENDMENT IN *EX PARTE* REEXAMINATION UNDER 37 CFR 1.530(d)**

Dear Examiner:

Patentee respectfully requests that the above-identified *ex parte* reexamination prosecution and examination proceed on the basis of the claims as amended by this communication. The amendments are presented to further distinguish the inventions from the prior art cited in the Reexamination Order mailed November 24, 2010.

Amendments to the claims begin on page 2 of this communication.

Remarks begin on page 18 of this communication.

Please add new claims 16-73, as shown below. The patented claims 1-15 are not amended.

**Amendments to the Claims:**

1. (previously presented) A method of generating a database comprising data elements representative of operator or vehicle driving characteristics, the method comprising:
  - monitoring a plurality of the data elements representative of an operating state of a vehicle or an action of the operator during a selected time period; and,
  - recording selected ones of the plurality of data elements into the database when said ones are determined to be appropriate for recording relative to determining a cost of insurance for the vehicle during the selected time period, said ones including, a time and location of vehicle operation and a corresponding log of vehicle speed for the time and location.
  
2. (previously presented) A database comprising data elements representative of operator or vehicle driving characteristics for a selected time period including a time and location of vehicle operation and a corresponding log of vehicle speed for the time and location, the database then being used to determine an insurance charge for the vehicle operation for said selected time period.
  
3. (previously presented) The database as defined in claim 2 wherein the data elements comprise raw data elements, derived data elements and calculated data elements.
  
4. (previously presented) A method of insuring a vehicle operator for a selected period based upon operator driving characteristics during the period, comprising, steps of:
  - generating an initial operator profile;
  - monitoring operator driving characteristics during the selected period; and
  - deciding a cost of vehicle insurance for the period based upon the operating characteristics monitored in that period.



5. (previously presented) A method of determining a cost of vehicle insurance for a selected period based upon monitoring, recording and communicating data representative of operator and vehicle driving characteristics during said period, whereby the cost is adjustable by relating the driving characteristics to predetermined safety standards, the method comprising:

determining an initial insured profile and a base cost of vehicle insurance based on said insured profile;

monitoring a plurality of data elements representative of an operating state of a vehicle or an action of the operator during the selected period;

recording selected ones of the plurality of data elements when said ones are determined to have a preselected relationship to the safety standards;

consolidating said selected ones for identifying a surcharge or discount to be applied to the base cost; and,

producing a final cost of vehicle insurance for the selected period from the base cost and the surcharge or discount.

6. (previously presented) A method of monitoring a human controlled power source driven vehicle, the method comprising:

extracting one or more data elements from at least one sensor wherein the one or more elements are of at least one operating state of the vehicle and the at least one human's actions during a data collection period;

analyzing, grouping, and storing the one or more data elements as group data values in a first memory related to a predetermined group of elements; and,

correlating the group data values to preset values in a second memory and generating an output data value based on the correlation wherein the output data value is used to compute an insurance rating for the vehicle FOR the data collection period.

7. (previously presented) The method according to claim 6, further including the steps of:  
determining if the one or more data elements indicate one or more predetermined triggering events, where if the determination is positive, correlating the one or more data elements to one or more types of triggering events stored in a third memory; and,  
storing and transmitting a signal corresponding to the determined triggering event to a receiving system.
8. (previously presented) The method according to claim 6, further including the steps of:  
determining if the one or more data elements indicate one or more predetermined triggering events, where if the determination is positive, correlating the one or more data elements to one or more types of triggering events stored in a third memory; and,  
storing or transmitting a signal corresponding to the determined triggering event to a receiving system.
9. (previously presented) The method as defined in claim 6 wherein the output data value is additionally used for computing an insurance rating for the vehicle for a future data collection period.
10. (previously presented) The method according to claim 6, further comprising the steps of:  
using safety or other actuarial standard values as the preset values; and,  
generating an adjusted insurance cost as the output data value.
11. (previously presented) The method according to claim 10, further comprising the steps of:  
using location and time as the one or more data elements which are compared to the safety or other actuarial standard values to generate the adjusted insurance cost.
12. (previously presented) The method according to claim 11 wherein:  
the adjusted insurance cost can be for a prospective or retrospective basis.
13. (previously presented) The method according to claim 6, further comprising the steps of:  
using safety or other actuarial standard values as the preset values; and,  
generating an adjusted underwriting cost as the output data value.

14. (previously presented) The method according to claim 13, further comprising the steps of:  
using location and time as the one or more data elements which are compared to the safety or other actuarial standard values to generate the adjusted underwriting cost.

15. (previously presented) The method according to claim 14 wherein:  
the adjusted underwriting cost can be for a prospective or retrospective basis.

16. (new) The method according to claim 6, wherein the step of analyzing, grouping, and storing comprises:

determining by a processor whether the one or more data elements have a preselected relationship to a predetermined safety standard; and

recording select ones of the one or more data elements in the first memory in response to the processor determining that the select ones of the one or more data elements have the preselected relationship to the safety standard.

17. (new) The method according to claim 6, wherein the step of analyzing, grouping, and storing comprises grouping, by a processor, a selected data element of the one or more data elements in the first memory in combination with a location of the vehicle associated with the selected data element.

18. (new) The method according to claim 6, wherein the step of analyzing, grouping, and storing comprises grouping, by a processor, a selected data element of the one or more data elements in the first memory in combination with a time or date associated with the selected data element.

19. (new) The method according to claim 6, further comprising:

calculating a rate of acceleration of the vehicle based on the one or more data elements extracted from the at least one sensor; and

using the rate of acceleration of the vehicle by a processor to compute the insurance rating for the vehicle.

20. (new) The method according to claim 6, further comprising:  
calculating a rate of acceleration of the vehicle based on the one or more data elements extracted from the at least one sensor; and  
determining by a processor whether the rate of acceleration indicates a trigger event which would result in a surcharge or discount during an insurance billing process.
21. (new) The method according to claim 6, further comprising calculating a rate of acceleration of the vehicle based on the one or more data elements extracted from the at least one sensor, wherein the step of analyzing, grouping, and storing comprises:  
determining by a processor whether the rate of acceleration has a preselected relationship to a predetermined safety standard; and  
recording the rate of acceleration in the first memory in response to the processor determining that the rate of acceleration has the preselected relationship to the safety standard.
22. (new) The method according to claim 6, further comprising:  
recording a number of acceleration events during the data collection period that are identified as being excessive or sudden; and  
computing the insurance rating for the vehicle by a processor based on the number of identified excessive or sudden acceleration events.
23. (new) The method according to claim 6, further comprising:  
calculating a rate of braking associated with the vehicle based on the one or more data elements extracted from the at least one sensor; and  
using the rate of braking associated with the vehicle by a processor to compute the insurance rating for the vehicle.

24. (new) The method according to claim 6, further comprising:  
calculating a rate of braking associated with the vehicle based on the one or more data elements extracted from the at least one sensor; and  
determining by a processor whether the rate of braking indicates a trigger event which would result in a surcharge or discount during an insurance billing process.
25. (new) The method according to claim 6, further comprising calculating a rate of braking associated with the vehicle based on the one or more data elements extracted from the at least one sensor, wherein the step of analyzing, grouping, and storing comprises:  
determining by a processor whether the rate of braking has a preselected relationship to a predetermined safety standard; and  
recording the rate of braking in the first memory in response to the processor  
determining that the rate of braking has the preselected relationship to the safety standard.
26. (new) The method according to claim 6, further comprising:  
recording a number of braking events during the data collection period that are identified as being excessive or sudden; and  
computing the insurance rating for the vehicle by a processor based on the number of identified excessive or sudden braking events.
27. (new) The method according to claim 6, further comprising:  
determining speed data associated with the vehicle based on the one or more data elements;  
identifying a predetermined speed threshold associated with a location of the vehicle;  
comparing the speed data to the predetermined speed threshold to determine whether the speed data indicates an occurrence of an excessive speed event above the predetermined speed threshold; and  
computing the insurance rating for the vehicle by a processor based on the occurrence of the excessive speed event.

28. (new) The method according to claim 27, further comprising measuring a time duration of the excessive speed event above the predetermined speed threshold, wherein the step of computing the insurance rating comprises computing the insurance rating for the vehicle by the processor based on the time duration of the excessive speed event.

29. (new) The method according to claim 6, further comprising:

determining speed data associated with the vehicle based on the one or more data elements; and

extracting speed limit data associated with a location of the vehicle from a database;

wherein the step of analyzing, grouping, and storing comprises:

comparing the speed data to the speed limit data by a processor to determine whether the speed data indicates an occurrence of an excessive speed event above the speed limit data;  
and

recording the speed data in the first memory in response to the processor determining that the speed data indicates an occurrence of an excessive speed event above the speed limit data.

30. (new) The method according to claim 6, further comprising:

monitoring time of day driving data associated with the vehicle; and

determining by a processor whether the time of day driving data indicates a trigger event which would result in a surcharge or discount during an insurance billing process.

31. (new) The method according to claim 6, further comprising monitoring time of day driving data associated with the vehicle, wherein the step of analyzing, grouping, and storing comprises:

determining by a processor whether the time of day driving data has a preselected relationship to a predetermined safety standard; and

recording the time of day driving data in the first memory in response to the processor determining that the time of day driving data has the preselected relationship to the safety standard.

32. (new) The method according to claim 6, further comprising:

monitoring time of day driving data associated with the vehicle;

comparing the time of day driving data to a predetermined high risk driving time of day range to determine whether the time of day driving data indicates an occurrence of a high risk driving time event; and

computing the insurance rating for the vehicle by a processor based on the occurrence of the high risk driving time event.

33. (new) The method according to claim 32, further comprising measuring a time duration of the high risk driving time event, wherein the step of computing the insurance rating comprises computing the insurance rating for the vehicle by the processor based on the time duration of the high risk driving time event.

34. (new) The method according to claim 6, further comprising:  
monitoring driving route data associated with the vehicle;  
comparing the driving route data to a list of predetermined high risk driving locations to determine whether the driving route data indicates an occurrence of a high risk driving location event; and  
computing the insurance rating for the vehicle by a processor based on the occurrence of the high risk driving location event.
35. (new) The method according to claim 6, further comprising:  
recording a lateral acceleration of the vehicle based on the one or more data elements extracted from the at least one sensor; and  
using the lateral acceleration of the vehicle by a processor to compute the insurance rating for the vehicle.
36. (new) The method according to claim 6, further comprising:  
calculating a lateral acceleration of the vehicle based on the one or more data elements extracted from the at least one sensor; and  
determining by a processor whether the lateral acceleration indicates a trigger event which would result in a surcharge or discount during an insurance billing process.
37. (new) The method according to claim 6, further comprising calculating a lateral acceleration of the vehicle based on the one or more data elements extracted from the at least one sensor, wherein the step of analyzing, grouping, and storing comprises:  
determining by a processor whether the lateral acceleration has a preselected relationship to a predetermined safety standard; and  
recording the lateral acceleration in the first memory in response to the processor determining that the lateral acceleration has the preselected relationship to the safety standard.



38. (new) The method according to claim 6, further comprising adjusting an insurance premium associated with the vehicle by a processor based on the one or more data elements extracted from the at least one sensor.

39. (new) The method according to claim 6, further comprising prospectively setting an insurance cost or an insurance premium associated with the vehicle by a processor based on the one or more data elements.

40. (new) The method according to claim 6, further comprising prospectively setting an insurance cost or an insurance premium associated with the vehicle by a processor based on the insurance rating.

41. (new) The method according to claim 6, further comprising:  
selecting one or more of the one or more data elements by a processor for use to determine an actuarial class associated with the vehicle; and  
selecting one or more of the one or more data elements by the processor for use to determine a surcharge or discount to be applied to a base cost of insurance associated with the vehicle.

42. (new) The method according to claim 6, wherein the step of analyzing, grouping, and storing comprises grouping speed data of the vehicle in combination with a location of the vehicle in a log of vehicle speed for the location.

43. (new) The method according to claim 6, further comprising communicating information representative of a trigger event associated with the one or more data elements to a central control station remote from the vehicle via a communications uplink.

44. (new) The method according to claim 6, further comprising assigning the vehicle to an insurance actuarial class by a processor based on a measured total driving time of the vehicle during the data collection period.

45. (new) The method according to claim 6, further comprising assigning the vehicle to an insurance actuarial class by a processor based on a measured driving time of the vehicle in predetermined high risk locations during the data collection period.

46. (new) The method according to claim 6, further comprising assigning the vehicle to an insurance actuarial class by a processor based on a measured driving time of the vehicle at predetermined high risk times during the data collection period.

47. (new) The method according to claim 6, further comprising:  
processing speed data associated with the vehicle based on the one or more data elements extracted from the at least one in-vehicle sensor; and  
assigning the vehicle to an insurance actuarial class by a processor based on the speed data.

48. (new) The method according to claim 6, further comprising:  
determining speed limit observation data associated with the vehicle based on the one or more data elements extracted from the at least one sensor; and  
assigning the vehicle to an insurance actuarial class by a processor based on the speed limit observation data.

49. (new) The method according to claim 6, further comprising:  
calculating a rate of acceleration of the vehicle based on the one or more data elements extracted from the at least one sensor; and  
assigning the vehicle to an insurance actuarial class by a processor based on the rate of acceleration.

50. (new) The method according to claim 6, further comprising:

calculating a rate of braking associated with the vehicle based on the one or more data elements extracted from the at least one sensor; and

assigning the vehicle to an insurance actuarial class by a processor based on the rate of braking.

51. (new) The method according to claim 6, wherein the step of extracting comprises extracting the one or more data elements from the at least one sensor by an on-board computer comprising a processor and computer memory.

52. (new) The method according to claim 6, wherein the step of extracting comprises communicating the one or more data elements to a computer through an on-board diagnostics (OBD) connector of the vehicle.

53. (new) The method according to claim 6, wherein the step of extracting comprises monitoring a physical operation of the vehicle through at least one in-vehicle sensor in operative connection with a data bus of the vehicle.

54. (new) The method according to claim 6, wherein the step of extracting comprises:

extracting a first data element from a power train sensor coupled with the vehicle;

extracting a second data element from an in-vehicle electrical sensor coupled to the vehicle; and

extracting a third data element from an in-vehicle body sensor coupled with the vehicle.

55. (new) The method according to claim 6, further comprising:

analyzing the one or more data elements to determine whether the one or more data elements comprise a trigger event; and

transmitting a location of the vehicle by an on-board computer to a remote control center in response to determining that the one or more data elements comprise the trigger event.

56. (new) The method according to claim 6, further comprising:  
detecting a non-use of turn signals by a driver of the vehicle based on the one or more data elements;  
recording the detected non-use of the turn signals by the driver in computer memory;  
and  
computing an insurance surcharge for the vehicle by a processor based on the detected non-use of the turn signals by the driver.
57. (new) The method according to claim 6, further comprising:  
detecting an application of an anti-lock braking system of the vehicle based on the one or more data elements extracted from the at least one sensor;  
recording the detected anti-lock braking system application in computer memory; and  
computing an insurance surcharge for the vehicle by a processor based on the detected anti-lock braking system application.
58. (new) The method according to claim 6, further comprising:  
monitoring the one or more data elements for a predetermined incident condition;  
remaining in a data collection loop in response to determining that the one or more data elements fail to meet the predetermined incident condition; and  
recording a snapshot of the one or more data elements in response to determining that the one or more data elements meet the predetermined incident condition.
59. (new) The method according to claim 6, further comprising:  
acquiring a vehicle sensor record file associated with the vehicle by a central billing computer system remote from the vehicle;  
acquiring a trigger event response file associated with the vehicle by the central billing computer system; and  
consolidating the vehicle sensor record file with the trigger event response file into a consolidated usage data file by the central billing computer system.

60. (new) The method according to claim 59, further comprising:  
processing, by the central billing computer system, the consolidated usage data file and an insured profile associated with the vehicle against an insurance surcharge or discount algorithm file; and  
adjusting available insurance surcharges or discounts for the vehicle based on usage patterns reflected in the consolidated usage data file.
61. (new) The method according to claim 6, further comprising setting an insurance cost or an insurance premium associated with the vehicle by a processor based on the insurance rating.
62. (new) The method according to claim 6, further comprising generating an insurance cost based on the insurance rating for the vehicle for the data collection period, where the preset values comprise a safety standard value or other actuarial standard value.
63. (new) The method according to claim 62, further comprising:  
comparing a plurality of data elements to the safety standard value or the actuarial standard value to generate the insurance cost, where the one or more data elements comprise the plurality of data elements.
64. (new) The method according to claim 63 where the insurance cost can be for a prospective or retrospective basis.
65. (new) The method according to claim 6, further comprising generating an initial vehicle operator profile and an initial insured profile.
66. (new) The method according to claim 6, further comprising:  
identifying road condition data associated with a path of the vehicle based on the one or more data elements extracted from the at least one sensor; and  
processing the road condition data through a processor to compute the insurance rating for the vehicle.

67. (new) The method according to claim 6, further comprising:

identifying traffic condition data associated with a path of the vehicle based on the one or more data elements extracted from the at least one sensor; and

processing the traffic condition data by a processor to compute the insurance rating for the vehicle.

68. (new) The method according to claim 6, further comprising:

calculating a distance traveled by the vehicle based on the one or more data elements extracted from the at least one sensor;

determining speed data associated with the vehicle based on the one or more data elements;

recording a rate of change in vehicle speed with respect to time based on the one or more data elements extracted from the at least one sensor; and

processing the distance traveled, the rate of change in vehicle speed with respect to time, and the speed data by a processor to compute the insurance rating for the vehicle.

69. (new) The method according to claim 68, further comprising:

monitoring time of day driving data associated with the vehicle; and

processing the time of day driving data through the processor to compute the insurance rating for the vehicle.

70. (new) A method of monitoring a human controlled power source driven vehicle, the method comprising:

extracting and storing in a vehicle a plurality of data elements from a plurality of in-vehicle sensors wherein the plurality of data elements are generated by an operating state of the vehicle and the at least one human's actions during a data collection period;

analyzing, grouping, and storing the plurality of data elements as group data values in a first memory related to a predetermined group of risk assessment elements during the data collection period;

correlating the group data values to preset insurance values in a second memory and generating an output data value based on the correlation; and

computing an insurance rating for the vehicle for the data collection period based on the output data value.

71. (new) The method of claim 70 further comprising generating a plurality of dynamic actuarial classes that change relative to the data being extracted and stored, where the insurance rating is based on the application of the dynamic actuarial classes.

72. (new) The method of claim 70 where the act of correlating the group data values to preset insurance values comprises consolidating the group data values with selected actuarial classes indicative of a degree of safety of operation of the vehicle.

73. (new) The method of claim 72 where the selected actuarial classes are based in part on actual driving characteristics of vehicles and human actions that were previously extracted and stored in a plurality of vehicles from a plurality of in-vehicle sensors, and where the actual driving characteristics are generated by operating states of vehicles and human actions.

**REMARKS**

Patentee waives its right to file a patent owner statement under 37 CFR 1.530(b) and 35 U.S.C. 304. However, prior to a first office action in the above-identified reexamination, please amend the claims under 37 CFR 1.530(d), as indicated above. Upon entry of this Amendment, claims 1-73 are pending in the reexamination. No new matter has been added, as described below:

New claim 16 is fully supported by the description in the specification (e.g., col. 3, line 61 to col. 4, line 15; col. 8, lines 39-52; col. 12, lines 7-25).

New claim 17 is fully supported by the description in the specification (e.g., col. 8, lines 39-52; col. 11, lines 42-61).

New claim 18 is fully supported by the description in the specification (e.g., col. 8, lines 39-52; col. 11, lines 42-61).

New claim 19 is fully supported by the description in the specification (e.g., col. 3, lines 45-50; col. 6, line 41; col. 5, lines 27 - 32; col. 8, line 1; col. 8, lines 51-52; col. 4, line 46; abstract; col. 3, line 61 to col. 4, line 10; col. 5, lines 34-43; col. 6, lines 9-31).

New claim 20 is fully supported by the description in the specification (e.g., col. 6, line 41; col. 8, line 1; col. 8, lines 51-52; col. 4, lines 11-14; col. 4, line 46; col. 8, line 61 to col. 9, line 33).

New claim 21 is fully supported by the description in the specification (e.g., col. 6, line 41; col. 8, line 1; col. 8, lines 51-52; col. 4, line 46; abstract; col. 3, line 61 to col. 4, line 15; col. 8, lines 44-52; col. 12, lines 7-25).



New claim 22 is fully supported by the description in the specification (e.g., col. 5, lines 27-32; col. 6, line 41; col. 8, line 1; col. 8, lines 51-52; col. 4, line 46).

New claim 23 is fully supported by the description in the specification (e.g., col. 3, lines 45-50; col. 6, line 42; col. 8, lines 51-52; col. 4, line 45; col. 4, lines 63-64; abstract; col. 3, line 61 to col. 4, line 10; col. 5, lines 27-43; col. 6, lines 9-31).

New claim 24 is fully supported by the description in the specification (e.g., col. 6, line 42; col. 8, lines 51-52; col. 4, line 45; col. 4, lines 11-14; col. 4, lines 62-64; col. 8, line 61 to col. 9, line 33).

New claim 25 is fully supported by the description in the specification (e.g., col. 6, line 42; col. 8, lines 51-52; col. 4, line 45; col. 4, lines 63-64; abstract; col. 3, line 61 to col. 4, line 15; col. 8, lines 44-52; col. 12, lines 7-25).

New claim 26 is fully supported by the description in the specification (e.g., col. 5, lines 27-32; col. 6, line 42; col. 8, lines 51-52; col. 4, line 45; col. 4, lines 63-64).

New claim 27 is fully supported by the description in the specification (e.g., col. 4, line 43; col. 5, lines 6 and 27-33; col. 6, lines 39-42; col. 7, line 60; col. 8, line 20; col. 8, lines 27-52; col. 9, lines 61-67; col. 11, lines 4-18).

New claim 28 is fully supported by the description in the specification (e.g., col. 4, line 43; col. 5, line 6; col. 6; col. 6, lines 27-33; col. 6, lines 39-42; col. 7, line 60; col. 8, line 20; col. 8, lines 27-52; col. 9, lines 61-67; col. 11, lines 4-18).

New claim 29 is fully supported by the description in the specification (e.g., col. 4, line 43; col. 5, line 6; col. 6, line 36; col. 7, line 60; col. 8, line 20; col. 8, lines 27-52; col. 9, lines 61-67; col. 11, lines 4-18).

New claim 30 is fully supported by the description in the specification (e.g., col. 4, lines 11-14; col. 6, lines 39-40; col. 4, 38-39; col. 8, line 61 to col. 9, line 33).

New claim 31 is fully supported by the description in the specification (e.g., col. 6, lines 39-40; col. 4, 38-39; abstract; col. 3, line 61 to col. 4, line 15; col. 8, lines 44-52; col. 12, lines 7-25).

New claim 32 is fully supported by the description in the specification (e.g., col. 3, lines 45-50; col. 4, lines 38-39; col. 5, line 1; col. 5, lines 27-33; col. 6, lines 39-40; abstract; col. 3, line 61 to col. 4, line 10; col. 5, lines 34-43; col. 6, lines 9-31).

New claim 33 is fully supported by the description in the specification (e.g., col. 4, lines 38-39; col. 5, line 1 and 27-33; col. 6, lines 39-40).

New claim 34 is fully supported by the description in the specification (e.g., col. 3, lines 45-50; col. 4, lines 36-37; col. 4, lines 63-64; col.4, line 67; col. 5, lines 27-33; col. 6, line 33; col. 3, lines 34-39; col. 6, lines 59-63; abstract; col. 3, line 61 to col. 4, line 10; col. 5, lines 34-43; col. 6, lines 9-31).

New claim 35 is fully supported by the description in the specification (e.g., col. 3, lines 45-50; col. 8, line 11; col. 6, line 41; col. 8, line 1; col. 8, lines 51-52; col. 4, line 46; abstract; col. 3, line 61 to col. 4, line 10; col. 5, lines 27-43; col. 6, lines 9-31).

New claim 36 is fully supported by the description in the specification (e.g., col. 4, lines 11-14; col. 8, line 11; col. 6, line 41; col. 8, line 1; col. 8, lines 51-52; col. 4, line 46; col. 8, line 61 to col. 9, line 33).

New claim 37 is fully supported by the description in the specification (e.g., col. 8, line 11; abstract; col. 3, line 61 to col. 4, line 15; col. 8, lines 44-52; col. 12, lines 7-25).

New claim 38 is fully supported by the description in the specification (e.g., abstract; col. 5, lines 34-43).

New claim 39 is fully supported by the description in the specification (e.g., abstract; col. 5, lines 34-43).

New claim 40 is fully supported by the description in the specification (e.g., title, abstract; col. 5, lines 12-22; col. 5, lines 27-43; col. 3, lines 40-58; col. 5, lines 33-46; and col. 6, lines 46-49).

New claim 41 is fully supported by the description in the specification (e.g., col. 5, lines 7-12).

New claim 42 is fully supported by the description in the specification (e.g., col. 8, lines 44-51; col. 11, lines 42-61).

New claim 43 is fully supported by the description in the specification (e.g., col. 4, lines 16-20; col. 6, lines 63-65; col. 7, lines 18-20; col. 8, line 61 to col. 9, line 8; figure 4).

New claim 44 is fully supported by the description in the specification (e.g., col. 4, lines 26-34; col. 5, lines 7-12; col. 5, lines 28-43).

New claim 45 is fully supported by the description in the specification (e.g., col. 4, lines 26-36; col. 5, lines 7-12; col. 5, lines 28-43).

New claim 46 is fully supported by the description in the specification (e.g., col. 4, lines 26-39; col. 5, lines 7-12; col. 5, lines 28-43).

New claim 47 is fully supported by the description in the specification (e.g., col. 4, lines 26-57; col. 5, lines 6-12; col. 5, lines 28-43; col. 6, line 36; col. 7, line 60; col. 8, line 20; col. 8, lines 27-52; col. 9, lines 61-67; col. 11, lines 4-18).

New claim 48 is fully supported by the description in the specification (e.g., col. 4, lines 26-57; col. 5, lines 6-12; col. 5, lines 28-43; col. 6, line 36; col. 7, line 60; col. 8, line 20; col. 8, lines 27-52; col. 9, lines 61-67; col. 11, lines 4-18).

New claim 49 is fully supported by the description in the specification (e.g., col. 4, lines 26-57; col. 5, lines 7-12; col. 5, lines 28-43; col. 6, line 41; col. 8, line 1; col. 8, lines 51-52).

New claim 50 is fully supported by the description in the specification (e.g., col. 4, lines 26-57; col. 5, lines 7-12; col. 5, lines 28-43; col. 6, line 42; col. 8, lines 51-52; col. 4, lines 63-64).

New claim 51 is fully supported by the description in the specification (e.g., figure 4; col. 6, line 66 to col. 7, line 17).

New claim 52 is fully supported by the description in the specification (e.g., col. 6, lines 44-55).

New claim 53 is fully supported by the description in the specification (e.g., col. 7, lines 12-17).

New claim 54 is fully supported by the description in the specification (e.g., col. 7, lines 23-47).

New claim 55 is fully supported by the description in the specification (e.g., col. 8, line 61 to col. 9, line 59).

New claim 56 is fully supported by the description in the specification (e.g., col. 9, line 60 to col. 8, line 8; col. 6, lines 29-38; col. 7, lines 35-38).

New claim 57 is fully supported by the description in the specification (e.g., col. 9, line 60 to col. 10, line 8; col. 7, lines 47-49).

New claim 58 is fully supported by the description in the specification (e.g., col. 10, line 65 to col. 11, line 3; figure 5).

New claim 59 is fully supported by the description in the specification (e.g., figures 2 and 5; col. 10, lines 14-65).

New claim 60 is fully supported by the description in the specification (e.g., figures 2 and 5; col. 10, lines 14-65).

New claim 61 is fully supported by the description in the specification (e.g., title, abstract; col. 5, lines 12-22; col. 5, lines 27-43; col. 3, lines 40-58; col. 5, lines 33-46; and col. 6, lines 46-49).

New claim 62 is fully supported by the description in the specification (e.g., col. 12, lines 62-67; col. 3, lines 40-58; figure 2; col. 6, lines 9-43; abstract).

New claim 63 is fully supported by the description in the specification (e.g., col. 13, lines 1-5; col. 4, lines 32-39; col. 4, lines 47-52; col. 8, lines 49-51).

New claim 64 is fully supported by the description in the specification (e.g., col. 13, lines 6-8; col. 5, lines 34-43; abstract).

New claim 65 is fully supported by the description in the specification (e.g., col. 12, lines 1-14; col. 5, lines 28-33; col. 10, lines 30-50).

New claim 66 is fully supported by the description in the specification (e.g., col. 8, lines 18-25; abstract; col. 3, line 61 to col. 4, line 10; col. 5, lines 34-43; col. 6, lines 9-31).

New claim 67 is fully supported by the description in the specification (e.g., col. 8, lines 18-25; abstract; col. 3, line 61 to col. 4, line 10; col. 5, lines 34-43; col. 6, lines 9-31).

New claim 68 is fully supported by the description in the specification (e.g., col. 6, line 41; col. 8, line 1; col. 4, line 46; abstract; col. 3, line 61 to col. 4, line 10; col. 5, lines 34-43; col. 6, lines 9-31; col. 4, line 43; col. 5, line 6; col. 6, line 36; col. 7, line 60; col. 8, line 20; col. 8, lines 27-52; col. 9, lines 61-67; col. 11, lines 4-18; col. 8, line 17; col. 5, lines 13-22).

New claim 69 is fully supported by the description in the specification (e.g., col. 4, lines 38-39; col. 5, line 1; col. 6, lines 39-40; abstract; col. 3, line 61 to col. 4, line 10; col. 5, lines 34-43; col. 6, lines 9-31).

New claim 70 is fully supported by the description in the specification (e.g., col. 3, lines 43-49; col. 4, lines 39-42; col. 5, lines 17-21; col. 5, lines 33-40; col. 8, lines 44-46; col. 8, lines 53-55; col. 10, lines 17-21; col. 11, lines 21-26, originally filed claim 20 in U.S. Patent No. 5,797,134).

New claim 71 is fully supported by the description in the specification (e.g., col. 4, lines 30-56 and col. 5, lines 27-42).

New claim 72 is fully supported by the description in the specification and the originally filed claims of U.S. Patent No. 5,797,134 (e.g., originally filed claim 17 in U.S. Patent No. 5,797,134 and col. 5, lines 27-42).

New claim 73 is fully supported by the description in the specification and the originally filed claims of U.S. Patent No. 5,797,134 (e.g., originally filed claims 1 and 17 in U.S. Patent No. 5,797,134 and col. 5, lines 27-42).

As identified in the attached Certificate of Service and in accordance with 37C.P.R. §§ 1.33(c) and 1.510(b)(5), a copy of this submission, in its entirety, is being served to the address of the Requestor of record reflected in the publicly-available records of the United States

Patent and Trademark Office as designated in the Office's Patent Application Information

Retrieval system.

Patentee respectfully submits that the present claims are allowable. If for any reason the Examiner feels that a discussion would be helpful to advance these reexamination proceedings, it is respectfully requested that the Examiner contact the undersigned attorney directly at (312)-321-4786. Should it be determined that a fee is due, the Commissioner is hereby authorized to charge any fee due, or to credit any overpayment, to Deposit Account No. 23-1925, Request 12741-32.

Respectfully submitted,

BRINKS HOFER GILSON & LIONE  
312-321-4200

/James A. Collins/  
James A. Collins  
Registration No. 43,557  
Attorney for Patentee

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office, Commissioner for Patents, via the EFS pursuant to 37 CFR § 1.8.

/James A. Collins/

James A. Collins, Reg. No. 43,557

January 26, 2011

Date of Signature & Date of Transmission

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Inventors: Robert J. McMillan, et al.	§ Examiner: Karin M. Reichle
U.S. Patent No. 6,064,970	§ Group Art Unit: 3992
Filing Date: August 17, 1998	§ Confirmation No. 4116
	§
Application No. 90/011,252	§ Attorney Docket No. 12741-32

For: Motor Vehicle Monitoring System for Determining a Cost of Insurance

MAIL STOP *EX PARTE* REEXAM  
Central Reexamination Unit  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**WAIVER OF RIGHT TO FILE PATENT OWNER STATEMENT  
IN EX PARTE REEXAMINATION**

Dear Examiner:

Patent Owner (Patentee) waives the right under 37 CFR 1.530(b) and 35 U.S.C. 304 to file a Patent Owner Statement. Patentee believes that no additional fees are due in connection with this request. Should it be determined that a fee is due, the Commissioner is hereby authorized to charge any fee due, or to credit any overpayment, to Deposit Account No. 23-1925, Request 12741-32.



Atty. Docket No. 12741-32  
Application No. 90/011,252

As identified in the attached Certificate of Service and in accordance with 37C.P.R. §§  
1.33(c) and 1.510(b)(5), a copy of this submission, in its entirety, is being served to the address of the  
Requestor of record reflected in the publicly-available records of the United States Patent and  
Trademark Office as designated in the Office's Patent Application Information Retrieval system.

Respectfully submitted,

BRINKS HOFER GILSON & LIONE  
312-321-4200

/James A. Collins/  
James A. Collins  
Registration No. 43,557  
Attorney for Patentee

CERTIFICATE OF EFS FILING UNDER 37 CFR §1.8

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office, Commissioner for Patents, via the EFS pursuant to 37 CFR §1.8 on the below date:

Date: January 26, 2011 Name: James A. Collins Signature: /James A. Collins/

BRINKS  
HOFER  
GILSON  
& LIONE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Ex Parte Robert John McMillan et al.  
Reexam of:

Reexam Appln. 90/011,252  
No.:

Filed: September 22, 2010

For: MOTOR VEHICLE MONITORING SYSTEM  
FOR DETERMINING A COST OF INSURANCE

Attorney Docket No.: 12741-32

Examiner: Karin M. Reichle

Art Unit: 3992

Conf. No.: 4116

CERTIFICATE OF SERVICE

Mail Stop *Ex Parte* Reexam  
Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

I hereby certify that a true copy of the foregoing **AMENDMENT IN EX PARTE REEXAMINATION UNDER 37 CFR 1.530(d) and WAIVER OF RIGHT TO FILE PATENT OWNER STATEMENT IN EX PARTE REEXAMINATION**, was served this January 26, 2011 by First Class United States Mail, postage prepaid, on:

J. Steven Baughman  
Ropes & Gray LLP  
One International Place  
Boston, MA 02110

Respectfully submitted,

January 26, 2011

Date

/James A. Collins/

James A. Collins (Reg. No. 43,557)

BRINKS  
HOFER  
GILSON  
& LIONE

BRINKS HOFER GILSON & LIONE  
NBC Tower – Suite 3600, 455 N. Cityfront Plaza Drive, Chicago, IL 60611-5599

## Electronic Patent Application Fee Transmittal

<b>Application Number:</b>	90011252				
<b>Filing Date:</b>	22-Sep-2010				
<b>Title of Invention:</b>	MOTOR VEHICLE MONITORING SYSTEM FOR DETERMINING A COST OF INSURANCE				
<b>First Named Inventor/Applicant Name:</b>	6,064,970				
<b>Filer:</b>	James A. Collins/Rebecca Brown				
<b>Attorney Docket Number:</b>	LMIC-019				
Filed as Large Entity					
<b>ex parte reexam Filing Fees</b>					
<b>Description</b>	<b>Fee Code</b>	<b>Quantity</b>	<b>Amount</b>	<b>Sub-Total in USD(\$)</b>	
<b>Basic Filing:</b>					
<b>Pages:</b>					
<b>Claims:</b>					
Reexamination Independent Claims	1821	1	220	220	
Reexamination claims in excess of 20	1822	53	52	2756	
<b>Miscellaneous-Filing:</b>					
<b>Petition:</b>					
<b>Patent-Appeals-and-Interference:</b>					
<b>Post-Allowance-and-Post-Issuance:</b>					

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
<b>Extension-of-Time:</b>				
<b>Miscellaneous:</b>				
<b>Total in USD (\$)</b>				<b>2976</b>

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	9314233
<b>Application Number:</b>	90011252
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	4116
<b>Title of Invention:</b>	MOTOR VEHICLE MONITORING SYSTEM FOR DETERMINING A COST OF INSURANCE
<b>First Named Inventor/Applicant Name:</b>	6,064,970
<b>Correspondence Address:</b>	James A. Collins - P.O. BOX 10395 - Chicago IL 60610 US - -
<b>Filer:</b>	James A. Collins/Maggie Pieczonka
<b>Filer Authorized By:</b>	James A. Collins
<b>Attorney Docket Number:</b>	LMIC-019
<b>Receipt Date:</b>	26-JAN-2011
<b>Filing Date:</b>	22-SEP-2010
<b>Time Stamp:</b>	17:57:39
<b>Application Type:</b>	Reexam (Patent Owner)

### Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$2976

RAM confirmation Number		5313			
Deposit Account		231925			
Authorized User					
<p>The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:</p> <ul style="list-style-type: none"> <li>Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)</li> <li>Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)</li> <li>Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)</li> <li>Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)</li> <li>Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)</li> </ul>					
<b>File Listing:</b>					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		12741-32_Amendment.PDF	933196 <small>c30b2992e2992f96dccc5b0b229efef3ac077bfca</small>	yes	29
<b>Multipart Description/PDF files in .zip description</b>					
	Document Description	Start	End		
	Miscellaneous Incoming Letter	1	1		
	Preliminary Amendment	2	2		
	Claims	3	18		
	Applicant Arguments/Remarks Made in an Amendment	19	26		
	Reexam Miscellaneous Incoming Letter	27	28		
	Reexam Certificate of Service	29	29		
<b>Warnings:</b>					
<b>Information:</b>					
2	Fee Worksheet (PTO-875)	fee-info.pdf	32044 <small>a86b47eb3fb3d30c5f3b2de2d33fa0eb350d2c43</small>	no	2
<b>Warnings:</b>					
<b>Information:</b>					
<b>Total Files Size (in bytes):</b>			965240		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

**New Applications Under 35 U.S.C. 111**

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

**National Stage of an International Application under 35 U.S.C. 371**

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

**New International Application Filed with the USPTO as a Receiving Office**

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

CERTIFICATE OF EFS FILING UNDER 37 CFR §1.8

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office, Commissioner for Patents, via the EFS pursuant to 37 CFR §1.8 on the below date:

Date: January 26, 2011 Name: James A. Collins Signature: /James A. Collins/

**BRINKS  
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GILSON  
& LIONE**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

<p>In re Ex Parte Robert John McMillan et al. Reexam of:  Reexam Appln. 90/011,252 No.:  Filed: September 22, 2010  For: MOTOR VEHICLE MONITORING SYSTEM FOR DETERMINING A COST OF INSURANCE  Attorney Docket No.: 12741-32</p>	<p>Examiner: Karin M. Reichle  Art Unit: 3992  Conf. No.: 4116</p>
---	--

**TRANSMITTAL**

Mail Stop Ex Parte Reexam  
Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

Sir:

**Attached is/are:**

- Transmittal (1 pg); Amendment In Ex Parte Reexamination Under 37 CFR 1.530(d) (25 pgs); Waiver of Right to File Patent Owner Statement In Ex Parte Reexamination (2 pgs); and Certificate of Service (1 pg).

**Fee calculation:**

- No additional fee is required.
- Small Entity.
- An extension fee in an amount of \$\_\_\_\_\_ for a \_\_\_\_- month extension of time under 37 CFR § 1.136(a).
- A petition or processing fee in an amount of \$\_\_\_\_\_ under 37 CFR § 1.17(p).
- An additional filing fee has been calculated as shown below:

					Small Entity		Not a Small Entity		
	Claims Remaining After Amendment		Highest No. Previously Paid For	Present Extra	Rate	Add'l Fee	OR	Rate	Add'l Fee
Total	73	Minus	20	53	x \$26=			x \$52=	2756
Indep.	4	Minus	3	1	x 110=			x \$220=	220
First Presentation of Multiple Dep. Claim								+ \$390=	
					Total	\$		Total	\$2976

**Fee payment:**

- Please charge Deposit Account No. 23-1925 in the amount of **\$2976.00** for Extra Claim Fee.
- Payment by credit card in the amount of \$\_\_\_\_\_ (Form PTO-2038 is attached).
- The Director is hereby authorized to charge payment of any additional filing fees required under 37 CFR § 1.16 and any patent application processing fees under 37 CFR § 1.17 associated with this paper (including any extension fee required to ensure that this paper is timely filed), or to credit any overpayment, to Deposit Account No. 23-1925.

Respectfully submitted,

January 26, 2011  
Date

/James A. Collins/  
James A. Collins (Reg. No. 43,557)

**BRINKS  
HOFER  
GILSON  
& LIONE**

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NBC Tower – Suite 3600, 455 N. Cityfront Plaza Drive, Chicago, IL 60611-5599



FORM PTO-1449	SERIAL NO. 90/011,252	CASE NO. 12741-32
<b>LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT</b>	FILING DATE September 22, 2010	GROUP ART UNIT 3992
(use several sheets if necessary)	APPLICANT(S): Robert John McMillan et al.	CONFIRMATION NO. 4116

**REFERENCE DESIGNATION U.S. PATENT DOCUMENTS**

EXAMINER INITIAL	DOCUMENT NUMBER <small>Number-Kind Code (if known)</small>	DATE	NAME	CLASS/ SUBCLASS	FILING DATE
	A1	US 3,388,404	06/11/1968	E. S. Bush	
	A2	US 3,716,679	02/13/1973	Graesslin et al.	
	A3	US 3,781,824	12/25/1973	Caiati et al.	
	A4	US 3,792,445	02/12/1974	Bucks et al.	
	A5	US 3,938,092	02/10/1976	Callahan	
	A6	US 4,013,875	03/22/1977	McGlynn	
	A7	US 4,072,850	02/07/1978	McGlynn	
	A8	US 4,212,195	07/15/1980	Young	
	A9	US 4,258,430	03/24/1981	Tyburski	
	A10	US 4,271,402	06/02/1981	Kastura et al.	
	A11	US 4,387,587	06/14/1983	Faulconer	
	A12	US 4,395,624	07/26/1983	Wartski	
	A13	US 4,638,289	01/20/1987	Zottnik	
	A14	US 4,667,336	05/19/1987	Best	
	A15	US 4,671,111	06/09/1987	Lemelson	
	A16	US 4,685,061	08/04/1987	Whitaker	
	A17	US 4,692,882	09/08/1987	Skovgaard et al.	
	A18	US 4,706,083	11/10/1987	Baatz et al.	
	A19	US 4,831,526	05/16/1989	Luchs et al.	
	A20	US 4,836,024	06/06/1989	Woehrl et al.	
	A21	US 4,845,630	07/04/1989	Stephens	
	A22	US 4,926,331	05/15/1990	Windle et al.	
	A23	US 4,939,652	07/03/1990	Steiner	
	A24	US 4,944,401	07/31/1990	Groenewegen	
	A25	US 4,987,541	01/22/1991	Levente et al.	
	A26	US 4,992,943	02/12/1991	McCracken	
	A27	US 5,017,916	05/21/1991	Londt et al.	
	A28	US 5,046,007	09/03/1991	McCrery et al.	
	A29	US 5,055,851	10/08/1991	Sheffer	
	A30	US 5,111,289	05/05/1992	Lucas et al.	
	A31	US 5,189,621	02/23/1993	Onari et al.	
	A32	US 5,223,844	06/29/1993	Mansell et al.	
	A33	US 5,249,127	09/28/1993	Komatsu	
	A34	US 5,303,163	04/12/1994	Ebaugh et al.	
	A35	US 5,319,374	06/07/1994	Desai et al.	
	A36	US 5,325,082	06/28/1994	Rodriguez	
	A37	US 5,355,855	10/18/1994	Saikalis	
	A38	US 5,359,528	10/25/1994	Haendel et al.	
	A39	US 5,365,451	11/15/1994	Wang et al.	

EXAMINER	DATE CONSIDERED
----------	-----------------

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449	SERIAL NO. 90/011,252	CASE NO. 12741-32
<b>LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT</b>	FILING DATE September 22, 2010	GROUP ART UNIT 3992
(use several sheets if necessary)		APPLICANT(S): Robert John McMillan et al.

**REFERENCE DESIGNATION U.S. PATENT DOCUMENTS**

EXAMINER INITIAL	DOCUMENT NUMBER Number-Kind Code (if known)	DATE	NAME	CLASS/ SUBCLASS	FILING DATE
	A40	US 5,373,346	12/13/1994	Hocker	
	A41	US 5,379,219	01/03/1995	Ishibashi	
	A42	US 5,400,018	03/21/1995	Scholl et al.	
	A43	US 5,412,570	05/02/1995	Gruler et al.	
	A44	US 5,430,432	07/04/1995	Camhi et al.	
	A45	US 5,442,553	08/15/1995	Parrillo	
	A46	US 5,445,347	08/29/1995	Ng	
	A47	US 5,446,659	08/29/1995	Yamawaki	
	A48	US 5,459,660	10/17/1995	Berra	
	A49	US 5,463,567	10/31/1995	Boen et al.	
	A50	US 5,465,079	11/07/1995	Bouchard et al.	
	A51	US 5,471,193	11/28/1995	Peterson et al.	
	A52	US 5,497,329	03/05/1996	Tang	
	A53	US 5,499,182	03/12/1996	Ousborne	
	A54	US 5,500,806	03/19/1996	Bellin et al.	
	A55	US 5,546,305	08/13/1996	Kondo	
	A56	US 5,548,273	08/20/1996	Nicol et al.	
	A57	US 5,550,551	08/27/1996	Alesio	
	A58	US 5,550,738	08/27/1996	Bailey et al.	
	A59	US 5,570,087	10/29/1996	Lemelson	
	A60	US 5,581,464	12/03/1996	Woll et al.	
	A61	US 5,608,629	03/04/1997	Cuddihy et al.	
	A62	US 5,638,273	06/10/1997	Coiner et al.	
	A63	US 5,654,501	08/05/1997	Grizzle et al.	
	A64	US 5,694,116	12/02/1997	Kojima	
	A65	US 5,694,322	12/02/1997	Westerlage et al.	
	A66	US 5,693,876	12/02/1997	Ghitea, Jr. et al.	
	A67	US 5,732,074	03/24/1998	Spaur et al.	
	A68	US 5,737,711	04/07/1998	Abe	
	A69	US 5,758,299	05/26/1998	Sandborg et al.	
	A70	US 5,758,300	05/26/1998	Abe	
	A71	US 5,790,427	08/04/1998	Greer et al.	
	A72	US 5,797,134	08/18/1998	McMillan et al.	
	A73	US 5,799,249	08/25/1998	Kennedy, III et al.	
	A74	US 5,805,079	09/08/1998	Lemelson	
	A75	US 5,811,884	09/22/1998	Matuoka et al.	
	A76	US 5,815,071	09/29/1998	Doyle	
	A77	US 5,815,070	09/29/1998	Yoshikawa	
	A78	US 5,815,093	09/29/1998	Kikinis	
	A79	US 5,819,198	10/06/1998	Peretz	
	A80	US 5,832,394	11/03/1998	Wortham	

EXAMINER	DATE CONSIDERED
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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449	SERIAL NO. 90/011,252	CASE NO. 12741-32
<b>LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT</b>	FILING DATE September 22, 2010	GROUP ART UNIT 3992
(use several sheets if necessary)		APPLICANT(S): Robert John McMillan et al.

**REFERENCE DESIGNATION U.S. PATENT DOCUMENTS**

EXAMINER INITIAL	DOCUMENT NUMBER <small>Number-Kind Code (if known)</small>	DATE	NAME	CLASS/SUBCLASS	FILING DATE
	A81	US 5,845,256	12/01/1998	Pescitelli et al.	
	A82	US 5,844,473	12/01/1998	Kaman	
	A83	US 5,877,707	03/02/1999	Kowalick	
	A84	US 5,884,202	03/16/1999	Arjomand	
	A85	US 5,916,287	06/29/1999	Arjomand et al.	
	A86	US 5,919,239	07/06/1999	Fraker et al.	
	A87	US 5,928,291	07/27/1999	Jenkins et al.	
	A88	US 5,956,691	09/21/1999	Powers	
	A89	US 5,974,356	10/26/1999	Doyle et al.	
	A90	US 6,009,363	12/28/1999	Beckert et al.	
	A91	US 6,064,299	05/16/2000	Lesesky et al.	
	A92	US 6,067,488	05/23/2000	Tano	
	A93	US 6,073,063	06/06/2000	Leong Ong et al.	
	A94	US 6,076,026	06/13/2000	Jambhekar et al.	
	A95	US 6,088,636	07/11/2000	Chigumira et al.	
	A96	US 6,185,490 B1	02/06/2001	Ferguson	
	A97	US 6,204,757 B1	03/20/2001	Evans et al.	
	A98	US 6,225,898 B1	05/01/2001	Kamiya et al.	
	A99	US 6,246,933 B1	06/12/2001	Bague	
	A100	US 6,253,129 B1	06/26/2001	Jenkins et al.	
	A101	US 6,263,268 B1	07/17/2001	Nathanson	
	A102	US 6,278,936 B1	08/21/2001	Jones	
	A103	US 6,393,346 B1	05/21/2002	Keith et al.	
	A104	US 6,405,112 B1	06/11/2002	Rayner	
	A105	US 6,411,203 B1	06/25/2002	Lesesky et al.	
	A106	US 6,430,488 B1	08/06/2002	Goldman et al.	
	A107	US 2003/0009270 A1	01/09/2003	Breed	
	A108	US 6,608,554 B2	08/19/2003	Lesesky et al.	
	A109	US 6,618,668 B1	09/09/2003	Laird	
	A110	US 6,622,070 B1	09/16/2003	Wacker et al.	
	A111	US 6,714,859 B2	03/30/2004	Jones	
	A112	US 6,741,927 B2	05/25/2004	Jones	
	A113	US 6,744,352 B2	06/01/2004	Lesesky et al.	
	A114	US 6,771,176 B2	08/03/2004	Wilkerson	
	A115	US 6,788,207 B2	09/07/2004	Wilkerson	
	A116	US 6,804,606 B2	10/12/2004	Jones	
	A117	US 6,879,962 B1	04/12/2005	Smith et al.	
	A118	US 6,904,359 B2	06/07/2005	Jones	
	A119	US 6,952,645 B1	10/04/2005	Jones	
	A120	US 7,015,800 B2	03/21/2006	Lesesky et al.	
	A121	US 7,030,781 B2	04/18/2006	Jones	

EXAMINER	DATE CONSIDERED
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FORM PTO-1449	SERIAL NO. 90/011,252	CASE NO. 12741-32
<b>LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT</b>	FILING DATE September 22, 2010	GROUP ART UNIT 3992
(use several sheets if necessary)		APPLICANT(S): Robert John McMillan et al.

**REFERENCE DESIGNATION U.S. PATENT DOCUMENTS**

EXAMINER INITIAL	DOCUMENT NUMBER <small>Number-Kind Code (if known)</small>	DATE	NAME	CLASS/SUBCLASS	FILING DATE
	A122	US 7,191,058 B2	03/13/2007	Laird et al.	
	A123	US 7,449,993 B2	11/11/2008	Lesesky et al.	

**FOREIGN PATENT DOCUMENTS**

EXAMINER INITIAL	DOCUMENT NUMBER <small>Number-Kind Code (if known)</small>	DATE	COUNTRY	CLASS/SUBCLASS	TRANSLATION YES OR NO
	A124	EP 0 629 978 A1	12/21/1994	Europe	
	A125	EP 0 700 009 A2	03/06/1996	Europe	ABSTRACT
	A126	EP 0 935 208 A2	11/08/1999	Europe	
	A127	EP 1 164 551 A2	12/19/2001	Europe	
	A128	EP 1 207 499 A1	05/22/2002	Europe	
	A129	FR 2 533 049 A1	03/16/1984	France	ABSTRACT
	A130	GB 2 143 978 A	02/20/1985	Great Britain	
	A131	GB 2 225 461 A	05/30/1990	Great Britain	
	A132	JP 3-4660 A	01/10/1991	Japan	ABSTRACT
	A133	JP 4-182868 A	06/30/1992	Japan	ABSTRACT
	A134	JP 05104985 A	04/27/1993	Japan	YES
	A135	JP 6-4733	01/14/1994	Japan	ABSTRACT
	A136	JP 6-259632	09/16/1994	Japan	ABSTRACT
	A137	JP 7-159192	06/23/1995	Japan	ABSTRACT
	A138	JP 2000 335450 A	12/05/2000	Japan	YES
	A139	NL C 1016618	11/16/2000	NL	ABSTRACT
	A140	WO 84/03359 A1	08/30/1984	WIPO	ABSTRACT
	A141	WO 88/09023 A1	11/17/1988	WIPO	ABSTRACT
	A142	WO 90/02388 A1	03/08/1990	WIPO	
	A143	WO 93/10510 A1	05/27/1993	WIPO	ABSTRACT
	A144	WO 93/21583 A1	10/28/1993	WIPO	
	A145	WO 94/04975 A1	03/03/1994	WIPO	
	A146	WO 94/18645 A1	08/18/1994	WIPO	ABSTRACT
	A147	WO 97/13208 A1	04/10/1997	WIPO	
	A148	WO 97/27561 A1	07/31/1997	WIPO	
	A149	WO 98/47109 A1	10/22/1998	WIPO	
	A150	WO 00/17721 A2	03/30/2000	WIPO	
	A151	WO 00/52616 A2	09/08/2000	WIPO	
	A152	WO 00/79727 A2	12/28/2000	WIPO	
	A153	WO 01/18491 A1	03/15/2001	WIPO	
	A154	WO 01/26338 A2	04/12/2001	WIPO	
	A155	WO 01/55690 A1	08/02/2001	WIPO	
	A156	WO 01/86576 A1	11/15/2001	WIPO	
	A157	WO 2006/028484 A1	03/16/2006	WIPO	

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FORM PTO-1449	SERIAL NO. 90/011,252	CASE NO. 12741-32
<b>LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT</b>	FILING DATE September 22, 2010	GROUP ART UNIT 3992
(use several sheets if necessary)	APPLICANT(S): Robert John McMillan et al.	

EXAMINER INITIAL	OTHER ART – NON PATENT LITERATURE DOCUMENTS (Include name of author, title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date page(s), volume-issue number(s), publisher, city and/or country where published.	
	A158	"Automatic Vehicle Location for Public Safety Dispatch," Trimble brochure, 1993, 8 pages.
	A159	Auto Watch product description, Ease Diagnostics, Copyright 1998, 2 pages.
	A160	AutoWatch - It's There When You're Not: Requirements, EASE Simulation, Inc., copyright 1997-2003, Revised March 3, 2003, printed from the internet at < <a href="http://www.obd2.com/autowatch/obd2/autowatch_requirements.htm">http://www.obd2.com/autowatch/obd2/autowatch_requirements.htm</a> > on September 9, 2004, 2 pages.
	A161	Dorweiler, P., "Notes on Exposure and Premium Bases," Proceedings of the Casualty Actuarial Society, Vol. 16, Nos. 33 & 34, 1929-1930, pp. 319-343.
	A162	Ease Simulation, Inc., website printed from the internet at: < <a href="http://web.archive.org/web/19981205184219/http://www.easesim.com">http://web.archive.org/web/19981205184219/http://www.easesim.com</a> > on April 7, 2006, 19 pages.
	A163	Eldridge, E., "If your teen puts pedal to the metal, new gadget will tattle," USA Today, Section B, August 24, 1998, 2 pages.
	A164	"Electric Insurance Joins Intuit's Quicken InsureMarket Offering Online Auto Policies in 6 States," Business Wire, December 28, 1998, 2 pages.
	A165	Festa, L., "For Insurance Sales, Turn to the 'Web,'" The Insurance Regulator, Vol. 5, No. 31, August 7, 1995, pp. 1.
	A166	Garfinkel, S., "The Road Watches You," The New York Times, Section A, Column 1, May 3, 1995, pp. 23.
	A167	"January 1, 1994 UK: An Interest in Black Magic--Motor Technology," Insurance Age, pp. 25.
	A168	Murray, C. J., "PC's next stop: Your dashboard," Design News, May 18, 1998, printed from the internet at < <a href="http://www.designnews.com/index.asp?layout=articlePrint&amp;articleID=CA117026">http://www.designnews.com/index.asp?layout=articlePrint&amp;articleID=CA117026</a> > on September 8, 2004, 3 pages.
	A169	NEWS RELEASE, Auto Watch™ (New Product Announcement), June 16, 1998, 3 pages.
	A170	NHTSA Event Data Recorder Program, NHTSA Research and Development, NRD-01, printed from the internet at < <a href="http://www-nrd.nhtsa.dot.gov/departments/nrd-01/summaries/EDR.html">http://www-nrd.nhtsa.dot.gov/departments/nrd-01/summaries/EDR.html</a> > on October 25, 2004, 2 pages.
	A171	Pasher, V. S., "Auto Web Site Takes Off," National Underwater, Property & Casualty/Risk & Benefits Management Ed., Vol. 102, No. 11, March 16, 1998, pp. 9 and 16.
	A172	PSC-200™ Intelligent Data Controller, product description, Trimble, 1994, 2 pages.
	A173	Society for Automotive Engineers Report titled "Surface Vehicle Recommended Practice: OBD II Scan Tool - Equivalent to ISO/DIS 15031-4: December 14, 2001," SAE J1978, Issued March 1992, Revised April 2002, Society of Automotive Engineers, Inc., copyright 2002, pp. 1-16.
	A174	Society for Automotive Engineers Report titled "Surface Vehicle Recommended Practice: Universal Interface for OBD II Scan," SAE J2201, Issued June 1993, Society of Automotive Engineers, Inc., copyright 1993, pp. 1-45.
	A175	Society for Automotive Engineers Report titled "Surface Vehicle Recommended Practice: Universal Interface for OBD II Scan," SAE J2201, Issued June 1993, Superseding J2201 Jun 1993, Society of Automotive Engineers, Inc., copyright 1999, pp. 1-44.
	A176	Society for Automotive Engineers Report titled "Surface Vehicle Standard: (R) E/E Diagnostics Test Modes – Equivalent to ISO/DIS 15031-5: April 30, 2002," SAE J1979, Issued December 1991, Revised April 2002, Society of Automotive Engineers, Inc., copyright 2002, 159 pages.

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FORM PTO-1449	SERIAL NO. 90/011,252	CASE NO. 12741-32
<b>LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT</b>	FILING DATE September 22, 2010	GROUP ART UNIT 3992
(use several sheets if necessary)		APPLICANT(S): Robert John McMillan et al.

EXAMINER INITIAL	OTHER ART – NON PATENT LITERATURE DOCUMENTS (Include name of author, title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date page(s), volume-issue number(s), publisher, city and/or country where published.	
	A177	Users Manual for the AutoWatch™ / AutoWatch™ Fleet OBD II Version, Rev 050902, EASE Simulation, Inc., copyright 1998-2002, pp. 1-71.
	A178	Vetronix Corporation Press Release article titled "Vetronix Corporation to Provide 'AutoConnect' Vehicle Interface Solutions for the Clarion AutoPC," January 8, 1998, 1 page.
	A179	Complaint, filed June 18, 2010, Case No. 1:10-cv-01370-PAG: Progressive Casualty Insurance Company versus Safeco Insurance Company of Illinois et al., 201 pages.
	A180	Defendants' Motion to Dismiss for Failure to State a Claim Upon Which Relief May Be Granted, filed September 8, 2010, Case No. 1:10-cv-01370-PAG: Progressive Casualty Insurance Company versus Safeco Insurance Company of Illinois et al., 99 pages.
	A181	Progressive's Memorandum in Opposition to Defendants' Motion to Dismiss for Failure to State a Claim Upon which Relief may be Granted filed October 12, 2010, Case No. 1:10-cv-01370-PAG: Progressive Casualty Insurance Company versus Safeco Insurance Company of Illinois et al., 59 pages.
	A182	Defendants' Motion to Stay Litigation Pending Ex Parte Reexamination of the Patent-In-Suit by the United States PTO filed October 14, 2010, Case No. 1:10-cv-01370-PAG Progressive Casualty Insurance Company versus Safeco Insurance Company of Illinois et al., 339 pages.
	A183	Defendants' Reply Memorandum In Support of Their Motion to Dismiss for Failure to State a Claim Upon which Relief may be Granted filed October 26, 2010, Case No. 1:10-cv-01370-PAG Progressive Casualty Insurance Company versus Safeco Insurance Company of Illinois et al., 13 pages.
	A184	Progressive's Memorandum in Opposition to Defendants' Motion to Stay Litigation Pending Ex Parte Reexamination of the Patent-In-Suit by the USPTO filed October 28, 2010, Case No. 1:10-cv-01370-PAG: Progressive Casualty Insurance Company versus Safeco Insurance Company of Illinois et al., 80 pages.
	A185	Defendants' Reply Memorandum In Support of Their Motion to Stay Litigation Pending Ex Parte Reexamination of the Patent-In-Suit by the United States PTO filed November 4, 2010, Case No. 1:10-cv-01370-PAG: Progressive Casualty Insurance Company versus Safeco Insurance Company of Illinois et al., 12 pages.
	A186	Memorandum of Opinion and Order (regarding Defendants' Motion to Dismiss for Failure to State a Claim Upon Which Relief May Be Granted) dated November 12, 2010, Case No. 1:10-cv-01370-PAG: Progressive Casualty Insurance Company versus Safeco Insurance Company of Illinois et al., 10 pages.
	A187	Memorandum of Opinion and Order (regarding Defendants' Motion to Stay Litigation Pending Ex Parte Reexamination of the Patent-In-Suit by the United States PTO) dated November 12, 2010, Case No. 1:10-cv-01370-PAG: Progressive Casualty Insurance Company versus Safeco Insurance Company of Illinois et al., 9 pages.
	A188	Civil Docket for Case No. 1:10-cv-01370-PAG, Progressive Casualty Insurance Company versus Safeco Insurance Company of Illinois et al., U.S. District Court, Northern District of Ohio (Cleveland) printed from the internet at < <a href="http://ecf.ohnd.uscourts.gov/cgi-bin/DktRpt.pl?324688388186026-L_1_0-1">http://ecf.ohnd.uscourts.gov/cgi-bin/DktRpt.pl?324688388186026-L_1_0-1</a> > on December 22, 2010, 12 pages.

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Date: January 21, 2011 Name: James A. Collins Signature: /James A. Collins/

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HOFER  
GILSON  
& LIONE**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Ex Parte Robert John McMillan et al.  
Reexam of:

Reexam Appln. 90/011,252  
No.:

Filed: September 22, 2010

For: MOTOR VEHICLE MONITORING SYSTEM  
FOR DETERMINING A COST OF INSURANCE

Attorney Docket No.: 12741-32

Examiner: Karin M. Reichle

Art Unit: 3992

Conf. No.: 4116

**CERTIFICATE OF SERVICE**

Mail Stop Ex Parte Reexam  
Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

I hereby certify that a true copy of the foregoing **INFORMATION DISCLOSURE STATEMENT**, was served this January 21, 2011 by First Class United States Mail, postage prepaid, on:

J. Steven Baughman  
Ropes & Gray LLP  
One International Place  
Boston, MA 02110

Respectfully submitted,

January 21, 2011  
Date

/James A. Collins/  
James A. Collins (Reg. No. 43,557)

**BRINKS  
HOFER  
GILSON  
& LIONE**

BRINKS HOFER GILSON & LIONE  
NBC Tower – Suite 3600, 455 N. Cityfront Plaza Drive, Chicago, IL 60611-5599

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Date: January 21, 2011 Name: James A. Collins Signature: /James A. Collins/

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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Ex Parte Robert John McMillan et al.  
Reexam of:

Reexam Appln. 90/011,252  
No.:

Filed: September 22, 2010

For: MOTOR VEHICLE MONITORING SYSTEM  
FOR DETERMINING A COST OF INSURANCE

Attorney Docket No.: 12741-32

Examiner: Karin M. Reichle

Art Unit: 3992

Conf. No.: 4116

**CERTIFICATE OF SERVICE**

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Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

I hereby certify that a true copy of the foregoing **NOTIFICATION OF CHANGE OF ATTORNEY DOCKET NUMBER**, was served this January 21, 2011 by First Class United States Mail, postage prepaid, on:

J. Steven Baughman  
Ropes & Gray LLP  
One International Place  
Boston, MA 02110

Respectfully submitted,

January 21, 2011  
Date

/James A. Collins/  
James A. Collins (Reg. No. 43,557)

**BRINKS  
HOFER  
GILSON  
& LIONE**

BRINKS HOFER GILSON & LIONE  
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/James A. Collins/  
James A. Collins, Reg. No. 43,557

January 21, 2011  
Date of Signature & Date of Transmission

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Inventors: Robert J. McMillan, et al.	§ Examiner: Karin M. Reichle
U.S. Patent No. 6,064,970	§ Group Art Unit: 3992
Filing Date: August 17, 1998	§ Confirmation No. 4116
	§
	§ Attorney Docket No. 12741-32

For: Motor Vehicle Monitoring System for Determining a Cost of Insurance

MAIL STOP *EX PARTE* REEXAM  
Central Reexamination Unit  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**NOTIFICATION OF CHANGE OF ATTORNEY DOCKET NUMBER**

Dear Examiner:

Please change the Attorney Docket Number for the above identified case to 12741-32. Patentee believes that no additional fees are due in connection with this request. Should it be determined that a fee is due, the Commissioner is hereby authorized to charge any fee due, or to credit any overpayment to Deposit Account No. 23-1925, Request 12741-32.

As identified in the attached Certificate of Service and in accordance with 37C.P.R. §§ 1.33(c) and 1.510(b)(5), a copy of this submission, in its entirety, is being served to the address of the Requestor of record reflected in the publicly-available records of the United States Patent and Trademark Office as designated in the Office's Patent Application Information Retrieval system.

Respectfully submitted,

BRINKS HOFER GILSON & LIONE  
312-321-4200

/James A. Collins/  
James A. Collins  
Registration No. 43,557  
Attorney for Patentee

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	9275553
<b>Application Number:</b>	90011252
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	4116
<b>Title of Invention:</b>	MOTOR VEHICLE MONITORING SYSTEM FOR DETERMINING A COST OF INSURANCE
<b>First Named Inventor/Applicant Name:</b>	6,064,970
<b>Correspondence Address:</b>	James A. Collins - P.O. BOX 10395 - Chicago IL 60610 US - -
<b>Filer:</b>	James A. Collins/Nkosi Harvey
<b>Filer Authorized By:</b>	James A. Collins
<b>Attorney Docket Number:</b>	LMIC-019
<b>Receipt Date:</b>	21-JAN-2011
<b>Filing Date:</b>	22-SEP-2010
<b>Time Stamp:</b>	15:09:58
<b>Application Type:</b>	Reexam (Patent Owner)

### Payment information:

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### File Listing:

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Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	NPL Documents	A182-- Defs_Mot_to_Stay_Litigation_f iled_Oct-14-2010_Part_One-- rev.pdf	7724746  4da8fc16294f33ecf62b28881eadc4c5310aa 009	no	170
<b>Warnings:</b>					
<b>Information:</b>					
2	NPL Documents	A182-- Defs_Mot_to_Stay_Litigation_f iled_Oct-14-2010_Part_Two-- rev.pdf	8098645  54caa1a5b8d2ab71586b62d8794b20ec76 6072d0	no	169
<b>Warnings:</b>					
<b>Information:</b>					
3	NPL Documents	A183-- Defs_Reply_Memo_in_Supp_of _Mot_to_Dismiss_filed_Oct-26- 2010.pdf	185607  6bb54cf99f78e8b4b365d73692d4869232a 0bcd1	no	13
<b>Warnings:</b>					
<b>Information:</b>					
4	NPL Documents	A184-- Progressives_Memo_in_Opp_ to_Defs_Mot_to_Stay_Litigatio n_filed_Oct-28-2010--rev.pdf	3142467  8f6256a91a11b1d56f3eb7ab2f06ebe91d1 4d99a	no	80
<b>Warnings:</b>					
<b>Information:</b>					
5	NPL Documents	A185-- Defs_Reply_Memo_in_Supp_of _Mot_to_Stay_Litigation_filed_ Nov-04-2010.pdf	168494  64ce638cf167d07e5ceb82a4400b9ca0c2 64d44	no	12
<b>Warnings:</b>					
<b>Information:</b>					
6	NPL Documents	A186-- Memo_Opinion_re_Mot_to_Di smisss_for_Failure_to_State_Cla im_filed_Nov-12-2010--rev.pdf	422242  ebdb4a8d9facc770b9209baabcf7fd6f3b9 02ee	no	10
<b>Warnings:</b>					
<b>Information:</b>					
7	NPL Documents	A187-- Memo_Opinion_re_Defs_Mot_ to_Stay_Litigation_filed_Nov-1 2-2010--rev.pdf	359421  fa3e1aca11fd43d86cfc5c6ac1f853cda122e ca	no	9
<b>Warnings:</b>					
<b>Information:</b>					
8	NPL Documents	A188-- Civil_Docket_Northern_Dist_of _Ohio_Cleveland_printed_Dec- 22-2010--rev.pdf	580154  5b907d9c22f5d2c443b3015de6ec3e933cfe c217f	no	12
<b>Warnings:</b>					
<b>Information:</b>					
9		12741-32_IDS.PDF	596279  c4590543fa1be2b49595c8974571eb99937 39544	yes	10

Multipart Description/PDF files in .zip description			
Document Description	Start	End	
Miscellaneous Incoming Letter	1	1	
Transmittal Letter	2	3	
Information Disclosure Statement (IDS) Filed (SB/08)	4	9	
Reexam Certificate of Service	10	10	

**Warnings:**

**Information:**

10	12/41-32_Cert_of_Svc_Atty_Docket_No.PDF	79786	yes	3
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Multipart Description/PDF files in .zip description			
Document Description	Start	End	
Reexam Certificate of Service	1	1	
Miscellaneous Incoming Letter	2	3	

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**New Applications Under 35 U.S.C. 111**

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

**National Stage of an International Application under 35 U.S.C. 371**

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

**New International Application Filed with the USPTO as a Receiving Office**

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

CERTIFICATE OF EFS FILING UNDER 37 CFR §1.8

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office, Commissioner for Patents, via the EFS pursuant to 37 CFR §1.8 on the below date:

Date: January 21, 2011 Name: James A. Collins Signature: /James A. Collins/

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& LIONE**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Ex Parte Robert John McMillan et al.  
Reexam of:

Reexam Appln. 90/011,252  
No.:

Filed: September 22, 2010

For: **MOTOR VEHICLE MONITORING SYSTEM  
FOR DETERMINING A COST OF INSURANCE**

Attorney Docket No.: 12741-32

Examiner: Karin M. Reichle

Art Unit: 3992

Conf. No.: 4116

**TRANSMITTAL**

Mail Stop Ex Parte Reexam  
Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

Sir:

**Attached is/are:**

- Transmittal (1 pg); Information Disclosure Statement (2 pgs); Form PTO 1449 (6 pgs); copies of Thirty-Four Foreign References (A124-A157); copies of Thirty-One Non Patent Literature References (A158-A188); and Certificate of Service (1 pg).

**Fee calculation:**

- No additional fee is required.
- Small Entity.
- An extension fee in an amount of \$ \_\_\_\_\_ for a \_\_\_\_\_ month extension of time under 37 CFR § 1.136(a).
- A petition or processing fee in an amount of \$ \_\_\_\_\_ under 37 CFR § 1.17(p).
- An additional filing fee has been calculated as shown below:

					Small Entity		Not a Small Entity		
	Claims Remaining After Amendment		Highest No. Previously Paid For	Present Extra	Rate	Add'l Fee	OR	Rate	Add'l Fee
Total		Minus			x \$26=			x \$52=	
Indep.		Minus			x 110=			x \$220=	
First Presentation of Multiple Dep. Claim									
					+\$195=			+\$390=	
					Total	\$		Total	\$

**Fee payment:**

- Please charge Deposit Account No. 23-1925 in the amount of \$ \_\_\_\_\_ for \_\_\_\_\_.
- Payment by credit card in the amount of \$ \_\_\_\_\_ (Form PTO-2038 is attached).
- The Director is hereby authorized to charge payment of any additional filing fees required under 37 CFR § 1.16 and any patent application processing fees under 37 CFR § 1.17 associated with this paper (including any extension fee required to ensure that this paper is timely filed), or to credit any overpayment, to Deposit Account No. 23-1925.

Respectfully submitted,

January 21, 2011  
Date

/James A. Collins/  
James A. Collins (Reg. No. 43,557)

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Date of Deposit  
James A. Collins

Name of applicant, assignee or  
Registered Representative  
/James A. Collins/

Signature  
January 21, 2011

Date of Signature

### IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Ex Parte Robert John McMillan et al.  
Reexamination  
of:

Reexamination 90/011,252  
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Attorney Docket No: 12741-32

Examiner: Karin M. Reichle

Art Unit: 3992

Confirmation No.: 4116

### INFORMATION DISCLOSURE STATEMENT

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PO Box 1450  
Alexandria, VA 22313-1450

In accordance with the duty of disclosure under 37 CFR §1.555, Patent Owner submits the references listed on the enclosed Form PTO-1449, copies of which are enclosed. Patent Owner respectfully requests the Examiner's consideration of the submitted references and entry thereof into the record of this reexamination.

This Information Disclosure Statement supplements any references already considered by the Office in this reexamination or during the prosecution of U.S. Patent

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No. 6,064,970. In compliance with 37 CFR §1.98(a)(3), provided herewith are English language abstracts which serve as concise explanations for each reference not in the English language. By submitting this Statement, Patent Owner is attempting to fully comply with the duty of candor and good faith mandated by 37 CFR §1.555, and the requirements of 37 CFR §1.98. This Statement is not intended to constitute an admission that any of the enclosed references, or other information referred to therein, constitutes "prior art" or is otherwise "material to patentability," as that phrase is defined in 37 CFR §1.555(b). Patent Owner reserves the right to file supplemental IDS(s) if additional references are found.

Patent Owner also respectfully requests the Office to review the claims and the prosecution history, including any Office Actions issued by the U.S. Patent and Trademark Office and any responses filed by Patent Owner, for Serial No. 08/592,958 (now U.S. Pat. No. 5,797,134), Serial No. 09/571,650 (now U.S. Pat. No. 6,868,386), Serial No. 10/764,076, Serial No. 11/868,827, and Serial No. 12/132,487.

U.S. Patent No. 6,064,970 is the subject of litigation in *Progressive Casualty Insurance Company v. Safeco Insurance Company of Illinois, et al.*, Case No. 1:10-cv-01370-PAG, in the U.S. District Court for the Northern District of Ohio. On November 12, 2010, the court stayed the litigation pending the outcome of this reexamination. Therefore, the litigation is currently closed, but will be reopened upon immediate notification of either party after the conclusion of the reexamination process.

Patent Owner has calculated no fee due upon filing this Information Disclosure Statement. However, the Director is authorized to charge any fee deficiency associated with the filing of this Information Disclosure Statement to a deposit account, as authorized in the accompanying Transmittal.

Respectfully submitted,

January 21, 2011

Date

/James A. Collins/

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(Reg. No. 43,557)





**EUROPEAN PATENT APPLICATION**

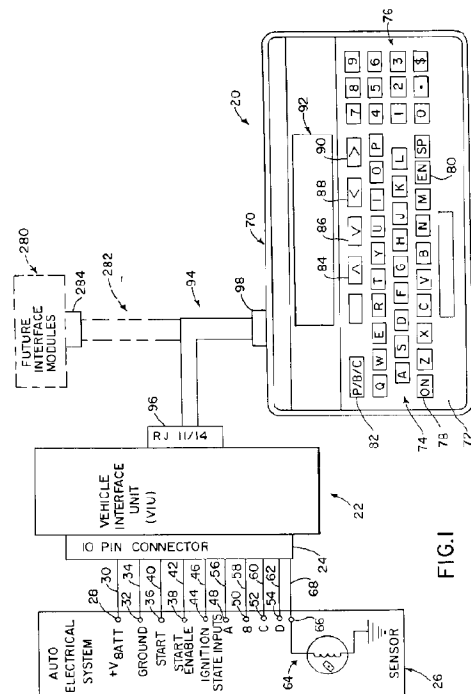
(21) Application number : **94303963.6**      (51) Int. Cl.<sup>5</sup> : **G07C 5/08**  
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(54) **System for recording expense type information in combination with information pertaining to one or more operating characteristics of a vehicle.**

(57) A system for monitoring certain vehicle operating information and recording other data includes a vehicle interface unit (22) permanently mounted to a vehicle, and a data recorder unit (20) removably interconnectable with the vehicle interface unit (22). The vehicle interface unit (22) receives signals from the vehicle through the vehicle's interface connector (24), such as signals pertaining to distance travelled and other operating characteristics, e.g. operation of headlights, directional signals, brakes or seat belts, and such signals are communicated through a communications link to the data recorder unit (20). The data recorder unit (20) includes a memory in which such information is stored, and the data recorder unit (20) can be disconnected from the vehicle interface unit (22) and interconnected with an external device such as a computer or printer for outputting information stored in the memory. The data recorder unit (20) can also be used to store other information, such as pertaining to business expenses or the like.



EP 0 629 978 A1

This invention relates to a system for use in combination with a vehicle to monitor and record certain information pertaining to operation of the vehicle along with other information manually input by the operator, such as for use in tracking expenses.

Generally, it is beneficial for persons who use a vehicle in connection with a business to keep track of the number of miles traveled by the vehicle for business purposes. When the vehicle owner is an individual using his or her personal vehicle for business purposes, this information can typically be used to generate a deduction on the person's income tax returns. When the owner of the vehicle is an employer, it is important to keep track of the amount of miles logged by the employee both for business and personal purposes.

In the past, a typical method of keeping track of business and personal use of a vehicle has been to maintain a written log in which the operator enters by hand the date of operation and information allowing the operator to calculate the number of business miles traveled, typically start and stop readings taken from the vehicle's odometer. One drawback to this type of system is that it relies on the operator to accurately record the necessary information. Another drawback is that, if the operator wishes to keep track of other expenses, such as meals, lodging, entertainment or the like, the operator must keep a separate log of such information, thus generating separate sets of records for related expense information. Another drawback is that the operator must diligently record expense information including vehicle mileage in order to keep an accurate record, which is often easily overlooked.

It is an object of the present invention to provide a system for monitoring and recording information pertaining to vehicle operation for assisting an operator to accurately track and record business or personal use of the vehicle. It is a further object of the invention to provide a system enabling the operator to input and record other information, such as expenses pertaining to meals, lodging and entertainment. It is a further object of the invention to provide such a system which is user-friendly, making it as easy as possible for an operator to provide an accurate and reliable record of information pertaining to expenses and vehicle operation. A further object of the invention is to provide such a system which is relatively simple in its components and operation, yet which provides highly satisfactory performance.

In accordance with one aspect of the invention, a vehicle monitoring and data recording system includes a vehicle interface unit adapted for interconnection with the electrical system of the vehicle for sensing one or more operating characteristics of the vehicle, and for outputting a first set of data signals indicative of the sensed vehicle operating characteristic. The system further includes a portable recorder

unit adapted for removable interconnection with the vehicle interface unit. The portable recorder unit includes a memory, an input for receiving the first set of data signals from the vehicle interface unit, and a manually operable data entry device. The input provides the first set of data signals to the memory, and the manually operable data entry device allows an operator to input data, to thereby output a second set of data signals to the memory in response thereto. A processor is interconnected with the memory, and the recorder unit is disconnectable from the vehicle interface unit and connectable to an external device, such as a computer or printer, for outputting to the external device a third set of data signals from the memory which includes the first and second sets of data signals. The vehicle interface unit is in the form of a module interconnected via a series of buses with the electrical system of the vehicle, with each bus providing a signal to the module indicative of the status of one of the vehicle's operating characteristics. The vehicle interface unit includes a processor interconnected with the buses for processing signals provided thereby and for generating the first set of data signals in response thereto. The vehicle interface unit may be interconnected with the ignition system of the vehicle, so as to prevent vehicle ignition unless the portable recorder unit is connected to the vehicle interface unit. The vehicle interface unit receives signals from the vehicle indicative of distance traveled by the vehicle, such as the signals provided to the vehicle's odometer. The manually operable data entry device is preferably in the form of a keypad, which allows an operator to input a signal to the memory indicative of the business or personal nature of the vehicle mileage. In addition to vehicle mileage, the vehicle interface unit may be interconnected with the electrical system of the vehicle to monitor other vehicle operating characteristics, such as brake operation, directional signal operation, seat belt use and headlight operation.

The invention further contemplates a method of monitoring vehicle operating characteristics and recording data. The method involves sensing one or more vehicle operating characteristics, and generating a first set of data signals indicative of the one or more sensed vehicle operating characteristics. The first set of data signals are stored in a portable recorder unit removably interconnected with the vehicle. The method further involves generating a second set of data signals by manual operation of a data entry device; storing the second set of data signals in the portable recorder unit; disconnecting the portable recorder unit from the vehicle and interconnecting the portable recorder unit with an external device such as a printer or computer; and outputting to the external device a third set of data signals which includes the first and second sets of data signals. The particulars of the method are substantially in accordance with the foregoing summary.

Various other features, objects and advantages of the invention will be made apparent from the following description taken together with the drawings.

The drawings illustrate the best mode presently contemplated of carrying out the invention.

In the drawings:

Fig. 1 is a schematic representation of the vehicle monitoring and data recording system of the invention, showing the vehicle interface unit interconnected with the vehicle's electrical system and the portable recorder unit interconnected with the vehicle interface unit;

Fig. 2 is a schematic representation showing interconnection of the portable recorder unit with an external device such as a computer or printer;

Fig. 3 is a schematic representation of the components of the vehicle interface unit of the system of Fig. 1; and

Fig. 4 is a schematic representation of the components of the portable recorder unit of the system of Fig. 1.

Referring to Fig. 1, a vehicle monitoring and data recording system constructed according to the invention generally includes a portable data recorder unit (DRU) 20 and a stationary vehicle interface unit (VIU) 22 connected via a connector 24 with the electrical system of a vehicle. Typically, the vehicle's electrical system includes an interface connector, shown generally at 26, located within the interior compartment of the vehicle. Interface connector 26 includes a series of terminals to which vehicle interface unit 22 is connected via a series of buses interconnected with connector 24. Such terminals include a power terminal 28 which supplies power to VIU 22 from the vehicle via a bus 30; a ground terminal 32 providing ground potential to VIU 22 through connector 24 and a bus 34; a start terminal 36 and a start enable terminal 38 providing signals to VIU 22 through connector 24 and buses 40, 42, respectively; an ignition terminal 44 providing an ignition signal to VIU 22 through connector 24 and a bus 46, and operating state terminals 48, 50, 52 and 54 providing input signals to VIU 22 through connector 24 and buses 56, 58, 60 and 62, respectively. State inputs A-D at terminals 48-54 may be that such as the vehicle's headlights, directional signals, brakes, seat belt indicators or the like.

Vehicle interface connector 26 further includes an odometer sensor 64 which provides pulses to a terminal 66 which are communicated via a bus 68 and connector 24 to VIU 22. Each pulse generated by sensor 64 is indicative of a predetermined distance traveled by the vehicle, which enables the vehicle odometer to output a mileage reading and the vehicle speedometer to output an instantaneous indication of the speed at which the vehicle is traveling.

DRU 20 includes a housing 70 having a front panel 72. A standard QWERTY keypad, shown generally at 74 is mounted to front panel 72, along with a nu-

meric keypad 76, a power key 78, an "enter" key 80, and a personal/business/commute (P/B/C) key 82. A series of cursor movement keys 84, 86, 88 and 90 are also mounted to housing front panel 72. A display 92, such as an LCD display, is mounted to housing front panel 72 above keypad 74.

DRU 20 and VIU 22 are interconnected with each other via a conventional six-wire RJ11/14 shielded power and communications cable 94. RJ11/14 connectors or ports 96, 98 are provided on VIU 22 and DRU 20, respectively, for receiving the ends of cable 94. Cable 94 can be disconnected from either or both of connectors 96, 98, enabling DRU 20 to be removably connected to VIU 22.

As shown in Fig. 2, DRU 20 can be interconnected with external devices, such as a computer 100 or a printer 102, equipped with communication ports 104, 106, respectively. Computer 100 and printer 102 are adapted for interconnection with DRU 20 by communication links 108, 110, respectively. Preferably, DRU 20 is connectable to either one or the other of computer 100 or printer 102, so as to enable information contained within DRU 20 to either be downloaded into a data storage device associated with computer 100 or to be printed through printer 102.

The components of VIU 22 are illustrated in Fig. 3. As noted previously, VIU 22 is interposed between vehicle interface connector 26 and DRU 20, with DRU 20 being removably connectable to VIU 22 through communication ports 96.

VIU 22 concludes a programmable microcontroller 112. Microcontroller 112 receives power from the vehicle through voltage and current protection circuit 114 interconnected with the vehicle's power source, such as a battery, via line 30, and ground potential through line 32; a voltage regulator 116 interconnected with voltage and current protection circuit 114 via a line 118; and a power conditioning circuit 120 interconnected with voltage regulator 116 via a line 122, and with microcontroller 112 via a line 124. Microcontroller 112 receives input voltage signals through a signal voltage conditioning circuit 126, which is interconnected with start terminal line 40, start enable terminal line 42, ignition line 46, and vehicle operating state input lines 56, 58, 60 and 62. These input voltage signals are provided to microcontroller 112 through lines 128, 130, 132, 134, 136, 138 and 140, respectively.

A manually operable bypass switch 142 is interconnected between start line 40 and start enable line 42. A start enable relay 144 receives power from a line 146 interconnected with line 118, and is interconnected with start enable line 42 and with start line 40 through a line 148. Start enable relay 144 is interconnected with microcontroller 112 through a line 150.

Vehicle mileage pulse line 68 is interconnected with microcontroller 112 through a low level signal conditioning circuit 152 having an enabling circuit

153, and a line 154. An RS-232 communications transceiver 156 including an enabling circuit 158 transmits signals to microcontroller 112 through a line 160, and receives signals from microcontroller 112 through a line 162. Enabling circuit 158 of transceiver 156 is interconnected with microcontroller 112 via a line 164, which in turn is interconnected with enabling circuit 153 of low level signal conditioning circuit 152 via a line 166. A conventional resonator 168 is interconnected with microcontroller 112 through lines 170, 172.

Through communication port 96, protected voltage and ground potential is provided to DRU 20 through lines 174, 176, respectively. Cable 94 includes a line 178 which transmits signals from microcontroller through transceiver 156 to DRU 20, and a line 180 which transmits signals from DRU 20 to microcontroller 112 through transceiver 156.

Fig. 4 illustrates the components of DRU 20. DRU 20 includes a programmable microcontroller 184 interconnected with a conventional resonator 186 via a line 188. DRU 20 further includes an RS-232 transceiver 190, which is interconnected with lines 178, 180 from VIU 22 through DRU communication port 98. Transceiver 190 transmits signals to microcontroller 184 through a line 192, and receives signals from microcontroller 184 through a line 194. Transceiver 190 further includes an enabling circuit 196, which is interconnected with microcontroller 184 through a line 198.

DRU 20 is further equipped with a rechargeable battery 200, which is charged by a charge circuit 202 and lines 204, 206 and 208. Charge circuit 202 is interconnected with power line 210, which in turn is interconnected with lines 174, 176 from VIU 22 for transmitting power to DRU 20. Line 208 further provides power to an LCD intensity control 212. Power is supplied from battery 200 or charge circuit 202 to a voltage drop circuit 214 and to microcontroller 184 through a line 216. Similarly, power is supplied from charge circuit 202 to a voltage regulator circuit 218 including an enabling circuit 220. A line 222 extends between voltage regulator 218 and a program memory 224, and a line 226 extends between voltage regulator circuit 218 and microcontroller 184. A line 228 interconnects voltage regulator enabling circuit 220 with microcontroller 184.

A line 230 extends between power line 222 and transceiver 190.

Microcontroller 184 is further interconnected with a contrast control circuit 232 through a line 234, and contrast control circuit 232 in turn is interconnected with transceiver 190 through a line 236 and with an LCD controller/driver circuit 238 through a line 240. Power is supplied to LCD controller/driver circuit 238 through a line 242 from power line 222. Microcontroller 184 is interconnected with intensity control circuit 212 through a line 244.

Power is supplied to microcontroller 184 from battery 200 through line 216, or from charge circuit 202 through voltage regulator 218 and a line 246 extending between microcontroller 184 and power line 222.

Program memory 224 is interconnected with microcontroller 184 through a line 248, and a nonvolatile RAM 250 is interconnected with microcontroller 184 through lines 252, 254. A clock 256 having a crystal 258 is interconnected with RAM 250 through a line 260, and with microcontroller 184 through a line 262.

An audible beeper 264 is interconnected with microcontroller 184 through a line 266. Microcontroller 184 is interconnected with LCD controller/driver circuit 238 through a line 268, and LCD 92 is interconnected with LCD controller/driver circuit 238 through a line 270. LCD back light intensity control circuit 212 is interconnected with an LCD back light 272 through a line 274.

In operation, the above-described components function as follows. Initially, VIU 22 is interconnected with vehicle interface connector 26, and is mounted in an inconspicuous location within the interior of the vehicle. To operate, DRU 20 is connected to VIU 22 using communication and power cable 94, and DRU power key 78 is depressed to provide power to DRU 20 through VIU 22, or from battery 200. Upon power-up of DRU 20, a unique identifying signal is communicated from DRU 20 to VIU 22, and VIU microcontroller 112 is programmed so as to allow vehicle operation only by a person (or persons) possessing a DRU 20 having an acceptable identifying code. When the code of DRU 20 and the preprogrammed acceptable code(s) of VIU 22 match, VIU microcontroller 112 sends a signal through line 150 to start enable relay circuit 144, which functions to interconnect start terminal 36 and start enable terminal 38 of vehicle interface connector 26, thus allowing ignition of the vehicle.

As an alternative, bypass switch 142 can be operated to interconnect start terminal 36 with start enable terminal 38.

Upon ignition of the vehicle, DRU microcontroller 184 sends a signal through line 266 to actuate beeper 264, to provide an audible prompt to the operator. The operator then depresses P/B/C key 82 to select whether the mileage to be driven is personal, business or for commuting, and such information is communicated to DRU microcontroller 184 and a corresponding legend appears on display 92. As the vehicle is operated, the distance pulses from vehicle interface connector terminal 66 are communicated to VIU microcontroller 112 through pulse signal conditioning circuit 152 and line 154. This information is then communicated to DRU microcontroller 184 through VIU transceiver 156 and DRU transceiver 196, and DRU microcontroller 184 then converts such signals into mileage information, which is com-

municated to and stored in RAM 250. Simultaneously, date and time information is communicated to RAM 250 from clock 256.

Each time the operator changes the designation of the mileage traveled by depressing P/B/C key 82, such information is communicated to DRU microcontroller 184 and to RAM 250, along with date and time information from clock 256. This enables the operator to accurately keep track of business, personal and commuting miles, along with the dates and times such mileage was covered.

At the same time mileage information is communicated through DRU microcontroller 184 to RAM 250, other information pertaining to vehicle operating characteristics is communicated from state input terminals 48, 50, 52 and 54 of vehicle interface connector 26 to RAM 250 through DRU microcontroller 184 and VIU microcontroller 112. For instance, such information may pertain to characteristics such as operation of the vehicle head-lights, directional signals, brake lights or seat belt indicator. This information is stored in RAM 250 for a predetermined amount of time, e.g. five or ten minutes. If desired, this vehicle operating characteristic information can be extracted from RAM 250, so as to enable a person to determine these vehicle operating characteristics for the preceding five or ten minute time period, which may be useful in accident investigations or the like.

When the operator is finished operating the vehicle, DRU 20 is disconnected from VIU 22, and the operator can then carry DRU 20 along in a briefcase, purse or the like. Information pertaining to other expenses incurred by the operator can be input into DRU 20 using QWERTY keypad 74 and numeric keypad 76. Such information is displayed on display 92, and simultaneously stored in RAM 250 through DRU microcontroller 184.

Whenever desired, the operator interconnects DRU 20 with either computer 100 or printer 102. By depressing appropriate buttons of keypad 74, the information stored in DRU RAM 250 is either downloaded into computer 100 or communicated to printer 102 for printing a hard copy of an expense report. When communicating information to computer 100, such information can be interfaced with an expense management program or the like so as to enable such information to be incorporated thereinto.

Appropriate software is loaded into program memory 224 through DRU microcontroller 184 to carry out the above steps. The software stored in program memory 224 can be modified or replaced as desired, permitting DRU 20 to be field programmable for accommodating software updates and/or custom programs for specific user requirements.

Referring back to Fig. 1, other devices, shown generally as future interface modules 280, can be interconnected with DRU 20 through a communication link 282 and a connector 284. For example, such de-

vices may include a portable communication device such as a radio transmitter or a cellular telephone. A communication device such as this enables an operator to relay information contained within DRU RAM 250 to a remote receiving device, such as a radio receiver or other cellular communication device, for communicating information from RAM 250 to a remote station. Representative applications for this type of system include transmitting expense information from traveling sales personnel to a central expense tracking facility, or transmitting transportation service information to a central facility. For example, a transportation service for disabled individuals can input a unique identifying code for each user, and information pertaining to the distance the user was transported can automatically be transmitted to a central processing facility for enabling the transportation service to rapidly generate a bill for such transportation services rendered to that individual. Numerous other applications for the system of the invention are contemplated, utilizing either transmitting or receiving equipment.

Various alternatives and embodiments are contemplated as being within the scope of the following claims particularly pointing out and distinctly claiming the subject matter regarded as the invention.

## Claims

1. A vehicle monitoring and data recording system for use with a vehicle, comprising:
  - a vehicle interface unit adapted for interconnection with the electrical system of the vehicle for sensing one or more vehicle operating characteristics and for outputting a first set of data signals indicative of the sensed vehicle operating characteristics; and
  - a portable recorder unit adapted for removable interconnection with the vehicle interface unit, comprising a memory; an input for receiving the first set of data signals from the vehicle interface unit and for providing the first set of data signals to the memory; a manually operable data entry device for allowing an operator to input data and for outputting a second set of data signals in response thereto to the memory; and a processor interconnected with the memory; wherein the data recorder unit is disconnectable from the vehicle interface unit and connectable to an external device for selectively outputting, to the external device, a third set of data signals from the memory which includes at least the first and second sets of data signals.
2. The system of claim 1, wherein the vehicle interface unit comprises a module interconnected via a series of lines with the vehicle electrical system,



- each line providing a signal to the vehicle interface unit module indicative of one of the vehicle's operating characteristics.
3. The system of claim 2, wherein the vehicle interface unit includes a processor interconnected with the lines for processing signals received from the lines and generating the first set of data signals in response thereto. 5
  4. The system of claim 3, wherein the vehicle interface unit is interconnected with the ignition system of the vehicle and includes an arrangement for preventing vehicle ignition unless the data recorder unit is connected to the vehicle interface unit. 10
  5. The system of claim 4, wherein the vehicle ignition system includes a start terminal and a start enable terminal, and wherein the ignition preventing arrangement comprises a circuit including the processor for detecting connection of the data recorder unit to the vehicle interface unit. 15
  6. The system of claim 5, wherein the vehicle interface unit includes a programmable device for entering a unique identifying code for each individual authorized to operate the vehicle, and wherein the vehicle interface unit processor functions to prevent vehicle ignition by an unauthorized individual. 20
  7. The system of claim 1, wherein the vehicle interface unit is interconnected with the input to the vehicle's odometer to receive data signals therefrom and to enable monitoring of the vehicle's mileage. 25
  8. The system of claim 7, wherein the manually operable data entry device comprises a keypad including a key allowing an operator to input a signal to the memory of the data recorder unit indicative of business or personal operation of the vehicle. 30
  9. The system of claim 7, wherein the vehicle interface unit is further interconnected with the electrical system of the vehicle to sense one or more of the following vehicle operating characteristics; brake operation, directional signal operation, and headlight operation, and seat belt operation. 45
  10. The system of claim 1, wherein the vehicle interface unit is interconnected with an electrical interface connector associated with the vehicle for receiving signals therefrom indicative of one or more of the vehicle operating characteristics. 50
  11. A method of monitoring vehicle operating conditions and recording data, comprising the steps of:
    - sensing one or more vehicle operating characteristics;
    - generating a first set of data signals indicative of the one or more sensed vehicle operating characteristics;
    - storing the first set of data signals in a portable recorder unit removably interconnected with the vehicle;
    - generating a second set of data signals by manual operation of a data entry device;
    - storing the second set of data signals in the portable recorder unit;
    - disconnecting the portable recorder unit from the vehicle and interconnecting the portable recorder unit with an external device; and
    - selectively outputting, to the external device, a third set of data signals from the portable recorder unit which includes at least the first and second sets of data signals. 55
  12. The method of claim 11, wherein the step of sensing one or more vehicle operating characteristics is carried out by permanently mounting a vehicle interface unit to the electrical system of the vehicle for receiving signals therefrom indicative of one or more vehicle operating characteristics, wherein the portable recorder unit is removably interconnectable with the vehicle interface unit.
  13. The method of claim 12, wherein the step of generating a second set of data signals by manual operation of a data entry device is carried out by manual operation of a keypad provided on the portable recorder unit.
  14. The method of claim 13, wherein the step of generating a second set of data signals comprises generating a set of data signals indicative of personal or business use of the vehicle by manual operation of the keypad. 60

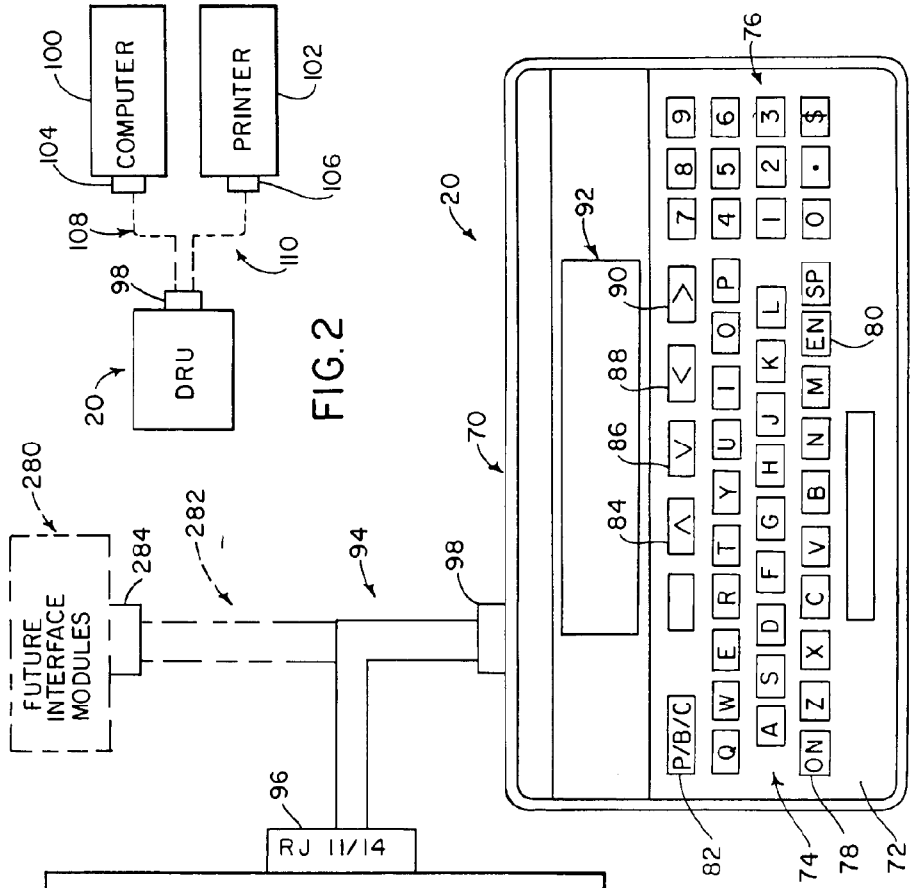


FIG. 2

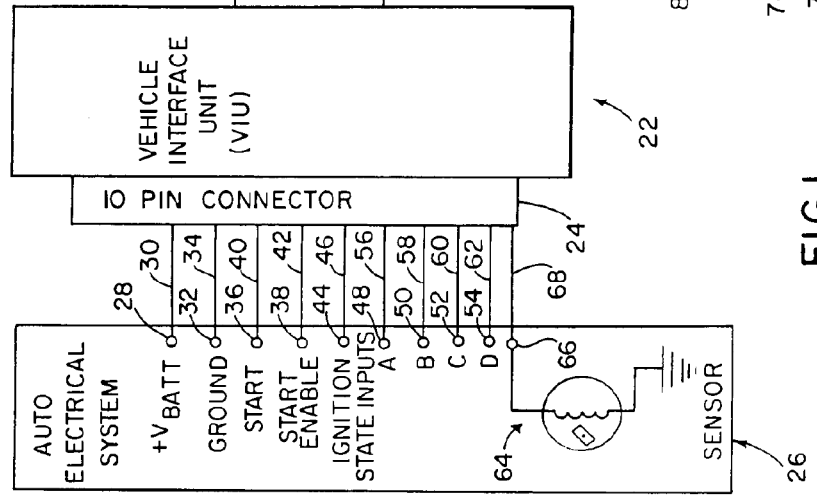
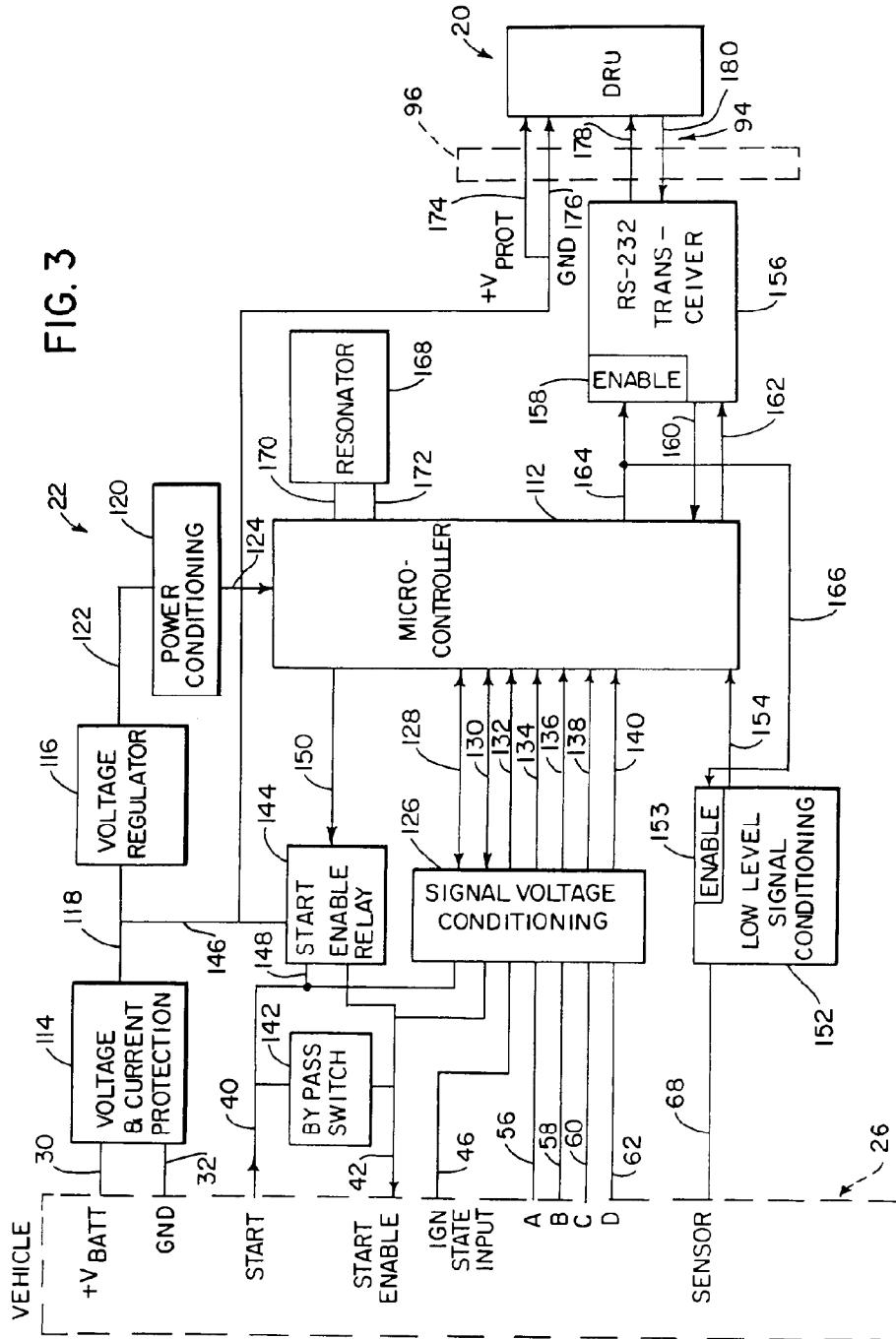


FIG. 1





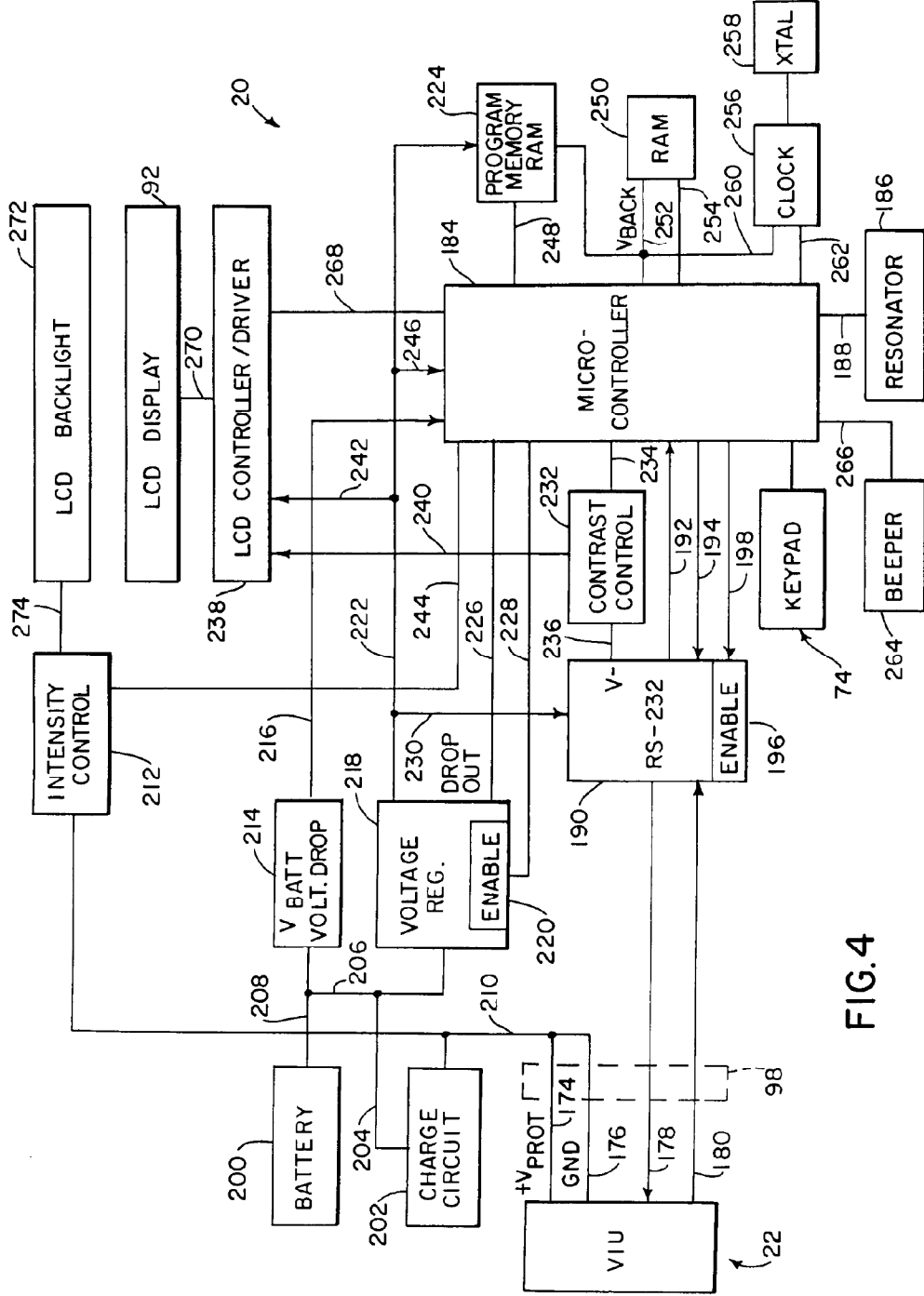


FIG.4



European Patent  
Office

EUROPEAN SEARCH REPORT

Application Number  
EP 94 30 3963

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.5)
X	DE-A-31 47 314 (WESSER) * page 5, line 19 - page 9, line 26 * * page 10, line 15 - page 19, line 8; figures *	1,2,7,8	G07C5/08
Y	---	9-14	
A	---	4-6	
Y	EP-A-0 224 616 (GELHORN) * column 3, line 29 - column 7, line 4; claims; figures *	1-14	
Y	DE-A-32 21 399 (KIENZLE) * page 4, line 17 - page 7, line 26 * * page 8, line 30 - page 9, line 30; claim 1; figures *	1-3,7,8	
A	---	9-12	
Y	GB-A-2 244 582 (BRITISH TELECOMMUNICATIONS PUBLIC LIMITED COMPANY) * abstract; claims; figures * * page 2, line 29 - page 3, line 18 *	4-6	
A	---	1,2,11	
A	GB-A-2 119 095 (GOLDCREST ELECTRONICS) * page 2, line 17 - page 3, line 26 * * page 3, line 56 - page 4, line 22 * * page 6, line 5 - line 51; figures *	1-3,5,7-12	
A	WO-A-92 22043 (WB ELECTRONIC) * page 14, line 20 - page 15, line 29 * * page 19, line 13 - page 20, line 5; figures *	1-3,7-14	
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-/--			
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
THE HAGUE		30 September 1994	Meyl, D
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone		I : theory or principle underlying the invention	
Y : particularly relevant if combined with another document of the same category		E : earlier patent document, but published on, or after the filing date	
A : technological background		D : document cited in the application	
O : non-written disclosure		L : document cited for other reasons	
P : intermediate document		& : member of the same patent family, corresponding document	

EPO FORM 1501 (01.82) (P4/C01)



European Patent  
Office

EUROPEAN SEARCH REPORT

Application Number  
EP 94 30 3963

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.5)
A	WO-A-82 02785 (DYRDAK) * page 3, line 10 - line 34 * * page 5, line 5 - page 6, line 8 * * page 9, line 22 - page 11, line 21; figures * ---	1,7-11	
A	US-A-4 939 652 (STEINER) ---		
A	EP-A-0 495 104 (K.K. KOMATSU SEISAKUSHO) -----		
			TECHNICAL FIELDS SEARCHED (Int.Cl.5)
The present search report has been drawn up for all claims			
Place of search <b>THE HAGUE</b>		Date of completion of the search <b>30 September 1994</b>	Examiner <b>Meyl, D</b>
<b>CATEGORY OF CITED DOCUMENTS</b> X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ..... & : member of the same patent family, corresponding document	

EPO FORM 1503 (03/92) (P0403)

## Individual evaluation system for motorcar risk

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**Publication date:** 1996-03-06

**Inventor(s):** MINGUIJON PEREZ SALVADOR [ES] +

**Applicant(s):** MINGUIJON PEREZ SALVADOR [ES] +

**Classification:**


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- European: G06Q40/00D; G06Q99/00


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### Cited documents:

 FR2533049 (A1)

 FR2647930 (A1)

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 BE1000765 (A6)

 WO9002386 (A1)

### Abstract of EP 0700009 (A2)

The vehicle carries an electronic data processor linked to a speedometer, accelerometer, internal clock and calendar for checking and recording types of traffic hazard, duration of journey and other data related to safety. It can receive electromagnetic signal from the roadside related e.g. to speed limits, icing conditions and traffic jams, and can exchange data by wireless communication with a service station.

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(19)



Europäisches Patentamt  
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(11) **EP 0 700 009 A2**

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(54) **Individuelle-Bewertungssystem für das Risiko an selbstangetrieben Fahrzeuge**

(57) Unter die Individuelle-Bewertungssystem für das Risiko an selbstangetrieben-Fahrzeuge stellt sich ein Handlungsweise und elektronisches-Einrichtung vor, die die persönliche Versicherungsprämie in Funktion des übernehmendes wirkliches Risiko-Schätzung

erlaubt, in Basis nach die bestehende Wechselbeziehungen berechnet zwischen dieses und messbar Parameter im eigenen Fahrzeug.

Man stellt ein strategisches-Betriebs Einführung-Profil vor.

EP 0 700 009 A2

**Beschreibung**

## TECHNISCHES-SEKTOR

Diese Patent-Zweck-System passt im elektronische Technologie, Informatik, Datenaustausch an und beschreibt ein neues alternatives oder ergänzendes-Prozess für den Versicherungsbeitrag der Fahrzeug-Versicherungs-Firmen, sowie der Ausrüstung um diese durchführen zu können.

## TECHNISCHE-STAND

In die letzten Jahre haben sich bei der Automobil-Sektor mehrmalige und verschiedenen Computer-Verwendungen vorgeschlagen, als Beispielweise Regulierungs- und Verkehrs-Führung Systeme, selbst-aktivierende Fahrbahnmarkierungen, Nachunfälle Registriergeräte (scharze-Kasten) selbst-Befund-Anlagen oder vorbeugende Instandhaltung usw.

In Wirklichkeit, kommen diese Projekte trotz dieser Verwendungs-Nutzbarkeit, mit sehr wichtigen Grenzen-Implantations an. Einerseits, einigen diese Verwendungen brauchen höheres Strukturierungen-Kosten um das Produkt für den Benutzer reizvoll zu machen, und andererseits gibt es Verwendungen die die Investitionen in der minimum-notwendige-Ausrüstung nicht nachweisen können, um diese in der Mittelklasse Fahrzeuge montieren zu können.

Um diese Grenze zu beseitigen zeigt das Projekt eine geschäftliches annehmbare Möglichkeit mit ein erheblicheleistungsfähiger Computer in der automobil anzurichten, mit eine Daten-Netzanschluss vorgeschaltet, die eine Basis für diese und zukünftigen Dienst eine bedächtige Durchdringungen einsetzen sollte.

Um dieses Ziel zu erreichen, sollten man ein Produkt suchen die als Bespannung auftreten konnte, um der fehlerhafte-Kreis gebildet durch die notwendige Infrastruktur und der reizvolles Produkt abbrechen zu können.

Andererseits befinden wir uns mit ein Automobil-Service-Sektor, so wie die Versicherungs-Firmen sind, die bei einen mangelhafte Markt wegen irhe schwere Segmentierung bewegen, aus diesen Grund haben sie mit ihren Kunden schwere Beziehungen.

Diese Unterlagen entwickelt die industrielle- und unternehmerisch Möglichkeit Fahrzeuge mit einen Risiko elektronisches Angabegerät auszurüsten, die kurzfristig bei ihre 2-wichtigen Kunden (Automobilbesitzer und Versicherungsfirma) gut ankommen würden, so dass kurzlang-fristig andere zusätzliche Funktionen übernehmen würden.

## ERKLÄRUNG

Diese Ausrüstung besteht aus ein elektronisches Datenverarbeiter, mit der Fähigkeiten Daten zu bechafen, insbesondere von Automobil-Arbeitsweise und Str-

assenmarkierung, um das Risiko der Fahr-Typ die man durchführt zu bewerten, so dass einerseits mit der Benutzer durch indikationen ausübt um der Gefahr zu vermindern und andererseits zeitweise Zutritt zur Daten-Zugang um Übertragung des Risiko-Information damit der Versicherungsbeitrag berechnet werden kann, und dabei das Programm erneut aktualisiert werden kann.

Die erhaltenen Automobil-signale konnten eine grosse Variation zeigen je nachdem wie dieses Risiko-Genauigkeit bewerten möchtet, als Basis variante könnte es bei enen Geschwindigkeitsensor und ein Beschleunigungsmesser-Einheit liegen, die zusammen mit den internes Uhr und Kalender der Prozessors den durchgeführte Fahrt-Risiko-Art, Streckendauer und Erfüllungszeit prüfen und aufnehmen könnte.

Zusätzlich wäre möglich, Daten wie bei den Sicherheitsgurt, Reifendruck, Sicherheitabstand, usw. einzutragen.

Die Zwischen-Verbindung mit die Strasse könnte es sich mit ein kleines elektromagnetisches Empfangsgeräte in der Automobil durchführen, so dass Passivsignale auf Lauffläche-Strassen empfangen könnte, z.B. feste Geschwindigkeitgrenzen, Bauarbeiten-Zeichen usw. oder selbstaktiv.signale wie Eissignale, Verkehrs-Stauung. Der prozessor könnte selbstverständlich die zusammenhängenden zwischen diese Zeichen und die durchgeführte Überführung überwachen. Man muss hier bemerken, dass diese aktive Zeichen ein Minimum verbraucht-Energie brauchen, und so mit die aktuelle Zeichen-Problem beseitigen würde, die eigentlich das grösste Kostenproblem der Elektrikanschluss ist.

Die Informationsaustausch mit die Daten-Netz würde sich bei die Servicestation über eine Kabellos-anschluss durchführen. Die Information die bereits nach festgelegten Angaben der Versicherungsfirma bearbeitet wurden ermitteln die Einschätzungsgefahr für ein gewisse Zeitdauer, dadurch würde der Versicherungsbeitrag berechnet und auch statistischen-Daten Beschaffung um dem Risiko-Bewertungssystem zu verbessert. Andererseits würde man die neue Gefahr Bewertungs-Programm-Revision erhalten, die den Prozessor ihre Verbesserung ermöglichen kann.

Der Ausrüstung wäre in der Lage, Informationübermittlung an der Fahrer um Risiko zu vermindern und Massnahme zu ergreifen wie zum beispiel Hochgeschwindigkeit, nötige Fahrpausen usw. Der Ausrüstung könnte ausserdem den Benutzer die Identifikations, sogar ein Alkohol-oder Reflex-Test verlangen.

Die vorausgesehene Datenaustausch-Verbindung könnte auch für Eingans-Daten der Instandhaltung durch spezialisierte Werkstätte benutzen, so dass der Prozessor auch der Sicherheitssystem-Stand bewerten könnte und Instandhaltung-wirkungen zu empfehlen.

**55 ART WIE DIE ERFINDUNG  
VERWENDUNGS-EMPFÄNGLICH IST**

So wie beim "Technische Stand" geklärt ist, gibtns

beim Automobil viele Projekte über Computer- und Kommunikation-Anlage verbindungen, die trotz seine durchführbar fachtechnisch, eine überschreitbar-Grenze beim Mark-Eindringung-option erreichen zu können die eine gewisse Rentabilität gewährleistet.

Die Vorstellungssystem bei diesen Bericht hat die Besonderheit in zwei verschiedenen Aktivitäten zu trennen und diese über Firmen die schon eine bestimmte Infrastruktur beim Mark haben, auszunützen. Dass heisst, dass eine Servicefirma für datenverarbeitung zuständig ist und eine elektronische-Automobil Firma die physikalischen-Anlagen betreut.

#### Patentansprüche

**1-HANDLUNGSWEISE FÜR DIE EINZEL BEWERTUNG DES RISIKO BEIM SELBSTFAHRENDE-AUTOMOBILE**, dessen letzte Zweck ist, dass die Automobil Versicherungs-Firmen den Beitrag nach den einzel Gefahr seinen Kunden einpassen, und zu diesem Zweck wird das Automobil mit einem Anschaffungssystem und Information-Vorbehandlung ausgestattet, und die Daten vom der eigene Automobil und ihre Umgebung aufnimmt. Diese Information ist gesammelt und bewertet nach den Risikofaktor und danach wird die Versicherung beitrage erstellt

**1.1 HANDLUNGSWEISE FÜR DIE EINZEL BEWERTUNG DES RISIKO BEIM SELBSTFAHRENDE-AUTOMOBILE** gemäss vorige Ansprüche, gekennntgezeichnet weil die verfolgte Information von eigen-Automobil stammt; zum beispiel Auswanderungsstrecke, der Betriebsablauf-Zeit der Automobil, Information über dir Fahrstrecke-Geschwindigkeit, Fahrstrecke dauer, benutztes Automobil-platzes, Automobil gesamt Gewicht, Sicherheits-Gurtel Benutzung, Information über die Beschleunigung in irgendwelche erleidende 3-Dimensionen während der Benutzung und Automobil, wirksame Sicherheits System-Zustand.

**1.2 HANDLUNGSWEISE FÜR DIE EINZEL BEWERTUNG DES RISIKO BEIM SELBSTFAHRENDE-AUTOMOBILE** gemäss vorigen Ansprüche, gekennntgezeichnet weil sie Einrichtungen besitzen die man erlaubt mit der Fahrer in beide Richtungen verständigen zu können, so dass einerseis über den Risikogründen die sie verwirken, informiert, beispielweise ungeeignete Geschwindigkeit, zu viel Pausenlos-Strecke, irgendeine Sicherheitssystem Fehler oder überprüfungs-notwendigkeit usw. und andererseits, Information über den Fahrer zu bekommen als beispielweise Identifikation, Reflexen-Probe, Alkoholprobe usw. So dass

der System bezüglich Fahr-Sicherheit, ein wichtiges Rolles spielt.

**1.3 HANDLUNGSWEISE FÜR DIE EINZEL BEWERTUNG DES RISIKO BEIM SELBSTFAHRENDE-AUTOMOBILE** gemäss vorigen Ansprüche, gekennntgezeichnet weil Verbindungs-möglichkeiten mit Automobil Wartungs-Werkstätten verfügt, so dass bei ihre Kalkulations-Routine die Korrelatives oder Präventive Instandhaltungs-Aktivitäten berücksichtigt werden.

**1.4 HANDLUNGSWEISE FÜR DIE EINZEL BEWERTUNG DES RISIKO BEIM SELBSTFAHRENDE-AUTOMOBILE** gemäss vorigen Ansprüche, gekennntgezeichnet wegen die Datennetz Benutzung, so dass die installierte Geräte am Automobil Daten sammeln und bewerten, die zum Datensammler übertragen werden in Tankstellen undurchsichtlich für de Benutzer und ausserden kann man in dieser Moment die Programation der Geräte aktualisieren. Die Datensammler werden regelmässig mit ein zentral Ausrüstung schalten und diese wird die erhaltene Information verarbeiten und zu Verfügung der Versicherungsfirmen gestell. Andererseits, mit die erhaltene Daten werden die Gefahrbeziehungen ständig überprüfen und die Programe aktualisiert.

**1.5 HANDLUNGSWEISE FÜR DIE EINZEL BEWERTUNG DES RISIKO BEIM SELBSTFAHRENDE-AUTOMOBILE** gemäss vorigen Ansprüche, gekennntgezeichnet, weil elektromagnetisches-Verbindungsmöglichkeiten, damit passive oder aktive Signalisierung auf der Strasse erfass werden kann, so dass bei seinen Risikoschätzung-Routinen die Fahrangemessenheit diese Signalisierung in Betracht beachten.

**2. ELEKTRONISCHES-AUSRÜSTUNG FÜR DIE INDIVIDUELLE BEWERTUNG DES RISIKO BEIM SEBBSFAHRENDE-AUTOMOBILE** dessen letzte Zweck ist die Anschaffung, Behandlung, Sammlung und Informations-Prozesse über wor?, wann?, wie? und in welche Umstände die Motorfahrzeug benutzen werden, derart dass von ausreichende Daten verfügt um das Versicherungsbeitrag auf den tatsächliches Verwendunganzuwenden zur ermöglichen. Er ist über eine Informations-Netz errichtet worden die die Informationaustausch zwischen ein Zentral-System und die erwebene-und vorbehandelte Informations-Fahrzeug-Anschlüsse erlaubt.

**2.1 ELEKTRONISCHES-AUSRÜSTUNG FÜR DIE INDIVIDUELLE BEWERTUNG DES RISIKO BEIM SEBBSFAHRENDE-AUTOMO-**

BILE gemäss vorige Ansprüche, gekennzeichnet weil jeder selbstfahrende-Fahrzeug ein Anschaffungs-Ausrüstung und Informations-Vorbehandlung verfügt, durch en Mikro-Datenverarbeiter errichtet um die ange- 5  
richteten Schätzung-Routinen mit folgende peripherer Elementen durchzuführen, Display, Tastatur und akustische Warnung für ihre Wechselwirkung mit den Fahrer, Kabel- 10  
lose-Schaltungen für Strassen Verbindungen mit aktive oder pasive-Signalisierung und mit die Instandhaltung-Ausrüstung und Daten-Banken-System, Ausrüstung die Beschaffung von Binär-Digitals oder Analoge-Daten die direkt 15  
oder indirekte-Verbindung um das Automobil-Sicherheit zu beschaffen, selbstätig Spannungsquelle und zuletzt, die Ausrüstung Sicherheitssystem-Verwendung und diese nur mit der zuständiger Personal manipulieren zu können. 20

2.2 ELEKTRONISCHES-AUSRÜSTUNG FÜR DIE INDIVIDUELLE BEWERTUNG DES RISIKO BEIM SEBBSFAHRENDE-AUTOMOBILE gemäss vorigen Ansprüche, gekennzeichnet weil die sammeln und Aktualisie- 25  
rungs-Daten durch ein Einsammeln-Daten Ausrüstung durchgeführt wird, dessen grundlegende Struktur aus ein Computer mit anschluss möglichkeiten an beweglichen Ausrüstungen, und Modem-Verbindung zur einen Datennetz 30  
für Informations-Austausch mit der Zentral Ausrüstung.

2.3 ELEKTRONISCHES-AUSRÜSTUNG FÜR DIE INDIVIDUELLE BEWERTUNG DES RISIKO BEIM SEBBSFAHRENDE-AUTOMOBILE gemäss vorigen Ansprüche, gekennzeichnet weil das Netz gebildet aus Mobil-Ausrüstung, Daten-Sammlug-Ausrüstung und Zentral-Computer ist so ausgestattet, dass in beiden Richtungen arbeiten kann, so das dass System andere Funktionen aufnehmen könnte, so wie Unterstützung für Instandhaltung des Fahrzeuges, oder Daten Bearbeitung für die Fahrzeugsherteller, Kreditzahlung, automatische Identifizierung des Fahrzeugs, Fernsteuerung, übermitteln Topographischen-Informationen, Touristik usw. 45

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(54) **Integrated insurance system and system method**

(57) A computerised integrated insurance financing system. Specifically, the computerised insurance system is capable of handling an insurance transaction from the development of an appropriate insurance contract with the client through the management of the client's insurance information during the life of the contract. Initially, census data is received from a potential client in the form of computer records representing a plurality of individuals to be insured. After being reviewed and standardised, the census data is used to perform a pecuniary loss analysis. The data from the pecuniary loss analysis is used to generate insurance illustrations and a financial analysis for the client. Once an appropriate insurance contract is finalised, the system generates the insurance contract, and related documentation, and the census data is used to manage the client's insurance information during the life of the contract.

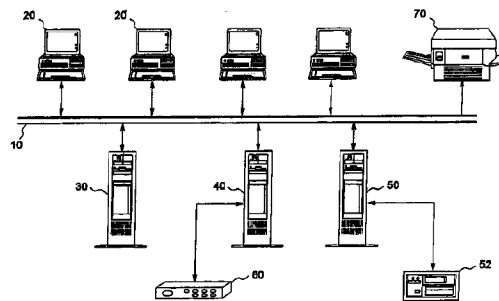


Fig. 1

## Description

**[0001]** The invention relates to a computer network and to a computerised integrated insurance financing system. More particularly, the computerised insurance system is capable of handling an insurance transaction from the development of an appropriate insurance contract with a client through the management of the client's insurance information during the life of the contract.

**[0002]** As used herein "client" includes an offshore captive corporation or trust which is a purchaser or potential purchaser of life insurance for the purpose of funding or financing benefit liabilities in favour of its parent corporation or grantor. Initially, census data is received from a client in the form of computer records representing a plurality of individuals to be insured. After being reviewed and standardised by the computer system, the census data is used to perform a pecuniary loss analysis. Asset requirements are measured based upon insurance liabilities and/or employee benefit liabilities. The data from the pecuniary loss analysis and the asset measurements are then analyzed by the computer system in order to generate life insurance coverage amounts consistent with applicable insurable interest laws, insurance liabilities and/or employee benefit liabilities. Insurance illustrations and a detailed financial analysis are provided for the client. Once an appropriate life insurance contract is finalised, the system generates the life insurance contract and related documentation. All of the data previously generated is used to automatically manage by the computer system the client's insurance information during the life of the contract.

**[0003]** The present invention is also directed to the computerised design, sale and management of life insurance plans for offshore captive insurance companies located outside of the United States and offshore trusts located outside of the United States except Voluntary Employee Beneficiary Associations (VEBA's) in which the client or trust insures a large number of individuals, such as employees, under a single group contract or several individual contracts. Such an insurance contract might be used to finance insurance liabilities, employee death benefits, worker's compensation benefits, health insurance benefits, disability income benefits and non-qualified retirement benefits. Such an insurance plan can provide tax benefits to a client if the contract qualifies as insurance under applicable laws.

**[0004]** Two possible uses for such a computerised integrated insurance system are 1) the automated design, sale and management of offshore captive insurance programs and 2) the automated design, sale and management of offshore trustee insurance programs. A captive insurance company or a company sponsored trust, can accept contributions from a parent company to insure employees of related entities for the purpose of financing various insurance liabilities and employee benefit liabilities.

**[0005]** With use by a captive, the captive insurance company pays premiums to an offshore life insurance company. The computer system determines the amount of available insurance coverage under applicable insurable interest laws, measures captive insurance company assets needed to satisfy insurance liabilities and determines the amount of assets which may be efficiently deployed in insurance contracts to improve after-tax investment yields, minimise investment risk, satisfy future liquidity requirements and shift insurance risk from the captive insurance company to an offshore insurance company.

**[0006]** With use by a client sponsored offshore trust (except a VEBA) the trust pays premiums to an offshore life insurance company. The computer system determines the amount of insurance coverage available under applicable insurable interest laws, determines the amount of employee benefit liabilities and measures the amount of assets required to finance those liabilities. The computer system then illustrates information on how to efficiently deploy those assets in life insurance contracts to improve after-tax investment yields, minimise investment risk, satisfy future liquidity requirements and shift insurance risk from the trust to an offshore insurance company.

**[0007]** Known computerised insurance systems are unable to handle an insurance transaction from the complete development of an appropriate insurance plan through the management of the client's insurance information during the life of the contract. This is particularly true with respect to companies which have complex insurance liabilities and/or complex employee benefit liabilities and insure a large number of individuals in a single transaction. In general, known insurance systems are quite limited in that they do not encompass most or all functions required to perform a complete computerised integrated process which encompasses development, analysis, production and management of an insurance contract. Thus, known insurance systems are fragmented and utilise separate pecuniary loss analyzers, illustrators, insurance liability measurement systems, benefit liability estimation systems, asset measurement systems and client insurance information management programs.

**[0008]** Because presently known insurance systems handle an insurance transaction in a fragmented manner, they lack the cohesiveness, flexibility and economies of scale that a computerised integrated insurance system would provide. If the insurance transaction were integrated and streamlined, the reduced cost could be passed along to the client. Increased profits on the sale of such insurance are also possible.

**[0009]** Moreover, since data generated by one known insurance system must be transferred from system to system during the transaction, many of which are not compatible, it takes significantly longer to complete than if the entire process were integrated in a single computer system. Given the length of time required to perform

pecuniary loss analysis, financial analyses, measure insurance and liabilities employee benefit liabilities, determine asset requirements, and generate financial computer-based illustrations, only a small number of scenarios are generally created for a company whether by a computer or manually. Further, the ease with which interdependent computer calculations can be made is lacking. An integrated computerised insurance transaction, on the other hand, enables a large number of different insurance scenarios to be easily generated for a prospective client based on that client's individual needs in a timely and cost efficient manner. The financial implications of the various plans can also be quickly shown to the client on a cost efficient basis. Moreover, the plans can be rapidly modified based on feedback from the client. This greater flexibility allows optimum cost efficient insurance plans to be generated for the client.

[0010] It is thus apparent from the above that there exists a significant need in the art for a computer based integrated insurance system.

[0011] It is therefore an aim of preferred embodiments of this invention to provide an integrated computerised insurance system capable of handling transactions in which a plurality of individuals will be insured under a single group contract or several individual contracts.

[0012] It is another aim of preferred embodiments of this invention to provide an integrated computerised insurance system capable of handling an insurance transaction more quickly and efficiently, resulting in more precise measurements, than non-integrated insurance systems.

[0013] It is another aim of preferred embodiments of this invention to provide a computerised insurance system capable of inputting client census data, performing pecuniary loss analysis, measuring insurance liabilities, measuring employee benefit liabilities, determining asset requirements, performing a comprehensive financial analysis, generating the final insurance contract and managing the client's insurance information during the life of the contract.

[0014] Briefly described, the present invention provides a computer system which smoothly integrates these functions in an integrated computer architecture which is capable of designing and managing an insurance contract.

[0015] The present invention also provides a computerised method for implementing an integrated insurance system, comprising the steps of: (1) inputting client census data for a plurality of individuals in the form of computer records; (2) automatically performing a pecuniary loss analysis on the census data to classify individuals into cells and determine appropriate insurance coverage amounts under applicable laws; (3) automatically determining asset requirements based upon insurance liabilities and employee benefit liabilities; (4) performing a computerised financial analysis based upon captive insurance company asset requirements and/or trust asset requirements; (5) preparing

computer-generated insurance illustrations based on the results of the pecuniary loss analysis, the measurements of assets and underlying insurance liabilities and employee benefit liabilities; (6) creating a final insurance contract and related documentation; and (7) managing through such computer system the client's insurance information and assets utilised to offset insurance and employee benefit liabilities during the life of the contract.

[0016] The present invention also provides an apparatus for implementing an integrated insurance system, comprising: (1) an inputting census data unit for a plurality of individuals in the form of computer records; (2) a pecuniary loss analyzer for the census data to classify individuals into cells and determine appropriate insurance coverage amounts under applicable laws; (3) an asset requirements unit to determine asset requirements based upon insurance liabilities and employee benefit liabilities; (4) a financial analysis unit to perform a financial analysis based upon captive insurance company asset requirements and/or trust asset requirements; (5) an illustrator for preparing insurance illustrations based on the results of the pecuniary loss analysis, the measurement of assets and underlying insurance liabilities and employee benefit liabilities; (6) a document generator for creating a final insurance contract and related documentation; and (7) a managing unit to manage the client's insurance information and assets utilised to offset insurance and employee benefit liabilities during the life of the contract.

[0017] The present invention provides the features set out in the appended claims.

Figure 1 is a block diagram of the hardware arrangement used in a preferred embodiment of the present invention.

Figure 2 is a block diagram of the functional components of a preferred embodiment of the present invention.

Figure 3 is a block data flow overview diagram according to a preferred embodiment of the present invention.

Figures 4A to 4C are block flow diagrams showing the integrated insurance system according to a preferred embodiment of the present invention.

Figures 5A to 5H are block flow diagrams showing the census data analysis process according to a preferred embodiment of the present invention.

Figure 5I is a sample menu displayed during the census data analysis according to a preferred embodiment of the present invention.

Figures 6A to 6J are block flow diagrams showing the pecuniary loss analysis process according to a

preferred embodiment of the present invention.

Figures 7A to 7D are block flow diagrams showing the insurance illustration process according to a preferred embodiment of the present invention.

Figures 8A and 8B are block flow diagrams showing the financial analysis process according to a preferred embodiment of the present invention.

Figures 9A to 9E are block flow diagrams showing the client information management process according to a preferred embodiment of the present invention.

**[0018]** Referring now in detail to the drawings wherein like parts are designated by like reference numerals throughout, there is illustrated in Figure 1 a diagram of the hardware arrangement used in a preferred embodiment of the present invention. An Ethernet backbone 10 connects a number of workstations 20, servers 30, 40, 50 and printer 70. The workstations 20 can be IBM PC compatible machines, running Microsoft MS-DOS and Windows 3.1.1, or Microsoft Windows NT, versions 3.51 and higher. The workstations 20 require the following hardware components: 16MB of RAM, a 500MB hard drive, and a colour VGA video display. It should be noted, however, that other components can be used.

**[0019]** The database server 30, the file server 40 and the backup server 50 can be Intel Pentium based IBM PCs running Novell Netware versions 3.11 or higher, or Microsoft Windows NT Server version 3.51 or higher. Each server 30, 40, 50 requires the following minimums: 64MB RAM and a hard drive.

**[0020]** The database server 30 accepts queries from workstations 20 and returns data sets from a centralised database. The database server 30 also provides data warehousing, backup and data fault tolerance.

**[0021]** The file server 40 performs file and print sharing services and authenticates internal login requests. The file server 40 can also handle external data flow via modems 60.

**[0022]** The backup server 50 provides fault tolerance through continuous on-line backup to tape, and can double as the file server 40 or the database server 30 in the event either server fails.

**[0023]** It will be understood by those skilled in the art that this hardware embodiment is only one of many ways that can be used to implement the integrated insurance system. Although multiple server and workstation processors are shown, their functions could be handled by a single computer if multi-user access is not required. Alternately, instead of the Ethernet backbone 10 the various processors could be connected through other local area network (LAN) topologies such as Token-Ring, wide area networks (WAN), switched telephone networks, such as a public or packet switched network environment such as the Internet. Internet con-

nectivity enhances the system to provide World Wide Web access to databases, and the transmission and reception of e-mail Messaging to automate client reporting, and claim notification from remote sites. For example, census data or claim information could be received from a remote site through the Internet.

**[0024]** Figure 2 is an overview diagram of the functional components of a preferred embodiment of the present invention. The census analyzer 500 receives raw census data from the client. As explained in detail with respect to Figures 5A to 5I, the census analyzer can (1) review input census data representing a plurality of people to be insured; (2) provide a subset of data to a third party for validation; (3) compare present census data with past census data from the same client; and (4) convert the census data into a standardized format.

**[0025]** After the census data has been standardized by the census analyzer 500, the pecuniary loss analyzer 600 processes the data based on input control parameters. As explained in detail with respect of Figures 6A to 6J, the pecuniary loss analyzer 600 calculates the insurable interest that a potential client has in each individual in the census. The pecuniary loss analyzer 600 categorises each individual to be insured and places them in a representative "cell".

**[0026]** These cells of data are used by the illustrator 700. As explained in detail with respect of Figures 7A to 7D, the illustrator 700 adjusts the data in the cells and generates insurance ledgers for presentation to a potential client. The financial analyzer 800 also generates reports regarding the potential client, as explained in detail with respect to Figures 8A and 8B. Next, the final contract generator 100 creates the final contract and related documentation. Finally, the insurance plan is administered by the client insurance information manager 900 as explained in detail with respect to Figures 9A to 9E.

**[0027]** Figure 3 is a data flow overview diagram of a preferred embodiment of the present invention. Data is received from a potential client by the census analyzer 500 in the form of input census data 90. The census analyser 500 can also access prior census data 91 from the same client. The input census data 90 and prior census data 91 can be compared to generate census comparison reports. The census analyzer also converts the input census data 90 into a standardised format, as represented by standardised census data 92.

**[0028]** The standardised census data 92 is used by the pecuniary loss analyzer 600, along with operator input control parameters, to classify individuals into representative cells 80. The cells 80 are adjusted by the illustrator 700 and are used by the financial analyzer 800 to create reports based on operator input control parameters. When an appropriate contract is approved, the final census data 95 is created. The final census data 95 is used by the client insurance information manager 900 to administer the insurance plan. The administration of the plan includes the generation of death

benefit paper work, claim status results and financial reports to client.

#### Process Overview

[0029] Figures 4A to 4C are block flow diagrams showing an overview of the process of the integrated insurance system according to a preferred embodiment of the invention.

[0030] As shown in Figure 4A, census data is received from a potential client (step 400) and reviewed (step 402). This process is described in greater detail with respect to Figures 5A to 5I. The data is then input to the pecuniary loss module (step 404).

[0031] A pecuniary loss analysis is conducted on an aggregate and an individual basis (step 405). This process is described in greater detail with respect to Figures 6A to 6J. The results of the pecuniary loss analysis are reviewed and analyzed by the client (step 406). If the results are not satisfactory, the assumptions used during the pecuniary loss analysis can be revised and the pecuniary loss analysis can be repeated (steps 408 and 410).

[0032] If the results of the pecuniary loss analysis are satisfactory, life insurance projections, or illustration ledgers, are produced (step 412) and a financial analysis is performed as shown in Figure b (step 414). These processes are described in greater detail with respect to Figures 7A to 7D and 8A and 8B. The results of the insurance illustration and financial analysis can then be reviewed (step 416). If the results are not satisfactory, the assumptions used during the insurance illustration and financial analysis can be revised and these functions can be repeated (steps 418 and 420).

[0033] When the result of all of the above steps is optimized, the client decides whether or not insurance will be purchased. If insurance is not purchased, that is the end of the transaction (steps 422 and 424). If insurance is purchased, the case is underwritten and issued and the system generates the final insurance contract and related documentation (step 428).

[0034] Once the contract is in effect, the system can administer the insurance plan. This process is described in greater detail with respect to Figures 9A to 9E. The plan's administration includes processing death benefit claims as shown in Figure 4C (step 430). The system can also update monthly asset values and monitor the value of funds in the plan (step 432). Financial reports for the insurance company are generated and all relevant data is stored (steps 436 and 438). Finally, the system can prepare an annual plan review, showing historical financial performance and re-projecting future performance based on updated assumptions, to be presented to client (steps 440 and 442).

#### Census Data Analysis

[0035] The insurance transaction begins when war

census data is received from the client. The census data contains a plurality of computer records representing the individuals to be insured. Such a computer record might contain the individual's name, social security number, sex, date of birth and salary. The received census data is reviewed for completeness and standardized. Newly received census data can be compared to census data previously received from the same client to determine which individuals have been added or deleted. The system also generates a computer file that can be used by a third party to verify that the social security numbers are valid. Figures 5A to 5H are block flow diagrams showing this census data analysis process.

[0036] As shown in Figure 5A, the user is first presented with a menu listing the census data analysis choices (step 510). Such a menu is shown in Figure 5I. The menu includes an option to return to the higher level menu (step 512), select a help screen (step 514), save the parameters currently entered (step 516) or load a set of parameters that were previously stored (step 518).

[0037] The user can also select to perform a census data analysis (step 520). First, parameters are converted to usable alpha or numeric formats (step 521). These values are then verified to determine, for example, that the date of birth is valid, (step 522) and tested for overlap of specified fields on output files (step 523). Next, the disk files are opened (step 524) and the system is ready to perform the process shown in Figure 5B.

[0038] The processes shown in Figures 5B to 5G compare the input client census data, or the Update File, with previously received client census data, or the Master File. The Update File represents the input census data 90 and the Master File represents the prior census data 91 shown in Figure 3. The comparison generates three output files: (1) a list of individuals in both the input and the previously received census data called the Match File; (2) a list of individuals added to the census called the Unmatched date File; and (3) a list of individuals deleted from the census called the Unmatched Master File. It is important to note that both the Master and Update Files are sorted by their social security number or any other unique identifier "Key" to simplify the comparison.

[0039] As shown in Figure 5B if both the end of the Master File (End=Y) and the end of the Update File (End=Y) have been reached, the comparison is finished and the process shown in Figure 5H is executed (step 525). If End=Y, End=N and the end of the Update File has been reached, SEPTATE is set to infinite and the process shown in Figure 5C is executed (steps 527 and 528). If End=N and the end of the Update File has been reached, the process shown in Figure 5C is executed. If both End and End are not Y, and it is not the end of the Update File (step 526), an update record is read and the update count is increased (steps 529 and 555).

[0040] The number of update records that have been



read is displayed (step 556) and the social security number, or "key," is extracted and verified (step 557). The system checks for duplicate update records (step 558) and the process shown in c is executed.

**[0041]** As shown in Figure 5C, if both End=Y and End=Y, the comparison is finished and the process shown in Figure 5H is executed (step 548). If End=Y, End=N and the end of the Master File has been reached, SSMast is set to infinite and the process shown in Figure 5D is executed (steps 552 and 554). If End=N and the end of the Master File has been reached, the process shown in Figure 5D is executed. If both End and End are not Y, and the end of the Master File has not been reached (step 550), a master record is read and the master count is increased (step 559 and 560).

**[0042]** The number of master records that have been read is displayed (step 561) and the key is extracted and verified (step 562). The system then checks for duplicate master records (step 563) and the process shown in Figure 5D is executed.

**[0043]** As shown in Figure 5D, a social security number in the Master File is compared to a social security number in the Update File. If the social security number in the Master File, or SSMast, is less than the social security number in the Update File, or SEPTATE, a terminated employee has been detected and the process shown in Figure 5E is executed (step 564). If SSMast is greater than SEPTATE, a new participant is detected and the process shown in Figure 5F is executed (step 565).

**[0044]** If SSMast is equal to SEPTATE, (step 570) a match has been found. The matched count is therefore increased by one and a matched record is built from the Master and Update Files (steps 570 and 572). The matched record is written to the match file (step 574). If the end of the Master File has been reached, End is set to Y, SSMast is set to infinite (steps 576, 578 and 582). If the end of the Master File has not been reached and the End of the Update File has been reached, End is set to Y and SEPTATE is set to infinite (steps 580, 581 and 583). In any event, the process shown in Figure 5E is executed.

**[0045]** The process executed when a terminated participant has been discovered, that is a record has been found in the Master File that is not present in the Update File, is shown in Figure 5E. If End equals N, the unmatched master count is increased by one and, if desired, an unreported master record is built and written to the unreported master file (steps 584, 530, 531, 532 and 533).

**[0046]** If the end of the Master File is not detected, the process shown in Figure 5C is executed (step 534). If the end of the Master File is detected, End is set to Y, SSMast is set to infinite and the process shown in Figure 5F is executed (steps 535 and 536).

**[0047]** The process executed when a newly added participant has been discovered, that is a record has

been found in the Update File that is not present in the Master File, is shown in Figure 5F. If End equals N, the unmatched master count is increased by one and, if desired, an unreported master record is built and written to the unreported Master File (steps 537, 538, 539, 540 and 541).

**[0048]** If the end of the Update File is not detected, the process shown in Figure 5G is executed (step 542). If the end of the Update Pile is detected, End is set to Y, SSUpdate is set to infinite, and the process shown in Figure 5G is executed (steps 543 and 544).

**[0049]** As shown in Figure 5G, if both the end of the Master File (End=Y) and the end of the Update File (End=Y) have been reached, the comparison is finished and the process shown in Figure 5H is executed (step 545). If End or End are N and the end of the Update File has been reached, the process shown in Figure 5D is executed (step 564). If End or End are N and the end of the Update File has not been reached, the next update record is read and the update count is increased by 1 (steps 547 and 585). The number of update records is displayed and the social security number or "key", is extracted and verified (steps 586 and 55). The system then checks for duplicate update records (step 551) and the process shown in Figure 5D is executed.

**[0050]** As shown in Figure 5H, at the end of the comparison, the data files are closed (step 587). A report is printed (step 588) listing the results in the form of (1) individuals in both the input and the previously received census data; (2) individuals added to the census called the Unmatched Update File; and (3) individuals deleted from the census called the Unmatched Master File.

**[0051]** Thus, as shown in Figures 5A to 5H, the census data analysis ("CDA") module can compare two distinct sequential ASCII files, each comprised of fixed records of employee information. The fields in each record of one file can differ in form and substance from the fields in each record of the other file in all but one respect. Records in both files must each contain one "key" field, the value of which is unique within the file, and which is used as an identifier for that particular record. In the preferred embodiment, the social security number is used for this purpose. Both files are first sorted in order of the key and the program scans through both files simultaneously looking for records from both files with matching keys. Matching records contain a combination of data which relate to a single employee. The program take selected fields from each record to create a composite output record.

**[0052]** One input file is designated as the Master file while the other is referred to as the Update file. The program allows the user to specify the disk location of each input file and to specify the location of the fields in each record of that file. The user then describes the desired layout of as many as three separate output files created as a result of the matching process. The first of a file of matched records where fields from both Master and Update records are merged together and selected to

create combined and updated output records. The next option is to create a file of unmatched Master records. The records on this file can be redesigned by the user from any of the fields on the Master File. Similarly, a file of unmatched Update records can be created.

[0053] Consider a Master File of policy issue information for all of the originally insured participants of a particular client. Several years after plan inception a current employee census is prepared. This Update file contains such items as current salary and state of residence. From the matched records, the CDA module is able to create a file of all current employees who were previously insured. This single file could contain both policy data as well as current salary and state of residence information for each insured active employee.

[0054] A file of records created or copied from the unmatched Master records could also be created. These would be records for people who were originally insured, but are not currently employed and are thus either terminated, retired or deceased. Finally, a file of information for potential new entrants to the plan could be created from the unmatched Update records of current employees.

[0055] The program allows the flexibility to simply reformat the layout of existing files and create output files with any combination of either matched or unmatched Master or Update records. It is also useful for simply tabulating the total numbers of matched or unmatched records without ever having to create any output files.

#### Pecuniary loss Analysis

[0056] The reviewed and standardized census data is then used to perform a pecuniary loss analysis. Figures 6A to 6J are block flow diagrams showing the pecuniary loss analysis process according to a preferred embodiment of the present invention. The analysis is based on a set of parameters controlled by the operator. For example, the operator might select projected rates of inflation over the life of the contract, the average amount of life insurance provided to employees based on their salary, the normal retirement age for employees, the maximum and minimum premiums the client wishes to pay per individual, and which state's (or country's) laws and regulations will be used in the analysis. As a result of the pecuniary loss analysis, each individual in the census is classified, or placed in a "cell", based on the insurable interest the client has in the individual. If the results of the pecuniary loss analysis are not acceptable to the client, the parameters can be modified and other pecuniary loss analysis can be performed.

[0057] As shown in Figures 6A, the user is first presented with a menu listing the pecuniary loss analysis choices (step 610). The menu includes an option to return to the higher level menu (step 612), select a help screen (step 614), to save the parameters currently entered (step 616) or to load parameters previously

stored (step 618).

[0058] When the appropriate control parameters have been entered or loaded, the user can also select to perform the pecuniary loss analysis. Initially, parameters are converted to usable alpha or numeric formats (step 620).

[0059] A vector or stream of annual health cost trend rates is created (step 622). This process is described in detail in Figure 6G. The health cost trend rate is taken for each year and used to calculate a health cost (steps 670, 671 and 674.). The process is repeated until either the ultimate rate or the individual's retirement age has been reached (steps 672 and 673).

[0060] Referring back to Figure 6A, a vector of premium bands is created (step 623). This process is described in detail in Figure 6H. A maximum and minimum annual premium for each individual is selected for the client. For example, the client might wish to pay between \$400 and \$1,000 for each individual to be insured. A number of premium bands is also selected for the client. For example the client may wish to categorize individuals into three groups, or bands. The premium band size is then computed (steps 680 and 682). Using the above examples, three bands would be created: \$400 to \$600; \$600 to \$800 and \$800 to \$1,000. The bands are displayed (steps 681 and 683) are computed until the maximum premium is reached (step 684).

[0061] Returning to Figure 6A, the client's premium rates are loaded (step 624) and state workers' compensation benefit rates are computed as shown in Figure 6B (step 625).

[0062] As shown in Figure 6B, four brackets are set between the client's minimum and maximum premium values. The parameters for the states are verified and the standardized census data file is opened so that the data can be accessed (steps 627 and 628). A record representing an individual to be insured is read and the data is parsed into the appropriate fields (step 629). The individual's applicable state, such as New York or Virginia, and date of birth are then verified (steps 630 and 631). If the date of birth is not valid, it is set to an unrealistic number, which forces the individual to be excluded from the insurance calculations.

[0063] As shown in Figure 6C, the field representing the sex of the individual is verified. If the value of this field is not valid, it is to set to "M" for male, as a default. The system then sets a flag if the applicable state for the individual is an "active health" state (step 633). That is, the flag is set if the state considers the health costs for the individual to be recoverable. The age is calculated based on the individual's date of birth (step 634). The age is considered invalid if the individual is under 20 or over 65 years of age.

[0064] If either (1) the age of the individual or (2) the state are not valid, nothing more can be done and the record for the next individual is read (step 635).

[0065] If the age and state are valid, the normal retire-

ment age (NRA) for the individual is calculated, which determines when health premium payments will no longer represent an insurable interest (steps 636 and 637). After the normal retirement age is calculated, a determination is made: based upon user input, as to whether or not a non-qualified retirement income benefit liability (NQRIB) is present. If NQRIB is yes, then the NQRIB flag is set to "Y". The system then branches to the NQRIB module as shown in Figure 6J. Various parameters, some calculated, issue age, retirement age, some input, retirement payout period interest rates, plan type, are loaded (step 690). The system determines whether the NQRIB is a defined benefit (DB) or defined contribution (DC) plan (step 691).

**[0066]** In the case of a DB NQRIB, the benefit liability may be entered as flat amount or defined by formula (steps 692, 694 and 697). If defined by formula, the expression evaluator will parse and load the benefit formula.

**[0067]** In the case of a DC NQRIB, the deferral amount may be entered as a vector of deferral amounts or defined by formula (steps 693, 696 and 697). If defined by formula, the expression evaluator will parse and load the deferral vector.

**[0068]** Once the benefit/deferral amounts are loaded, the retirement income liability (RIL) payout is calculated (step 698). The RIL is stored for later comparison to the CalcSumBen result as well as for use by the insurance illustration system, for targeting cash value and death benefit purposes.

**[0069]** Returning to Figure 6C, after calculating the age to stop health premium payments (step 637) the process shown in Figure 6D is executed. As shown in Figure 6D, the health care premium cost per year for the individual's state is calculated (step 640). This is done for all the specified states until the final year of the insurance contract, or the final year that health insurance will be provided for the individual, is reached (step 642). The workers' compensation survivor's benefit is calculated based on the individual's salary (step 644). When the maximum benefits for all of the years have been determined, the sum of the individual's death benefit, health cost and workers' compensation is stored (step 645). When the sum of all the benefits is calculated, the system checks to see if the NQRIB flag is set to "Y". When the flag is yes the system will reset the sum of all benefits to the lesser of RIL or the current sum of all benefits.

**[0070]** This number represents the insurable interest the client has in the individual, not including life insurance. The process shown in Figure 6E is then executed.

**[0071]** Returning now to Figure 6E, the individual's premium bracket is increased (step 654) or decreased (656) based on the new benefit value and the face insurance value (steps 651, 652 and 653). The amount of life insurance based on the new premium bracket is recalculated. These steps are repeated until an appropriate premium bracket is selected. When the appropriate pre-

mium bracket is selected, a final benefit value is calculated using the appropriate recovery amount and the value previously computed and stored in step 645 (step 657). The process shown in Figure 6F is then executed.

5 **[0072]** As shown in Figure 6F, if the total value of benefits is greater than the face amount (step 660), a valid record is established (step 661) and, after the appropriate counters are updated and the record is packed (step 662), the output record is written. If the total value of  
10 benefits is not greater than the face amount, the user can select whether or not the record should be saved (step 664). In either case, if the end of the standardized census file has not been reached, the record for the next individual is processed (step 665). If the end of the  
15 standardized census file has been reached, the pricing and state analysis file is saved and pecuniary analysis reports are printed (steps 666 and 667).

**[0073]** Thus, the pecuniary loss analysis combines information regarding several types of benefits, provided to each member of a group of individuals in the census, with the individual's data. This is used to determine the total of the client's insurable interest in each of the chosen individuals on a pecuniary loss basis. This pecuniary loss analysis may be subjected to situs constraints of the transaction and or the residence of the insured. As this is done, the module determines an amount of life insurance for each employee that would reimburse the employer for its insurable interest at the employee's death at a level no higher than the pecuniary loss. Generally, the amount of coverage is chosen as the amount provided by one of several fixed levels of premium, very similar to a defined contribution type approach. The program uses an iterative process to solve for the appropriate premium level. As an alternative, the system may be given an aggregate employer benefit liability and would then calculate the insurance levels and premiums per insured, a defined benefit approach.

**[0074]** Normally, the employer's estimated pecuniary loss is comprised of four components. First, the amount of the employer provided pre-retirement death benefit is determined. This is generally based upon a pay related formula including the application of a salary scale to anticipate future increases in the actual benefit. Next, the state of residence of each employee may be used to determine the specific workers' compensation survivor's benefit payable in that state. Assumptions are made as to each employee's dependent status at death. For employees residing in states (under the insured residence approach) with modern insurable interest statutes, a total of the trended employer provided health care cost is also included. Finally, an amount which represents the accumulated value of the actual life insurance premium payments (time value adjusted) made by  
55 the employer is added to the other items.

**[0075]** The module contains a great deal of flexibility in its ability to deal with specified groupings of employees and special benefits unique to individual clients. It



also generates various reports and data files which are used to communicate the results of its analysis and to provide input to other software for specific pricing and plan performance analysis.

Insurance Illustration

[0076] The pecuniary loss analysis generates data in the form of representative "cells". These cells are used to create insurance illustrations, or ledgers, for the client. Figures 7A to 7D are block flow diagrams showing the insurance illustration process according to a preferred embodiment of the present invention. The ledgers are created based on another set of parameters controlled by the operator. These parameters might include the client's cash flow requirements and funding objectives. The illustration reviews, and if necessary revises, every cell for each year of the insurance contract. The review includes calculations to determine whether the contract is a modified endowment contract MEC and comply with § 7702(b) of the Internal Revenue Code of 1986 as Amended ("Code"). As before, the input parameters can be modified, and another illustration can be created, if the results of the illustration are not acceptable.

[0077] As shown in Figure 7A, census data is created and verified (steps 710 and 712). A menu is used to set up input parameters from the census data (step 714) and a compensation level, or profit level, is set for the sale of the insurance plan (step 716). Product loads, such as break points, state premium taxes and deferred acquisition cost ("DAC") tax considerations are calculated (step 718) as are product cost of insurance ("COI") charges (step 720). Finally, a probability table representing mortality assumptions is either read from a pre-stored file or generated (step 722) and the cash value and/or asset deployment allocation is read or calculated.

[0078] As shown in Figure 7B, cash flow parameters, such as the size of assets to be invested and the dates that assets are to be deposited to, or removed from, the plan, are defined (step 724). The client's funding objectives are also defined at this point (step 726). For example, the client may wish to build the cash value of the plan to a predetermined value by a specific date.

[0079] A death benefit level is calculated based on the census data and the premium levels committed to by the client (step 728). Each cell is then analyzed and adjusted on a per year basis. The death benefit is increased based on the plan's qualification as a modified endowment contract ("MEC") (steps 730 and 732). This is because distributions from a MEC are taxed to the extent of any income in the contract and there can be an additional tax on the amount of any taxable income distributed from a MEC. Also, loans from a MEC are treated and taxed as distributions.

[0080] The death benefit is also increased based on compliance with Section 7702(f) (7) (b) of the Code

steps 740 and 742). This is because section 7702 sets out certain requirements that a policy must satisfy in order to be considered "life insurance" for tax purposes. The process then determines how to handle distributions in excess of the basis (step 750). For example, it must be decided if loans on the plan will be allowed. Finally, the process shown in Figure 7C is executed.

[0081] As shown in Figure 7C, current values and values that will be guaranteed based on certain assumptions are calculated (steps 752 and 754). These values are often required by the Securities and Exchange Commission (SEC) or state insurance regulators. If the last year of the contract has not been reached, the next year is then analyzed (step 756). Optionally, the process can also determine whether the calculated values are within present target ranges (steps 758 and 760). The target ranges may also be loaded from the values stored as retirement income liability from the pecuniary loss analysis. If not, the target amounts can be updated and the analysis can be repeated (steps 764 and 766). If such targeting has not been selected, or if the values fall within the target ranges, the process of Figure 7D is executed (step 762).

Financial Analysis

[0082] Figures 8A and 8B are block flow diagrams showing the financial analysis process according to a preferred embodiment of the present invention. The purpose of the financial analysis process and financial analyzer device is to analyze the insurance purchase and its financial impact on the client. The financial analysis can be conducted with respect to offshore captive asset deployment, as well as a company sponsored trust that funds employee benefit liabilities. The analysis measures insurance cash value (assets), it's allocation among various investment strategies (short, intermediate & long term), pre-tax and net after tax financial impact at various discount rates and the underlying cost structure of the insurance contract. Additionally, the analysis allows for matching of current and future liquidity requirements with cash flows that the insurance contracts generate, in terms of death benefits, cash value withdrawals and loans. The analysis clearly demonstrates the advantage to deploying assets offshore, through a captive insurance company, or a company sponsored trust. The financial analysis calculates the amount of assets that may be effectively deployed in insurance to maximise investment yields, minimise investment risk, shift insurance risk and satisfy future liquidity requirements.

[0083] The system calculates approximately 150 different tabulated variables that include the areas of: insurance analysis, income statement, balance sheet, cash flow analysis, earnings analysis, insurance product loads and expenses, alternative use of funds analysis, net present value analysis, earnings per share, return on investment, internal rates of return and the

ability to customise additional variables, on an ad-hoc basis, as the client may request. These variables are tabulated and may be selectively chosen to generate standard, as well as customised, reports to meet the client's needs.

**[0084]** Referring now to Figure 8A, the user is first presented with a menu listing the financial analysis choices (step 810). The menu includes an option to return to the higher level menu (step 812), select a help screen (step 814), to save the parameters currently entered (step 816) or to load parameters previously stored (step 818).

**[0085]** When the appropriate control parameters have been entered or loaded, the user can also select to perform the financial analysis (step 820). Initially, a 100 by 150 matrix is set up (step 822) and insurance illustration data is loaded (step 824). Corporate tax rates, discount rates and use of money rates can also be loaded (steps 826, 828, 830).

**[0086]** As shown in Figure 8B, a calculation methodology is selected and all of the financial analysis calculations are completed (steps 840, 850 and 860). After the calculations are complete, the report parameters can be loaded and the reports are generated (steps 870, 880, 890).

#### Client Information Management

**[0087]** Once an appropriate insurance contract is finalised, the system generates the insurance contract, and related documentation, and the census data is used to manage the client's insurance information during the life of the contract. Figures 9A to 9E are block flow diagrams showing the client information management process according to a preferred embodiment of the present invention. At this point, the census data is frozen and used to manage the client's insurance related information. Death benefit claims can be processed, an individual's insurance data can be edited and financial reports can be generated for the client. Because the insurance system is entirely integrated, all of these functions are automated.

**[0088]** System Administrators have access to insurance information for multiple clients and to housekeeping and databases directly. System Administrators are presented with a menu (step 906) that allows them to return to the main menu (step 909). This menu also lets the user: sweep a database as described with respect to Figure 98; perform data management; and perform finance and accounting functions.

**[0089]** As shown in Figure 9B, when the System Administrator elects to perform a sweep, an output file is created containing the social security number of the insured individuals which is then sent to a third party for validation (step 980). Sweep results are received from the third party, imported into the system and displayed (steps 981 and 982). Next, the data is reviewed and discrepancies are identified and flagged as described with respect of Figure 9C (step 970). Invalid social security

numbers are resolved and, if necessary, death benefit claim are generated. The client is notified of any discrepancies (step 983) and an internal report is also generated containing the results of the sweep (step 984). When the sweep is completed, the system returns to the system administration menu (step 906 in Figure 9A).

**[0090]** Figure 9C illustrates the processing required to identify and flag discrepancies as discussed with respect to step 970 in Figure 9B. In particular, if an individual has a different last name, and is not a female having the same date of birth, the record is marked as containing a discrepancy (steps 971 and 972). If an individual has a different last name and is a female having the same date of birth, a marital status change is assumed and the record is not marked as containing a discrepancy (step 973).

**[0091]** Figure 9D shows the main menu displayed for the client information management system process. A portion of the screen will display a list of selected claims related to the insurance plan (step 920). The user is also presented with a menu listing the client information management system choices (step 910). The menu includes options to perform a claim search (step 950), generate reports (step 940), alter the status of an individual from deceased to living (steps 930 and 931), and edit an existing claim or create a new death benefit claims (step 920).

**[0092]** If the user selects the creation of a new death benefit claim, a new claim record is created (step 921) using the individual's census data and the client's insurance policy information (step 922). The remaining steps, shown in Figure 9E, are the same as those performed when the user selects to edit an existing claim from the main menu.

**[0093]** As shown in Figure 9E, financial transaction history information is retrieved (step 923) and the edit claim screen is displayed (step 960). The edit claim screen includes options to view general information about the claim, possibly to interface with other databases (steps 927 and 928), obtain a summary of claim financial transactions (step 926), view overall policy information (step 925), enter or edit insured data (step 924) and create death benefit claim paperwork.

**[0094]** If the user elects to create death benefit claim paperwork, the system will automatically generate a request for a death certificate (step 961). This includes a cover letter to the appropriate governmental records office, and the required fee, based on the zip code where the death occurred. After the death certificate is received (step 962), the information to process the claim is transmitted (step 963). Finally, once the insurance proceeds are received (step 964), the funds are distributed to the appropriate party through a wire transfer (step 965).

**[0095]** Thus, the client information management system ("CIMS") module is designed to automate the process of handling death claims, insured information, client billings, accounting servicing and overall plan adminis-

tration. This is accomplished by providing a centralized database and interface that provides all necessary reporting and output to complete any of these functions.

[0096] The CIMS workstation application is an application which runs on all current versions of Microsoft Windows version 3.1 and higher. The main interface is a "desktop", by which a plan administrator, accountant, financial analyst or supervisor, can view the status of current claims in process, paid claims, policy, plan and insured information. Claims can be edited, inputting data as it is received, until the entire claim is processed. New claims can be identified to the system individually, or in a batch/sweep process, by matching the master insured list against databases of deceased individuals. The system allows a use to process a claim completely in a single sitting, or step by step, as each required step is completed. The system tracks the status of partially completed claims, displaying the status of each claim on the desktop, and if desired, prioritizing claim activity by status, time since notification, or by client. The system allows the user to identify critical steps in the process, such as ordering and receiving documentation, auditing and transferring payments. The CIMS application generates most of the paperwork involved in claims processing, and reporting on policy information. Death certificate orders, notification of pending and paid claims to clients and carriers, and cover letters and fax forms, can be generated to the laser printers on the network.

[0097] The CIMS application also handles the financial and accounting computations as well as policy data during the life of a policy. Premium payments, loans, withdrawals, cash values, interest calculations, and all transaction reversals, are all tracked by the system. All of these items are available for display, calculation and reporting at the carrier level, client level, policy level and insured level.

[0098] The overall system is built around a PC based Client/Server network architecture, utilising software and operating systems that will run on a variety of operating systems. The database server runs an SQL database engine, and contains all of the data tables required. It receives data requests in the form of queries from workstation clients and returns the necessary information. It also schedules database backups and provides fault protection through transaction processing, and by being supplied by uninterrupted and conditioned power.

[0099] The system also contains two other servers. A file server provides file and print sharing services, both for the CIMS application, and other office functions, such as word processing. The file server also handles login authentication to the Local Area Network (LAN). A backup server is in place to backup data on the file server, and archive copies of the SQL database, for disaster recovery. This server also provides fault tolerance by being able to stand in place of one of the other two servers, in the event of a hardware failure.

[0100] PC workstations access the CIMS data engine via the LAN, and run a client application of CIMS, which formulates the data queries sent to the SQL server, and provide output and reporting to the end users.

[0101] In preferred embodiments the invention comprises a system enabling faster processing within the hardware implementation.

[0102] Although preferred embodiments are specifically illustrated and described herein, it will be appreciated that modifications and variations of the present invention are covered by the above teachings and within the purview of the appended claims without departing from the spirit and intended scope of the invention.

[0103] The reader's attention is directed to all papers and documents which are filed concurrently with or previous to this specification in connection with this application and which are open to public inspection with this specification, and the contents of all such papers and documents are incorporated herein by reference.

[0104] All of the features disclosed in this specification (including any accompanying claims, abstract and drawings), and/or all of the steps of any method or process so disclosed, may be combined in any combination, except combinations where at least some of such features and/or steps are mutually exclusive.

[0105] Each feature disclosed in this specification (including any accompanying claims, abstract and drawings), may be replaced by alternative features serving the same, equivalent or similar purpose, unless expressly stated otherwise. Thus, unless expressly stated otherwise, each feature disclosed is one example only of a generic series of equivalent or similar features.

[0106] The invention is not restricted to the details of the foregoing embodiment(s). The invention extends to any novel one, or any novel combination, of the features disclosed in this specification (including any accompanying claims, abstract and drawings), or to any novel one, or any novel combination, of the steps of any method or process so disclosed.

**Claims**

1. A computerised integrated insurance system method, comprising the steps of:

- inputting census data for a plurality of individuals in the form of computer records;
- performing a pecuniary loss analysis based on pecuniary loss parameters and said computer records to classify said individuals into representative cells;
- preparing insurance illustrations based on said representative cells;
- performing a financial analysis based on financial parameters and said representative cells;
- creating a final insurance contract and related documentation based on said representative cells; and

- managing insurance information during the life of said contract based on said computer records.
2. A computerised integrated insurance system method, comprising the steps of:
- inputting census data for a plurality of individuals in the form of computer records; analysing said computer records; and managing insurance information during the life of said contract based on said computer records.
3. A computerised integrated insurance system method according to claim 1 or claim 2, wherein said step of inputting census data further comprises the step of comparing said computer records to prior census data.
4. A computerised integrated insurance system method according to claim 2, wherein said step of analysing said computer records further comprises the step of performing a pecuniary loss analysis based on pecuniary loss parameters and said computer records to classify said individuals into representative cells.
5. A computerised integrated insurance system method according to claim 1 or claim 4, wherein said step of performing a pecuniary loss analysis can be repeated using modified pecuniary loss parameters.
6. A computerised integrated insurance system method according to any one of claims 1, 4 or 5, wherein said step of performing a pecuniary loss analysis calculates an insurable interest for each of said individuals in said input census data.
7. A computerised integrated insurance system method according to claim 4, wherein said step of analysing said computer records further comprises the step of preparing insurance illustrations based on said representative cells.
8. A computerised integrated insurance system method according to claim 7, wherein said step of preparing insurance illustrations includes adjusting said representative cells based on compliance with insurance laws and regulations.
9. A computerised integrated insurance system method according to claim 7 or claim 8, wherein said step of analysing said computer records further comprises the step of performing a financial analysis based on financial parameters and said representative cells.
10. A computerised integrated insurance system method according to claim 9, wherein said step of performing a financial analysis can be repeated using modified financial parameters.
11. A computerised integrated insurance system method according to claim 9 or claim 10, further comprising the step of creating a final insurance contract and related documentation based on said representative cells.
12. A computerised integrated insurance system, comprising:
- a census analyzer (500) to input census data for a plurality of individuals in the form of computer records;
- a pecuniary loss analyzer (600) to perform a pecuniary loss analysis based on pecuniary loss parameters and said computer records and classify said individuals into representative cells;
- an illustrator (700) to prepare insurance illustrations based on said representative cells;
- a financial analyzer (800) to perform a financial analysis based on financial parameters and said representative cells;
- a final contract generator (100) to create a final insurance contract and related documentation based on said representative cells; and
- an insurance information manager (900) to manage insurance information during the life of said contract based on said computer records.
13. A computerised integrated insurance system, comprising:
- a census analyser (500) to input census data for a plurality of individuals in the form of computer records;
- an analyzer (600) to analyze said computer records; and
- an insurance information manager (900) to manage insurance information during the life of said contract based on said computer records.
14. A computerised integrated insurance system according to claim 12 or claim 13, wherein said census analyzer (500) compares said computer records to prior census data.
15. A computerised integrated insurance system according to claim 13, wherein said analyzer (600) further comprises a pecuniary loss analyzer (600) to perform a pecuniary loss analysis based on pecuniary loss parameters and said computer records and classify said individuals into representative cells.

16. A computerised integrated insurance system according to claim 12 or claim 15, wherein the pecuniary loss analyzer (600) can perform more than one pecuniary loss analysis based on modified pecuniary loss parameters.

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17. A computerised integrated insurance system according to claim 12 or claim 15 wherein said pecuniary loss analyzer (600) calculates an insurable interest for each of said individuals in said input census data.

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18. A computerised integrated insurance system according to claim 15, wherein said analyzer further comprises an illustrator (700) to prepare insurance illustrations based on said representative cells.

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19. A computerised integrated insurance system according to claim 15 or claim 18, wherein said illustrator (700) adjusts said representative cells based on compliance with insurance laws and regulations.

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20. A computerised integrated insurance system according to claim 18 or claim 19, wherein said analyzer further comprises a financial analyzer (800) to perform a financial analysis based on financial parameters and said representative cells.

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21. A computerised integrated insurance system according to claim 15 or claim 20, wherein said financial analyser (800) can perform more than one financial analysis based on modified financial parameters.

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22. A computerised integrated insurance system according to any one of claims 15, 20 or 21 further comprising a final contract generator (100) to create a final insurance contract and related documentation based on said representative cells.

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23. A method for implementing an integrated insurance system using a computer system, said method comprising the steps of:

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receiving census data for a plurality of individuals into the computer system;

performing a pecuniary loss analysis based on pecuniary loss parameters and said census data to classify said individuals into representative cells;

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preparing insurance illustrations based on said representative cells;

performing a financial analysis based on financial parameters and said representative cells;

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creating a final insurance contract and related documentation based on said representative cells; and

managing insurance information with the computer system using information generated with said census data.

24. A computer network comprising a plurality of electronic numerical computers networked together, which network is adapted and configured to operate according to any preceding claim.

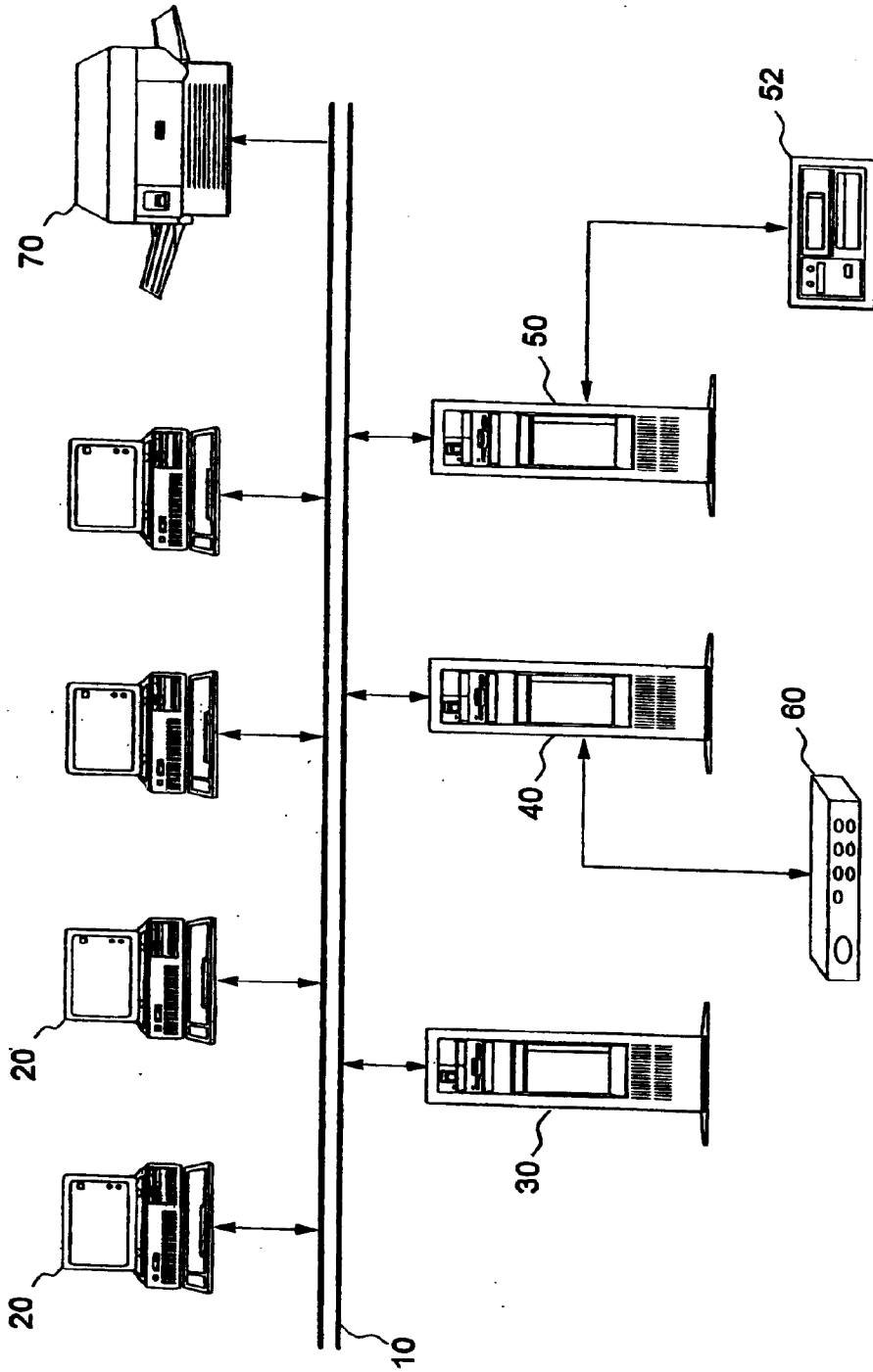


Fig. 1

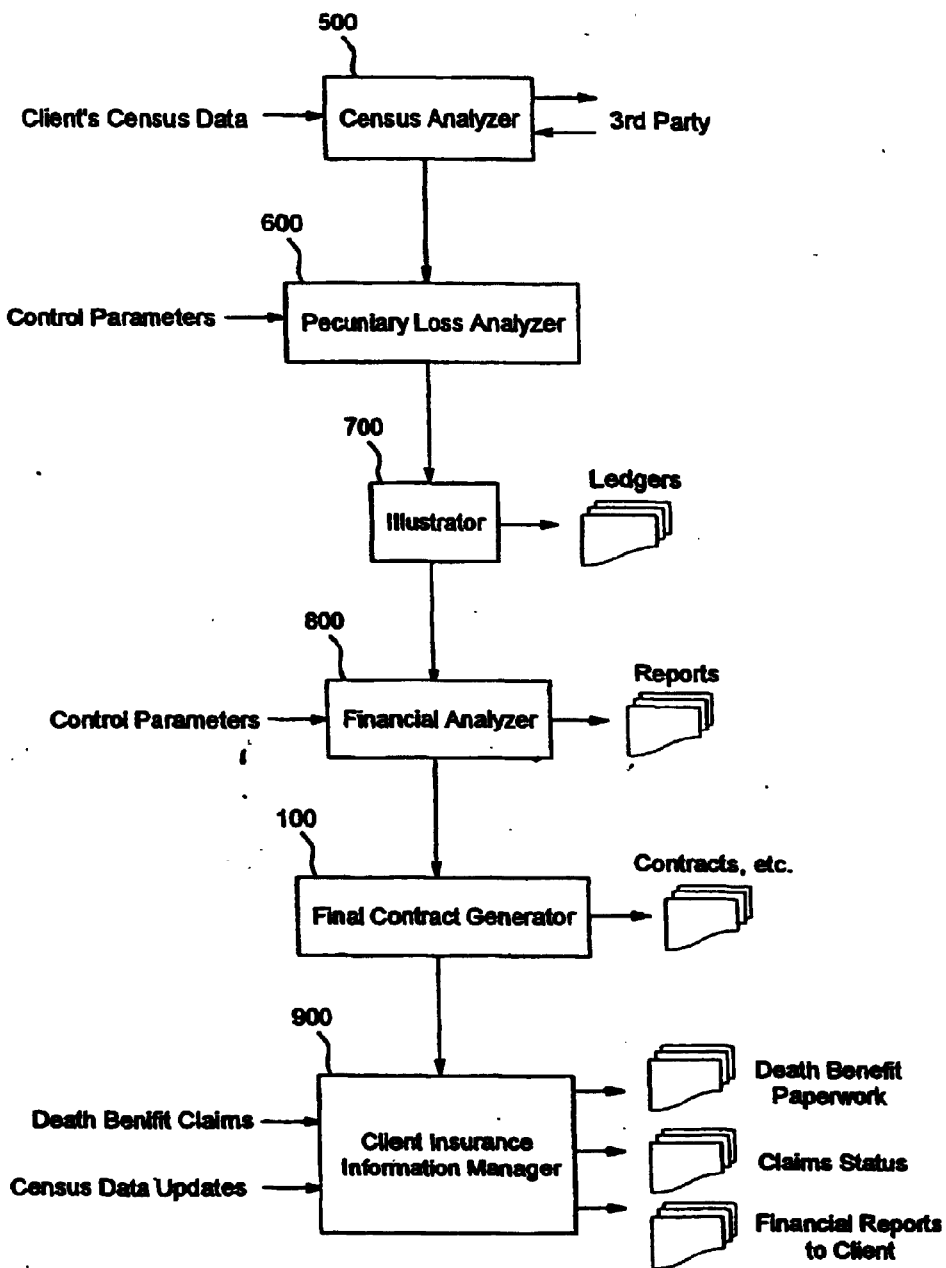


FIG. 2



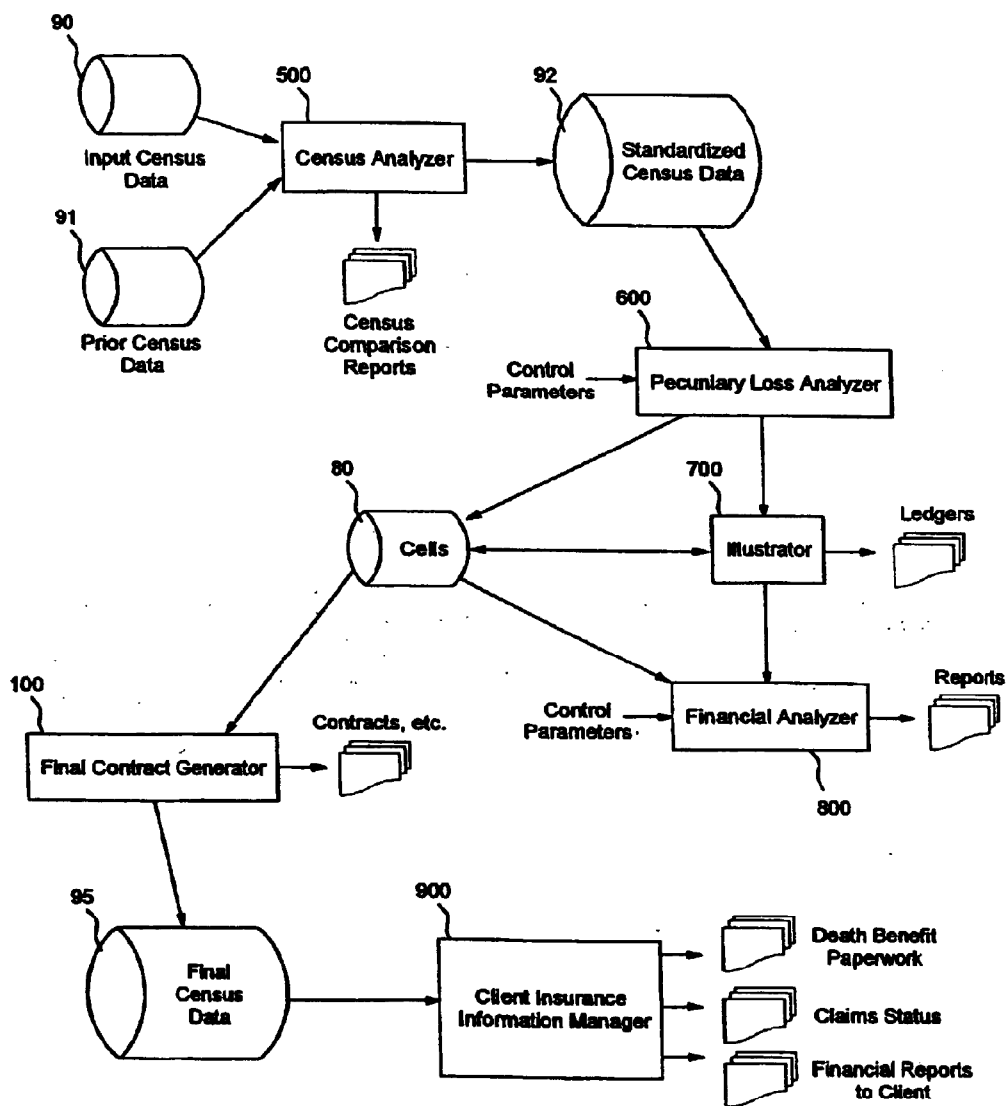


FIG. 3



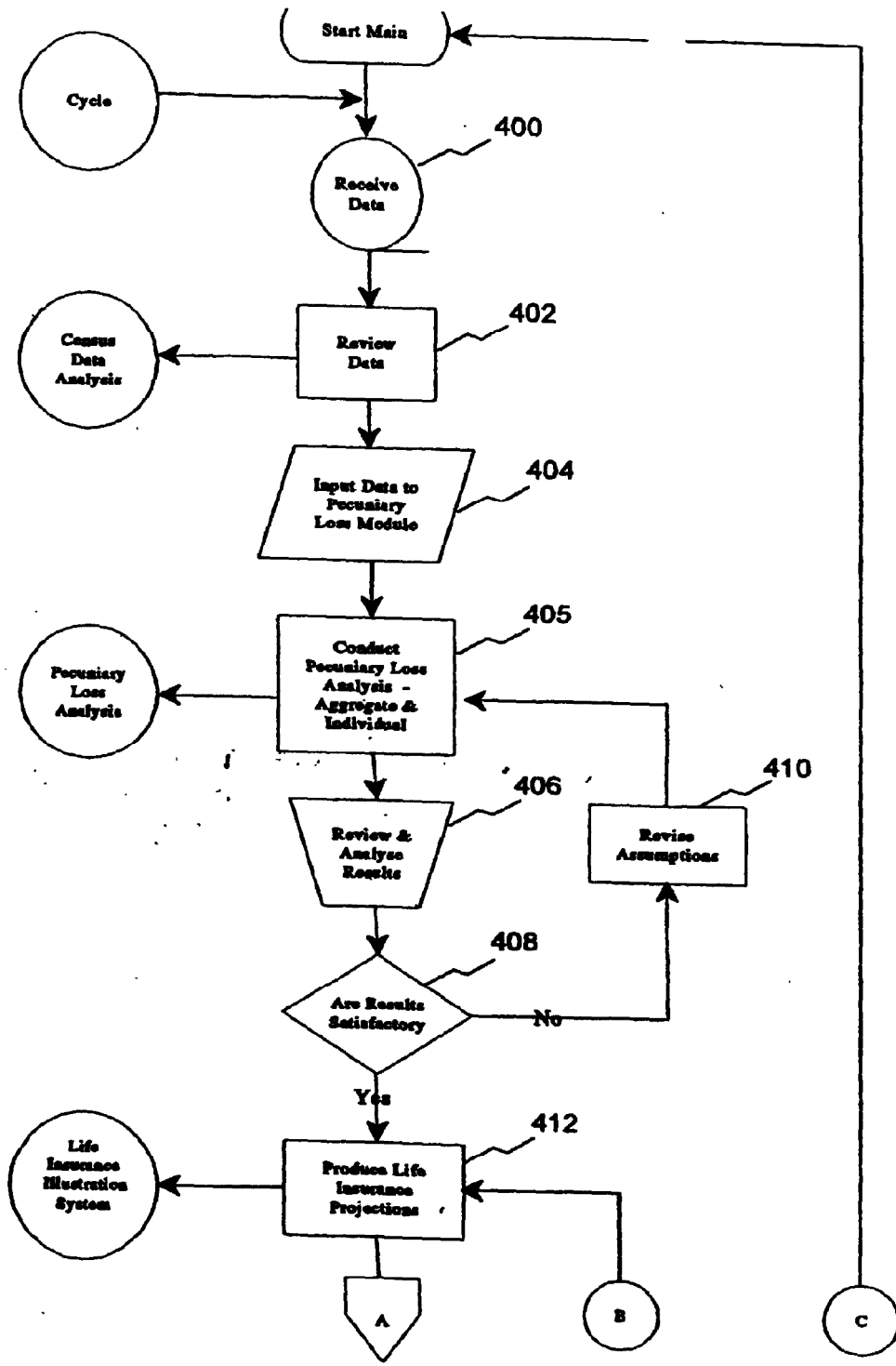


FIG. 4a