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(54) Title: PERSONALIZED INSTRUMENT PANEL FOR AUTOMOBILES

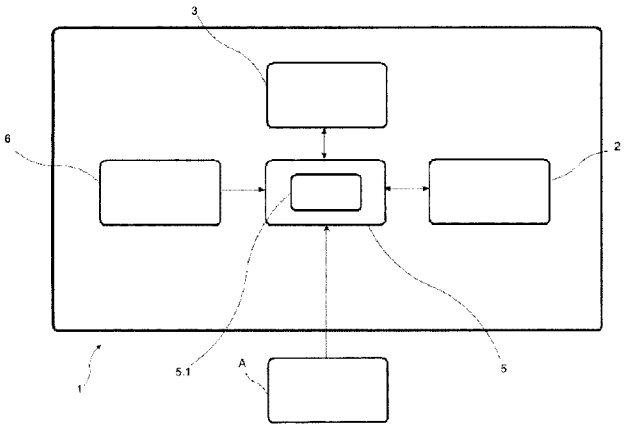


Figure 1

(57) Abstract: The present invention relates to a vehicle instrument panel (1) preferably with LCD display (3) which has an instrument panel interface that can be made personalized upon user requests. The inventive personalized instrument panel for automobiles (1) comprises: at least one connection unit (2) which has connection devices such as USB port, Bluetooth, wireless network and GSM modem; at least one display (3) which has a sandwich-like structure that is filled up with liquid crystal between two glass plates and visualizes the information about the vehicle; at least one control unit (4) where there is on/off switch and control switches; at least one electronic data processing unit (5) where data such as speed, petrol level and warning signal about the vehicle during operation of the vehicle are processed; at least one memory unit (5.1) where the data received from the connection unit (2) are stored.

PERSONALIZED INSTRUMENT PANEL FOR AUTOMOBILES

Field of the Invention

The present invention relates to a vehicle instrument panel preferably with LCD display which has an instrument panel interface that can be made personalized upon user requests.

Background of the Invention

Indicators in vehicles are disposed on the instrument panel in front of the driver area in order that the driver can control information about the vehicle easily. The instrument panel displays detailed and current conditions of the vehicle by means of meters and lamps. It usually consists of meters and indicator lights. Meters on the instrument panel can be made in analog (with dial indicator) type or digital type (with digital representation). There are various indicator types with different kinds.

a) Fuel gauge;

These are systems which indicate the level of fuel in the tank. Fuel gauges used in vehicles are divided into two groups, namely magnetic and thermal type, in terms of structures and working principles thereof.

b) Oil gauge;

Oil gauges indicate oil pressure in engine. They have types which operate according to magnetic or electrical principles as such in bourdon tube and temperature gauges according to the structures thereof.

c) Parking brake indicator;

It is a system indicating whether the parking brake of the vehicle, which is used in parking and similar cases, is pulled. It consists of a shared warning light on the

instrument panel or a parking brake switch, fuse which control the warning light where there is picture of parking brake separately, and circuit installation cables.

d) Charge indicator;

Charge indicators are systems which warn the person driving the vehicle by indicating the current transition state between the battery and the charging system. In old type of vehicles or heavy duty machines, ammeters which indicate charging current are generally used as charge indicators whereas charge control lamps are used in today's vehicles. Charge lamps consist of a small lamp of 0.5-1.5 W in the instrument panel and their connections are provided by means of sockets with insulated ends. There is a relay which is disposed on the regulator or outside in order to operate this charge control lamp. When charging is started by operating under the influence of the alternator voltage, it informs the driver about whether charging is carried out or not by switching off the lamp upon cutting off the lamp current.

e) Speedometer and tachometer;

Speedometer generally has a mechanism which indicates the speed and an odometer which indicates total length of the track driven out. In addition, most speedometers have a trip recorder which can be set to zero by the driver. Speedometer is operated with a variety of principles. Magnetic speedometer uses a magnet in order to indicate vehicle speed based on wheel rotation speed. Rotational speeds are transferred to magnetic speedometer by a differential gear or a worm gear which is connected to transmission output shaft.

f) Heat indicator;

Heat (temperature) indicators are systems which indicate temperature of the cooling water in the engine. There are indicators with liquid tube which are operate according to magnetic and thermal principles.

g) Engine malfunction indicator;

It is a system which operates by controlling engine operation and status of devices that operate for general equipments of the vehicle, by means of the warning light located on the instrument panel. It operates according to principle of glow by applying voltage to the warning light in the event of any malfunction or abnormal operation.

Whereas in today's new type of vehicles, there is a mixed electronic instrument panel which operates with a system that consists of mixture of electrical signals transmitted to the instrument panel by means of smart electrical signals and cable. In existing instrument panel systems, the graphic interface determined by the producing company cannot be changed or a few changes provided by the producer can be made. Information displays which are desired or undesired by the user in instrument panels cannot be removed from or added to the graphic interface. Information displays on instrument panels which are used in previous methods cannot be changed graphically or numerically.

The United States patent document no. **US7683771** discloses a vehicle control panel. The user can configure position or characteristic of items displayed on the control panel upon his/her request. In the system, there is an interactive database menu which is accessible by the user and enables him/her to choose the items that s/he wants to display on the panel.

Summary of the Invention

The objective of the present invention is to realize a personalized instrument panel instrument panel interface of which can be changed easily by choosing one of many graphic interfaces.

Another objective of the present invention is to realize a personalized instrument panel instrument panel interface of which can be personalized by the user by

downloading the themes prepared by other users from internet by means of a computer, that is connected to internet, located on the vehicle or an USB input.

A further objective of the present invention is to realize a personalized instrument whereby the user can open the information displays desired or close the ones undesired.

A still further objective of the present invention is to realize a personalized instrument which can make representation of information graphically or numerically.

Detailed Description of the Invention

A personalized instrument panel realized to fulfill objectives of the present invention is illustrated in the accompanying figure, in which:

Figure 1 is a schematic view of the inventive personalized instrument panel for automobiles.

The components illustrated in the figure are each given a reference number where the numbers refer to the following:

1. Personalized instrument panel
2. Connection unit
3. Display
4. Control unit
5. Electronic data processing unit
   - 5.1 Memory unit

A. Vehicle network unit

The inventive personalized instrument panel for automobiles (1) comprises:

— at least one connection unit (2) which has connection devices such as USB port, Bluetooth, wireless network and GSM modem;
— at least one display (3) which has a sandwich-like structure that is filled up with liquid crystal between two glass plates and visualizes the information about the vehicle;
— at least one control unit (4) where there is on/off switch and control switches;
— at least one electronic data processing unit (5) where data such as speed, petrol level and warning signal about the vehicle during operation of the vehicle are processed;
— at least one memory unit (5.1) where the data received from the connection unit (2) are stored.

The inventive personalized instrument panel for automobiles (1) transfers parameters related to the vehicle over the interface which can be adjusted upon user request. On the display (3) which will be placed to the glove box area of the vehicle, data which are received from sensors that provide information such as vehicle speed, engine speed, cooling water temperature, oil pressure, tire pressure, fuel level, time, travel information (total distance covered, average fuel consumption, instantaneous fuel consumption, maximum distance that can be covered with the current fuel, etc.) are processed by the electronic data processing unit (5) and enabled to be displayed in graphical or numerical formats digitally, in such a manner that wallpaper of them can be changed, on the interface constituted upon user requests. Signals, which are received from sensors that are positioned on necessary parts of the car, are sent to the display (3) up being processed by means of the electronic data processing unit (5) in which there is a microcomputer. The interface which is used on the display (3) visually can be changed as requested by the user. Wallpaper desired can be put to the background for the display (3) by choosing one from the memory unit (5.1). Additionally, different wallpapers, interfaces which can be transferred to the connection unit (2) from other users (from vehicles which have personalized instrument panel for

automobiles (1)) as wired or wirelessly by means of connection devices such as USB port, Bluetooth, wireless network and GSM modem can be saved in the memory unit (5.1). The wallpapers and interfaces saved are transferred to the display (3) over the electronic data processing unit (5). Wallpapers and interfaces desired on the display (3) are selected from the theme (graphical images covering the whole display (3)) selection part in the main menu of the control unit (4). The user can save each theme that s/he has selected from the main menu of the control unit (4) preferably to the memory unit (5.1) by giving each a different name.

The electronic data processing unit (5) performs data communication with the vehicle network unit (A) which is a data communication network commonly used in the field of automotive electronics continuously. In addition, the vehicle network unit (A) gives connection priority to modules concerning safety of passengers, such as air bag, brake, ABS which are of vital importance in modern automotive systems, in order of priorities.

Over the main menu of the control unit (4), variable parameters such as vehicle speed, engine speed, cooling water temperature, oil pressure, tire pressure, fuel level, time, travel information (total distance, average fuel consumption, instantaneous fuel consumption, maximum distance that can be covered with the current fuel, etc.) can be added/removed to/from the interface of the display (3) upon user's request. In addition, variable parameter which is desired related to the vehicle can be placed to desired position on the interface of the display (3). The user can use the interface, which is constituted himself/herself, again on request by saving it to the memory unit (5.1).

Over the main menu of the control unit (4), the user can remove variable parameters of the vehicle, which s/he desires, from the interface of the display (3). In addition, undesired ones of the wallpapers that are saved in the memory unit (5.1) can be deleted using delete button among the main menu of the control unit (4).

Within the scope of this basic concept, it is possible to develop various embodiments of the inventive personalized instrument panel for automobiles (1). The invention can not be limited to the examples described herein; it is essentially according to the claims.

CLAIMS

1. A personalized instrument panel for automobiles (1) having an instrument panel interface that can be made personalized upon user requests **comprising**

— at least one connection unit (2) which has connection devices such as USB port, Bluetooth, wireless network and GSM modem;

— at least one memory unit (5.1) where the data received from the connection unit (2) are stored.

— at least one display (3) which has a sandwich-like structure that is filled up with liquid crystal between two glass plates and visualizes the information about the vehicle;

— at least one control unit (4) where there is on/off switch and control switches and **characterized by**

— at least one electronic data processing unit (5) which processes data that are received from sensors providing information such as vehicle speed, engine speed, cooling water temperature, oil pressure, tire pressure, fuel level, time, total distance, average fuel consumption, instantaneous fuel consumption, maximum distance that can be covered with the current fuel; separates desired and undesired data in graphical or numerical formats digitally in the interface that can be constituted upon user requests; and places only the ones that are preferred by the user to a position preferred by the user on the display (3).

2. A personalized instrument panel for automobiles (1) according to Claim 1, **characterized by** an electronic data processing unit (5) which is adapted such that it will place the variable parameter desired related to the vehicle to a desired position on the interface of the display (3).

3. A personalized instrument panel for automobiles (1) according to Claim 1 and 2, **characterized by** at least one electronic data processing unit (5) which is adapted such that it will place the wallpaper desired by the user to the background

of the display (3) on a position preferred by the user by reading it from the memory unit (5.1).

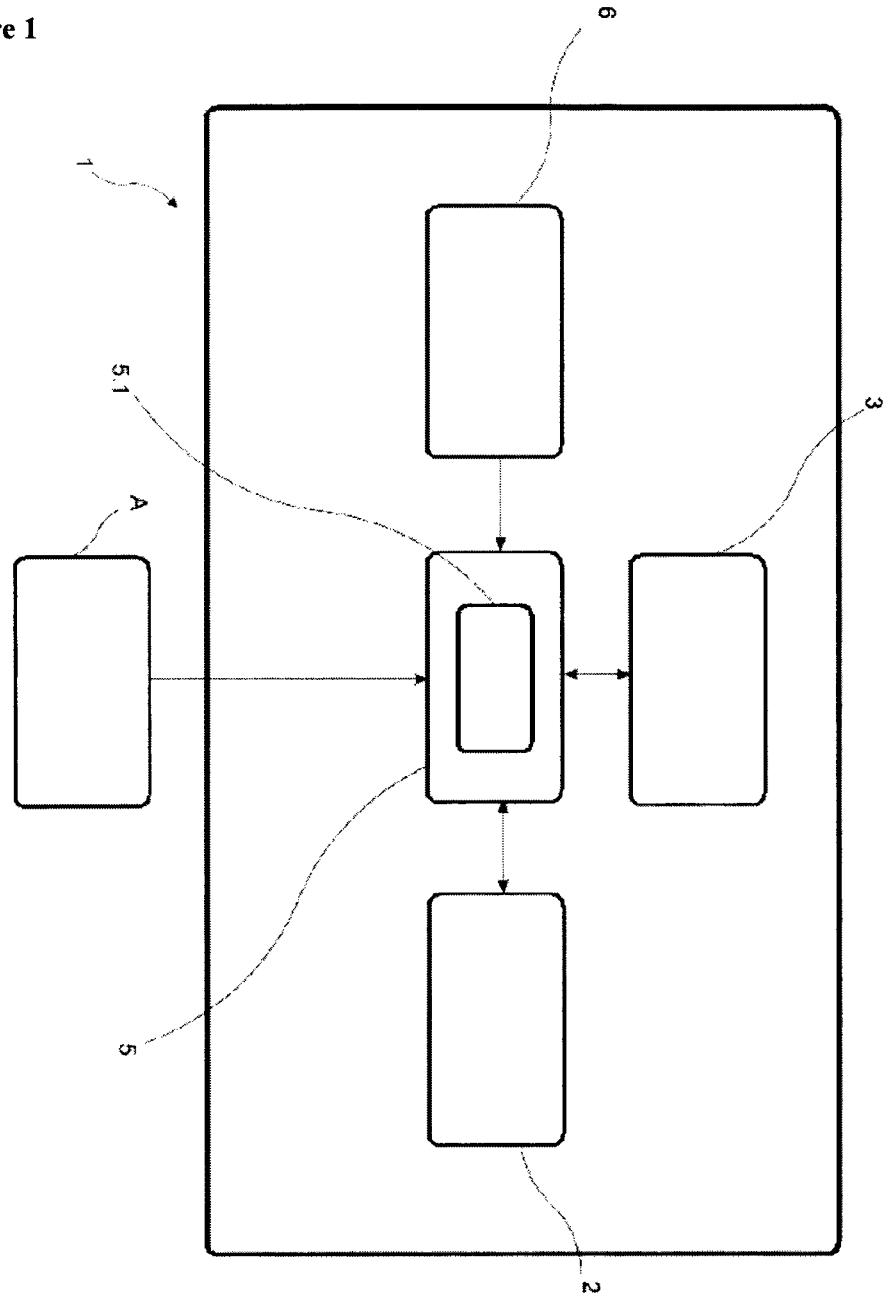
4. A personalized instrument panel for automobiles (1) according to any of the preceding claims, **characterized by** a connection unit (2) which is adapted such that it will be able to perform data exchange by means of connection devices such as USB port, Bluetooth, wireless network and GSM modem.

5. A personalized instrument panel for automobiles (1) according to any of the preceding claims, **characterized by** at least one electronic data processing unit (5) which is adapted such that it will save each theme that are selected from the main menu of the control unit (4) to the memory unit (5.1) by giving each a different name.

6. A personalized instrument panel for automobiles (1) according to any of the preceding claims, **characterized by** at least one electronic data processing unit (5) which can add/remove preferred one of variable parameters such as vehicle speed, engine speed, cooling water temperature, oil pressure, tire pressure, fuel level, time, total distance, average fuel consumption, instantaneous fuel consumption, maximum distance that can be covered with the current fuel to/from the interface of the display (3) over the main menu of the control unit (4) upon user's request.

7. A personalized instrument panel for automobiles (1) according to any of the preceding claims, **characterized by** at least one electronic data processing unit (5) which saves different wallpapers and interfaces that can be transferred from other users by the connection unit (2) as wired or wirelessly; and delete undesired wallpapers that are saved in the memory (5.1) on request.

Figure 1



INTERNATIONAL SEARCH REPORT

International application No
PCT/IB2011/055049

A. CLASSIFICATION OF SUBJECT MATTER
INV. B60K37/06
ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
B60K

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

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2004/068350 A1 (TOMSON JAMES B [US]) 8 April 2004 (2004-04-08) the whole document -----	1-7

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

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Date of the actual completion of the international search	Date of mailing of the international search report
8 October 2012	09/11/2012

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/IB2011/055049

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2004068350 A1	08-04-2004	NONE	