Accordingly, it is an object of the present invention to provide a digital tachograph for presenting information on a presentation device so that a driver can drive with fulfilling a condition provided by a labor standard law, thereby enabling the driver to observe the information presented by the presentation device and perform driving fulfilling the condition provided by the labor standard law as well as safe driving.

The above and other objects and new features of the present invention will become more fully apparent by reading the following description with reference to the accompanying drawings. Note that the drawings should not be used for the purposes of limiting the scope of claims since they are provided only for illustration.

Herein disclosed is~~According to an aspect of the invention, there is provided~~ a digital tachograph installed in a vehicle of a transportation company having a duty to install the tachograph, comprising: a digital tachograph body; a work state calculation device capable of calculating work state data connected to the digital tachograph body; a labor standard law compliance determination device connected to the work state calculation device for determining whether a labor condition of a driver of the vehicle of the transportation company fulfills a condition provided by a labor standard law based on the work state data calculated by the work state calculation device; a storage device for

recording determination results determined by the labor standard law compliance determination device and/or the work state data of the work state calculation device; and a presentation device connected to the digital tachograph body capable of presenting automatically at least one determination result determined by the labor standard law compliance determination device before breaching the labor standard law, said at least one determination result relating to any one of items of on-duty time, residual on-duty time, rest period, residual rest period, driving time, residual driving time, continuous driving time, residual continuous driving time, break time, residual break time, total break time, and residual break time necessary for cessation of driving.

According to one aspect, there is provided a digital tachograph installed in a vehicle of a transportation company having a duty to install the tachograph, comprising: a digital tachograph body; a work state calculation device capable of calculating work state data connected to the digital tachograph body; a labor standard law compliance determination device connected to the work state calculation device for determining whether a labor condition of a driver of the vehicle of the transportation company fulfills a condition provided by a labor standard law based on the work state data calculated by the work state calculation device; a storage device for recording determination results determined by the labor standard law

compliance determination device and/or the work state data of the work state calculation device; and a presentation device connected to the digital tachograph body capable of easily informing the driver of a determination result including residual on-duty time determined by the labor standard law compliance determination device.

According to a further aspect, there is provided a digital tachograph installed in a vehicle of a transportation company having a duty to install the tachograph, comprising: a digital tachograph body; a work state calculation device capable of calculating work state data connected to the digital tachograph body; a labor standard law compliance determination device connected to the work state calculation device for determining whether a labor condition of a driver of the vehicle of the transportation company fulfills a condition provided by a labor standard law based on the work state data calculated by the work state calculation device; a storage device for recording determination results determined by the labor standard law compliance determination device and/or the work state data of the work state calculation device; and a presentation device connected to the digital tachograph body capable of presenting automatically at least one determination result determined by the labor standard law compliance determination device before breaching the labor standard law, said at least one determination result relating to any one of items of on-duty time, residual on-

duty time, rest period, residual rest period, driving time, residual driving time, continuous driving time, residual continuous driving time, break time, residual break time, total break time, residual break time necessary for cessation of driving, holiday acquisition, and time limit of holiday acquisition.

According to another aspect, there is provided a digital tachograph installed in a vehicle of a transportation company having a duty to install the tachograph, comprising: a digital tachograph body; a work state calculation device capable of calculating work state data connected to the digital tachograph body; a labor standard law compliance determination device connected to the work state calculation device for determining whether a labor condition of a driver of the vehicle of the transportation company fulfills a conditions provided by a labor standard law based on the work state data calculated by the work state calculation device; a work state monitoring and controlling device connected to the work state calculation device for monitoring a state of a driver and notifying a current state of the driver to the labor standard law compliance determination device; a storage device for recording determination results determined by the labor standard law compliance determination device and/or the work state data of the work state calculation device; and a presentation device connected to the digital tachograph body capable of presenting automatically at least one

determination result determined by the labor standard law compliance determination device before breaching the labor standard law, said at least one determination result relating to any one of items of on-duty time, residual on-duty time, rest period, residual rest period, driving time, residual driving time, continuous driving time, residual continuous driving time, break time, residual break time, total break time, residual break time necessary for cessation of driving, holiday acquisition, and time limit of holiday acquisition.

According to an additional aspect, there is provided a digital tachograph installed in a vehicle of a transportation company having a duty to install the tachograph, comprising: a digital tachograph body; a work state calculation device capable of calculating work state data connected to the digital tachograph body; a work information input device for inputting a work state of a driver connected to the work state calculation device; a labor standard law compliance determination device connected to the work state calculation device for determining whether a labor condition of the driver of the vehicle of the transportation company fulfills a condition provided by a labor standard law based on the work state data calculated by the work state calculation device; a work state monitoring and controlling device connected to the work state calculation device for monitoring a state of a driver and notifying a current state of the driver to the labor standard law compliance determination

device; a storage device for recording determination results determined by the labor standard law compliance determination device and/or the work state data of the work state calculation device; and a presentation device connected to the digital tachograph body capable of presenting automatically at least one determination result determined by the labor standard law compliance determination device before breaching the labor standard law, said at least one determination result relating to any one of items of on-duty time, residual on-duty time, rest period, residual rest period, driving time, residual driving time, continuous driving time, residual continuous driving time, break time, residual break time, total break time, residual break time necessary for cessation of driving, holiday acquisition, and time limit of holiday acquisition.

As apparent from the above description, following effects can be obtained based on the present invention.

1) Drivers can know their driving conditions for fulfilling the conditions provided by a labor standard law. Therefore, the driver can understand his driving schedule that is gradually changing by traffic congestion after leaving the garage, etc., by the presentation by the presentation device, calculation of conditions provided by the labor standard law becomes unnecessary, and a driving complying with the labor standard law will be promoted without imposing a burden on the driver.

2) By 1), since the driver can check easily the data calculated by the labor standard law compliance determination