

APPLICATION FOR A PROVISIONAL PATENT IN THE UNITED STATES
PATENT AND TRADEMARK OFFICE

FOR:
**AMBIENT SITUATION AWARENESS SYSTEM AND METHOD FOR
VEHICLES**

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AMBIENT SITUATION AWARENESS SYSTEM AND METHOD FOR VEHICLES

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims the benefit of U.S. provisional patent application No. 61/074,096 filed 19 June 2008. The disclosure of which is incorporated herein by reference in its entirety.

FIELD OF THE INVENTION

[0002] The present invention relates to devices and methods for pressure measurements in ear canals.

BACKGROUND OF THE INVENTION

[0003] Detection of sirens is discussed by an number of works.

[0004] US patent 5710555 describes: "A siren detection system [controlling] the lights at an intersection to direct traffic [to] permit an emergency vehicle to travel through the intersection unimpeded. The system determines the frequency of the sound emanating from a siren carried by the emergency vehicle by counting pulses that indicate the frequency of the sound, by determining the elapsed time necessary to count a selected number of pulses, and by utilizing the elapsed time and number of pulses counted to determine the frequency of sound emitted by the siren."

[0005] A similar idea is presented in US patent 6980125:

[0006] “A warning light system for a traffic intersection for alerting pedestrians and operators of passenger vehicles to the approach of an emergency vehicle. The warning light system is activated only by sounds in the range of frequencies which are emitted by the siren of an emergency vehicle. The warning light system has a warning light assembly having a control unit, and also has an audio sensor unit. The warning light assembly has a blue light and a white light, which flash alternately and repeatedly, after receipt of an audio signal by the audio sensor unit from the siren of an emergency vehicle, and processing of that signal by the control unit. The lights of the warning light assembly continuously flash until the sound emitted from the siren is no longer detectable by the audio sensor.”

[0007] US patent application US 2005/0074131 A1 describes: “A sound processing system for use in an automotive vehicle of the type which includes at least one door and at least one door-lock comprises at least one sound sensor coupled to the vehicle for receiving a sound external to the vehicle, an alert generator for notifying an occupant of the vehicle when the external sound is an emergency signal, and a door control module coupled to at least one door-lock for unlocking at least one door.

[0008] The above art (except US 2005/0074131 A1) does suggest how to alert a driver of a vehicle of the presence of an approaching siren (e.g. from an emergency vehicle); or how to alert a driver of a vehicle of the presence of a different sound generated in the vicinity of the car, such as a car horn, or any

sound which could be classified with more general parameters, such as a sudden onset sound (or “acute sound”).

[0009] This problem is particularly pertinent when drivers are listening to loud music or communications systems such as CB radios, or when operating their vehicle’s ventilation system at high fan speeds, any of which may - mask any warning sounds in the ambient environment.

[0010] US patent application US 2005/0074131 does not teach a method to determine the sound level within a vehicle, nor determine the degree of acoustic isolation of the internal vehicle cabin. The present invention adds this functionality so that the driver alert can be modified to maximize detection and intelligibility of the warning alert. Furthermore, the present invention enables the location of an external sound source (e.g. siren) to be determined by detecting the strength of the detected sound in different ambient sound microphones around the vehicle.

SUMMARY OF THE INVENTION

[0011] At least one exemplary embodiment is directed to a method to detect malfunction of a vehicle subsystem or vehicle accessory (such as a malfunctioning brake caliper on a passenger vehicle or a malfunctioning rotor blade(s) on a combine-harvester). Furthermore, the related art does not teach a method or system to detect a variety of sound characters. The system of the present invention is directed to detecting at least one of the following examples of “signature sounds”: sirens, car horns, “impulsive” sound with a rapid onset time

(or “onset rate” e.g. change in sound pressure level of greater than approximately 10 dB per second), sound with a rapid offset stopping time (e.g. greater than approximately 10 dB per second), and sound with a sudden change in tonal quality (e.g. a shift in the spectral kurtosis of a sound, or sudden change in frequency and level of spectral centroid).

[0012] At least one exemplary embodiment is directed to a vehicle situation awareness device comprising: a notification device, where the notification device is configured to emit a first signal; a microphone, where the microphone is configured to measure a second signal, where the second signal is a measurement of at least a first portion of an ambient acoustic signal; and a processor, where at least one sonic signature is identified from at least a second portion of the second signal, and where when the at least one sonic signature is identified an emit signal is sent to the notification device to emit the first signal.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013] Exemplary embodiments of present invention will become more fully understood from the detailed description and the accompanying drawings, wherein:

[0014] Figure 1 illustrates a vehicle ambient sound monitoring system (VASM)exemplary embodiment in accordance with at least one exemplary embodiment;

[0015] Figure 2 illustrates an example of at least one VASM in accordance with at least one exemplary embodiment;

[0016] Figure 3 illustrates at least one exemplary embodiment of the present VASM invention depicting a method to inform the vehicle driver of a detected sound signature in the ambient environment;

[0017] Figure 4 illustrates an exemplary embodiment of the Active Noise Reduction (ANR) system; and

[0018] Figure 5 illustrates the spectrum Doppler shift of an identified sonic signature spectrum.

DETAILED DESCRIPTION OF EXEMPLARY EMBODIMENTS OF THE PRESENT INVENTION

[0019] The following description of exemplary embodiment(s) is merely illustrative in nature and is in no way intended to limit the invention, its application, or uses.

[0020] Processes, techniques, apparatus, and materials as known by one of ordinary skill in the art may not be discussed in detail but are intended to be part of the enabling description where appropriate. For example specific materials may not be listed for achieving each of the targeted properties discussed, however one of ordinary skill would be able, without undue experimentation, to determine the materials needed given the enabling disclosure herein.

[0021] Additionally, exemplary embodiments can be used with digital

and non-digital acoustic systems. Additionally various receivers and microphones can be used, for example MEMs transducers, diaphragm transducers, for examples Knowle's FG and EG series transducers.

[0022] The following description of exemplary embodiment(s) is merely illustrative in nature and is in no way intended to limit the invention, its application, or uses.

[0023] Exemplary embodiments are directed to or can be operatively used on various vehicles, such as tractors; bulldozers; automobiles; buses; aircraft; and also motorcycle helmets.

[0024] Processes, techniques, apparatus, and materials as known by one of ordinary skill in the art may not be discussed in detail but are intended to be part of the enabling description where appropriate. For example specific computer code may not be listed for achieving each of the steps discussed, however one of ordinary skill would be able, without undue experimentation, to write such code given the enabling disclosure herein. Such code is intended to fall within the scope of at least one exemplary embodiment.

[0025] Notice that similar reference numerals and letters refer to similar items in the following figures, and thus once an item is defined in one figure, it may not be discussed or further defined in the following figures.

[0026] Note that various sonic signature identification methods can be used for example applications 12/035,873 and 11/966,457, the disclosures of which are incorporated herein by reference in their entirety.

EXEMPLARY EMBODIMENTS

[0027] Figures 1 illustrates an exemplary embodiment of the Vehicle ambient sound monitoring system (VASM). In this configuration, at least one Ambient Sound Microphone (ASM) 110 112, 113 are mounted on the exterior of the vehicle and configured to detect sound around the vehicle. These microphones can be highly directional, using passive acoustic beam-forming technology (such as “shot-gun” microphones, familiar to those skilled in the art), or alternatively may use active beam-forming techniques using an array of at least 3 microphones. This enables the direction (or bearing) of a sound source to be determined. The microphones can be transducer microphones such as Knowles MR series weather proof microphones, WP series, TP series, FB series, and other series microphones or other acoustic energy pickup devices.

[0028] At least one exemplary embodiment of the VASM system 114 comprises the hardware components depicted in figure 2. The VASM detects “signature sounds” with the ASMs 110, 112 (e.g., 202, 206). Examples of “signature sounds” are: -sirens; -car horns; -“impulsive” sound with a rapid onset time (or “onset rate” e.g. change in sound pressure level of greater than approximately 10 dB per second); -sound with a rapid offset stopping time (e.g. greater than 10 dB per second); -sound with a sudden change in tonal quality (e.g. a shift in the spectral kurtosis of a sound, as described in fig. 4); -sound with a rapid slewing (escalation/de-escalation) in frequency, as exemplified by the wail setting on U.S. sirens; -motorcycle engine.

[0029] The VASM compares at least one predetermined feature with at least one measured feature of at least one ASM signal. When the measured ASM sound characteristic substantially matches (e.g., within $\pm 5\%$ of the FFT spectrum with a time increment dt) the at least one predetermined feature, for example the VASM system can notify the vehicle driver using at least one of the following non-limiting exemplary alerts: -a visual alert using visual display 106, e.g. a flashing light or text message, which in one exemplary embodiment is projected on to the windscreen of the vehicle, on to a combiner glass on the upper dashboard, or on to the visor panel of a helmet (i.e., a “head-up” display). - a haptic alert (tactile display) which imparts a distinct, readily detectable high-frequency vibration to the body of the driver, via one or more vibro-tactile transducers mounted in the seat pan or back, within the steering wheel rim, on the foot pedals, or in the internal cushioning or chin strap of a motorcycle helmet. - a sound alert (i.e. “auditory display”) using an internal loudspeaker 108 to generate a sound in the vehicle cabin; or in other exemplary embodiment, the sound alert may be reproduced to the vehicle driver using an earphone device. In one exemplary embodiment, the alert is a reproduction of the ASM microphone that is used to detect the signature sound. In another embodiment, the auditory alert is a pre-recorded voice or non-voice message.

[0030] In one exemplary embodiment of the present invention, at least two loudspeakers are used, each being positioned to bias its output to one ear or the other, and the level and/or phasing of the alert signal that is sent to each loudspeaker is automatically adjusted by the VASM to facilitate the localization of

the sound source in the ambient environment using spatial sound cues (in one exemplary embodiment, the alert signal may also have a different relative phase in each loudspeaker).

[0031] The internal microphone sensor 116 is configured to detect the sound pressure level (SPL) in decibels and (optionally) sound spectral profile within the vehicle cabin (or helmet). If the internal cabin SPL is equal to or greater than a predetermined threshold (which in one exemplary embodiment is approximately 80 dB), then the reproduction SPL level of the sound alert, i.e., the “signal,” is increased so that it is reproduced at a level greater than the interior cabin SPL, i.e., the “noise,” by a predetermined signal-to-noise ratio to insure reliable and rapid detection by the driver. It will be obvious to one having ordinary skill in the art that said signal-to-noise ratio can be adjusted to accommodate particular vehicles and particular hearing abilities of individual drivers.

[0032] In yet another exemplary embodiment of the invention, the degree of acoustic isolation of the internal vehicle cabin (or helmet) is determined using at least one internal microphone 116 and at least one ambient microphone 112. The acoustic isolation is determined by analyzing the electronic cross correlation, or alternatively the coherence, between the at least one internal microphone and the at least one ambient microphone. If the absolute correlation or coherence is less than a predetermined threshold, then the cabin is determined to be acoustically isolated. Other methods to determine the degree of acoustic isolation of the interior vehicle cabin may also be used, such as

detecting the status of the vehicle windows, doors, and ventilation system, and comparing this status with a predetermined database, e.g. if all windows, doors, and ventilation vents are closed, then the acoustic isolation status may be set to “high”, or a corresponding numerical value (e.g. 20 dB).

[0033] Figure 2 depicts an exemplary hardware assembly for the present VASM invention. The assembly comprises the following components: 202 206: At least one ASM, which is converted to a digital signal via the Analog to Digital Converter (ADC) units; At least one internal microphone 204 to detect sound on the inside of the vehicle (or motorcycle helmet); A signal processing unit 214; Computer readable memory 212; Power supply 208; Visual display unit 216; and At least one Internal loudspeaker unit 210.

[0034] Figure 3 depicts an exemplary embodiment of the present VASM invention depicting a method to inform the vehicle driver of a detected sound signature in the ambient environment.

[0035] The system comprises the following steps: accumulating an input ASM buffer of digital audio samples representing the signal from at least one ASM 32. OPTIONALLY reducing the level of the vehicle engine noise; wind-noise (i.e. air turbulence generated by the car and microphone); chassis-propagation noise (noise generated by tired friction and suspension emissions) in the ASM using an Active Noise Reduction (ANR) system 303- this is described in figure 4. In this example embodiment, the ANR subtracts a filtered and time-shifted reference signal 301 (which in one exemplary embodiment, is a signal from a microphone near the vehicle engine), from the ASM signal 302. Such

ANR systems are familiar to those skilled in the art. In one exemplary embodiment, the filter is an adaptive filter updated according to the Least Means Square (LMS) algorithm, Analyzing the input ASM buffer to generate a set of ASM signal characteristics, and comparing the set of ASM signal characteristics with a predetermined set of characteristics 304 to detect a sound signature if the sets of signal characteristics are substantially similar, Determining if a sound signature is detected with logic unit 308, and if it is not, then repeating the process at step 1. The method of detection can use the GMM approach, familiar to those skilled in the art. Alternatively, the method of detection can use the rate of change of the ASM (or modified ASM) signal envelope to detect sudden onsets or offsets, If a sound signature is detected, then determining the SPL in the interior cabin of the vehicle using internal microphone input buffer 310, If the SPL of the interior cabin of the vehicle is greater than a predetermined threshold 312, AND a sound signature has been detected, then at least one of three alerts are issued: a.) An audible warning 318; b.) A visual warning 320; and c.) A haptic (vibrotactile) warning 321. The vibrotactile mode can be very effective in conveying the locale of a target signal if multiple vibrotactors are used, e.g., one under the front of the thigh in the seat pan cushion (signaling an approach from front), two in the seat back cushion (approach from the back; left right directionality, etc.); furthermore, vibrotactors even provide a great opportunity for conveying speed of approach of the oncoming siren, with the use of a single transducer, but increasing the frequency and/or amplitude of the vibration to

coincide with the increasing speed or “closing of the gap” of an approaching emergency vehicle.

[0036] An audible warning can be presented to the driver using at least one loudspeaker in the vehicle cabin, or using earphone devices within a helmet. The direction of the ambient sound, which triggered the warning can be determined using an array of at least 2 ASMs mounted on the vehicle, and using active beam-forming techniques, familiar to those skilled in the art, to determine the dominant direction of the sound source. Alternatively, as already mentioned, highly directional ASM microphones (such as “shot-gun” microphones) can be used, and the corresponding direction of the ASM that detected the sound signature with the highest degree of certainty can be used to ascertain the source direction.

[0037] Doppler sound cues can be used to determine to speed and bearing of approaching vehicles. The Doppler shift rate (in Hz/second) can be estimated by the rate of change of the a strong spectral feature. Once a sonic signature has been identified, key frequency dependencies can be used to obtain a shift in the characteristic spectrum. For example Figure 5 illustrates a stored frequency spectrum of a particular sonic signature in a chosen time frame (e.g., 100 msec) with peak frequencies fp_1 to fp_6 for stationary source ($v_s=0$) and stationary vehicle ($v_o=0$). A particular sonic signature can have the key frequency spectrum shifted due to motion of the sound source ($v_s \neq 0$) and/or due to motion of the vehicle ($v_o \neq 0$). A frequency shift can be described as

[0038] $fp2n = fp2((v \pm v_o)/(v \mp v_s))$, where the upper sign is used if the source/vehicle move toward each other and the lower sign applies if they are moving apart. If the vehicle motion is isolated using motion devices (e.g., accelerometers, GPS) then v_o can be measured by these devices (e.g., v_{ox} , v_{oy} , v_{oz} , in the respective three directions), and if v (speed of sound) is known, then v_s can be determined after determining the frequency shift from the spectrums.

[0039] When the vehicle is parked or reversing, the ASM signals are reproduced to the internal cabin via the cabin loudspeakers. In one exemplary embodiment, the reproduced ASM signals are first processed with the ANR system described (to remove masking noise) as in figure 4, thus increasing the situation awareness of the vehicle occupants for local sound sources, such as a child behind the car. In one exemplary configuration, when the car is reversing only the rear ASM signals (e.g. those on the rear bumper) are reproduced, and the spatial cues of the ambient environment can be preserved within the vehicle cabin by reproducing the rear-left ASM signal with the rear-left loudspeaker in the vehicle, and the rear-right ASM signal with the rear-right loudspeaker.

[0040] Figure 4 describes an exemplary embodiment of the Active Noise Reduction (ANR) system 303. In one exemplary embodiment, the engine microphone input buffer 402 is a first input signal from a microphone close to or directly coupled with the vehicle engine. In another exemplary embodiment, this input signal 402 is a signal that has been stored on computer readable memory or automatically generated. The first input signal 402 is filtered by a frequency

dependant adaptive filter 404, with filter coefficients $\mathbf{h}(n)$, to produced a filtered signal, where:

[0041] $\mathbf{h}(n) = [h_0, h_1.. h_N].$

[0042] The filtered signal is then subtracted from the ASM input buffer 406, which in one exemplary embodiment is the signal from one ASM microphone located on the bumper of the vehicle. The resulting modified ASM output signal 408 is then used for the sound signature identification system. The modified ASM signal is also used to update the adaptive filter coefficients $\mathbf{h}(n)$, which in one exemplary embodiment is updated using the LMS algorithm:

[0043] $\hat{\mathbf{h}}(n+1) = \hat{\mathbf{h}}(n) + \mu \mathbf{x}(n) e^*(n)$

[0044] Where $\mathbf{x}(n)$ is a vector of the samples of the engine microphone input buffer 402; $e(n)$ is a single output sample of the modified ASM output signal 408; and μ is a step size update coefficient.

[0045] At least one exemplary embodiment is directed to localization of the sound source, using either the visual indicator or multi-channel loudspeaker audio system in the vehicle. Localization can be ascertained in terms of an azimuthal bearing of an ambient sound source. Furthermore, velocity of an ambient sound source can be reported to the user with Doppler cues.

[0046] The active pass-through of ASM signal to internal loudspeakers, via the ANR system, to increase situational awareness of the vehicle occupants to local sound sources, such as human who may be obscured from view behind the vehicle.

[0047] The use of an ANR system to reduce the engine, chassis, wind or other noise in the ASM signals.

[0048] None of the cited art teach a method to detect malfunction of a vehicle engine or vehicle accessory (such as malfunctioning rotor blade(s) on a combine-harvester).

[0049] Furthermore, the related art does not teach a method or system to detect a variety of sound characters. The system of the present invention is directed to detecting at least one of the following examples of “signature sounds”:
-sirens; -car horns; -“impulsive” sound with a rapid onset time (or “onset rate” e.g. change in sound pressure level of greater than approximately 10 dB per second);
-sound with a rapid offset stopping time (e.g. greater than 10 dB per second); -
sound with a sudden change in tonal quality (e.g. a shift in the spectral kurtosis of a sound, as described in fig. 4); -sound with a rapid slewing (escalation/de-escalation) in frequency, as exemplified by the wail setting on U.S. sirens; -
motorcycle engine. The method of detection can use the GMM approach, familiar to those skilled in the art. Alternatively, the method of detection can use the rate of change of the ASM (or modified ASM) signal envelope to detect sudden onsets or offsets. In addition, in at least one exemplary embodiment the method of alerting the vehicle user is modified by the user’s ambient sound level (i.e. the sound level of the internal vehicle cabin, or the sound level within the helmet).

[0050] At least one exemplary embodiment is directed to a vehicle situation awareness device comprising: a notification device, where the notification device is configured to emit a first signal; a microphone, where the

microphone is configured to measure a second signal, where the second signal is a measurement of at least a first portion of an ambient acoustic signal; and a processor, where at least one sonic signature is identified from at least a second portion of the second signal, and where when the at least one sonic signature is identified an emit signal is sent to the notification device to emit the first signal.

[0051] The notification device can be a speaker (receiver) in the vehicle passenger compartment. For example if a sonic signature is identified and information available to determine whether it is coming toward the vehicle, an audio signal can be emitted from the speaker (receiver) identifying the source and that the source is approaching the vehicle and from which direction and at which rate. Additionally the notification device can be a display (e.g., lights, heads up display, video). For example if an ambulance is identified a visual display in the instrument panel can identify the location and whether approaching (e.g., light for location about a car outline, and red for approaching and green for moving away).

[0052] In at least one exemplary embodiment the notification device is inside the vehicle. For example a speaker in the vehicle cabin, as well as outside (external speaker). In at least one exemplary embodiment the first signal can be an electronic signal sent to the notification device, which in turn then emits an acoustic signal, thus either the electronic signal or acoustic signal can be referred to as an audio signal.

[0053] At least one exemplary embodiment monitors the vehicle's systems (e.g., engines, brakes, window breakage). A microphone can be placed

strategically where an acoustic signal can be sampled for sonic signatures, which identify vehicle performance. For example a normal operating engine can be acoustically signed (sonic signature model trained to identify a correctly operating engine) then monitored to look for abnormalities in the engine performance. For example a microphone, where the microphone is configured to measure a second signal (e.g., acoustic signal in the engine compartment) where the second signal is a measurement of at least a first portion of a vehicle equipment signal (e.g., the engine acoustic signal). A processor can be used to analyze at least a second portion (e.g., time segment) of the second signal, to identify at least one sonic signature (e.g., non normal engine performance). For example the system can continuously sample for normal performance and upon the lack of detection over a predetermined amount of time (e.g., 1 minute) a warning signal (e.g., emit signal) can be sent to the notification device.

[0054] Note that in at least one exemplary embodiment the notification device can also be a video display, for example a heads up display, an LCD display, an outline of the vehicle with lights around the outline so as to identify detection location, colored labeled lights to identify as well as other visual notification systems as known by one of ordinary skill in the art of notification.

[0055] At least one exemplary embodiment can use a second processor that takes an emit signal (e.g., engine error signal) and send a control signal to the vehicle control system (e.g., engine processor) to modify system operation (e.g., vary fuel/air mixture). Many aspects of the vehicle can be controlled in respond to an emit signal, for example shifting gears, decreasing

power usage, sending a remote signal, operating the windshield wiper, and changing the headlight illumination.

[0056] At least one exemplary embodiment can include a microphone, where the microphone is configured to measure an interior vehicle acoustic signal or an external vehicle acoustic signal where a portion of the measured acoustic signal is used to identify sonic signatures and depending upon the sonic signature an action is taken (e.g., abnormal tire sound, an action to send a warning to the driver) or not taken (e.g., sonic signature is a normal tire operation, then no action is taken).

[0057] In at least one exemplary embodiment the sonic signature is a voice command. For example a user can store his command “open” , where if the sonic signature “open” is identified a command is sent to a processor to open the vehicle doors. Similar commands such as “open gas tank”, “open door”, “start”, “alarm”, and other such commands can be used to control the vehicle. At least one further exemplary embodiment the modify vehicle operation includes one of at least opening a door, opening the trunk, opening the gas tank access panel, opening the hood, turning on the headlights, turning on an audio alarm, and beginning audio recording.

[0058] At least one exemplary embodiment is directed to a method of situation awareness facilitation for a vehicle driver comprising: receiving a first acoustic signal from outside a vehicle that the driver is in and converting the first acoustic signal into a first acoustic electronic signal; sending the first acoustic electronic signal to a processor; matching the first acoustic electronic signal by

the processor to stored reference electronic signals; and sending an acoustic message associated with a matched reference electronic signal to a speaker in the cab of the vehicle.

[0059] While the present invention has been described with reference to exemplary embodiments, it is to be understood that the invention is not limited to the disclosed exemplary embodiments. The scope of the following claims is to be accorded the broadest interpretation so as to encompass all modifications, equivalent structures and functions of the relevant exemplary embodiments. For example, if words such as “orthogonal”, “perpendicular” are used the intended meaning is “substantially orthogonal” and “substantially perpendicular” respectively. Additionally although specific numbers may be quoted in the claims, it is intended that a number close to the one stated is also within the intended scope, i.e. any stated number (e.g., 20 mils) should be interpreted to be “about” the value of the stated number (e.g., about 20 mils).

[0060] Thus, the description of the invention is merely exemplary in nature and, thus, variations that do not depart from the gist of the invention are intended to be within the scope of the exemplary embodiments of the present invention. Such variations are not to be regarded as a departure from the spirit and scope of the present invention.

CLAIMS

What is claimed is:

1. A vehicle situation awareness device comprising:
a notification device, where the notification device is configured to emit a first signal;
a microphone, where the microphone is configured to measure a second signal, where the second signal is a measurement of at least a first portion of an ambient acoustic signal; and
a processor, where at least one sonic signature is identified from at least a second portion of the second signal, and where when the at least one sonic signature is identified an emit signal is sent to the notification device to emit the first signal.
2. The awareness device according to claim 1, where the notification device is a receiver.
3. The awareness device according to claim 1, where the notification device is a video display.
4. The awareness device according to claim 1, where the notification device is inside the vehicle.

5. The awareness device according to claim 4, where the first signal is an audio signal.

6. A vehicle situation awareness device comprising:

a notification device, where the notification device is configured to emit a first signal;

a microphone, where the microphone is configured to measure a second signal, where the second signal is a measurement of at least a first portion of a vehicle equipment signal; and

a processor, where at least one sonic signature is identified from at least a second portion of the second signal, and where when the at least one sonic signature is identified an emit signal is sent to the notification device to emit the first signal.

7. The awareness device according to claim 6, where the notification device is a receiver.

8. The awareness device according to claim 6, where the notification device is a video display.

9. The awareness device according to claim 6, where the first signal is an input to a second processor.

10. The awareness device according to claim 6, where the notification device is inside the vehicle.

11. The awareness device according to claim 10, where the first signal is an audio signal.

12. The awareness device according to claim 9, where the first signal is used by the second processor to affect vehicle operation.

13. The awareness device according to claim 12, where affecting vehicle operation is at least one of shifting gears, decreasing power usage, sending a remote signal, operating the windshield wiper, and changing the headlight illumination.

14. A vehicle situation awareness device comprising:

a notification device, where the notification device is configured to emit a first signal to a first processor;

a microphone, where the microphone is configured to measure a second signal, where the second signal is a measurement of at least a first portion of at least one of an interior vehicle acoustic signal or an external vehicle acoustic signal ; and

a second processor, where at least one sonic signature is identified from at least a second portion of the second signal, and where when the at least one

sonic signature is identified an emit signal is sent to the notification device to emit the first signal.

15. The awareness device according to claim 14, where the at least one sonic signature is a vocal command.

16. The awareness device according to claim 15, where the first signal uniquely corresponds to the voice command.

17. The awareness device according to claim 16, where the first signal is used to modify vehicle operation.

18. The awareness device according to claim 17, where the modify vehicle operation includes one of at least opening a door, opening the trunk, opening the gas tank access panel, opening the hood, turning on the headlights, turning on an audio alarm, and beginning audio recording.

19. A method of situation awareness facilitation for a vehicle driver comprising:

receiving a first acoustic signal from outside a vehicle that the driver is in and converting the first acoustic signal into a first acoustic electronic signal;

sending the first acoustic electronic signal to a processor;

matching the first acoustic electronic signal by the processor to stored reference electronic signals; and

sending an acoustic message associated with a matched reference electronic signal to a speaker in the cab of the vehicle.

ABSTRACT OF THE DISCLOSURE

At least one exemplary embodiment is directed to a method of situation awareness facilitation for a vehicle driver comprising: receiving a first acoustic signal from outside a vehicle that the driver is in and converting the first acoustic signal into a first acoustic electronic signal; sending the first acoustic electronic signal to a processor; matching the first acoustic electronic signal by the processor to stored reference electronic signals; and sending an acoustic message associated with a matched reference electronic signal to a speaker in the cab of the vehicle.

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	PERS-0049-US
		Application Number	
Title of Invention	AMBIENT SITUATION AWARENESS SYSTEM AND METHOD FOR VEHICLES		
The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.			

Secrecy Order 37 CFR 5.2

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Applicant Information:

Applicant 1						Remove	
Applicant Authority		☒ Inventor			☐ Legal Representative under 35 U.S.C. 117		☐ Party of Interest under 35 U.S.C. 118
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	John	Patrick		Keady			
Residence Information (Select One)		☒ US Residency ☐ Non US Residency ☐ Active US Military Service					
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Citizenship under 37 CFR 1.41(b) i		US					
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Applicant Authority		☒ Inventor			☐ Legal Representative under 35 U.S.C. 117		☐ Party of Interest under 35 U.S.C. 118
Prefix	Given Name	Middle Name		Family Name		Suffix	
	John			Usher			
Residence Information (Select One)		☐ US Residency ☒ Non US Residency ☐ Active US Military Service					
City	Montreal	Country Of Residence i		CA			
Citizenship under 37 CFR 1.41(b) i		UK					
Mailing Address of Applicant:							
Address 1		55 de Bresoles, Apt. 400					
Address 2							
City	Montreal			State/Province			
Postal Code		H2Y1V7		Country i	CA		
All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the Add button.							
Add							

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	PERS-0049-US
		Application Number	
Title of Invention	AMBIENT SITUATION AWARENESS SYSTEM AND METHOD FOR VEHICLES		

☐ An Address is being provided for the correspondence information of this application.

Customer Number	71158		
Email Address	jkeady@personicslabs.com	Add Email	Remove Email

Application Information:

Title of the Invention	AMBIENT SITUATION AWARENESS SYSTEM AND METHOD FOR VEHICLES		
Attorney Docket Number	PERS-0049-US	Small Entity Status Claimed	☒
Application Type	Nonprovisional		
Subject Matter			
Suggested Class (if any)		Sub Class (if any)	
Suggested Technology Center (if any)			
Total Number of Drawing Sheets (if any)	5	Suggested Figure for Publication (if any)	1

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☐ **Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application has not been and will not be the subject of an application filed in another country, or under a multilateral agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Enter either Customer Number or complete the Representative Name section below. If both sections are completed the Customer Number will be used for the Representative Information during processing.			
Please Select One:	☒ Customer Number	☐ US Patent Practitioner	☐ US Representative (37 CFR 11.9)
Customer Number	71158		

Domestic Priority Information:

This section allows for the applicant to claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c). Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78(a)(2) or CFR 1.78(a)(4), and need not otherwise be made part of the specification.			
Prior Application Status	Pending	Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	non provisional of	60986606	2008-06-19
Additional Domestic Priority Data may be generated within this form by selecting the Add button.			Add

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	PERS-0049-US
		Application Number	
Title of Invention	AMBIENT SITUATION AWARENESS SYSTEM AND METHOD FOR VEHICLES		

Foreign Priority Information:

This section allows for the applicant to claim benefit of foreign priority and to identify any prior foreign application for which priority is not claimed. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(a).			
			Remove
Application Number	Country ⁱ	Parent Filing Date (YYYY-MM-DD)	Priority Claimed
			☒ Yes ☐ No
Additional Foreign Priority Data may be generated within this form by selecting the Add button.			Add

Assignee Information:

Providing this information in the application data sheet does not substitute for compliance with any requirement of part 3 of Title 37 of the CFR to have an assignment recorded in the Office.			
Assignee ¹			Remove
If the Assignee is an Organization check here. ☒			
Organization Name	Personics Holdings Inc.		
Mailing Address Information:			
Address 1	5100 Town Center Circle Tower 2, Suite 510		
Address 2			
City	Boca Raton	State/Province	FL
Country ⁱ		Postal Code	33486
Phone Number		Fax Number	
Email Address	jkeady@personicslabs.com		
Additional Assignee Data may be generated within this form by selecting the Add button.			Add

Signature:

A signature of the applicant or representative is required in accordance with 37 CFR 1.33 and 10.18. Please see 37 CFR 1.4(d) for the form of the signature.					
Signature	/John P. Keady/			Date (YYYY-MM-DD)	2009-06-18
First Name	John	Last Name	Keady	Registration Number	56389

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

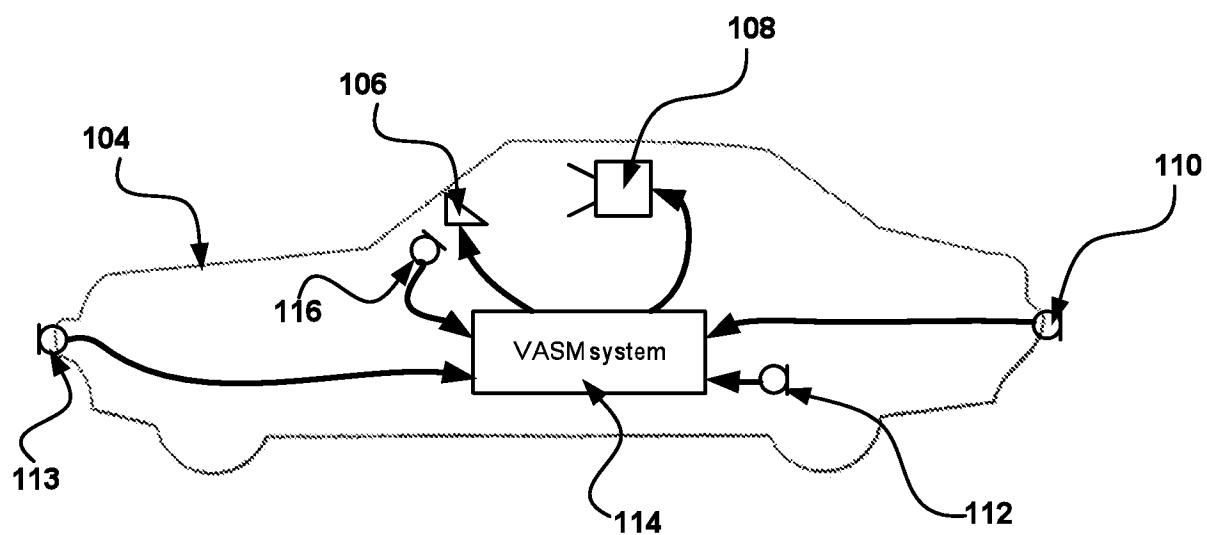


FIG. 1

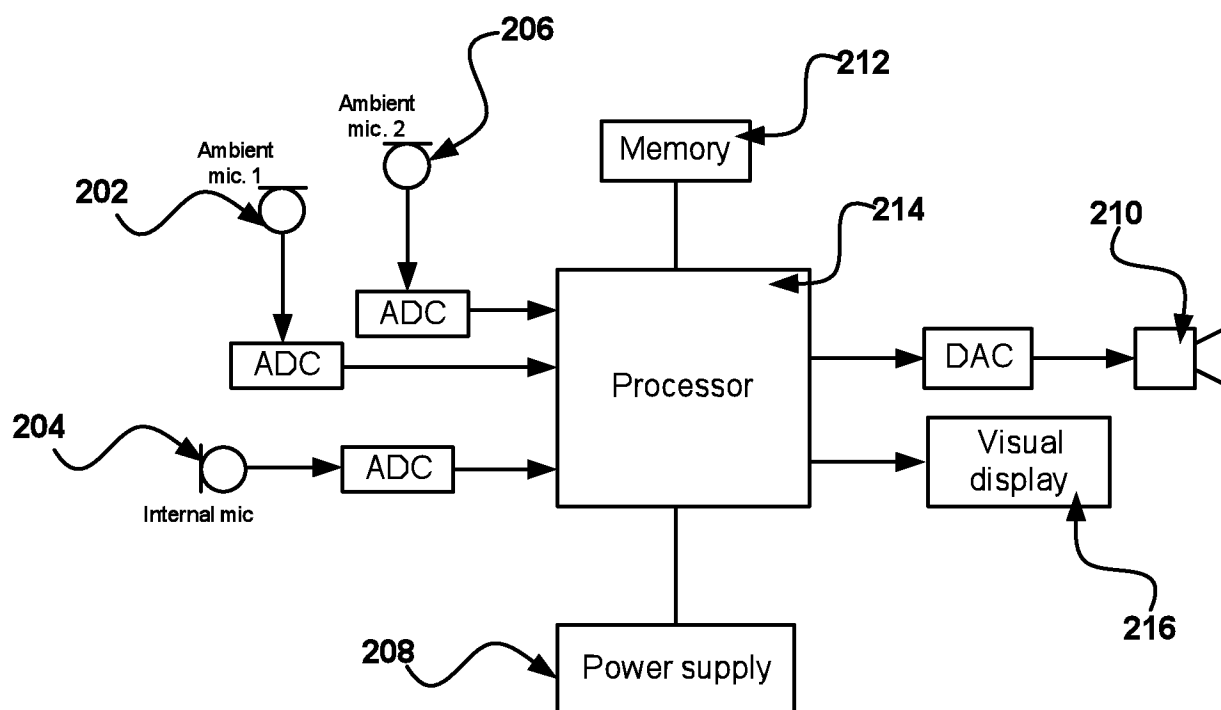


FIG. 2

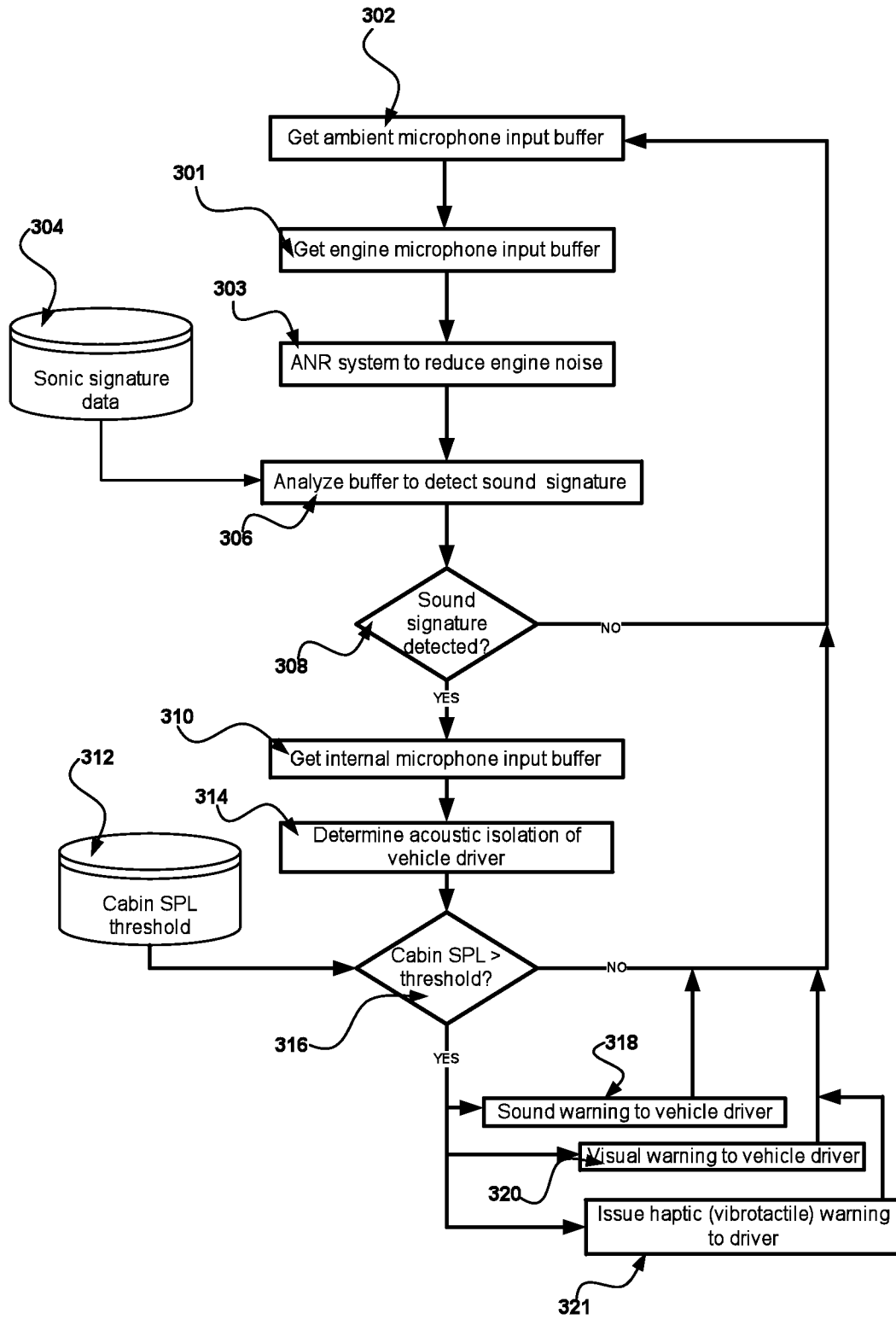


FIG. 3

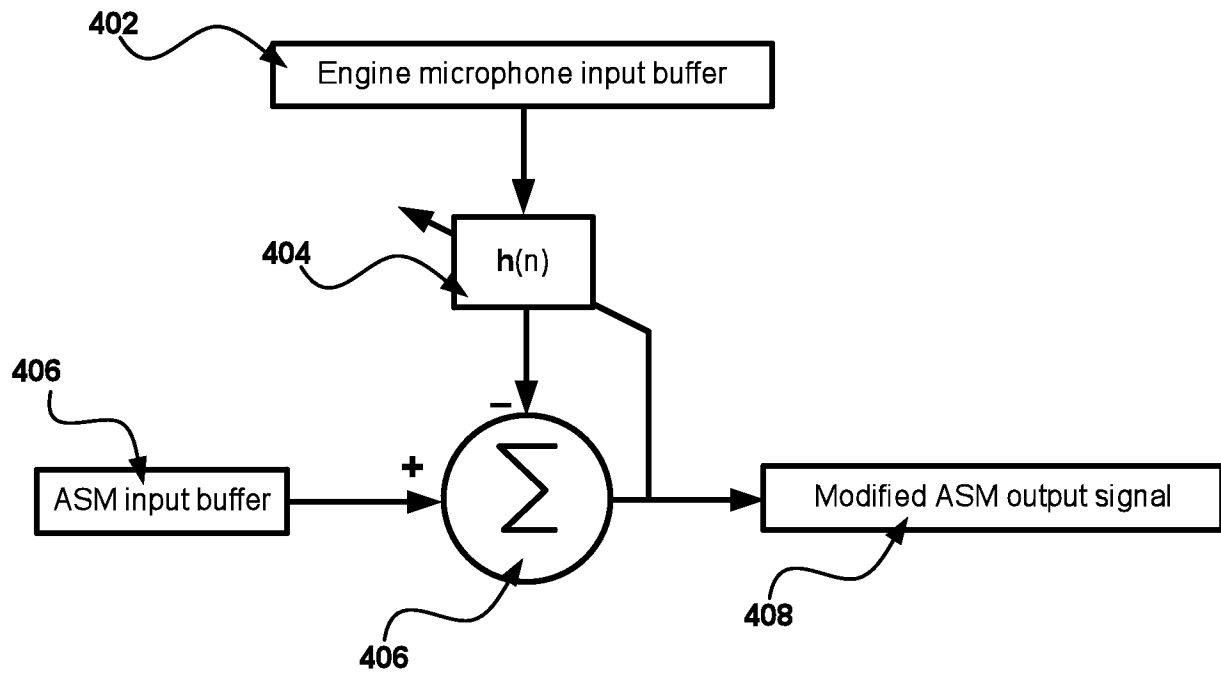


FIG. 4

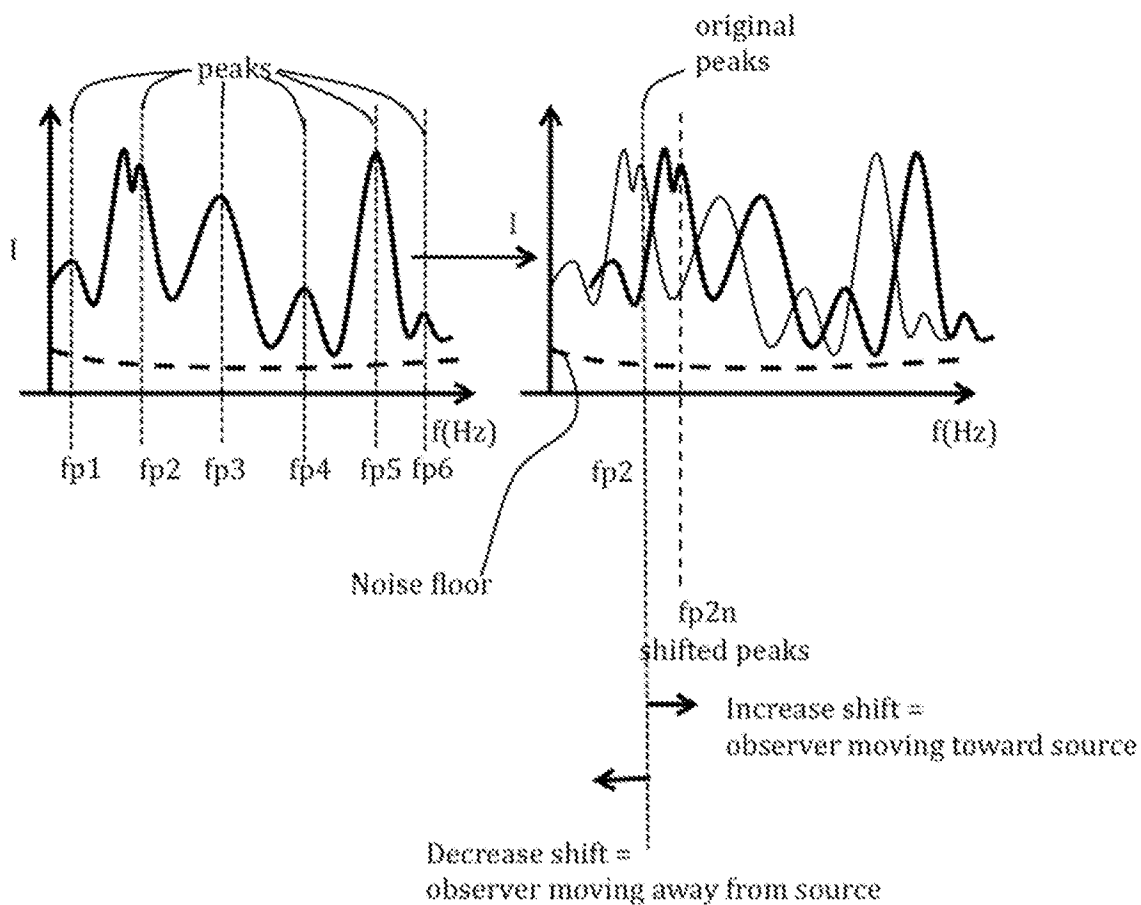


FIG. 5

Electronic Acknowledgement Receipt	
EFS ID:	5547613
Application Number:	12487639
International Application Number:	
Confirmation Number:	7584
Title of Invention:	AMBIENT SITUATION AWARENESS SYSTEM AND METHOD FOR VEHICLES
First Named Inventor/Applicant Name:	John Usher
Customer Number:	71158
Filer:	John Patrick Keady
Filer Authorized By:	
Attorney Docket Number:	PERS-0049-US
Receipt Date:	18-JUN-2009
Filing Date:	
Time Stamp:	23:14:00
Application Type:	Utility under 35 USC 111(a)

Payment information:					
Submitted with Payment			no		
File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Specification	PERS-0049-US.pdf	129721	no	26
			759a4bb4f9c1c280433827e8bba1ee9fe14d70d4		
Warnings:					
Information:					

2	Application Data Sheet	PERS-0049-US-ADS.pdf	750604	no	4
			f1790ec5b2a56f9914325b469189dbee1ef78afb		
Warnings:					
Information:					
3	Drawings-only black and white line drawings	PERS-0049-US-FIGS.pdf	364551	no	5
			90686e1fc441ee49c696b9e3e06b809cd8363aed		
Warnings:					
Information:					
Total Files Size (in bytes):			1244876		
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. <u>New Applications Under 35 U.S.C. 111</u> 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. <u>National Stage of an International Application under 35 U.S.C. 371</u> 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. <u>New International Application Filed with the USPTO as a Receiving Office</u> 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.					

Filing Date: 06/18/09

Approved for use through 7/31/2006. OMB 0651-0032

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

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875						Application or Docket Number 12/487,639			
APPLICATION AS FILED – PART I									
(Column 1)		(Column 2)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY			
FOR	NUMBER FILED	NUMBER EXTRA		RATE (\$)	FEE (\$)	RATE (\$)	FEE (\$)		
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A		N/A	82	N/A			
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A		N/A	270	N/A			
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A		N/A	110	N/A			
TOTAL CLAIMS (37 CFR 1.16(i))	19	minus 20 =		x\$26		OR x\$52			
INDEPENDENT CLAIMS (37 CFR 1.16(h))	4	minus 3 =		x\$110	110	OR x\$220			
APPLICATION SIZE FEE (37 CFR 1.16(s))									
If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$270 (\$135 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR									
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				195		390			
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL	572	TOTAL			
APPLICATION AS AMENDED – PART II									
(Column 1)		(Column 2)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY			
AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE (\$)	ADDI-TIONAL FEE (\$)	RATE (\$)	ADDI-TIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	*	Minus	**	=	X	=	OR X	=
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X	=	OR X	=
	Application Size Fee (37 CFR 1.16(s))							OR 	
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					N/A		OR N/A	
						TOTAL ADD'T FEE		OR TOTAL ADD'T FEE	
(Column 1)		(Column 2)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY			
AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE (\$)	ADDI-TIONAL FEE (\$)	RATE (\$)	ADDI-TIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	*	Minus	**	=	X	=	OR X	=
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X	=	OR X	=
	Application Size Fee (37 CFR 1.16(s))							OR 	
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					N/A		OR N/A	
						TOTAL ADD'T FEE		OR TOTAL ADD'T FEE	
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.									

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
12/487,639	06/18/2009	John Patrick Keady	PERS-0049-US

CONFIRMATION NO. 7584

FORMALITIES LETTER

71158
PERSONICS HOLDINGS INC.
5100 Town Center Circle, Tower 11, Suite 510
BOCA RATON, FL 33486



Date Mailed: 07/02/2009

NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION

FILED UNDER 37 CFR 1.53(b)

Filing Date Granted

Items Required To Avoid Abandonment:

An application number and filing date have been accorded to this application. The item(s) indicated below, however, are missing. Applicant is given **TWO MONTHS** from the date of this Notice within which to file all required items and pay any fees required below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

- The statutory basic filing fee is missing.
Applicant must submit \$82 to complete the basic filing fee for a small entity.
- The oath or declaration is missing.
A properly signed oath or declaration in compliance with 37 CFR 1.63, identifying the application by the above Application Number and Filing Date, is required.
Note: If a petition under 37 CFR 1.47 is being filed, an oath or declaration in compliance with 37 CFR 1.63 signed by all available joint inventors, or if no inventor is available by a party with sufficient proprietary interest, is required.

The applicant needs to satisfy supplemental fees problems indicated below.

The required item(s) identified below must be timely submitted to avoid abandonment:

- Additional claim fees of **\$110** as a small entity, including any required multiple dependent claim fee, are required. Applicant must submit the additional claim fees or cancel the additional claims for which fees are due.
- To avoid abandonment, a surcharge (for late submission of filing fee, search fee, examination fee or oath or declaration) as set forth in 37 CFR 1.16(f) of **\$65** for a small entity in compliance with 37 CFR 1.27, must be submitted with the missing items identified in this notice.

SUMMARY OF FEES DUE:

Total additional fee(s) required for this application is **\$637** for a small entity

- **\$82** Statutory basic filing fee.
- **\$65** Surcharge.
- The application search fee has not been paid. Applicant must submit **\$270** to complete the search fee.

- The application examination fee has not been paid. Applicant must submit **\$110** to complete the examination fee for a small entity in compliance with 37 CFR 1.27.
- Total additional claim fee(s) for this application is **\$110**
 - **\$110** for **1** independent claims over 3.

Replies should be mailed to:

Mail Stop Missing Parts
Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450

Registered users of EFS-Web may alternatively submit their reply to this notice via EFS-Web.
<https://portal.uspto.gov/authenticate/AuthenticateUserLocalEPF.html>

For more information about EFS-Web please call the USPTO Electronic Business Center at **1-866-217-9197** or visit our website at <http://www.uspto.gov/ebc>.

If you are not using EFS-Web to submit your reply, you must include a copy of this notice.

/tnguyen/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101



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UNITED STATES DEPARTMENT OF COMMERCE
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Address: COMMISSIONER FOR PATENTS
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Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
12/487,639	06/18/2009	2612	0.00	PERS-0049-US	19	4

CONFIRMATION NO. 7584

71158
PERSONICS HOLDINGS INC.
5100 Town Center Circle, Tower 11, Suite 510
BOCA RATON, FL 33486

FILING RECEIPT



OC000000036680551

Date Mailed: 07/02/2009

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Applicant(s)

John Patrick Keady, Boca Raton, FL;
John Usher, Montreal, CANADA;

Assignment For Published Patent Application

PERSONICS HOLDINGS INC., Boca Raton, FL

Power of Attorney: None

Domestic Priority data as claimed by applicant

This appln claims benefit of 61/074,096 06/19/2008

Foreign Applications

If Required, Foreign Filing License Granted: 06/26/2009

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 12/487,639**

Projected Publication Date: To Be Determined - pending completion of Missing Parts

Non-Publication Request: No

Early Publication Request: No

**** SMALL ENTITY ****

Title

AMBIENT SITUATION AWARENESS SYSTEM AND METHOD FOR VEHICLES

Preliminary Class

340

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4158).

LICENSE FOR FOREIGN FILING UNDER**Title 35, United States Code, Section 184****Title 37, Code of Federal Regulations, 5.11 & 5.15****GRANTED**

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as

set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

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UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: John P. Keady	Docket No.: PERS-0049-US	
Serial No.: 12/487,639	Art Unit: 2614	
Filing Date: 06/18/2009	Examiner: Unassigned	
Title: AMBIENT SITUATION AWARENESS SYSTEM AND METHOD FOR VEHICLES		
DECLARATION FOR PATENT APPLICATION AND APPOINTMENT OF ATTORNEY		
DECLARATION OF SOLE OR JOINT INVENTOR		
As a below-named inventor, I hereby declare that my residence, post office address and citizenship are as stated below next to my name; I believe that I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention (Design, if applicable) entitled above, the specification of which is either attached hereto, or was filed on the date listed above as with the Application Serial Number listed above (whichever is applicable).		
REVIEW AND UNDERSTOOD CLAUSE		
I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment(s). I acknowledge the duty to disclose information which is material to the patentability of this application in accordance with <i>Title 37, Code of Federal Regulations, §1.56(a)</i>.		
DOMESTIC PRIORITY CLAIM		
I hereby claim the benefit under <i>Title 35, United States Code, § 120</i> of any United States application(s) or PCT International Application(s) designating The United States of America listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in that/those prior application(s) in the manner provided by the first paragraph of <i>Title 35, United States Code § 112</i>, I acknowledge the duty to disclose information which is material to patentability as defined in <i>Title 37, Code of Federal Regulations, § 1.56(a)</i> which occurred between the filing date of the prior application(s) and the national or PCT international filing date of this application:		
APPLICATION NUMBER	FILING DATE	STATUS (Patented, Pending, Abandoned)
61/074,096	06/19/2008	

DECLARATION FOR PATENT APPLICATION AND APPOINTMENT OF ATTORNEY		
FOREIGN PRIORITY CLAIM		
I hereby claim foreign priority benefits under <i>Title 35, United States Code § 119</i> of any foreign application(s) for patent or inventor's certificate or of any PCT International Application(s) designating at least one country other than the United States of America listed below and have also identified below any foreign application(s) for patent or inventor's certificate or of any PCT International application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) on which the priority is claimed.		
APPLICATION NUMBER	FILING DATE	COUNTRY

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

CORRESPONDENCE ADDRESS
Please send all correspondence with regard to the above-captioned application to: CEO PERSONICS HOLDINGS INC. 5100 TOWN CENTER CIRCLE, TOWER 2 SUITE 510 BOCA RATON, FL, 33486 CUSTOMER NUMBER: 71158
Direct all phone inquiries to: 561-212-6163

POWER OF ATTORNEY			
I (We) hereby appoint as my (our) attorneys, with full powers of substitution and revocation, to prosecute this application and transact all business in the Patent and Trademark Office connected therewith the following registered Patent Attorneys:			
NAME	REG. NO.	NAME	REG. NO.
Richard E. Kurtz	33,936	James E. Goepel	50,851
Adam B. Landa	35.236	Wayne V. Harper	55,839
John P. Keady	56,389		
FIRST OR SOLE INVENTOR INFORMATION			
<i>Full Name</i>		<i>Citizenship</i>	
John Usher		UK	
<i>Mailing Address</i>		<i>City:</i>	
1 Lion Villa Causeway		Beer	
<i>State</i>		<i>Zip Code</i>	
Devon		EX12 3LB	
<i>Country</i>			
UK			
<i>Date:</i>		<i>Signature:</i>	
10/06/09		/John Usher/	
SECOND INVENTOR INFORMATION			
<i>Full Name</i>		<i>Citizenship</i>	
John P Keady		US	
<i>Mailing Address</i>		<i>City:</i>	
21427 Town Lakes Drive #215		Boca Raton	
<i>State</i>		<i>Zip Code</i>	
FL		33486	
<i>Country</i>			
US			
<i>Date:</i>		<i>Signature:</i>	
5 Oct. 2009		/John P Keady/	
THIRD INVENTOR INFORMATION			
<i>Full Name</i>		<i>Citizenship</i>	
<i>Mailing Address</i>		<i>City:</i>	
<i>State</i>		<i>Zip Code</i>	
<i>Country</i>			
<i>Date:</i>		<i>Signature:</i>	

Electronic Patent Application Fee Transmittal				
Application Number:		12487639		
Filing Date:		18-Jun-2009		
Title of Invention:		AMBIENT SITUATION AWARENESS SYSTEM AND METHOD FOR VEHICLES		
First Named Inventor/Applicant Name:		John Patrick Keady		
Filer:		John Patrick Keady		
Attorney Docket Number:		PERS-0049-US		
Filed as Small Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Utility filing Fee (Electronic filing)	4011	1	82	82
Utility Search Fee	2111	1	270	270
Utility Examination Fee	2311	1	110	110
Pages:				
Claims:				
Independent claims in excess of 3	2201	1	110	110
Miscellaneous-Filing:				
Late filing fee for oath or declaration	2051	1	65	65

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Extension - 2 months with \$0 paid	2252	1	245	245
Miscellaneous:				
Total in USD (\$)				882

Electronic Acknowledgement Receipt

EFS ID:	6316801
Application Number:	12487639
International Application Number:	
Confirmation Number:	7584
Title of Invention:	AMBIENT SITUATION AWARENESS SYSTEM AND METHOD FOR VEHICLES
First Named Inventor/Applicant Name:	John Patrick Keady
Customer Number:	71158
Filer:	John Patrick Keady
Filer Authorized By:	
Attorney Docket Number:	PERS-0049-US
Receipt Date:	23-OCT-2009
Filing Date:	18-JUN-2009
Time Stamp:	09:53:29
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$882
RAM confirmation Number	6593
Deposit Account	504284
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Oath or Declaration filed	PERS-0049-US-OATH-JP-JU.pdf	140957	no	4
			7a6bf39ec204683c59cbdd336035388a75531ad9		

Warnings:

Information:

2	Fee Worksheet (PTO-875)	fee-info.pdf	40418	no	2
			f27c9b127bf31fde9cb868e94f629d87bd864f5b		

Warnings:

Information:

Total Files Size (in bytes):			181375
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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.



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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
12/487,639	06/18/2009	2612	637	PERS-0049-US	19	4

CONFIRMATION NO. 7584

71158
PERSONICS HOLDINGS INC.
5100 Town Center Circle, Tower 11, Suite 510
BOCA RATON, FL 33486

UPDATED FILING RECEIPT



Date Mailed: 11/02/2009

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Applicant(s)

John Patrick Keady, Boca Raton, FL;
John Usher, Beer, UNITED KINGDOM;

Assignment For Published Patent Application

PERSONICS HOLDINGS INC., Boca Raton, FL

Power of Attorney:

Richard Kurtz II--33936
Adam Landa--35236
James Goepel--50851
Wayne Harper--55839
John Keady--56389

Domestic Priority data as claimed by applicant

This appln claims benefit of 61/074,096 06/19/2008

Foreign Applications

If Required, Foreign Filing License Granted: 06/26/2009

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 12/487,639**

Projected Publication Date: 02/11/2010

Non-Publication Request: No

Early Publication Request: No

**** SMALL ENTITY ****

Title

AMBIENT SITUATION AWARENESS SYSTEM AND METHOD FOR VEHICLES

Preliminary Class

340

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4158).

LICENSE FOR FOREIGN FILING UNDER**Title 35, United States Code, Section 184****Title 37, Code of Federal Regulations, 5.11 & 5.15****GRANTED**

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as

set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).



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www.uspto.gov

APPLICATION NUMBER	PATENT NUMBER	GROUP ART UNIT	FILE WRAPPER LOCATION
12/487,639		2612	



Correspondence Address/Fee Address Change

The following fields have been set to Customer Number 71158 on 01/20/2010

- Correspondence Address
- Maintenance Fee Address
- Power of Attorney Address

The address of record for Customer Number 71158 is:

71158
PERSONICS HOLDINGS INC.
6111 BROKEN SOUND PARKWAY, NW
BOCA RATON, FL 33487



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www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
12/487,639	06/18/2009	John Patrick Keady	PERS-0049-US

CONFIRMATION NO. 7584

71158
PERSONICS HOLDINGS INC.
6111 BROKEN SOUND PARKWAY, NW
BOCA RATON, FL 33487

PUBLICATION NOTICE



OC000000040074758

Title:AMBIENT SITUATION AWARENESS SYSTEM AND METHOD FOR VEHICLES

Publication No.US-2010-0033313-A1

Publication Date:02/11/2010

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently <http://www.uspto.gov/patft/>.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Office of Public Records. The Office of Public Records can be reached by telephone at (703) 308-9726 or (800) 972-6382, by facsimile at (703) 305-8759, by mail addressed to the United States Patent and Trademark Office, Office of Public Records, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently <http://pair.uspto.gov/>. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/487,639	06/18/2009	John Patrick Keady	PRS-157US (PERS-0049US)	7584
71158 RatnerPrestia P.O. Box 980 Valley Forge, PA 19482	7590 02/23/2012		EXAMINER CROSLAND, DONNIE L	
			ART UNIT 2612	PAPER NUMBER
			MAIL DATE 02/23/2012	DELIVERY MODE PAPER

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

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	12/487,639	KEADY ET AL.	
	Examiner	Art Unit	
	DONNIE CROSLAND	2612	

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

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 1-19 is/are pending in the application.
- 5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 1-19 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☒ The drawing(s) filed on 18 June 2009 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

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

Attachment(s)

- | | |
|--|---|
| 1) ☒ Notice of References Cited (PTO-892) | 4) ☐ Interview Summary (PTO-413) |
| 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) ☐ Information Disclosure Statement(s) (PTO/SB/08) | 5) ☐ Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) ☐ Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

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

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-11, 14 and 19 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Nesbitt (6150927).

Nesbitt shows A vehicle situation awareness device comprising: a notification device 51, where the notification device is configured to emit a first signal (audio or warning messages, or radio 52 that emits a first signal 54 (figure 6, col. 5, lines 22-52); a microphone 16, where the microphone 16 is configured to measure a second signal (scratching glass, distinct narrow frequency, col. 4, lines 66, 67, col. 5, lines 1-13), where the second signal is a measurement of at least a first portion of an ambient acoustic signal (vibrations as described in col. 4, lines 66, 67, and col. 5, lines 1-13); and a processor 50, where at least one sonic signature (distinct characteristic output signal frequency, col. 5, lines 22-25) is identified from at least a second portion of the second signal, and where when the at least one sonic signature is identified an emit signal (generated by the computer 50) is sent to the notification device 51 to emit the first signal (audio, warning messages, and radio 52, col. 5, lines 22-35, figures 3-7).

Claims 2 and 7 see receiver 56 in figure 6.

Claims 3 and 8 see video display in col. 5, lines 22-35.

Claims 4 and 10 see vehicle 41 and local reporting system 51, col. 5, lines 35-52.

Claims 5 and 11 see audio in col. 5, lines 25-27.

Claims 9 see second processor 60.

Claim 14, Nesbitt shows the vehicle situation awareness device comprising: a notification device 74, where the notification device 74 is configured to emit a first signal to a first processor (the first processor is readable on any of the processors that would be included in the Police, Company security, etc. as well as the processor in pager 73, figure 6; a microphone 16, where the microphone 16 is configured to measure a second signal picked up from the microphone 16, where the second signal is a measurement of at least a first portion of at least one of an interior vehicle acoustic signal or an external vehicle acoustic signal; and a second processor 50, where at least one sonic signature (characteristic output signal) is identified from at least a second portion of the second signal, and where when the at least one sonic signature is identified an emit signal 54 is sent to the notification device 74 via radio 56 to emit the first signal to any of the first processors as described above.

. Claim 19, converting as well as matching are achieved by processing circuit 14, figure 3, col. 4, lines 50-65, and col. 5, lines 22-25.

Claim Rejections - 35 USC § 103

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

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 2612

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 12, 13, and 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nesbitt (6150927)

With respect to claims 12 and 13, the affecting of a vehicle operation is realized with respect to reporting system 51 affecting vehicle operations, see col. 5, lines 22-35.

The specified vehicle operations as recited in claim 13 are clearly matter of choices as determined by engineering trade-off. The artisan recognizes that the

Art Unit: 2612

patentee is not limited to the controls as recited with respect to reporting system 51 and may include other conventional vehicle control functions such as those recited.

With respect to claims 15 and 16, "speech" is suggested as a sonic signature in col. 5, lines 8-11. The recited voice command is analogous to speech and such would not involve patentable invention.

Claim 17, the artisan recognizes that the first signal may be generated as signal 86 for vehicle control.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Pieper (2003/0090377), Carter (2002/0150262), and Rose et al (5894279) are cited as showing related awareness devices that include acoustic monitoring and alerts.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DONNIE CROSLAND whose telephone number is (571)272-2980. The examiner can normally be reached on Mon-Thur. 9:30a-6:00p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, DANIEL J. WU can be reached on 571-272-2964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2612

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/DONNIE L. CROSLAND/
Primary Examiner, Art Unit 2612

DLC
2-15-12

Notice of References Cited	Application/Control No. 12/487,639		Applicant(s)/Patent Under Reexamination KEADY ET AL.	
	Examiner DONNIE CROSLAND		Art Unit 2612	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2003/0090377	05-2003	Pieper, Norbert	340/566
*	B	US-2002/0150262	10-2002	Carter, Jerome D.	381/86
*	C	US-6,150,927	11-2000	Nesbitt, Bryce	340/426.25
*	D	US-5,894,279	04-1999	Rose et al.	340/902
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Search Notes 	Application/Control No. 12487639	Applicant(s)/Patent Under Reexamination KEADY ET AL.
	Examiner DONNIE CROSLAND	Art Unit 2612

SEARCHED			
Class	Subclass	Date	Examiner
340	438, 426.26	2/14/2012	DLC

SEARCH NOTES		
Search Notes	Date	Examiner
340/438, 425.5, 426.26, 943, 426.27, 446, 566 (text search see search history printout)	2/14/2012	DLC
367/197, 198, 199 (text search see search history printout)	2/14/2012	DLC
381/56, 57, 86, 122 (text search see search history printout)	2/14/2012	DLC
EAST (US-PGPUB; USOCR; USPAT; EPO; JPO; DERWENT; IBM-TDB) text search see search history printout	2/14/2012	DLC

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

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BIB DATA SHEET

CONFIRMATION NO. 7584

SERIAL NUMBER 12/487,639	FILING or 371(c) DATE 06/18/2009 RULE	CLASS 340	GROUP ART UNIT 2612	ATTORNEY DOCKET NO. PRS-157US (PERS-0049US)		
APPLICANTS John Patrick Keady, Boca Raton, FL; John Usher, Beer, UNITED KINGDOM; ** CONTINUING DATA ***** This appln claims benefit of 61/074,096 06/19/2008 ** FOREIGN APPLICATIONS ***** ** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** ** SMALL ENTITY ** 06/26/2009						
Foreign Priority claimed ☐ Yes ☒ No 35 USC 119(a-d) conditions met ☐ Yes ☒ No Verified and /DONNIE L CROSLAND/ Acknowledged Examiner's Signature	☐ Met after Allowance Initials	STATE OR COUNTRY FL	SHEETS DRAWINGS 5	TOTAL CLAIMS 19	INDEPENDENT CLAIMS 4	
ADDRESS RatnerPrestia P.O. Box 980 Valley Forge, PA 19482 UNITED STATES						
TITLE AMBIENT SITUATION AWARENESS SYSTEM AND METHOD FOR VEHICLES						
FILING FEE RECEIVED 637	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:		☐ All Fees			
			☐ 1.16 Fees (Filing)			
			☐ 1.17 Fees (Processing Ext. of time)			
			☐ 1.18 Fees (Issue)			
			☐ Other _____			
☐ Credit						

<i>Index of Claims</i> 	Application/Control No. 12487639	Applicant(s)/Patent Under Reexamination KEADY ET AL.
	Examiner DONNIE CROSLAND	Art Unit 2612

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant											☐ CPA		☐ T.D.		☐ R.1.47	
CLAIM		DATE														
Final	Original	02/14/2012														
	1	✓														
	2	✓														
	3	✓														
	4	✓														
	5	✓														
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	17	✓														
	18	✓														
	19	✓														

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	3013	340/438.OCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/02/14 11:34
L2	82	340/426.26.OCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/02/14 12:02
L3	15	("4125826").URPN.	USPAT	OR	OFF	2012/02/14 12:07
L4	23	("5424711").URPN.	USPAT	OR	OFF	2012/02/14 12:11
L5	2221	340/425.5.OCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/02/14 12:30
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L16	635	381/122.OCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/02/14 12:32
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L32	20	29 AND NOTIFICATION	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/02/14 12:43
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L43	12	("6150927").URPN.	USPAT	OR	OFF	2012/02/14 14:18
L44	20	("3863250" "4054867" "4073094" "4091660" "4709513" "4837558" "4845464" "4853677" "4897630" "5120980" "5192931" "5289159" "5438317" "5450061" "5528220" "5543783" "5552770" "5598141" "5686909" "5712620").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2012/02/14 14:18
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L46	6053	45 AND ALARM	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/02/14 15:11
L47	2017	46 AND NOTIFICATION	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/02/14 15:11
L48	77	45 AND DETECT NEAR4 INTRUDER	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/02/14 15:12
L49	61	46 AND DETECT NEAR4 INTRUDER	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/02/14 15:12
L50	7	47 AND DETECT NEAR4 INTRUDER	US-PGPUB; USPAT;	OR	OFF	2012/02/14 15:12

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
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2/ 14/ 2012 3:35:21 PM
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FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date (MM-DD-YYYY)	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³ - Number ⁴ - Kind Code ⁵ (If known)				
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IPR2024-01299 Page 00074

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Complete if Known

Application Number	12/487,639
Filing Date	June 18, 2009
First Named Inventor	John P. Keady
Art Unit	2612
Examiner Name	Donnie L. Crosland
Attorney Docket No.	PRS-157US

SHEET of

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), 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	T ²
		U.S. Patent Application No. 12/035,873, filed February 22, 2008.	☐
		U.S. Patent Application No. 11/966,457, filed December 28, 2007.	☐
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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.

¹Applicant's unique citation designation number (optional).

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The collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS.

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Electronic Patent Application Fee Transmittal				
Application Number:		12487639		
Filing Date:		18-Jun-2009		
Title of Invention:		AMBIENT SITUATION AWARENESS SYSTEM AND METHOD FOR VEHICLES		
First Named Inventor/Applicant Name:		John Patrick Keady		
Filer:		Deborah M. Grove/Edna Phelan		
Attorney Docket Number:		PRS-157US (PERS-0049US)		
Filed as Large Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Submission- Information Disclosure Stmt	1806	1	180	180
Total in USD (\$)				180

Electronic Acknowledgement Receipt

EFS ID:	12842306
Application Number:	12487639
International Application Number:	
Confirmation Number:	7584
Title of Invention:	AMBIENT SITUATION AWARENESS SYSTEM AND METHOD FOR VEHICLES
First Named Inventor/Applicant Name:	John Patrick Keady
Customer Number:	71158
Filer:	Deborah M. Grove/Edna Phelan
Filer Authorized By:	Deborah M. Grove
Attorney Docket Number:	PRS-157US (PERS-0049US)
Receipt Date:	23-MAY-2012
Filing Date:	18-JUN-2009
Time Stamp:	12:17:54
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$ 180
RAM confirmation Number	10702
Deposit Account	180350
Authorized User	GROVE,DEBORAH

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

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Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Applicant Arguments/Remarks Made in an Amendment	amendment.pdf	389643	no	12
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Information:					
2	Drawings-only black and white line drawings	replacementdrawing.pdf	10887	no	1
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3	Specification	substitutespec.pdf	665919	no	13
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5	Transmittal Letter	IDS.pdf	52759	no	2
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6	Information Disclosure Statement (IDS) Form (SB08)	sb08.pdf	94901	no	2
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8	Non Patent Literature	appln11966457.pdf	1779479	no	40
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Warnings:					
Information:					
			Total Files Size (in bytes):	6708630	
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. <u>New Applications Under 35 U.S.C. 111</u> 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. <u>National Stage of an International Application under 35 U.S.C. 371</u> 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. <u>New International Application Filed with the USPTO as a Receiving Office</u> 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.					

Appln. No.: 12/487,639
Amendment Dated May 23, 2012
Reply to Office Action of February 23, 2012

PRS-157US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appln. No: 12/487,639
Applicant: John P. Keady et al.
Filed: June 18, 2009
Title: AMBIENT SITUATION AWARENESS SYSTEM AND METHOD FOR VEHICLES
T.C./A.U.: 2612
Examiner: Donnie L. Crosland
Confirmation No.: 7584
Docket No.: PRS-157US

AMENDMENT

Mail Stop
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Responsive to the Office Action dated February 23, 2012, please amend the above-identified application as follows:

- ☒ **Amendments to the Specification** begin on page 2 of this paper.
- ☒ **Amendments to the Claims** are reflected in the listing of claims which begins on page 3 of this paper.
- ☒ **Amendments to the Drawings** begin on page 7 of this paper and include an attached replacement sheet(s).
- ☒ **Amendments to the Abstract** are on page 8 of this paper. A clean version of the Abstract is on page 12 of this paper.
- ☒ **Remarks/Arguments** begin on page 9 of this paper.

Appln. No.: 12/487,639
Amendment Dated May 23, 2012
Reply to Office Action of February 23, 2012

PRS-157US

Amendments to the Specification:

Please replace the original specification with the attached substitute specification.

Amendments to the Claims: This listing of claims will replace all prior versions, and listings, of claims in the application

Listing of Claims:

1. (Currently Amended) A vehicle situation awareness device for a vehicle comprising:
 - a notification device, ~~where the notification device is in the vehicle~~ configured to emit a ~~first~~ audio signal;
 - an internal microphone configured to measure an internal acoustic signal in the vehicle;
 - ~~an ambient~~ microphone, ~~where the microphone is configured to measure a second~~ signal, ~~where the second signal is a measurement of at least a first portion of an ambient~~ acoustic signal external to the vehicle; and
 - a processor, ~~where~~ configured to:
 - determine an internal sound pressure level (SPL) in the vehicle based on the internal acoustic signal,
 - identify at least one sonic signature is identified from at least a second portion of the second ambient acoustic signal, and where
 - when the at least one sonic signature is identified, determine whether to send an
 - emit signal is sent to the notification device to emit the first audio signal based on the internal SPL.
2. (Currently Amended) The awareness device according to claim 1, where the notification device ~~is~~ includes a receiver.
3. (Currently Amended) The awareness device according to claim 1, where the notification device ~~is~~ further includes a video display.
4. Cancelled.
5. Cancelled.
6. (Currently Amended) A vehicle situation awareness device for a vehicle comprising:

a notification device, ~~where the notification device is in the vehicle~~ configured to emit a ~~first~~ an alert signal including an audio signal;

an internal microphone configured to measure an internal acoustic signal in the vehicle;
~~an external microphone, where the microphone is configured to measure a second~~
~~signal, where the second signal is a measurement of at least a first portion of a vehicle~~
~~equipment signal; and~~

a processor, ~~where~~ configured to:

determine an internal sound pressure level (SPL) in the vehicle based on the
internal acoustic signal,

identify at least one sonic signature is identified from at least a second portion of
the second vehicle equipment signal, and where

when the at least one sonic signature is identified, determine whether to send an
emit signal is sent to the notification device to emit the first audio signal based on the
internal SPL.

7. (Currently Amended) The awareness device according to claim 6, where the notification device ~~is~~ includes a receiver.

8. (Currently Amended) The awareness device according to claim 6, where the notification device ~~is~~ includes a video display.

9. (Currently Amended) The awareness device according to claim 6, where the ~~first~~ alert signal is an input to a second processor, the alert signal used by the second processor
to affect an operation of the vehicle.

10. Cancelled

11. Cancelled

12. Cancelled

13. (Currently Amended) The awareness device according to claim ~~129~~, where ~~affecting vehicle~~ the operation is at least one of shifting gears, decreasing power usage, sending a remote signal, operating the ~~a~~ windshield wiper, and changing the ~~a~~ headlight illumination.

14. (Currently Amended) A vehicle situation awareness device for a vehicle comprising:

a notification device, ~~where the notification device is in the vehicle~~ configured to emit a ~~first~~ an alert signal to a first processor, the first processor used to modify an operation of the vehicle responsive to the alert signal;

an internal microphone configured to measure an interior vehicle acoustic signal in the vehicle;

~~an external microphone, where the microphone is configured to measure a second signal, where the second signal is a measurement of at least a first portion of at least one of an interior vehicle acoustic signal or an external vehicle acoustic signal; and~~

a second processor, ~~where~~ configured to:

determine an interior sound pressure level (SPL) in the vehicle based on the interior vehicle acoustic signal;

identify at least one sonic signature is identified from at least one of the interior vehicle acoustic signal or the external vehicle acoustic ~~a second portion of the second signal, and where~~

when the at least one sonic signature is identified, determine whether to send an emit signal is sent to the notification device to emit the first an alert signal based on the interior SPL.

15. (Original) The awareness device according to claim 14, where the at least one sonic signature is a vocal command.

16. (Currently Amended) The awareness device according to claim 15, where the ~~first~~ an alert signal uniquely corresponds to the voice command.

17. Cancelled

18. (Currently Amended) The awareness device according to claim ~~17~~ 14, where the ~~modify vehicle operation~~ includes one of at least opening a door, opening ~~the~~ a trunk, opening ~~the~~ a gas tank access panel, opening ~~the~~ a hood, turning on ~~the~~ a headlights, turning on an audio alarm, and beginning an audio recording.

19. (Currently Amended) A method of situation awareness facilitation for a vehicle driver of a vehicle, the method comprising:
receiving an internal acoustic signal from inside the vehicle and converting the internal acoustic signal to an internal acoustic electronic signal;
~~receiving a first~~an ambient acoustic signal from outside ~~at the vehicle that the driver is in~~
and converting the ~~first~~ambient acoustic signal into a ~~first~~an ambient acoustic electronic signal;
~~sending the first acoustic electronic signal to a processor;~~
determining, by a processor, an internal sound pressure level (SPL) in the vehicle based on the internal acoustic electronic signal;
~~matching the first, by the processor, the ambient~~ acoustic electronic signal ~~by the processor to one or more~~ stored reference electronic signals; and
~~sending~~determining whether to send an acoustic message associated with a matched reference electronic signal to a speaker in ~~the cab of the vehicle~~ based on the internal SPL.

20. (New) The awareness device according to claim 1, where the audio signal includes at least one of the ambient acoustic signal, a voice message or a non-voice message.

21. (New) The awareness device according to claim 1, where the processor adjusts a reproduction SPL of the audio signal based on the internal SPL.

Appln. No.: 12/487,639
Amendment Dated May 23, 2012
Reply to Office Action of February 23, 2012

PRS-157US

Amendments to the Drawings:

The attached sheet of drawings include changes to Figure 4. This sheet replaces the original sheet.

Attachment

Amendment to the Abstract:

The Abstract has been amended. A revised Abstract is attached.

~~At least one exemplary embodiment is directed to a method of~~Methods and devices for
situation awareness facilitation for a vehicle driver ~~comprising:~~are provided. A method includes
receiving a first acoustic signal from outside a vehicle that the driver is in and converting the first
acoustic signal into a first acoustic electronic signal; sending the first acoustic electronic signal to a
processor; matching the first acoustic electronic signal by the processor to stored reference electronic
signals; and sending an acoustic message associated with a matched reference electronic signal to a
speaker in the cab of the vehicle.

Attachment

Remarks/Arguments:

Claims 1-3, 6-9, 13, 14, 16, 18 and 19 have been amended. Claims 20 and 21 have been added. No new matter is introduced herein. Claims 4, 5, 10-12 and 17 have been cancelled. Claims 1-3, 6-9, 13-16 and 18-21 are pending.

Claim Amendments

Claim 1 has been amended to clarify the language and to recite: an internal microphone configured to measure an internal acoustic signal in the vehicle; an ambient microphone configured to measure an ambient acoustic signal external to the vehicle; and that the processor determines an internal sound pressure level (SPL) in the vehicle based on the internal acoustic signal and determines whether to send an emit signal to the notification device to emit the audio signal based on the internal SPL. Claims 6, 14 and 19 have been amended similarly to claim 1. No new matter is introduced herein. Support for the amendments may be found, for example, at Paragraphs [0031], [0032], [0035]; and Figs. 1-3 of the original specification.

Claims 2, 3, 7-9, 13, 16 and 18 have been amended to clarify the language, for antecedent basis and/or to correspond with respective claims 1, 6 and 14. Claims 13 and 18 have been amended to depend from respective claims 9 and 14. No new matter is introduced herein.

Specification Amendments

A substitute specification has been included to correct for typographical errors and to correspond with the figures. No new matter is introduced herein.

Drawing Amendments

Fig. 4 has been amended. In Fig. 4, element 410 was mistakenly labeled as "406." This feature has been amended accordingly.

Abstract Amendments

The abstract has been amended to remove any legal phraseology and to clarify the language. No new matter is introduced herein.

§§ 102, 103 Rejections

Claims 1-11, 14 and 19 have been rejected under 35 U.S.C. §102(b) as being anticipated by Nesbitt (US 6,150,927). Claims 12, 13 and 15-18 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Nesbitt. Claims 4, 5, 10-12 and 17 have been cancelled. Accordingly, the rejection of these claims is moot. It is respectfully submitted, however, that the remaining claims are patentable over the cited art for the reasons set forth below.

Claim 1 includes features neither disclosed nor suggested by the cited art, namely:

an internal microphone configured to measure an internal acoustic signal in the vehicle;

an ambient microphone configured to measure an ambient acoustic signal external to the vehicle; and

a processor configured to:

determine an internal sound pressure level (SPL) in the vehicle based on the internal acoustic signal,

identify at least one sonic signature from the ambient acoustic signal, and

when the at least one sonic signature is identified, determine whether to send an emit signal to the notification device to emit the audio signal based on the internal SPL.

Nesbitt discloses, in Figs. 2, 5 and 6, an electronic anti-vandalism system including sensor circuits 16. Each sensor circuit 16 includes high frequency microphone sensor 13 (mounted on selected windows 12) and DSP 14. Sensor circuit 16 listens for the sound of glass scratching and triggers computer 50 to alert and activate the security system. Sensor circuit 16 detects distinct characteristic output frequencies representing a glass scratching frequency spectrum. (Col. 4, line 43 – col. 5, line 52.)

Nesbitt, however, does not disclose or suggest an internal microphone to measure an internal acoustic signal in the vehicle; an ambient microphone to measure an ambient acoustic signal external to the vehicle; and a processor which determines an internal sound pressure level (SPL) in the vehicle based on the internal acoustic signal and determines whether to send an emit signal to a notification device in the vehicle to emit the audio signal based on the internal SPL, as required by claim 1. Nesbitt is silent regarding these features. Nesbitt only detects frequencies representing a glass scratching frequency spectrum in order to alert and activate a security system. Thus, Nesbitt does not include all of the features of claim 1. Accordingly, allowance of claim 1 is respectfully requested.

Claims 6, 14 and 19, although not identical to claim 1, include features similar to claim 1 which are neither disclosed nor suggested by the cited art. Accordingly, claims 6, 14 and 19 are also patentable over the cited art for at least the same reasons as claim 1.

Claims 2, 3, 7-9, 13, 15, 16 and 18 include all of the features of respective claims 1, 6 and 14 from which they depend. Accordingly, these claims are also patentable over the cited art for at least the same reasons as claim 1.

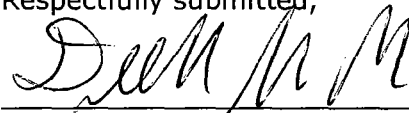
New Claims

Claims 20 and 21 have been added. These claims include all of the features of claim 1 from which they depend. In addition, claims 20 and 21 recite that: the audio signal includes at least one of the ambient acoustic signal, a voice message or a non-voice message (claim 20) and the processor adjusts a reproduction SPL of the audio signal based on the internal SPL (claim 21). No new matter is introduced herein. Support for claims 20 and 21 may be found, for example, at respective Paragraphs [0029] and [0031] of the original specification. Claims 20 and 21 are also patentable over the cited art for at least the same reasons as claim 1 from which they depend.

Conclusion

In view of the amendments and arguments set forth above, the above-identified application is in condition for allowance which action is respectfully requested.

Respectfully submitted,



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JHS/DMG/emp

Attachments: Figure 4 (1 sheets)
Abstract
Substitute Specification

Dated: May 23, 2012

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The Director is hereby authorized to charge or credit Deposit Account No. **18-0350** for any additional fees, or any underpayment or credit for overpayment in connection herewith.

1556441_1

Methods and devices for situation awareness facilitation for a vehicle driver are provided. A method includes receiving a first acoustic signal from outside a vehicle that the driver is in and converting the first acoustic signal into a first acoustic electronic signal; sending the first acoustic electronic signal to a processor; matching the first acoustic electronic signal by the processor to stored reference electronic signals; and sending an acoustic message associated with a matched reference electronic signal to a speaker in the cab of the vehicle.

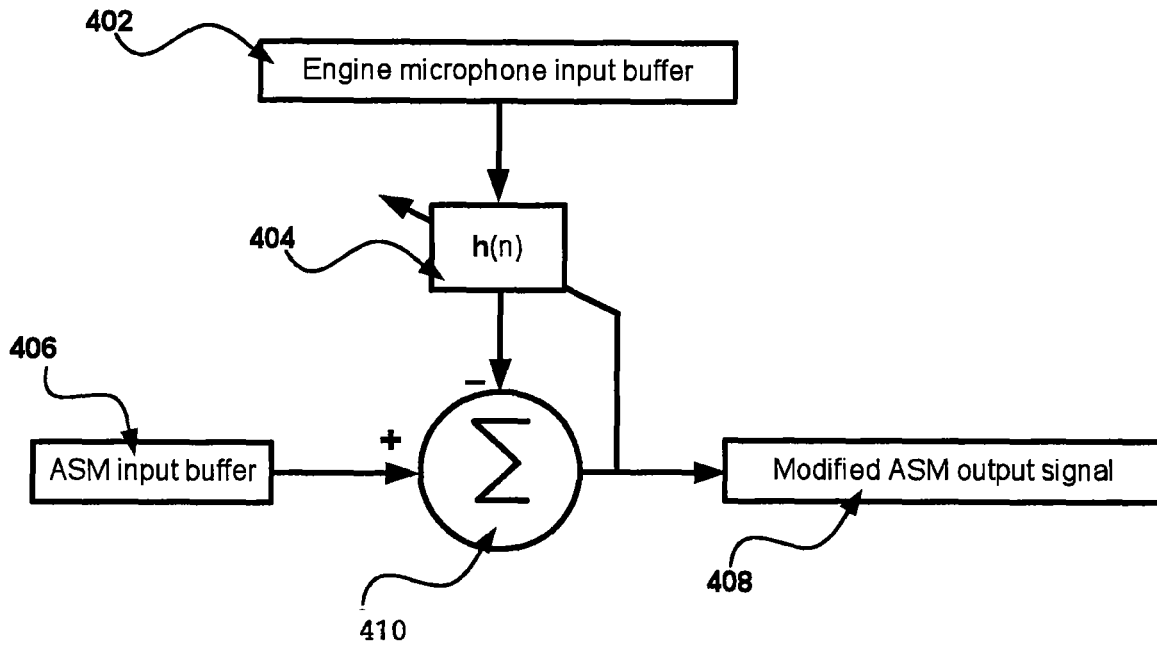


FIG. 4

Substitute Specification**AMBIENT SITUATION AWARENESS SYSTEM AND METHOD
FOR VEHICLES****CROSS-REFERENCE TO RELATED APPLICATIONS**

[0001] This application claims the benefit of U.S. provisional patent application No. 61/074,096 filed 19 June 2008. The disclosure of which is incorporated herein by reference in its entirety.

FIELD OF THE INVENTION

[0002] The present invention relates to devices and methods for ~~pressure measurements in ear canals~~ vehicle situation awareness.

BACKGROUND OF THE INVENTION

[0003] Detection of sirens is discussed by a number of works.

[0004] US patent 5710555 describes: "A siren detection system [controlling] the lights at an intersection to direct traffic [to] permit an emergency vehicle to travel through the intersection unimpeded. The system determines the frequency of the sound emanating from a siren carried by the emergency vehicle by counting pulses that indicate the frequency of the sound, by determining the elapsed time necessary to count a selected number of pulses, and by utilizing the elapsed time and number of pulses counted to determine the frequency of sound emitted by the siren."

[0005] A similar idea is presented in US patent 6980125:

[0006] "A warning light system for a traffic intersection for alerting pedestrians and operators of passenger vehicles to the approach of an emergency vehicle. The warning light system is activated only by sounds in the range of frequencies which are emitted by the siren of an emergency vehicle. The warning light system has a warning light assembly having a control unit, and also has an audio sensor unit. The warning light assembly has a blue light and a white light, which flash alternately and repeatedly, after receipt of an audio signal by the audio sensor unit from the siren of an emergency

vehicle, and processing of that signal by the control unit. The lights of the warning light assembly continuously flash until the sound emitted from the siren is no longer detectable by the audio sensor."

[0007] US patent application US 2005/0074131 A1 describes: "A sound processing system for use in an automotive vehicle of the type which includes at least one door and at least one door-lock comprises at least one sound sensor coupled to the vehicle for receiving a sound external to the vehicle, an alert generator for notifying an occupant of the vehicle when the external sound is an emergency signal, and a door control module coupled to at least one door-lock for unlocking at least one door."

[0008] The above art (except US 2005/0074131 A1) does not suggest how to alert a driver of a vehicle of the presence of an approaching siren (e.g. from an emergency vehicle); or how to alert a driver of a vehicle of the presence of a different sound generated in the vicinity of the car, such as a car horn, or any sound which could be classified with more general parameters, such as a sudden onset sound (or "acute sound").

[0009] This problem is particularly pertinent when drivers are listening to loud music or communications systems such as CB radios, or when operating their vehicle's ventilation system at high fan speeds, any of which may [[-]] mask any warning sounds in the ambient environment.

[0010] US patent application US 2005/0074131 does not teach a method to determine the sound level within a vehicle, nor determine the degree of acoustic isolation of the internal vehicle cabin. The present invention adds this functionality so that the driver alert can be modified to maximize detection and intelligibility of the warning alert. Furthermore, the present invention enables the location of an external sound source (e.g. siren) to be determined by detecting the strength of the detected sound in different ambient sound microphones around the vehicle.

SUMMARY OF THE INVENTION

[0011] At least one exemplary embodiment is directed to a method to detect malfunction of a vehicle subsystem or vehicle accessory (such as a malfunctioning brake caliper on a passenger vehicle or a malfunctioning rotor blade(s) on a combine-harvester). Furthermore, the related art does not teach a method or system to detect a variety of sound ~~characters~~characteristics. The system of the present invention is

directed to detecting at least one of the following examples of "signature sounds": sirens, car horns, "impulsive" sound with a rapid onset time (or "onset rate" e.g. change in sound pressure level of greater than approximately 10 dB per second), sound with a rapid offset stopping time (e.g. greater than approximately 10 dB per ~~second~~second), and sound with a sudden change in tonal quality (e.g. a shift in the spectral kurtosis of a sound, or sudden change in frequency and level of spectral centroid).

[0012] At least one exemplary embodiment is directed to a vehicle situation awareness device comprising: a notification device, where the notification device is configured to emit a first signal; a microphone, where the microphone is configured to measure a second signal, where the second signal is a measurement of at least a first portion of an ambient acoustic signal; and a processor, where at least one sonic signature is identified from at least a second portion of the second signal, and where when the at least one sonic signature is identified an emit signal is sent to the notification device to emit the first signal.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013] Exemplary embodiments of present invention will become more fully understood from the detailed description and the accompanying drawings, wherein:

[0014] Figure 1 illustrates a vehicle ambient sound monitoring system (VASM) ~~exemplary embodiment~~ in accordance with at least one exemplary embodiment;

[0015] Figure 2 illustrates an example of at least one VASM in accordance with at least one exemplary embodiment;

[0016] Figure 3 illustrates at least one exemplary embodiment of the present VASM invention depicting a method to inform the vehicle driver of a detected sound signature in the ambient environment;

[0017] Figure 4 illustrates an exemplary embodiment of the Active Noise Reduction (ANR) system; and

[0018] Figure 5 illustrates the spectrum Doppler shift of an identified sonic signature spectrum.

DETAILED DESCRIPTION OF EXEMPLARY EMBODIMENTS OF THE PRESENT INVENTION

[0019] The following description of exemplary embodiment(s) is merely illustrative in nature and is in no way intended to limit the invention, its application, or uses.

[0020] Processes, techniques, apparatus, and materials as known by one of ordinary skill in the art may not be discussed in detail but are intended to be part of the enabling description where appropriate. For example specific materials may not be listed for achieving each of the targeted properties discussed, however one of ordinary skill would be able, without undue experimentation, to determine the materials needed given the enabling disclosure herein.

[0021] Additionally, exemplary embodiments can be used with digital and non-digital acoustic systems. Additionally various receivers and microphones can be used, for example MEMs transducers, diaphragm transducers, for examples ~~Knowle's~~example Knowles' FG and EG series transducers.

[0022] The following description of exemplary embodiment(s) is merely illustrative in nature and is in no way intended to limit the invention, its application, or uses.

[0023] Exemplary embodiments are directed to or can be operatively used on various vehicles, such as tractors; bulldozers; automobiles; buses; aircraft; and also motorcycle helmets.

[0024] Processes, techniques, apparatus, and materials as known by one of ordinary skill in the art may not be discussed in detail but are intended to be part of the enabling description where appropriate. For example specific computer code may not be listed for achieving each of the steps discussed, however one of ordinary skill would be able, without undue experimentation, to write such code given the enabling disclosure herein. Such code is intended to fall within the scope of at least one exemplary embodiment.

[0025] Notice that similar reference numerals and letters refer to similar items in the following figures, and thus once an item is defined in one figure, it may not be discussed or further defined in the following figures.

[0026] Note that various sonic signature identification methods can be used for example applications 12/035,873 and 11/966,457, the disclosures of which are incorporated herein by reference in their entirety.

EXEMPLARY EMBODIMENTS

[0027] ~~Figures~~Figure 1 illustrates an exemplary embodiment of the Vehicle ambient sound monitoring system (VASM). In this configuration, at least one Ambient Sound

Microphone (ASM) 110 112, 113 are mounted on the exterior of the vehicle 104 and configured to detect sound around the vehicle 104. These microphones can be highly directional, using passive acoustic beam-forming technology (such as "shot-gun" microphones, familiar to those skilled in the art), or alternatively may use active beam-forming techniques using an array of at least ~~[[3]]~~three microphones. This enables the direction (or bearing) of a sound source to be determined. The microphones can be transducer microphones such as Knowles MR series weather proof microphones, WP series, TP series, FB series, and other series microphones or other acoustic energy pickup devices.

[0028] At least one exemplary embodiment of the VASM system 114 comprises the hardware components depicted in figure 2. The VASM detects "signature sounds" with the ASMs 110, 112 (e.g., 202, 206). Examples of "signature sounds" are: -sirens; -car horns; -"impulsive" sound with a rapid onset time (or "onset rate" e.g. change in sound pressure level of greater than approximately 10 dB per second); -sound with a rapid offset stopping time (e.g. greater than 10 dB per second); -sound with a sudden change in tonal quality (e.g. a shift in the spectral kurtosis of a sound, as described in fig. 4); - sound with a rapid slewing (escalation/de-escalation) in frequency, as exemplified by the wail setting on U.S. sirens; -motorcycle ~~engine~~engines.

[0029] The VASM compares at least one predetermined feature with at least one measured feature of at least one ASM signal. When the measured ASM sound characteristic substantially matches (e.g., within +/-5% of the FFT spectrum with a time increment dt) the at least one predetermined feature, for example the VASM system can notify the vehicle driver using at least one of the following non-limiting exemplary alerts: -a visual alert using visual display 106, e.g. a flashing light or text message, which in one exemplary embodiment is projected on to the windscreen of the vehicle, on to a combiner glass on the upper dashboard, or on to the visor panel of a helmet (i.e., a "head-up" ~~display~~); -a haptic alert (tactile display) which imparts a distinct, readily detectable high-frequency vibration to the body of the driver, via one or more vibro-tactile transducers mounted in the seat pan or back, within the steering wheel rim, on the foot pedals, or in the internal cushioning or chin strap of a motorcycle ~~helmet~~; -a sound alert (i.e. "auditory display") using an internal loudspeaker 108 to generate a sound in the vehicle cabin; or in ~~other~~another exemplary embodiment, the sound alert may be reproduced to the vehicle driver using an earphone device. In one exemplary embodiment, the alert is a reproduction of the ASM microphone signal that is

used to detect the signature sound. In another embodiment, the auditory alert is a pre-recorded voice or non-voice message.

[0030] In one exemplary embodiment of the present invention, at least two loudspeakers are used, each being positioned to bias its output to one ear or the other, and the level and/or phasing of the alert signal that is sent to each loudspeaker is automatically adjusted by the VASM to facilitate the localization of the sound source in the ambient environment using spatial sound cues (in one exemplary embodiment, the alert signal may also have a different relative phase in each loudspeaker).

[0031] The internal microphone sensor 116 is configured to detect the sound pressure level (SPL) in decibels and (optionally) the sound spectral profile within the vehicle cabin (or helmet). If the internal cabin SPL is equal to or greater than a predetermined threshold (which in one exemplary embodiment is approximately 80 dB), then the reproduction SPL level of the sound alert, i.e., the "signal," is increased so that it is reproduced at a level greater than the interior cabin SPL, i.e., the "noise," by a predetermined signal-to-noise ratio to insure reliable and rapid detection by the driver.

It will be obvious to one having ordinary skill in the art that ~~said~~ the signal-to-noise ratio can be adjusted to accommodate particular vehicles and particular hearing abilities of individual drivers.

[0032] In yet another exemplary embodiment of the invention, the degree of acoustic isolation of the internal vehicle cabin (or helmet) is determined using at least one internal microphone 116 and at least one ambient microphone 112. The acoustic isolation is determined by analyzing the electronic cross correlation, or alternatively the coherence, between the at least one internal microphone and the at least one ambient microphone. If the absolute correlation or coherence is less than a predetermined threshold, then the cabin is determined to be acoustically isolated. Other methods to determine the degree of acoustic isolation of the interior vehicle cabin may also be used, such as detecting the status of the vehicle windows, doors, and ventilation system, and comparing this status with a predetermined database, e.g. if all windows, doors, and ventilation vents are closed, then the acoustic isolation status may be set to "high", or a corresponding numerical value (e.g. 20 dB).

[0033] Figure 2 depicts an exemplary hardware assembly for the present VASM invention. The assembly comprises the following components: ~~202-206: At~~ at least one ASM 202, 206, a signal of which is converted to a digital signal via the Analog to Digital Converter (ADC) units; ~~At~~ at least one internal microphone 204 to detect sound on the

inside of the vehicle (or motorcycle helmet); ~~[[A]]~~a signal processing unit 214; ~~Computer~~computer readable memory 212; ~~Power~~power supply 208; ~~Visual~~visual display unit 216; and ~~At~~at least one ~~Internal~~internal loudspeaker unit 210, which receives an analog signal that has been converted via a Digital to Analog Converter (DAC).

[0034] Figure 3 depicts an exemplary embodiment of the present VASM invention depicting a method to inform the vehicle driver of a detected sound signature in the ambient environment.

[0035] The ~~system~~method comprises the following steps: accumulating an input ASM buffer of digital audio samples representing the signal from at least one ASM ~~32, step 302.~~ At step 303, OPTIONALLY reducing the level of the vehicle engine noise; wind-noise (i.e. air turbulence generated by the car and microphone); chassis-propagation noise (noise generated by ~~tired~~tire friction and suspension emissions) in the ASM using an Active Noise Reduction (ANR) system. Step 303—this is described in figure 4. In this example embodiment, the ANR subtracts a filtered and time-shifted reference signal 301 (which in one exemplary embodiment, is a signal from a microphone near the vehicle engine, at step 301), from the ASM signal (step 302). Such ANR systems are familiar to those skilled in the art. In one exemplary embodiment, the filter is an adaptive filter updated according to the Least Means Square (LMS) algorithm, ~~Analyzing. The method includes analyzing~~ the input ASM buffer to generate a set of ASM signal characteristics (step 306), and comparing the set of ASM signal characteristics with a predetermined set of characteristics 304 to detect a sound signature if the sets of signal characteristics are substantially similar, ~~Determining. The method also includes determining~~ if a sound signature is detected with a logic unit at step 308, and if it is not, ~~then repeating the process is repeated~~ at step ~~±~~302. The method of detection can use the GMM approach, familiar to those skilled in the art. Alternatively, the method of detection can use the rate of change of the ASM (or modified ASM) signal envelope to detect sudden onsets or offsets, ~~_. If a sound signature is detected at step 308, then determining the SPL in the interior cabin of the vehicle is determined at step 314 using an internal microphone input buffer at step 310,_. If, at step 316, the SPL of the interior cabin of the vehicle is greater than a predetermined threshold 312, AND a sound signature has been detected, then at least one of three alerts are issued: a.) An audible warning 318; b.) A visual warning 320; and c.) A haptic (vibrotactile) warning 321. The vibrotactile mode can be very effective in conveying the locale of a target signal if multiple vibrotactors are used, e.g., one under the front of the thigh in the seat pan cushion (signaling an approach~~

from front), two in the seat back cushion (approach from the back; left right directionality, etc.); ~~furthermore~~. Furthermore, vibrotactors even provide a great opportunity for conveying a speed of approach of the oncoming siren, with the use of a single transducer, ~~but~~by increasing the frequency and/or amplitude of the vibration to coincide with the increasing speed or "closing of the gap" of an approaching emergency vehicle.

[0036] An audible warning can be presented to the driver using at least one loudspeaker in the vehicle cabin, or using earphone devices within a helmet. The direction of the ambient sound, which triggered the warning can be determined using an array of at least ~~[[2]]~~two ASMs mounted on the vehicle, and using active beam-forming techniques, familiar to those skilled in the art, to determine the dominant direction of the sound source. Alternatively, as already mentioned, highly directional ASM microphones (such as "shot-gun" microphones) can be used, and the corresponding direction of the ASM that detected the sound signature with the highest degree of certainty can be used to ascertain the source direction.

[0037] Doppler sound cues can be used to determine ~~to~~a speed and a bearing of approaching vehicles. The Doppler shift rate (in Hz/second) can be estimated by the rate of change of ~~the~~ a strong spectral feature. Once a sonic signature has been identified, key frequency dependencies can be used to obtain a shift in the characteristic spectrum. For example Figure 5 illustrates a stored frequency spectrum of a particular sonic signature in a chosen time frame (e.g., 100 msec) with peak frequencies fp1 to fp6 for a stationary source ($v_s=0$) and a stationary vehicle ($v_o=0$). A particular sonic signature can have the key frequency spectrum shifted due to motion of the sound source ($v_s < > 0$) and/or due to motion of the vehicle ($v_o < > 0$). A frequency shift can be described as

[0038] $fp2n = fp2((v+/-v_o)/(v-/+v_s))$, where the upper sign is used if the source/vehicle move toward each other and the lower sign applies if they are moving apart. If the vehicle motion is isolated using motion devices (e.g., accelerometers, GPS) then v_o can be measured by these devices (e.g., v_{ox} , v_{oy} , v_{oz} , in the respective three directions), and if v (speed of sound) is known, then v_s can be determined after determining the frequency shift from the spectrums.

[0039] When the vehicle is parked or reversing, the ASM signals are reproduced to the internal cabin via the cabin loudspeakers. In one exemplary embodiment, the reproduced ASM signals are first processed with the ANR system described (to remove

masking noise) as in figure 4, thus increasing the situation awareness of the vehicle occupants for local sound sources, such as a child behind the car. In one exemplary configuration, when the car is reversing only the rear ASM signals (e.g. those on the rear bumper) are reproduced, and the spatial cues of the ambient environment can be preserved within the vehicle cabin by reproducing the rear-left ASM signal with the rear-left loudspeaker in the vehicle, and the rear-right ASM signal with the rear-right loudspeaker.

[0040] Figure 4 describes an exemplary embodiment of the Active Noise Reduction (ANR) system 303. In one exemplary embodiment, the engine microphone input buffer 402 is a first input signal from a microphone close to or directly coupled with the vehicle engine. In another exemplary embodiment, this input signal 402 is a signal that has been stored on computer readable memory or automatically generated. The first input signal 402 is filtered by a frequency dependant adaptive filter 404, with filter coefficients $\mathbf{h}(n)$, to produced a filtered signal, where:

[0041] $\mathbf{h}(n)=[h_0, h_{.1} \dots h_{.N}]$.

[0042] The filtered signal is then subtracted from the ASM input buffer 406 via subtractor 410, which in one exemplary embodiment is the signal from one ASM microphone located on the bumper of the vehicle. The resulting modified ASM output signal 408 is then used for the sound signature identification system. The modified ASM output signal 408 is also used to update the adaptive filter coefficients $\mathbf{h}(n)$, which in one exemplary embodiment is updated using the LMS algorithm:

[0043] $\hat{\mathbf{h}}(n+1) = \hat{\mathbf{h}}(n) + \mu \mathbf{x}(n) e^*(n)$

[0044] Where $\mathbf{x}(n)$ is a vector of the samples of the engine microphone input buffer 402; $e(n)$ is a single output sample of the modified ASM output signal 408; and μ is a step size update coefficient.

[0045] At least one exemplary embodiment is directed to localization of the sound source, using either the visual indicator or a multi-channel loudspeaker audio system in the vehicle. Localization can be ascertained in terms of an azimuthal bearing of an ambient sound source. Furthermore, a velocity of an ambient sound source can be reported to the user with Doppler cues.

[0046] The active pass-through of the ASM signal to internal loudspeakers, via the ANR system may be used, to increase situational awareness of the vehicle occupants to local sound sources, such as a human who may be obscured from view behind the vehicle.

[0047] ~~The use of an~~ An ANR system may be used to reduce the engine, chassis, wind or other noise in the ASM signals.

[0048] None of the cited art teach a method to detect malfunction of a vehicle engine or vehicle accessory (such as a malfunctioning rotor blade(s) on a combine-harvester).

[0049] Furthermore, the related art does not teach a method or system to detect a variety of sound ~~characters~~ characteristics. The system of the present invention is directed to detecting at least one of the following examples of "signature sounds": - sirens; -car horns; -"impulsive" sound with a rapid onset time (or "onset rate" e.g. change in sound pressure level of greater than approximately 10 dB per second); - sound with a rapid offset stopping time (e.g. greater than 10 dB per second); -sound with a sudden change in tonal quality (e.g. a shift in the spectral kurtosis of a sound, as described in fig. 4); -sound with a rapid slewing (escalation/de-escalation) in frequency, as exemplified by the wail setting on U.S. sirens; -motorcycle ~~engine~~ engines. The method of detection can use the GMM approach, familiar to those skilled in the art. Alternatively, the method of detection can use the rate of change of the ASM (or modified ASM) signal envelope to detect sudden onsets or offsets. In addition, in at least one exemplary embodiment the method of alerting the vehicle user is modified by the user's ambient sound level (i.e. the sound level of the internal vehicle cabin, or the sound level within the helmet).

[0050] At least one exemplary embodiment is directed to a vehicle situation awareness device comprising: a notification device, where the notification device is configured to emit a first signal; a microphone, where the microphone is configured to measure a second signal, where the second signal is a measurement of at least a first portion of an ambient acoustic signal; and a processor, where at least one sonic signature is identified from at least a second portion of the second signal, and where when the at least one sonic signature is identified an emit signal is sent to the notification device to emit the first signal.

[0051] The notification device can be a speaker (receiver) in the vehicle passenger compartment. For example if a sonic signature is identified and information is available to determine whether it is coming toward the vehicle, an audio signal can be emitted from the speaker (receiver) identifying the source and that the source is approaching

the vehicle and from which direction and at which rate. Additionally the notification device can be a display (e.g., lights, a heads up display, video). For example if an ambulance is identified a visual display in the instrument panel can ~~identify~~identify the location and whether it is approaching (e.g., light for location about a car outline, and red for approaching and green for moving away).

[0052] In at least one exemplary embodiment the notification device is inside the vehicle. For example a speaker in the vehicle cabin, as well as outside (external speaker). In at least one exemplary embodiment the first signal can be an electronic signal sent to the notification device, which in turn then emits an acoustic signal, thus either the electronic signal or acoustic signal can be referred to as an audio signal.

[0053] At least one exemplary embodiment monitors the vehicle's systems (e.g., engines, brakes, window breakage). A microphone can be placed strategically where an acoustic signal can be sampled for sonic signatures, which identify vehicle performance. For example a normal operating engine can be acoustically signaturred (sonic signature model trained to identify a correctly operating engine) then monitored to look for abnormalities in the engine performance. For example a microphone, where the microphone is configured to measure a second signal (e.g., acoustic signal in the engine compartment) where the second signal is a measurement of at least a first portion of a vehicle equipment signal (e.g., the engine acoustic signal). A processor can be used to analyze at least a second portion (e.g., time segment) of the second signal, to identify at least one sonic signature (e.g., non normal engine performance). For example the system can continuously sample for normal performance and upon the lack of detection over a predetermined amount of time (e.g., 1 minute), a warning signal (e.g., emit signal) can be sent to the notification device.

[0054] Note that in at least one exemplary embodiment the notification device can also be a video display, for example a heads up display, an LCD display, an outline of the vehicle with lights around the outline so as to identify detection location, colored labeled lights to identify as well as other visual notification systems as known by one of ordinary skill in the art of notification.

[0055] At least one exemplary embodiment can use a second processor that takes an emit signal (e.g., engine error signal) and send a control signal to the vehicle control system (e.g., engine processor) to modify system operation (e.g., vary fuel/air mixture). Many aspects of the vehicle can be controlled in ~~respond~~response to an emit

signal, for example shifting gears, decreasing power usage, sending a remote signal, operating the windshield wiper, and changing the headlight illumination.

[0056] At least one exemplary embodiment can include a microphone, where the microphone is configured to measure an interior vehicle acoustic signal or an external vehicle acoustic signal where a portion of the measured acoustic signal is used to identify sonic signatures and depending upon the sonic signature an action is taken (e.g., abnormal tire sound, an action to send a warning to the driver) or not taken (e.g., sonic signature is a normal tire operation, then no action is taken).

[0057] In at least one exemplary embodiment the sonic signature is a voice command. For example a user can store his command "open", where if the sonic signature "open" is identified a command is sent to a processor to open the vehicle doors. Similar commands such as "open gas tank", "open door", "start", "alarm", and other such commands can be used to control the vehicle. At least one further exemplary embodiment ~~theto~~ to modify vehicle operation includes one of at least opening a door, opening the trunk, opening the gas tank access panel, opening the hood, turning on the headlights, turning on an audio alarm, and beginning audio recording.

[0058] At least one exemplary embodiment is directed to a method of situation awareness facilitation for a vehicle driver comprising: receiving a first acoustic signal from outside a vehicle that the driver is in and converting the first acoustic signal into a first acoustic electronic signal; sending the first acoustic electronic signal to a processor; matching the first acoustic electronic signal by the processor to stored reference electronic signals; and sending an acoustic message associated with a matched reference electronic signal to a speaker in the ~~cab~~cabin of the vehicle.

[0059] While the present invention has been described with reference to exemplary embodiments, it is to be understood that the invention is not limited to the disclosed exemplary embodiments. The scope of the following claims is to be accorded the broadest interpretation so as to encompass all modifications, equivalent structures and functions of the relevant exemplary embodiments. For example, if words such as "orthogonal", "perpendicular" are used the intended meaning is "substantially orthogonal" and "substantially perpendicular" respectively. Additionally although specific numbers may be quoted in the claims, it is intended that a number close to the one stated is also within the intended scope, i.e. any stated number (e.g., 20 mils) should be interpreted to be "about" the value of the stated number (e.g., about 20 mils).

[0060] Thus, the description of the invention is merely exemplary in nature and, thus, variations that do not depart from the gist of the invention are intended to be within the scope of the exemplary embodiments of the present invention. Such variations are not to be regarded as a departure from the spirit and scope of the present invention.

Clean Specification

AMBIENT SITUATION AWARENESS SYSTEM AND METHOD FOR VEHICLES

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims the benefit of U.S. provisional patent application No. 61/074,096 filed 19 June 2008. The disclosure of which is incorporated herein by reference in its entirety.

FIELD OF THE INVENTION

[0002] The present invention relates to devices and methods for vehicle situation awareness.

BACKGROUND OF THE INVENTION

[0003] Detection of sirens is discussed by a number of works.

[0004] US patent 5710555 describes: "A siren detection system [controlling] the lights at an intersection to direct traffic [to] permit an emergency vehicle to travel through the intersection unimpeded. The system determines the frequency of the sound emanating from a siren carried by the emergency vehicle by counting pulses that indicate the frequency of the sound, by determining the elapsed time necessary to count a selected number of pulses, and by utilizing the elapsed time and number of pulses counted to determine the frequency of sound emitted by the siren."

[0005] A similar idea is presented in US patent 6980125:

[0006] "A warning light system for a traffic intersection for alerting pedestrians and operators of passenger vehicles to the approach of an emergency vehicle. The warning light system is activated only by sounds in the range of frequencies which are emitted by the siren of an emergency vehicle. The warning light system has a warning light assembly having a control unit, and also has an audio sensor unit. The warning light assembly has a blue light and a white light, which flash alternately and repeatedly, after receipt of an audio signal by the audio sensor unit from the siren of an emergency

vehicle, and processing of that signal by the control unit. The lights of the warning light assembly continuously flash until the sound emitted from the siren is no longer detectable by the audio sensor."

[0007] US patent application US 2005/0074131 A1 describes: "A sound processing system for use in an automotive vehicle of the type which includes at least one door and at least one door-lock comprises at least one sound sensor coupled to the vehicle for receiving a sound external to the vehicle, an alert generator for notifying an occupant of the vehicle when the external sound is an emergency signal, and a door control module coupled to at least one door-lock for unlocking at least one door."

[0008] The above art (except US 2005/0074131 A1) does not suggest how to alert a driver of a vehicle of the presence of an approaching siren (e.g. from an emergency vehicle); or how to alert a driver of a vehicle of the presence of a different sound generated in the vicinity of the car, such as a car horn, or any sound which could be classified with more general parameters, such as a sudden onset sound (or "acute sound").

[0009] This problem is particularly pertinent when drivers are listening to loud music or communications systems such as CB radios, or when operating their vehicle's ventilation system at high fan speeds, any of which may mask any warning sounds in the ambient environment.

[0010] US patent application US 2005/0074131 does not teach a method to determine the sound level within a vehicle, nor determine the degree of acoustic isolation of the internal vehicle cabin. The present invention adds this functionality so that the driver alert can be modified to maximize detection and intelligibility of the warning alert. Furthermore, the present invention enables the location of an external sound source (e.g. siren) to be determined by detecting the strength of the detected sound in different ambient sound microphones around the vehicle.

SUMMARY OF THE INVENTION

[0011] At least one exemplary embodiment is directed to a method to detect malfunction of a vehicle subsystem or vehicle accessory (such as a malfunctioning brake caliper on a passenger vehicle or a malfunctioning rotor blade(s) on a combine-harvester). Furthermore, the related art does not teach a method or system to detect a variety of sound characteristics. The system of the present invention is directed to

detecting at least one of the following examples of "signature sounds": sirens, car horns, "impulsive" sound with a rapid onset time (or "onset rate" e.g. change in sound pressure level of greater than approximately 10 dB per second), sound with a rapid offset stopping time (e.g. greater than approximately 10 dB per second), and sound with a sudden change in tonal quality (e.g. a shift in the spectral kurtosis of a sound, or sudden change in frequency and level of spectral centroid).

[0012] At least one exemplary embodiment is directed to a vehicle situation awareness device comprising: a notification device, where the notification device is configured to emit a first signal; a microphone, where the microphone is configured to measure a second signal, where the second signal is a measurement of at least a first portion of an ambient acoustic signal; and a processor, where at least one sonic signature is identified from at least a second portion of the second signal, and where when the at least one sonic signature is identified an emit signal is sent to the notification device to emit the first signal.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013] Exemplary embodiments of present invention will become more fully understood from the detailed description and the accompanying drawings, wherein:

[0014] Figure 1 illustrates a vehicle ambient sound monitoring system (VASM) in accordance with at least one exemplary embodiment;

[0015] Figure 2 illustrates an example of at least one VASM in accordance with at least one exemplary embodiment;

[0016] Figure 3 illustrates at least one exemplary embodiment of the present VASM invention depicting a method to inform the vehicle driver of a detected sound signature in the ambient environment;

[0017] Figure 4 illustrates an exemplary embodiment of the Active Noise Reduction (ANR) system; and

[0018] Figure 5 illustrates the spectrum Doppler shift of an identified sonic signature spectrum.

DETAILED DESCRIPTION OF EXEMPLARY EMBODIMENTS OF THE PRESENT INVENTION

[0019] The following description of exemplary embodiment(s) is merely illustrative in nature and is in no way intended to limit the invention, its application, or uses.

[0020] Processes, techniques, apparatus, and materials as known by one of ordinary skill in the art may not be discussed in detail but are intended to be part of the enabling description where appropriate. For example specific materials may not be listed for achieving each of the targeted properties discussed, however one of ordinary skill would be able, without undue experimentation, to determine the materials needed given the enabling disclosure herein.

[0021] Additionally, exemplary embodiments can be used with digital and non-digital acoustic systems. Additionally various receivers and microphones can be used, for example MEMs transducers, diaphragm transducers, for example Knowles' FG and EG series transducers.

[0022] The following description of exemplary embodiment(s) is merely illustrative in nature and is in no way intended to limit the invention, its application, or uses.

[0023] Exemplary embodiments are directed to or can be operatively used on various vehicles, such as tractors; bulldozers; automobiles; buses; aircraft; and also motorcycle helmets.

[0024] Processes, techniques, apparatus, and materials as known by one of ordinary skill in the art may not be discussed in detail but are intended to be part of the enabling description where appropriate. For example specific computer code may not be listed for achieving each of the steps discussed, however one of ordinary skill would be able, without undue experimentation, to write such code given the enabling disclosure herein. Such code is intended to fall within the scope of at least one exemplary embodiment.

[0025] Notice that similar reference numerals and letters refer to similar items in the following figures, and thus once an item is defined in one figure, it may not be discussed or further defined in the following figures.

[0026] Note that various sonic signature identification methods can be used for example applications 12/035,873 and 11/966,457, the disclosures of which are incorporated herein by reference in their entirety.

EXEMPLARY EMBODIMENTS

[0027] Figure 1 illustrates an exemplary embodiment of the Vehicle ambient sound monitoring system (VASM). In this configuration, at least one Ambient Sound

Microphone (ASM) 110 112, 113 are mounted on the exterior of the vehicle 104 and configured to detect sound around the vehicle 104. These microphones can be highly directional, using passive acoustic beam-forming technology (such as "shot-gun" microphones, familiar to those skilled in the art), or alternatively may use active beam-forming techniques using an array of at least three microphones. This enables the direction (or bearing) of a sound source to be determined. The microphones can be transducer microphones such as Knowles MR series weather proof microphones, WP series, TP series, FB series, and other series microphones or other acoustic energy pickup devices.

[0028] At least one exemplary embodiment of the VASM system 114 comprises the hardware components depicted in figure 2. The VASM detects "signature sounds" with the ASMs 110, 112 (e.g., 202, 206). Examples of "signature sounds" are: -sirens; -car horns; -"impulsive" sound with a rapid onset time (or "onset rate" e.g. change in sound pressure level of greater than approximately 10 dB per second); -sound with a rapid offset stopping time (e.g. greater than 10 dB per second); -sound with a sudden change in tonal quality (e.g. a shift in the spectral kurtosis of a sound, as described in fig. 4); - sound with a rapid slewing (escalation/de-escalation) in frequency, as exemplified by the wail setting on U.S. sirens; -motorcycle engines.

[0029] The VASM compares at least one predetermined feature with at least one measured feature of at least one ASM signal. When the measured ASM sound characteristic substantially matches (e.g., within +/-5% of the FFT spectrum with a time increment dt) the at least one predetermined feature, for example the VASM system can notify the vehicle driver using at least one of the following non-limiting exemplary alerts: -a visual alert using visual display 106, e.g. a flashing light or text message, which in one exemplary embodiment is projected on to the windscreen of the vehicle, on to a combiner glass on the upper dashboard, or on to the visor panel of a helmet (i.e., a "head-up" display); -a haptic alert (tactile display) which imparts a distinct, readily detectable high-frequency vibration to the body of the driver, via one or more vibro-tactile transducers mounted in the seat pan or back, within the steering wheel rim, on the foot pedals, or in the internal cushioning or chin strap of a motorcycle helmet; -a sound alert (i.e. "auditory display") using an internal loudspeaker 108 to generate a sound in the vehicle cabin; or in another exemplary embodiment, the sound alert may be reproduced to the vehicle driver using an earphone device. In one exemplary embodiment, the alert is a reproduction of the ASM microphone signal that is used to

detect the signature sound. In another embodiment, the auditory alert is a pre-recorded voice or non-voice message.

[0030] In one exemplary embodiment of the present invention, at least two loudspeakers are used, each being positioned to bias its output to one ear or the other, and the level and/or phasing of the alert signal that is sent to each loudspeaker is automatically adjusted by the VASM to facilitate the localization of the sound source in the ambient environment using spatial sound cues (in one exemplary embodiment, the alert signal may also have a different relative phase in each loudspeaker).

[0031] The internal microphone sensor 116 is configured to detect the sound pressure level (SPL) in decibels and (optionally) the sound spectral profile within the vehicle cabin (or helmet). If the internal cabin SPL is equal to or greater than a predetermined threshold (which in one exemplary embodiment is approximately 80 dB), then the reproduction SPL level of the sound alert, i.e., the "signal," is increased so that it is reproduced at a level greater than the interior cabin SPL, i.e., the "noise," by a predetermined signal-to-noise ratio to insure reliable and rapid detection by the driver. It will be obvious to one having ordinary skill in the art that the signal-to-noise ratio can be adjusted to accommodate particular vehicles and particular hearing abilities of individual drivers.

[0032] In yet another exemplary embodiment of the invention, the degree of acoustic isolation of the internal vehicle cabin (or helmet) is determined using at least one internal microphone 116 and at least one ambient microphone 112. The acoustic isolation is determined by analyzing the electronic cross correlation, or alternatively the coherence, between the at least one internal microphone and the at least one ambient microphone. If the absolute correlation or coherence is less than a predetermined threshold, then the cabin is determined to be acoustically isolated. Other methods to determine the degree of acoustic isolation of the interior vehicle cabin may also be used, such as detecting the status of the vehicle windows, doors, and ventilation system, and comparing this status with a predetermined database, e.g. if all windows, doors, and ventilation vents are closed, then the acoustic isolation status may be set to "high", or a corresponding numerical value (e.g. 20 dB).

[0033] Figure 2 depicts an exemplary hardware assembly for the present VASM invention. The assembly comprises the following components: at least one ASM 202, 206, a signal of which is converted to a digital signal via the Analog to Digital Converter (ADC) units; at least one internal microphone 204 to detect sound on the inside of the

vehicle (or motorcycle helmet); a signal processing unit 214; computer readable memory 212; power supply 208; visual display unit 216; and at least one internal loudspeaker unit 210, which receives an analog signal that has been converted via a Digital to Analog Converter (DAC).

[0034] Figure 3 depicts an exemplary embodiment of the present VASM invention depicting a method to inform the vehicle driver of a detected sound signature in the ambient environment.

[0035] The method comprises the following steps: accumulating an input ASM buffer of digital audio samples representing the signal from at least one ASM, step 302. At step 303, OPTIONALLY reducing the level of the vehicle engine noise; wind-noise (i.e. air turbulence generated by the car and microphone); chassis-propagation noise (noise generated by tire friction and suspension emissions) in the ASM using an Active Noise Reduction (ANR) system. Step 303 is described in figure 4. In this example embodiment, the ANR subtracts a filtered and time-shifted reference signal (which in one exemplary embodiment, is a signal from a microphone near the vehicle engine, at step 301), from the ASM signal (step 302). Such ANR systems are familiar to those skilled in the art. In one exemplary embodiment, the filter is an adaptive filter updated according to the Least Means Square (LMS) algorithm. The method includes analyzing the input ASM buffer to generate a set of ASM signal characteristics (step 306), and comparing the set of ASM signal characteristics with a predetermined set of characteristics 304 to detect a sound signature if the sets of signal characteristics are substantially similar. The method also includes determining if a sound signature is detected with a logic unit at step 308, and if it is not, the process is repeated at step 302. The method of detection can use the GMM approach, familiar to those skilled in the art. Alternatively, the method of detection can use the rate of change of the ASM (or modified ASM) signal envelope to detect sudden onsets or offsets. If a sound signature is detected at step 308, then the SPL in the interior cabin of the vehicle is determined at step 314 using an internal microphone input buffer at step 310. If, at step 316, the SPL of the interior cabin of the vehicle is greater than a predetermined threshold 312, AND a sound signature has been detected, then at least one of three alerts are issued: a.) An audible warning 318; b.) A visual warning 320; and c.) A haptic (vibrotactile) warning 321. The vibrotactile mode can be very effective in conveying the locale of a target signal if multiple vibrotactors are used, e.g., one under the front of the thigh in the seat pan cushion (signaling an approach from front), two in the seat back cushion (approach

from the back; left right directionality, etc.). Furthermore, vibrotactors provide a great opportunity for conveying a speed of approach of the oncoming siren, with the use of a single transducer, by increasing the frequency and/or amplitude of the vibration to coincide with the increasing speed or "closing of the gap" of an approaching emergency vehicle.

[0036] An audible warning can be presented to the driver using at least one loudspeaker in the vehicle cabin, or using earphone devices within a helmet. The direction of the ambient sound, which triggered the warning can be determined using an array of at least two ASMs mounted on the vehicle, and using active beam-forming techniques, familiar to those skilled in the art, to determine the dominant direction of the sound source. Alternatively, as already mentioned, highly directional ASM microphones (such as "shot-gun" microphones) can be used, and the corresponding direction of the ASM that detected the sound signature with the highest degree of certainty can be used to ascertain the source direction.

[0037] Doppler sound cues can be used to determine a speed and a bearing of approaching vehicles. The Doppler shift rate (in Hz/second) can be estimated by the rate of change of a strong spectral feature. Once a sonic signature has been identified, key frequency dependencies can be used to obtain a shift in the characteristic spectrum. For example Figure 5 illustrates a stored frequency spectrum of a particular sonic signature in a chosen time frame (e.g., 100 msec) with peak frequencies fp1 to fp6 for a stationary source ($v_s=0$) and a stationary vehicle ($v_o=0$). A particular sonic signature can have the key frequency spectrum shifted due to motion of the sound source ($v_s < > 0$) and/or due to motion of the vehicle ($v_o < > 0$). A frequency shift can be described as

[0038] $fp_{2n} = fp_2((v \pm v_o)/(v \mp v_s))$, where the upper sign is used if the source/vehicle move toward each other and the lower sign applies if they are moving apart. If the vehicle motion is isolated using motion devices (e.g., accelerometers, GPS) then v_o can be measured by these devices (e.g., v_{ox} , v_{oy} , v_{oz} , in the respective three directions), and if v (speed of sound) is known, then v_s can be determined after determining the frequency shift from the spectrums.

[0039] When the vehicle is parked or reversing, the ASM signals are reproduced to the internal cabin via the cabin loudspeakers. In one exemplary embodiment, the reproduced ASM signals are first processed with the ANR system described (to remove masking noise) as in figure 4, thus increasing the situation awareness of the vehicle

occupants for local sound sources, such as a child behind the car. In one exemplary configuration, when the car is reversing only the rear ASM signals (e.g. those on the rear bumper) are reproduced, and the spatial cues of the ambient environment can be preserved within the vehicle cabin by reproducing the rear-left ASM signal with the rear-left loudspeaker in the vehicle, and the rear-right ASM signal with the rear-right loudspeaker.

[0040] Figure 4 describes an exemplary embodiment of the Active Noise Reduction (ANR) system 303. In one exemplary embodiment, the engine microphone input buffer 402 is a first input signal from a microphone close to or directly coupled with the vehicle engine. In another exemplary embodiment, this input signal 402 is a signal that has been stored on computer readable memory or automatically generated. The first input signal 402 is filtered by a frequency dependant adaptive filter 404, with filter coefficients $\mathbf{h}(n)$, to produced a filtered signal, where:

[0041] $\mathbf{h}(n)=[h_0, h_{.1} \dots h_{.N}]$.

[0042] The filtered signal is then subtracted from the ASM input buffer 406 via subtractor 410, which in one exemplary embodiment is the signal from one ASM microphone located on the bumper of the vehicle. The resulting modified ASM output signal 408 is then used for the sound signature identification system. The modified ASM output signal 408 is also used to update the adaptive filter coefficients $\mathbf{h}(n)$, which in one exemplary embodiment is updated using the LMS algorithm:

[0043] $\hat{\mathbf{h}}(n + 1) = \hat{\mathbf{h}}(n) + \mu \mathbf{x}(n) e^*(n)$

[0044] Where $\mathbf{x}(n)$ is a vector of the samples of the engine microphone input buffer 402; $e(n)$ is a single output sample of the modified ASM output signal 408; and μ is a step size update coefficient.

[0045] At least one exemplary embodiment is directed to localization of the sound source, using either the visual indicator or a multi-channel loudspeaker audio system in the vehicle. Localization can be ascertained in terms of an azimuthal bearing of an ambient sound source. Furthermore, a velocity of an ambient sound source can be reported to the user with Doppler cues.

[0046] The active pass-through of the ASM signal to internal loudspeakers, via the ANR system may be used, to increase situational awareness of the vehicle occupants to local sound sources, such as a human who may be obscured from view behind the vehicle.

[0047] An ANR system may be used to reduce the engine, chassis, wind or other noise in the ASM signals.

[0048] None of the cited art teach a method to detect malfunction of a vehicle engine or vehicle accessory (such as a malfunctioning rotor blade(s) on a combine-harvester).

[0049] Furthermore, the related art does not teach a method or system to detect a variety of sound characteristics. The system of the present invention is directed to detecting at least one of the following examples of "signature sounds": -sirens; -car horns; -"impulsive" sound with a rapid onset time (or "onset rate" e.g. change in sound pressure level of greater than approximately 10 dB per second); -sound with a rapid offset stopping time (e.g. greater than 10 dB per second); -sound with a sudden change in tonal quality (e.g. a shift in the spectral kurtosis of a sound, as described in fig. 4); - sound with a rapid slewing (escalation/de-escalation) in frequency, as exemplified by the wail setting on U.S. sirens; -motorcycle engines. The method of detection can use the GMM approach, familiar to those skilled in the art. Alternatively, the method of detection can use the rate of change of the ASM (or modified ASM) signal envelope to detect sudden onsets or offsets. In addition, in at least one exemplary embodiment the method of alerting the vehicle user is modified by the user's ambient sound level (i.e. the sound level of the internal vehicle cabin, or the sound level within the helmet).

[0050] At least one exemplary embodiment is directed to a vehicle situation awareness device comprising: a notification device, where the notification device is configured to emit a first signal; a microphone, where the microphone is configured to measure a second signal, where the second signal is a measurement of at least a first portion of an ambient acoustic signal; and a processor, where at least one sonic signature is identified from at least a second portion of the second signal, and where when the at least one sonic signature is identified an emit signal is sent to the notification device to emit the first signal.

[0051] The notification device can be a speaker (receiver) in the vehicle passenger compartment. For example if a sonic signature is identified and information is available to determine whether it is coming toward the vehicle, an audio signal can be emitted from the speaker (receiver) identifying the source and that the source is approaching the vehicle and from which direction and at which rate. Additionally the notification

device can be a display (e.g., lights, a heads up display, video). For example if an ambulance is identified a visual display in the instrument panel can identify the location and whether it is approaching (e.g., light for location about a car outline, and red for approaching and green for moving away).

[0052] In at least one exemplary embodiment the notification device is inside the vehicle. For example a speaker in the vehicle cabin, as well as outside (external speaker). In at least one exemplary embodiment the first signal can be an electronic signal sent to the notification device, which in turn then emits an acoustic signal, thus either the electronic signal or acoustic signal can be referred to as an audio signal.

[0053] At least one exemplary embodiment monitors the vehicle's systems (e.g., engines, brakes, window breakage). A microphone can be placed strategically where an acoustic signal can be sampled for sonic signatures, which identify vehicle performance. For example a normal operating engine can be acoustically signatored (sonic signature model trained to identify a correctly operating engine) then monitored to look for abnormalities in the engine performance. For example a microphone, where the microphone is configured to measure a second signal (e.g., acoustic signal in the engine compartment) where the second signal is a measurement of at least a first portion of a vehicle equipment signal (e.g., the engine acoustic signal). A processor can be used to analyze at least a second portion (e.g., time segment) of the second signal, to identify at least one sonic signature (e.g., non normal engine performance). For example the system can continuously sample for normal performance and upon the lack of detection over a predetermined amount of time (e.g., 1 minute), a warning signal (e.g., emit signal) can be sent to the notification device.

[0054] Note that in at least one exemplary embodiment the notification device can also be a video display, for example a heads up display, an LCD display, an outline of the vehicle with lights around the outline so as to identify detection location, colored labeled lights to identify as well as other visual notification systems as known by one of ordinary skill in the art of notification.

[0055] At least one exemplary embodiment can use a second processor that takes an emit signal (e.g., engine error signal) and send a control signal to the vehicle control system (e.g., engine processor) to modify system operation (e.g., vary fuel/air mixture). Many aspects of the vehicle can be controlled in response to an emit signal, for example shifting gears, decreasing power usage, sending a remote signal, operating the windshield wiper, and changing the headlight illumination.

[0056] At least one exemplary embodiment can include a microphone, where the microphone is configured to measure an interior vehicle acoustic signal or an external vehicle acoustic signal where a portion of the measured acoustic signal is used to identify sonic signatures and depending upon the sonic signature an action is taken (e.g., abnormal tire sound, an action to send a warning to the driver) or not taken (e.g., sonic signature is a normal tire operation, then no action is taken).

[0057] In at least one exemplary embodiment the sonic signature is a voice command. For example a user can store his command "open", where if the sonic signature "open" is identified a command is sent to a processor to open the vehicle doors. Similar commands such as "open gas tank", "open door", "start", "alarm", and other such commands can be used to control the vehicle. At least one further exemplary embodiment to modify vehicle operation includes one of at least opening a door, opening the trunk, opening the gas tank access panel, opening the hood, turning on the headlights, turning on an audio alarm, and beginning audio recording.

[0058] At least one exemplary embodiment is directed to a method of situation awareness facilitation for a vehicle driver comprising: receiving a first acoustic signal from outside a vehicle that the driver is in and converting the first acoustic signal into a first acoustic electronic signal; sending the first acoustic electronic signal to a processor; matching the first acoustic electronic signal by the processor to stored reference electronic signals; and sending an acoustic message associated with a matched reference electronic signal to a speaker in the cabin of the vehicle.

[0059] While the present invention has been described with reference to exemplary embodiments, it is to be understood that the invention is not limited to the disclosed exemplary embodiments. The scope of the following claims is to be accorded the broadest interpretation so as to encompass all modifications, equivalent structures and functions of the relevant exemplary embodiments. For example, if words such as "orthogonal", "perpendicular" are used the intended meaning is "substantially orthogonal" and "substantially perpendicular" respectively. Additionally although specific numbers may be quoted in the claims, it is intended that a number close to the one stated is also within the intended scope, i.e. any stated number (e.g., 20 mils) should be interpreted to be "about" the value of the stated number (e.g., about 20 mils).

[0060] Thus, the description of the invention is merely exemplary in nature and, thus, variations that do not depart from the gist of the invention are intended to be within the

scope of the exemplary embodiments of the present invention. Such variations are not to be regarded as a departure from the spirit and scope of the present invention.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appln. No: 12/487,639
Applicant: John P. Keady et al.
Filed: June 18, 2009
Title: AMBIENT SITUATION AWARENESS SYTSEM AND METHOD FOR VEHICLES
TC/A.U.: 2612
Examiner: Donnie L. Crosland
Confirmation No.: 7584

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Pursuant to 37 C.F.R. §§ 1.97 and 1.98 and to the duty of disclosure set forth in 37 C.F.R. § 1.56, the Examiner in charge of the above-identified application is requested to consider and make of record the references listed on the PTO/SB/08a (and/or PTO/SB/08b) form submitted herewith. A copy of each reference listed on the PTO/SB/08a (and/or PTO/SB/08b) form, other than U.S. patents, is enclosed.

Although the information submitted herewith may be "material" to the Examiner's consideration of the subject application, this submission is not intended to constitute an admission that such information is "prior art" as to the claimed invention.

In accordance with 37 C.F.R. § 1.97(g), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made.

More than three months have elapsed since the filing of the above-referenced application and a first (non-Final) Official Action has been received. No Final Action or Notice of Allowance has yet been received and it is presumed that none has yet been mailed. Accordingly, the required fee set forth in 37 C.F.R. § 1.17(p) is provided herewith.

Respectfully submitted,



Jonathan H. Spadt, Reg. No. 45,122
Attorney for Applicants
Deborah M. Grove, Reg. No. 61,091
Patent Agent for Applicants

JHS/DMG/emp

Enclosures: PTO/SB/08a (and/or PTO/SB/08b)
(2) References

Dated: May 23, 2012

☒ P.O. Box 980
Valley Forge, PA 19482
(610) 407-0700

The Director is hereby authorized to charge or credit Deposit
Account No. **18-0350** for any additional fees, or any underpayment
or credit for overpayment in connection herewith.

1555806_1

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875					Application or Docket Number 12/487,639		Filing Date 06/18/2009		☐ To be Mailed	
APPLICATION AS FILED – PART I										
(Column 1)			(Column 2)			SMALL ENTITY ☒ OR		OTHER THAN SMALL ENTITY		
FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)	OR	RATE (\$)	FEE (\$)			
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A				
☐ SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A			N/A				
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A				
TOTAL CLAIMS (37 CFR 1.16(j))	minus 20 =	*	X \$	=	OR	X \$	=			
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$	=		X \$	=			
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).									
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))										
* If the difference in column 1 is less than zero, enter "0" in column 2.										
APPLICATION AS AMENDED – PART II										
(Column 1)			(Column 2)			SMALL ENTITY OR		OTHER THAN SMALL ENTITY		
AMENDMENT	05/23/2012	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR	RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	* 15	Minus	** 20	= 0	X \$30 =	0	OR	X \$	=
	Independent (37 CFR 1.16(h))	* 4	Minus	***4	= 0	X \$125 =	0	OR	X \$	=
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE	0	OR	TOTAL ADD'L FEE	
(Column 1)			(Column 2)			SMALL ENTITY OR		OTHER THAN SMALL ENTITY		
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR	RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$	=	OR	X \$	=
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$	=	OR	X \$	=
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.										

Legal Instrument Examiner:
/THUY TA/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

71158 7590 07/16/2012
RatnerPrestia
P.O. Box 980
Valley Forge, PA 19482

EXAMINER

CROSLAND, DONNIE L

ART UNIT

PAPER NUMBER

2612

DATE MAILED: 07/16/2012

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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12/487,639

06/18/2009

John Patrick Keady

PRS-157US
(PERS-0049US)

7584

TITLE OF INVENTION: AMBIENT SITUATION AWARENESS SYSTEM AND METHOD FOR VEHICLES

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	\$870	\$300	\$0	\$1170	10/16/2012

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

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

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

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

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or **Fax** (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

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

71158 7590 07/16/2012
RatnerPrestia
P.O. Box 980
Valley Forge, PA 19482

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

12/487,639 06/18/2009 John Patrick Keady PRS-157US 7584

(PERS-0049US)

TITLE OF INVENTION: AMBIENT SITUATION AWARENESS SYSTEM AND METHOD FOR VEHICLES

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	\$870	\$300	\$0	\$1170	10/16/2012

EXAMINER	ART UNIT	CLASS-SUBCLASS
CROSLAND, DONNIE L	2612	340-438000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

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

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
☐ Publication Fee (No small entity discount permitted)
☐ Advance Order - # of Copies _____

4b. Payment of Fee(s); (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
☐ Payment by credit card. Form PTO-2038 is attached.
☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
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Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/487,639	06/18/2009	John Patrick Keady	PRS-157US (PERS-0049US)	7584
71158	7590	07/16/2012	EXAMINER	
RatnerPrestia P.O. Box 980 Valley Forge, PA 19482			CROSLAND, DONNIE L	
			ART UNIT	PAPER NUMBER
			2612	
DATE MAILED: 07/16/2012				

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 554 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 554 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No.		Applicant(s)	
	12/487,639		KEADY ET AL.	
	Examiner		Art Unit	
	DONNIE CROSLAND		2612	

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

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to communication filed 5-23-12.

2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.

3. ☒ The allowed claim(s) is/are 1-3,6-9,13-16 and 18-21.

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

a) ☐ All b) ☐ Some* c) ☐ None of the:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: ____.

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

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date ____.

 (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892) 2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948) 3. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date ____ 4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material	5. ☐ Notice of Informal Patent Application 6. ☐ Interview Summary (PTO-413), Paper No./Mail Date ____ 7. ☐ Examiner's Amendment/Comment 8. ☐ Examiner's Statement of Reasons for Allowance 9. ☐ Other ____
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/DONNIE L. CROSLAND/ Primary Examiner, Art Unit 2612	
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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	3114	340/438.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/07/10 15:04
L2	83	340/426.26.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/07/10 15:06
L3	55	340/426.27.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/07/10 15:06
L4	2295	340/425.5.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/07/10 15:06
L5	319	340/943.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/07/10 15:06
L6	101	340/446.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/07/10 15:06
L7	809	340/566.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/07/10 15:07
L8	322	367/197.ccls.	US-PGPUB;	OR	ON	2012/07/10

			USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			15:07
L9	216	367/198.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/07/10 15:07
L10	205	367/199.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/07/10 15:07
L11	1024	381/56.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/07/10 15:07
L12	489	381/57.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/07/10 15:07
L13	1348	381/86.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/07/10 15:07
L14	689	381/122.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/07/10 15:07
L15	300	1 AND MICROPHONE	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:19
L16	12	2 AND MICROPHONE	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	2012/07/10 15:19

			IBM_TDB			
L17	10	3 AND MICROPHONE	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:19
L18	317	4 AND MICROPHONE	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:20
L19	37	5 AND MICROPHONE	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:21
L20	18	6 AND MICROPHONE	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:21
L21	198	7 AND MICROPHONE	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:21
L22	102	8 AND MICROPHONE	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:21
L23	131	9 AND MICROPHONE	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:21
L24	80	10 AND MICROPHONE	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:21
L25	606	11 AND MICROPHONE	US-PGPUB; USPAT; USOCR; FPRS; EPO;	OR	OFF	2012/07/10 15:21

			JPO; DERWENT; IBM_TDB			
L26	344	12 AND MICROPHONE	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:21
L27	519	13 AND MICROPHONE	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:21
L28	649	14 AND MICROPHONE	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:21
L29	13	15 and sound near4 pressure	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:22
L30	0	16 and sound near4 pressure	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:22
L31	2	17 and sound near4 pressure	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:22
L32	17	18 and sound near4 pressure	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:22
L33	5	19 and sound near4 pressure	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:23
L34	4	20 and sound near4 pressure	US-PGPUB; USPAT;	OR	OFF	2012/07/10 15:23

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L35	29	21 and sound near4 pressure	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:23
L36	6	22 and sound near4 pressure	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:23
L37	5	23 and sound near4 pressure	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:23
L38	6	24 and sound near4 pressure	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:23
L39	147	25 and sound near4 pressure	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:23
L40	83	26 and sound near4 pressure	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:23
L41	94	27 and sound near4 pressure	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:23
L42	134	28 and sound near4 pressure	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:23

L43	13	29 and vehicle	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:25
L44	0	30 and vehicle	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:26
L45	2	31 and vehicle	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:26
L46	17	32 and vehicle	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:26
L47	5	33 and vehicle	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:26
L48	4	34 and vehicle	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:26
L49	8	35 and vehicle	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:26
L50	2	36 and vehicle	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:26
L51	0	37 and vehicle	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2012/07/10 15:26

			DERWENT; IBM_TDB			
L52	1	38 and vehicle	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:26
L53	24	39 and vehicle	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:26
L54	21	40 and vehicle	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:26
L55	87	41 and vehicle	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:26
L56	18	42 and vehicle	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:26
L57	9	43 and ambient	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:27
L58	0	45 and ambient	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:27
L59	12	46 and ambient	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:27
L60	2	47 and ambient	US-PGPUB; USPAT; USOCR;	OR	OFF	2012/07/10 15:27

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
L61	1	48 and ambient	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:27
L62	4	49 and ambient	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:27
L63	0	50 and ambient	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:28
L64	1	52 and ambient	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:28
L65	11	53 and ambient	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:28
L66	15	54 and ambient	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:28
L67	32	55 and ambient	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:28
L68	6	56 and ambient	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 15:28
L69	38219	vehicle and microphone	US-PGPUB;	OR	OFF	2012/07/10

			USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			15:28
L71	2392	69 and sound near4 level	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/07/10 15:31
L74	360	71 and notification	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/07/10 15:32
L75	48	74 and acoustic adj signal	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/07/10 15:32
L76	48	74 and acoustic adj signal	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/07/10 15:33
L79	1682	vehicle and internal near4 sound	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/07/10 15:34
L80	23	79 and ambient near4 measure	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/07/10 15:34
L84	0	("2010/0033313").URPN.	USPAT	OR	ON	2012/07/10 15:41
L85	2	("5530419").URPN.	USPAT	OR	ON	2012/07/10 15:55
S1	3013	340/438.CCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/02/14 11:34
S2	82	340/426.26.CCLS.	US-PGPUB;	OR	OFF	2012/02/14

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S3	15	("4125826").URPN.	USPAT	OR	OFF	2012/02/14 12:07
S4	23	("5424711").URPN.	USPAT	OR	OFF	2012/02/14 12:11
S5	2221	340/425.5.OCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/02/14 12:30
S6	313	340/943.OCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/02/14 12:30
S7	101	340/446.OCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/02/14 12:31
S8	804	340/566.OCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/02/14 12:31
S9	0	367/197OCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/02/14 12:31
S10	319	367/197.OCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/02/14 12:31
S11	214	367/198.OCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/02/14 12:31
S12	201	367/199.OCLS.	US-PGPUB;	OR	OFF	2012/02/14

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S14	453	381/57.CCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/02/14 12:31
S15	1286	381/86.CCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/02/14 12:32
S16	635	381/122.CCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/02/14 12:32
S17	283	S1 AND MICROPHONE	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/02/14 12:32
S18	12	S2 AND MICROPHONE	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/02/14 12:32
S19	303	S5 AND MICROPHONE	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/02/14 12:32
S20	35	S6 AND MICROPHONE	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	2012/02/14 12:33

			IBM_TDB			
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S22	194	S8 AND MICROPHONE	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/02/14 12:33
S23	27	S10 AND VEHICLE	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/02/14 12:33
S24	26	S11 AND VEHICLE	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/02/14 12:33
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S26	141	S13 AND VEHICLE	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/02/14 12:34
S27	115	S14 AND VEHICLE	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/02/14 12:34
S28	34017	"86" AND MICROPHONE	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/02/14 12:35
S29	491	S15 AND MICROPHONE	US-PGPUB; USPAT; USOCR; FPRS; EPO;	OR	OFF	2012/02/14 12:35

			JPO; DERWENT; IBM_TDB			
S30	59	S16 AND VEHICLE	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/02/14 12:36
S31	61	S29 AND ALARM	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/02/14 12:43
S32	20	S29 AND NOTIFICATION	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/02/14 12:43
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S35	2	("2005/0074131").URPN.	USPAT	OR	OFF	2012/02/14 12:51
S36	2	("2005/0074131").URPN.	USPAT	OR	OFF	2012/02/14 12:51
S37	27	S26 AND ALARM	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/02/14 13:26
S38	48	S22 AND VEHICLE	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/02/14 13:49
S39	5	("4586031").URPN.	USPAT	OR	OFF	2012/02/14 13:56
S40	9	("5376919").URPN.	USPAT	OR	OFF	2012/02/14 14:03
S41	5	("4853677" "4928085" "4991145" "5185593" "5192931").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2012/02/14 14:06
S42	12	("6150927").URPN.	USPAT	OR	OFF	2012/02/14 14:17
S43	12	("6150927").URPN.	USPAT	OR	OFF	2012/02/14 14:18

S44	20	("3863250" "4054867" "4073094" "4091660" "4709513" "4837558" "4845464" "4853677" "4897630" "5120980" "5192931" "5289159" "5438317" "5450061" "5528220" "5543783" "5552770" "5598141" "5686909" "5712620").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2012/02/14 14:18
S45	35870	VEHICLE AND MICROPHONE	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/02/14 15:10
S46	6053	S45 AND ALARM	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/02/14 15:11
S47	2017	S46 AND NOTIFICATION	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/02/14 15:11
S48	77	S45 AND DETECT NEAR4 INTRUDER	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/02/14 15:12
S49	61	S46 AND DETECT NEAR4 INTRUDER	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/02/14 15:12
S50	7	S47 AND DETECT NEAR4 INTRUDER	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/02/14 15:12
S51	8	("20050074131" "20060083388" "5710555" "6980125").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/07/10 14:09

Search Notes 	Application/Control No. 12487639	Applicant(s)/Patent Under Reexamination KEADY ET AL.
	Examiner DONNIE CROSLAND	Art Unit 2612

SEARCHED			
Class	Subclass	Date	Examiner
340	438, 426.26	2/14/2012	DLC
ABOVE UPDATED		7/10/2012	DLC

SEARCH NOTES		
Search Notes	Date	Examiner
340/438, 425.5, 426.26, 943, 426.27, 446, 566 (text search see search history printout)	2/14/2012	DLC
367/197, 198, 199 (text search see search history printout)	2/14/2012	DLC
381/56, 57, 86, 122 (text search see search history printout)	2/14/2012	DLC
EAST (US-PGPUB; USOCR; USPAT; EPO; JPO; DERWENT; IBM-TDB) text search see search history printout	2/14/2012	DLC
ALL ABOVE UPDATED	7/10/2012	DLC

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner
US-PGPUB; UPAD TEXT SEARCH SEE INTERFERE NCE SEARCH PRINTOUT		7/10/2012	DLC

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BIB DATA SHEET

CONFIRMATION NO. 7584

SERIAL NUMBER 12/487,639	FILING or 371(c) DATE 06/18/2009 RULE	CLASS 340	GROUP ART UNIT 2612	ATTORNEY DOCKET NO. PRS-157US (PERS-0049US)		
APPLICANTS John Patrick Keady, Boca Raton, FL; John Usher, Beer, UNITED KINGDOM; ** CONTINUING DATA ***** This appln claims benefit of 61/074,096 06/19/2008 ** FOREIGN APPLICATIONS ***** ** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** ** SMALL ENTITY ** 06/26/2009						
Foreign Priority claimed ☐ Yes ☒ No 35 USC 119(a-d) conditions met ☐ Yes ☒ No Verified and /DONNIE L CROSLAND/ Acknowledged Examiner's Signature		☐ Met after Allowance Initials	STATE OR COUNTRY FL	SHEETS DRAWINGS 5	TOTAL CLAIMS 19	INDEPENDENT CLAIMS 4
ADDRESS RatnerPrestia P.O. Box 980 Valley Forge, PA 19482 UNITED STATES						
TITLE AMBIENT SITUATION AWARENESS SYSTEM AND METHOD FOR VEHICLES						
FILING FEE RECEIVED 637	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:			☐ All Fees		
				☐ 1.16 Fees (Filing)		
				☐ 1.17 Fees (Processing Ext. of time)		
				☐ 1.18 Fees (Issue)		
				☐ Other _____		
			☐ Credit			

Appln. No.: 12/487,639
Amendment Dated May 23, 2012
Reply to Office Action of February 23, 2012

PRS-157US

Amendments to the Specification:

Please replace the original specification with the attached substitute specification.

(Use as many sheets as necessary)

SHEET 1 of 2

Complete if Known

Application Number	12/487,639
Filing Date	June 18, 2009
First Named Inventor	John P. Keady
Art Unit	2612
Examiner Name	Donnie L. Crosland
Attorney Docket No.	PRS-157US

[illegible]

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date (MM-DD-YYYY)	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³ - Number ⁴ - Kind Code ⁵ (If known)				
						☐
						☐
						☐
						☐
						☐

Examiner
Signature

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.

¹Applicant's unique citation designation number (optional).

²See Kind Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04.

³Enter Office that issued the document, by the two-letter code (WIPO Standard St.3).

⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.

⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible.

⁶Applicant is to place a check mark here if English language translation is attached.

The collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /DC/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Complete if Known

Application Number	12/487,639
Filing Date	June 18, 2009
First Named Inventor	John P. Keady
Art Unit	2612
Examiner Name	Donnie L. Crosland
Attorney Docket No.	PRS-157US

SHEET of

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), 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	T ²
		U.S. Patent Application No. 12/035,873, filed February 22, 2008.	☐
		U.S. Patent Application No. 11/966,457, filed December 28, 2007.	☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐

Examiner
Signature

/Donnie Crosland/

Date
Considered

07/10/2012

*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.

¹Applicant's unique citation designation number (optional).

²Applicant is to place a check mark here if English language translation is attached.

The collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS.

SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /DC/

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or **Fax (571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

71158 7590 07/16/2012
RatnerPrestia
P.O. Box 980
Valley Forge, PA 19482

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

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

12/487,639

06/18/2009

John Patrick Keady

PRS-157US

7584

(PERS-0049US)

TITLE OF INVENTION: AMBIENT SITUATION AWARENESS SYSTEM AND METHOD FOR VEHICLES

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
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nonprovisional

YES

\$870.885

\$300

\$0

\$1170.885

10/16/2012

EXAMINER	ART UNIT	CLASS-SUBCLASS
----------	----------	----------------

CROSLAND, DONNIE L

2612

340-438000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.

2. For printing on the patent front page, list

(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,

(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 RatnerPrestia

2

3

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

Personics Holdings Inc.

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

Boca Raton, FL

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☒ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

☒ Issue Fee☒ Publication Fee (No small entity discount permitted)☐ Advance Order - # of Copies

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

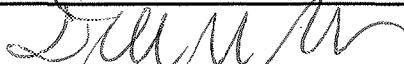
☐ A check is enclosed.☒ Payment by credit card. Form PTO-2038 is attached.☒ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number 18-0350 (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

☒ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature



Date

10/12/12

Typed or printed name

Deborah M. Grove

Registration No.

61,091

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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Electronic Patent Application Fee Transmittal				
Application Number:		12487639		
Filing Date:		18-Jun-2009		
Title of Invention:		AMBIENT SITUATION AWARENESS SYSTEM AND METHOD FOR VEHICLES		
First Named Inventor/Applicant Name:		John Patrick Keady		
Filer:		Deborah M. Grove/Edna Phelan		
Attorney Docket Number:		PRS-157US (PERS-0049US)		
Filed as Small Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Utility Appl issue fee	2501	1	885	885
Publ. Fee- early, voluntary, or normal	1504	1	300	300

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				1185

Electronic Acknowledgement Receipt

EFS ID:	13968714
Application Number:	12487639
International Application Number:	
Confirmation Number:	7584
Title of Invention:	AMBIENT SITUATION AWARENESS SYSTEM AND METHOD FOR VEHICLES
First Named Inventor/Applicant Name:	John Patrick Keady
Customer Number:	71158
Filer:	Deborah M. Grove/Edna Phelan
Filer Authorized By:	Deborah M. Grove
Attorney Docket Number:	PRS-157US (PERS-0049US)
Receipt Date:	12-OCT-2012
Filing Date:	18-JUN-2009
Time Stamp:	12:06:49
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$ 1185
RAM confirmation Number	9561
Deposit Account	180350
Authorized User	GROVE, DEBORAH

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Issue Fee Payment (PTO-85B)	issuefeetransmittal.pdf	115574 cbab3cd2ae987cac044667084629801f939035bbb	no	1
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	32332 3de1955d5a169e30bc63bc5ca6ead27c9da ce947	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			147906		
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. <u>New Applications Under 35 U.S.C. 111</u> 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. <u>National Stage of an International Application under 35 U.S.C. 371</u> 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. <u>New International Application Filed with the USPTO as a Receiving Office</u> 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.					



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/487,639	11/27/2012	8319620	PRS-157US (PERS-0049US)	7584

71158 7590 11/07/2012
RatnerPrestia
P.O. Box 980
Valley Forge, PA 19482

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment is 716 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site <http://pair.uspto.gov> for additional applicants):

John Patrick Keady, Boca Raton, FL;
John Usher, Beer, UNITED KINGDOM;

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit SelectUSA.gov.

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CHANGE OF CORRESPONDENCE ADDRESS Patent

Address to:
Mail Stop Post Issue
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Patent Number	8,319,620
Issue Date	November 27, 2012
Application Number	12/487,639
Filing Date	June 18, 2009
First Named Inventor	John Patrick Keady
Attorney Docket Number	PRS-157US

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



The address associated with Customer Number:

000117822

OR

Firm or
Individual Name

Address

City

State

ZIP

Country

Telephone

Email

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

This form will not affect any "fee address" provided for the above-identified patent. To change a "fee address" use the "Fee Address Indication Form" (PTO/SB/47).

I am the:



Patentee.



Assignee of record of the entire interest. See 37 CFR 3.71.
Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96).



Attorney or agent of record. Registration Number 31,549

Signature

Typed or

Printed Name Kenneth N. Nigon

Date

November 7, 2013

Telephone

610-407-0700

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

*Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Mail Stop Post Issue, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Electronic Acknowledgement Receipt	
EFS ID:	17338912
Application Number:	12487639
International Application Number:	
Confirmation Number:	7584
Title of Invention:	AMBIENT SITUATION AWARENESS SYSTEM AND METHOD FOR VEHICLES
First Named Inventor/Applicant Name:	John Patrick Keady
Customer Number:	71158
Filer:	Kenneth Nicholas Nigon/Edna Phelan
Filer Authorized By:	Kenneth Nicholas Nigon
Attorney Docket Number:	PRS-157US (PERS-0049US)
Receipt Date:	07-NOV-2013
Filing Date:	18-JUN-2009
Time Stamp:	15:05:53
Application Type:	Utility under 35 USC 111(a)

Payment information:					
Submitted with Payment			no		
File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Change of Address	changeofcorrespondenceaddress.pdf	66926	no	1
			8d6324e262c5c82ee0b7b8abb4e10ffa09489d6		
Warnings:					
Information:					

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.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

**REQUEST FOR WITHDRAWAL
AS ATTORNEY OR AGENT AND
CHANGE OF
CORRESPONDENCE ADDRESS**

Application Number	See Attached *
Filing Date	See Attached
First Named Inventor	See Attached
Art Unit	See Attached
Examiner Name	See Attached
Practitioner Docket Number	See Attached

**To: Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450**

Please withdraw me as attorney or agent for the above-identified patent application, and

- ☐ all the practitioners of record;
- ☒ the practitioners (with registration numbers) of record listed on the attached paper(s); or
- ☐ the practitioners of record associated with Customer Number: _____

NOTE: The immediately preceding box should only be marked when the practitioners were appointed using the listed Customer Number.

The reason(s) for this request are those described in 37 CFR:

- | | | |
|--|--|--|
| ☐ 11.116(a)(1) | ☐ 11.116(a)(2) | ☐ 11.116(a)(3) |
| ☐ 11.116(b)(1) | ☐ 11.116(b)(2) | ☐ 11.116(b)(3) |
| ☐ 11.116(b)(4) | ☒ 11.116(b)(5) | ☒ 11.116(b)(6) |
| ☒ 11.116(b)(7) Please explain below: | | |

Failure of client to timely pay for services rendered. Attorney reserves all rights and remedies accrued. See attached listing "EXHIBIT 1".

Certifications

Check each box below that is factually correct. WARNING: If a box is left unchecked, the request will likely not be approved.

- ☒ I/We have given reasonable notice to the client, prior to the expiration of the response period, that the practitioner(s) intend to withdraw from employment.
- ☒ I/We have delivered to the client or a duly authorized representative of the client all papers and property (including funds) to which the client is entitled.
- ☒ I/We have notified the client of any responses that may be due and the time frame within which the client must respond.

Please provide an explanation, if necessary:

[Page 1 of 2]

This collection of information is required by 37 CFR 1.36. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 15 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

REQUEST FOR WITHDRAWAL AS ATTORNEY OR AGENT AND CHANGE OF CORRESPONDENCE ADDRESS

Complete the following section only when the correspondence address will change. Changes of address will only be accepted to the first named inventor or an assignee that has properly made itself of record pursuant to 37 CFR 3.71.

Change the correspondence address and direct all future correspondence to:

A. ☐ The address of the first named inventor or assignee associated with Customer Number: _____

OR

B. ☐ First Named
Inventor or Assignee

Address

City	State	Zip	Country
Telephone		Email	

I am authorized to sign on behalf of myself and all withdrawing practitioners.

Signature /pablo meles/

Name **Pablo Meles**

Registration No. **33739**

Address **304 Indian Trace, No. 710**

City Weston	State Florida	Zip 33326	Country US
Date 8/17/2017		Telephone No. 954-389-4846	

NOTE: Withdrawal is effective when approved rather than when received.

[Page 2 of 2]

This collection of information is required by 37 CFR 1.36. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 15 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

EXHIBIT 1 to Request for Withdrawal as Attorney or Agent

application number	patent number	publication number	Attorney Docket No.	Registration No. of Attorney of Record Withdrawing
61/894,970	-	-	PERS-TRRS-PR	33739
61/315,393	-	-	SG-PC-JP-0001-PR	33739
60/938,695	-	-	PERS-0028-PR	33739
60/916,275	-	-	PERS-0027-PR	33739
60/916,271	-	-	PERS-0026-PR	33739
60/914,319	-	-	PERS-0025-PR	33739
60/914,318	-	-	PERS-0024-PR	33739
60/911,691	-	-	PERS-0023-PR	33739
60/910,808	-	-	PERS-0022-PR	33739
60/893,617	-	-	PERS-0021-PR	33739
60/891,220	-	-	PERS-0019-PR	33739
60/887,980	-	-	PERS-0018-PR	33739
60/887,800	-	-	PERS-0017-PR	33739
60/887,165	-	-	PERS-0016-PR	33739
60/885,917	-	-	PERS-0015-PR	33739
60/883,013	-	-	PERS-0014-PR	33739
60/866,420	-	-	PERS-0013-PR	33739
60/824,432	-	-	PERS-0011-PR	33739
60/822,079	-	-	-	33739
60/821,253	-	-	PERS-0009-PR	33739
60/820,590	-	-	-	33739
60/806,769	-	-	PERS-0007-PR	33739
60/805,985	-	-	PERS-0006-PR	33739
60/805,469	-	-	PERS-0005-PR	33739
60/804,650	-	-	PERS-0004-PR	33739
60/803,708	-	-	PERS-0002-PR	33739
60/747,797	-	-	PERS-0001-PR	33739
60/396,716	-	-	-	
60/367,135	-	-	-	
14/095,113	-	US 2014-0095157 A1	PRS-125US2_PERS0202USCP2	33739
14/087,056	-	US 2014-0081644 A1	PRS-125US1_PERS0202USCP1	33739
14/079,506	9,271,064	US 2015-0131814 A1	PERS-0201-US	33739
11/838,215	-	-	SG-0001-US	33739
07/984,120	5,410,326	-	-	33739
62/068,273	-	-	PRS-207US-PR	33739

61/920,321	-	-	PERS-206-PR	33739
61/814,878	-	-	PRS-191USP	33739
61/778,737	-	-	PRS-190USP	33739
15/413,403	-	US 2017-0215011 A1	SWG-013US	33739
15/406,776	-	US 2017-0208027 A1	SWG-012US	33739
15/334,995	-	US 2017-0112671 A1	SWG-009-1	33739
15/144,741	9,609,424	US 2016-0249128 A1	PRS-117US3	33739
15/137,730	-	US 2016-0241978 A1	PRS-120US4	33739
15/012,838	9,602,938	US 2016-0150333 A1	PRS-162US1	33739
14/955,022	-	US 2016-0088391 A1	PERS-204US1	33739
14/943,001	-	US 2016-0072958 A1	PRS-131US1	33739
14/936,555	-	US 2017-0134865 A1	PRS-175US2	33739
14/922,475	-	US 2016-0118062 A1	PRS-207US-PR	33739
14/860,617	-	US 2016-0015568 A1	PRS-166US2	33739
14/853,950	9,462,100	US 2016-0006847 A1	PRS-153US2	33739
14/846,994	-	US 2015-0379994 A1	PRS-163US1	33739
14/840,552	-	US 2015-0370527 A1	PRS-124US2-1	33739
14/827,332	-	US 2015-0365776 A1	PRS-160US2	33739
14/800,556	9,706,280	US 2015-0334484 A1	PRS-125US3	33739
14/669,602	-	US 2015-0201270 A1	PRS-165US1	33739
14/633,201	-	US 2016-0008176 A1	PRS-100US	33739
14/600,349	9,491,542	US 2015-0215701 A1	PRS-184US	33739
14/578,700	-	US 2015-0179178 A1	PRS-206US	33739
14/576,236	9,323,899	US 2015-0106026 A1	PRS-120US3	33739
14/574,589	-	US 2015-0104025 A1	PRS-118US1	33739
14/574,567	-	US 2015-0172841 A1	PRS-108US1	33739
14/523,206	-	US 2015-0304769 A1	PERS-TRRS	33739
14/456,112	-	US 2014-0350943 A1	PRS-110US2-1	33739
14/362,603	9,715,562	US 2014-0343900 A1	PRS-179US	33739
14/335,902	-	US 2014-0327527 A1	PRS-128US1	33739
14/279,315	9,332,364	US 2014-0247952 A1	PRS-117US2	33739
14/279,314	9,294,856	US 2014-0247948 A1	PRS-117US1	33739
14/259,829	9,326,067	US 2014-0314238 A1	PRS-191US	33739
14/246,789	-	US 2014-0219464 A1	PRS-124US3	33739
14/246,696	9,216,237	US 2014-0216480 A1	PRS-144USDv1	33739
14/246,273	9,456,268	US 2014-0219462 A1	PRS-136US1	33739
14/210,430	9,270,244	US 2014-0270200 A1	PRS-190US	33739
14/176,184	-	US 2014-0155688 A1	PRS-112US1	33739
14/155,724	-	US 2014-0200883 A1	PRS-187US	33739
14/148,752	8,805,692	US 2014-0129229 A1	PRS-110US2	33739
14/148,751	-	US 2014-0119559 A1	PRS-110US1	33739
14/148,749	-	US 2014-0119558 A1	PRS-110US10	33739

14/148,748	-	US 2014-0119574 A1	PRS-110US9	33739
14/148,747	-	US 2014-0122092 A1	PRS-110US8	33739
14/148,746	-	US 2014-0119557 A1	PRS-110US7	33739
14/148,745	-	US 2014-0122073 A1	PRS-110US6	33739
14/148,744	-	US 2014-0123010 A1	PRS-110US5	33739
14/148,743	-	US 2014-0123009 A1	PRS-110US4	33739
14/148,742	-	US 2014-0123008 A1	PRS-110US3	33739
14/134,222	9,204,214	US 2014-0126748 A1	PRS-123US1/PERS-204-US	33739
14/109,987	-	US 2014-0119553 A1	PRS-126US1_PERS-203-US	33739
14/109,954	-	US 2014-0166122 A1	PRS-186US	33739
14/108,883	9,271,077	US 2015-0172814 A1	PERS-205-US	33739
14/054,015	9,113,267	US 2015-0092948 A1	PRS-160US1	33739
14/048,324	8,918,141	US 2014-0038670 A1	PRS-120US2	33739
14/036,198	9,066,167	US 2014-0093094 A1	PRS-127-US1	33739
14/021,011	9,124,982	US 2014-0012403 A1	PRS-124US2	33739
14/017,711	-	US 2014-0003644 A1	PRS-164US1	33739
14/007,482	-	US 2014-0372401 A1	AMBZ-102US	33739
13/979,005	9,264,828	US 2014-0010380 A1	PRS-172US	33739
13/976,636	-	US 2014-0018097 A1	AMBZ-101US	33739
13/956,767	-	US 2013-0315407 A1	PRS-130US1	33739
13/917,079	-	US 2013-0279703 A1	PRS-161US1	33739
13/875,417	9,357,288	US 2013-0243206 A1	PRS-106US1	33739
13/870,367	9,137,597	US 2013-0301850 A1	PRS-153US1	33739
13/863,821	9,185,481	US 2013-0241116 A1	PRS-175US1	33739
13/805,833	-	US 2014-0146989 A1	PRS-176US	33739
13/735,175	-	US 2013-0123919 A1	PRS-178US1	33739
13/654,771	8,897,457	US 2013-0039518 A1	PRS-129US2	33739
13/653,546	8,522,916	US 2013-0098706 A1	PRS-158US1	33739
13/648,339	8,992,437	US 2013-0035608 A1	PRS-102US1	33739
13/556,509	8,582,782	US 2012-0288104 A1	PRS-120US1	33739
13/425,743	8,917,880	US 2012-0177209 A1	PRS-103US1	33739
13/424,537	-	US 2012-0177210 A1	PRS-104US1	33739
13/352,694	8,553,905	US 2012-0123573 A1	PRS-124US1	33739
13/201,312	9,539,147	US 2012-0101514 A1	PRS-168US1	33739
13/201,308	9,138,353	US 2012-0103346 A1	PRS-166US1	33739
13/051,418	8,437,492	US 2011-0228963 A1	PRS-175US	33739
13/012,047	8,326,628	US 2011-0115626 A1	PRS-114US1 (PERS-0010US1)	33739
12/785,682	8,848,939	US 2011-0235843 A1	PRS-167US (PERS-0059C1US)	33739
12/579,673	8,554,350	US 2010-0177918 A1	PRS-164US (PERS-0056US)	33739
12/578,461	8,992,710	US 2011-0085689 A1	PRS-165US	33739
12/560,097	9,129,291	US 2010-0076793 A1	PRS-163US (PERS-0055US)	33739
12/560,074	9,253,560	US 2010-0142715 A1	PRS-162US (PERS-0054US)	33739

★	12/555,864	8,600,067	US 2010-0074451 A1	PRS-160US	33739
	12/555,570	8,488,799	US 2010-0142725 A1	PRS-161US (PERS-0053US)	33739
	12/497,894	8,631,801	US 2010-0002897 A1	PRS-159US (PERS-0051US)	33739
	12/492,164	8,312,960	US 2010-0012420 A1	PRS-158US (PERS-0050US)	33739
	12/487,639	8,319,620	US 2010-0033313 A1	PRS-157US (PERS-0049US)	33739
	12/394,604	8,213,629	US 2009-0290721 A1	PRS-156US (PERS-0048US)	33739
	12/389,753	8,229,128	US 2009-0245530 A1	PRS-155US (PERS-0047US)	33739
	12/360,001	8,208,652	US 2009-0238374 A1	PRS-154US (PERS-0046US)	33739
	12/352,323	-	US 2010-0135502 A1	PRS-152US (PERS-0044US)	33739
	12/351,959	8,447,031	US 2009-0264161 A1	PRS-153US (PERS-0045US)	33739
	12/347,655	8,251,925	US 2009-0192407 A1	PRS-151US (PERS-0043US)	33739
	12/343,291	8,473,081	US 2009-0238386 A1	PRS-148US (PERS-0040US)	33739
	12/343,277	8,326,635	US 2009-0240497 A1	PRS-147US	33739
	12/330,873	8,142,870	US 2009-0155518 A1	PRS-146US (PERS-0038US)	33739
	12/323,505	8,855,343	US 2009-0220096 A1	PRS-145US (PERS-0037US)	33739
	12/268,195	8,718,313	US 2009-0130423 A1	PRS-144US (PERS-0036US)	33739
	12/245,316	9,191,740	US 2009-0147966 A1	PRS-131US(PERS-0024USCP2)	33739
	12/208,923	8,018,328	US 2009-0146799 A1	PRS-142US (PERS-0034US)	33739
	12/196,884	8,047,207	US 2009-0071486 A1	PRS-141US (PERS-0033US)	33739
	12/172,834	8,678,011	US 2009-0022353 A1	PRS-112US (PERS-0008US)	33739
	12/170,171	8,526,645	US 2009-0034765 A1	PRS-130US (PERS-0024USCP1	33739
	12/169,386	8,625,819	US 2009-0010456 A1	PRS-126US	33739
	12/165,022	8,718,305	US 2009-0010442 A1	PRS-136US (PERS-0028-US)	33739
	12/140,937	8,657,064	US 2009-0214072 A1	PRS-135US (PERS-0027US)	33739
	12/135,816	8,315,400	US 2009-0016542 A1	PRS-129US1 (PERS-0024USC1	33739
	12/115,364	8,221,861	US 2008-0311324 A1	PRS-133US (PERS-0025USB)	33739
	12/115,349	8,081,780	US 2009-0016541 A1	PRS-129US (PERS-0024US)	33739
	12/115,320	8,221,860	US 2008-0299339 A1	PRS-132US (PERS-0025US-A)	33739
	12/111,005	8,788,077	US 2009-0007596 A1	PRS-128US (PERS-0023-US)	33739
	12/110,773	8,577,062	US 2009-0010444 A1	PRS-127US	33739
	12/102,555	8,611,560	US 2008-0260180 A1	PRS-125US	33739
	12/100,281	8,111,839	US 2008-0253583 A1	PRS-124US (PERS-0020US)	33739
	12/044,727	8,625,812	US 2008-0219456 A1	PRS-123US	33739
	12/035,873	8,194,865	US 2008-0267416 A1	PRS-122US (PERS-0018US)	33739
	12/025,146	8,213,649	US 2008-0219486 A1	PRS-121US (PERS-0017US)	33739
	12/024,842	8,254,591	US 2008-0187163 A1	PRS-120US (PERS-0016US)	33739
	12/022,826	8,150,043	US 2008-0181442 A1	PRS-119US (PERS-0015US)	33739
	12/017,878	8,917,894	US 2008-0181419 A1	PRS-118US (PERS-0014US)	33739
	11/966,457	8,150,044	US 2008-0240458 A1	PRS-116US (PERS-0012US)	33739
	11/943,161	8,170,228	US 2008-0130906 A1	PRS-115US (PERS-0011US)	33739

11/942,370	8,774,433	US 2008-0137873 A1	PRS-117US (PERS-0013US)	33739
11/931,252	8,462,956	US 2008-0144842 A1	PRS-106US (PERS-0002CIP4U	33739
11/930,938	8,208,644	US 2008-0144841 A1	PRS-105US (PERS-0002CIP3U	33739
11/928,621	8,199,919	US 2008-0144840 A1	PRS-104US (PERS-0002CIP2U	33739
11/928,290	8,194,864	US 2008-0212787 A1	PRS-103US (PERS-0002CIP1U	33739
11/774,965	-	US 2008-0031475 A1	PRS-110US (PERS-0007US)	33739
11/767,181	7,817,803	US 2008-0205660 A1	PRS-109US (PERS-0006US)	33739
11/763,281	8,917,876	US 2008-0015463 A1	PRS-108US (PERS-0005US)	33739
11/757,152	8,311,228	US 2008-0037797 A1	PRS-102US (PERS-0002-US)	33739
11/751,259	7,756,281	US 2007-0270988 A1	PRS-101US (PERS-0001US)	33739
62/281,880	-	-	SWG-013USP	33739
62/279,406	-	-	SWG-012USP	33739
62/246,479	-	-	SWG-009-1PR	33739
62/168,703	-	-	SWG-010USP	33739
62/158,740	-	-	SWG-009USP	33739
62/090,136	-	-	SWG-007USP	33739
62/086,019	-	-	SWG-008USP	33739
61/889,002	-	-	SWG-004	33739
61/887,437	-	-	SWG-003	33739
61/885,448	-	-	ALJ-001	33739
61/880,963	-	-	SWG-002	33739
61/878,015	-	-	SWG-006	33739
61/872,695	-	-	SWG-001	33739
61/868,792	-	-	PRS-195USP (SWG-005)	33739
15/168,020	-	US 2017-0040012 A1	SWG-010US	33739
15/149,526	-	US 2016-0324478 A1	SWG-009US	33739
14/964,041	-	US 2016-0166203 A1	SWG-007US	33739
14/956,365	-	US 2016-0157031 A1	SWG-008US	33739
14/923,632	-	US 2016-0050311 A1	SWG-004US1	33739
14/886,133	9,578,164	US 2016-0044164 A1	SWG-002US1	33739
14/511,154	9,172,794	US 2015-0086000 A1	SWG-004	33739
14/507,784	-	US 2015-0099469 A1	SWG-003	33739
14/499,638	-	US 2015-0094609 A1	ALJ-001	33739
14/493,270	9,167,082	US 2015-0087273 A1	SWG-002US	33739
14/475,556	9,282,096	US 2015-0082404 A1	SWG-001	33739
14/466,943	-	US 2015-0058016 A1	SWG-005 (PRS-195US)	33739

Electronic Acknowledgement Receipt	
EFS ID:	30107255
Application Number:	12487639
International Application Number:	
Confirmation Number:	7584
Title of Invention:	AMBIENT SITUATION AWARENESS SYSTEM AND METHOD FOR VEHICLES
First Named Inventor/Applicant Name:	John Patrick Keady
Customer Number:	117822
Filer:	Pablo Meles
Filer Authorized By:	
Attorney Docket Number:	PRS-157US (PERS-0049US)
Receipt Date:	17-AUG-2017
Filing Date:	18-JUN-2009
Time Stamp:	13:24:28
Application Type:	Utility under 35 USC 111(a)

Payment information:					
Submitted with Payment			no		
File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Petition to withdraw attorney or agent (SB83)	sb0083_Signed.pdf	590386	no	3
			3c7f3944a489821bbe0ffcceffe94a9731e1c08d		
Warnings:					

Information:					
2	Petition to withdraw attorney or agent (SB83)	PRS-157US.pdf	57042	no	5
			62bb01d8118f8c62b03f4b6a587741de03bc5bbd		
Warnings:					
Information:					
Total Files Size (in bytes):			647428		
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. <u>New Applications Under 35 U.S.C. 111</u> 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. <u>National Stage of an International Application under 35 U.S.C. 371</u> 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. <u>New International Application Filed with the USPTO as a Receiving Office</u> 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.					

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PATENT - POWER OF ATTORNEY OR REVOCATION OF POWER OF ATTORNEY WITH A NEW POWER OF ATTORNEY AND CHANGE OF CORRESPONDENCE ADDRESS	Patent Number	8,319,820
	Issue Date	11-27-2012
	First Named Inventor	John Patrick Keady
	Title	AMBIENT SITUATION AWARENESS SYSTEM AND METHOD FOR VEHICLES
	Attorney Docket No.	PRS-157US (PERS-0049US)

I hereby revoke all previous powers of attorney given in the above identified patent.

☐ A Power of Attorney is submitted herewith.

OR

☒ I hereby appoint Practitioner(s) associated with the Customer Number identified in the box at right as my/our attorney(s) or agent(s) with respect to the patent identified above, and to transact all business in the United States Patent and Trademark Office connected therewith:

150139

OR

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I am the:

☐ Applicant.

OR

☒ Patent owner.

Statement under 37 CFR 3.73(c) (Form PTO/AIA/96) submitted herewith or filed on _____

SIGNATURE of Applicant or Patent Owner

Signature

Name

Title and Company

Date

Telephone

NOTE: Signatures of all the applicants or patent owners of the entire interest or their representative(s) are required. If more than one signature is required, submit multiple forms, check the box below, and identify the total number of forms submitted in the blank below.☐ A total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.31, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public, which is to update (and by the USPTO to process) the file of a patent or reexamination proceeding. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1480, Alexandria, VA 22313-1480. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(b).

I hereby appoint:



Practitioners associated with the Customer Number:

150139

OR



Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number	Name	Registration Number

as attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignment documents attached to this form in accordance with 37 CFR 3.73(b).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(b) to:



The address associated with Customer Number:

150139

OR

☐ Firm or Individual Name			
Address			
City	State	Zip	
Country			
Telephone			Email

Assignee Name and Address:

Staton Techiya LLC, 16193 Bridlewood Circle, Delray Beach, FL 33445

A copy of this form, together with a statement under 37 CFR 3.73(b) (Form PTO/SB/96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(b) may be completed by one of the practitioners appointed in this form if the appointed practitioner is authorized to act on behalf of the assignee, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

Signature		Date	10-12-17
Name	Maria Staton	Telephone	561 306 7599
Title	Treasurer		

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(c).

I hereby appoint:

☒ Practitioners associated with Customer Number: 150139

OR

☐ Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number

Name	Registration Number

As attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignment documents attached to this form in accordance with 37 CFR 3.73(c).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(c) to:

☒ The address associated with Customer Number: 150139

OR

☐ Firm or individual name		
Address		
City	State	Zip
Country		
Telephone	Email	

Assignee name and address:

Staton Techiya LLC, 16193 Bridlewood Circle, Delray Beach, FL 33445

A copy of this form, together with a statement under 37 CFR 3.73(c) (Form PTO/AIA/96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(c) may be completed by one of the practitioners appointed in this form, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee.

Signature <i>Maria Staton</i>	Date 10-12-17
Name Maria Staton	Telephone 561 306-7599
Title Treasurer	

This collection of information is required by 37 CFR 1.31, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public, which is to update (and by the USPTO to process) the file of a patent or reexamination proceeding. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 18 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

STATEMENT UNDER 37 CFR 3.73(b)

Applicant/Patent Owner: STATON TECHIYA, LLC

Application No./Patent No.: 8319620 Filed/Issue Date: 11/27/2012

Titled: AMBIENT SITUATION AWARENESS SYSTEM AND METHOD FOR VEHICLES

STATON TECHIYA, LLC, a corporation

(Name of Assignee)

(Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is:

1. ☒ the assignee of the entire right, title, and interest in;
2. ☐ an assignee of less than the entire right, title, and interest in
(The extent (by percentage) of its ownership interest is _____ %); or
3. ☐ the assignee of an undivided interest in the entirety of (a complete assignment from one of the joint inventors was made)

the patent application/patent identified above, by virtue of either:

A. ☐ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy therefore is attached.

OR

B. ☒ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: 04/19/2010 To: 04/18/2013

The document was recorded in the United States Patent and Trademark Office at
Reel 025716, Frame 0713, or for which a copy thereof is attached.

2. From: 04/18/2013 To: 12/31/2013

The document was recorded in the United States Patent and Trademark Office at
Reel 030249, Frame 0078, or for which a copy thereof is attached.

3. From: 12/31/2013 To: 12/31/2013

The document was recorded in the United States Patent and Trademark Office at
Reel 032189, Frame 0304, or for which a copy thereof is attached.

☒ Additional documents in the chain of title are listed on a supplemental sheet(s).

☐ As required by 37 CFR 3.73(b)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/Gary Hoshizaki/

10/15/2017

Signature

Date

Gary Hoshizaki

Patent Agent

Printed or Typed Name

Title

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Supplemental Sheet - additional documents in the chain of title are listed below.

A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

4. From: 12/31/2013 To: 10/17/2014
The document was recorded in the United States Patent and Trademark Office at
Reel 034170 , Frame 0771 , or for which
a copy thereof is attached.
5. From: 10/17/2014 To: 06/20/2017
The document was recorded in the United States Patent and Trademark Office at
Reel 034170 , Frame 0933 , or for which
a copy thereof is attached.
6. From: 06/20/2017 To: 06/20/2017
The document was recorded in the United States Patent and Trademark Office at
Reel 043392 , Frame 0961 , or for which
a copy thereof is attached.
7. From: 06/20/2017 To: 06/21/2017
The document was recorded in the United States Patent and Trademark Office at
Reel 042992 , Frame 0493 , or for which
a copy thereof is attached.
8. From: 06/21/2017 To: 06/21/2017
The document was recorded in the United States Patent and Trademark Office at
Reel 043393 , Frame 0001 , or for which
a copy thereof is attached.
9. From: 06/21/2017 To: Present
The document was recorded in the United States Patent and Trademark Office at
Reel 042992 , Frame 0524 , or for which
a copy thereof is attached.

Electronic Acknowledgement Receipt	
EFS ID:	30658798
Application Number:	12487639
International Application Number:	
Confirmation Number:	7584
Title of Invention:	AMBIENT SITUATION AWARENESS SYSTEM AND METHOD FOR VEHICLES
First Named Inventor/Applicant Name:	John Patrick Keady
Customer Number:	117822
Filer:	Gary Wesley Hoshizaki
Filer Authorized By:	
Attorney Docket Number:	PRS-157US (PERS-0049US)
Receipt Date:	15-OCT-2017
Filing Date:	18-JUN-2009
Time Stamp:	15:57:30
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment		no			
File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Power of Attorney	POAMariav1.pdf	1134063	no	3
			f9d5dda7c6e33d3532a16ab55ca15eda16fecc9c		
Warnings:					

Information:					
2	Assignee showing of ownership per 37 CFR 3.73	sb0096_373_before_9162012v1.pdf	114165	no	2
			4b3ea66a1418e50a94ecec6a59f285d17868146aa		
Warnings:					
Information:					
3	Assignee showing of ownership per 37 CFR 3.73	SupplementalSheetBeforev1.pdf	29210	no	1
			87f7be4b982d396897489d35a32a4942a9debe25		
Warnings:					
Information:					
Total Files Size (in bytes):			1277438		
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. <u>New Applications Under 35 U.S.C. 111</u> 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. <u>National Stage of an International Application under 35 U.S.C. 371</u> 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. <u>New International Application Filed with the USPTO as a Receiving Office</u> 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.					



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
12/487,639	06/18/2009	John Patrick Keady	PRS-157US (PERS-0049US)

CONFIRMATION NO. 7584

POA ACCEPTANCE LETTER

150139
Staton Techiya LLC
16193 Bridlewood Circle
Delray Beach, FL 33445



Date Mailed: 10/24/2017

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 10/15/2017.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at (571) 272-4000 or (571) 272-4200 or 1-888-786-0101.

/sleutchit/



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
12/487,639	06/18/2009	John Patrick Keady	PRS-157US (PERS-0049US)

CONFIRMATION NO. 7584

POWER OF ATTORNEY NOTICE

117822
Personics Holdings, LLC.
4800 N Federal Hwy. Ste A205
Boca Raton, FL 33431



Date Mailed: 10/24/2017

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 10/15/2017.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervened as provided by 37 CFR 3.71. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at (571) 272-4000 or (571) 272-4200 or 1-888-786-0101.

/sleutchit/



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	PATENT NUMBER	GROUP ART UNIT	REQUEST ID
12/487,639	8319620	2685	60413

PAIR Correspondence Address/Fee Address Change

The following fields have been changed to Customer Number 154598 on 03/27/2018 via Private PAIR in view of the certification copied below that authorized the change.

• Correspondence Address

The address for Customer Number 154598 is:

154598

Staton Techiya, LLC

John Keady

16193 Bridlewood Circle

Delray Beach, FL 33445

I certify, in accordance with 37 CFR 1.4(d)(4) that I am:

An attorney or Agent of Record registered to practice before the Patent and Trademark Office who has been given power of attorney in this application

Signature:	/John Keady/
Name:	John Keady
Registration Number:	56389



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	PATENT NUMBER	GROUP ART UNIT	REQUEST ID
12/487,639	8319620	2685	60413

PAIR Correspondence Address/Fee Address Change

The following fields have been changed to Customer Number 154598 on 03/27/2018 via Private PAIR in view of the certification copied below that authorized the change.

- Maintenance Fee Address

The address for Customer Number 154598 is:

154598

Staton Techiya, LLC

John Keady

16193 Bridlewood Circle

Delray Beach, FL 33445

I certify, in accordance with 37 CFR 1.4(d)(4) that I am:

An attorney or Agent of Record registered to practice before the Patent and Trademark Office who has been given power of attorney in this application

Signature:	/John Keady/
Name:	John Keady
Registration Number:	56389

UNITED STATES
PATENT AND TRADEMARK OFFICEP.O. Box 1450
Alexandria, VA 22313 - 1450
www.uspto.gov

ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
12/487,639	08/08/2024 05:49:34 PM Z ET	PRS-157US (PERS-0049US)

Title of Invention

AMBIENT SITUATION AWARENESS SYSTEM AND METHOD FOR VEHICLES

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	8319620
CONFIRMATION #	7584	FILED BY	EDWARD MERCIER
PATENT CENTER #	66715821	FILING DATE	06/18/2009
CUSTOMER #	154598	FIRST NAMED INVENTOR	John Patrick Keady
CORRESPONDENCE ADDRESS	-	AUTHORIZED BY	Peter Chiabotti

Documents

TOTAL DOCUMENTS: 2

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
12487639_POA_TML_7584.pdf	1	Transmittal Letter	366 KB
ST_CasesTech_LLC_POA.pdf	2	Power of Attorney	638 KB

Warning: The PDF file has been signed with a digital signature and the legal effect of the document will be based on the contents of the file not the digital signature.

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
12487639_POA_TML_7584.pdf	F4AE466661C5047501259296CC3DFCADCD83F1E684616DF66 B17C6F242FA6965B573E6A52847DBEC6F048E6069C30A66F7

109EF40D7E1568F24F31416F5AE651

ST_CasesTech_LLC_POA.pdf

9CCBCAC98FE9BE1FC660641D68543DA9FCA38A159023C187
5A8C55B1332B72A2F0168936DCF37143FA0A261ABA7EAA8B3
BBC3F980018F7109DE3DACC5C2EDEA

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 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.

Under the Paperwork Reduction Act of 1995, no person is required to respond to a collection of information unless it displays a valid OMB control number

POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(c).

I hereby appoint:

☒

Practitioners associated with Customer Number:

150139

OR

☐

Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number

Name	Registration Number

As attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignment documents attached to this form in accordance with 37 CFR 3.73(c).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(c) to:

☒

The address associated with Customer Number:

150139

OR

☐

Firm or individual name

Address

City

State

Zip

Country

Telephone

Email

Assignee name and address:

ST CasesTech, LLC
9501 Jagged Creek Ct, Delray Beach, Florida 33446

A copy of this form, together with a statement under 37 CFR 3.73(c) (Form PTO/AIA/96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(c) may be completed by one of the practitioners appointed in this form, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee.

Signature

DocuSigned by:

Date 7/26/2024

Name John Patrick Keady

Dr. John Patrick Keady

Telephone

Title Chief Technical Officer and Assistant General Counsel Intellectual Property

A Federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with an information collection subject to the requirements of the Paperwork Reduction Act of 1995, unless the information collection has a currently valid OMB Control Number. The OMB Control Number for this information collection is 0651-0035. Public burden for this form is estimated to average 18 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the information collection. Send comments regarding this burden estimate or any other aspect of this information collection, including suggestions for reducing this burden to the Chief Administrative Officer, United States Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450 or email InformationCollection@uspto.gov. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS.** If filing this completed form by mail, send to: **Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. The United States Patent and Trademark Office (USPTO) collects the information in this record under authority of 35 U.S.C. 2. The USPTO's system of records is used to manage all applicant and owner information including name, citizenship, residence, post office address, and other information with respect to inventors and their legal representatives pertaining to the applicant's/owner's activities in connection with the invention for which a patent is sought or has been granted. The applicable Privacy Act System of Records Notice for the information collected in this form is COMMERCE/PAT-TM-7 Patent Application Files, available in the Federal Register at 78 FR 19243 (March 29, 2013). <https://www.govinfo.gov/content/pkg/FR-2013-03-29/pdf/2013-07341.pdf>

Routine uses of the information in this record may include disclosure to: 1) law enforcement, in the event that the system of records indicates a violation or potential violation of law; 2) a Federal, state, local, or international agency, in response to its request; 3) a contractor of the USPTO having need for the information in order to perform a contract; 4) the Department of Justice for determination of whether the Freedom of Information Act (FOIA) requires disclosure of the record; 5) a Member of Congress submitting a request involving an individual to whom the record pertains, when the individual has requested the Member's assistance with respect to the subject matter of the record; 6) a court, magistrate, or administrative tribunal, in the course of presenting evidence, including disclosures to opposing counsel in the course of settlement negotiations; 7) the Administrator, General Services Administration (GSA), or their designee, during an inspection of records conducted by GSA under authority of 44 U.S.C. 2904 and 2906, in accordance with the GSA regulations and any other relevant (i.e., GSA or Commerce) directive, where such disclosure shall not be used to make determinations about individuals; 8) another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)); 9) the Office of Personnel Management (OPM) for personnel research purposes; and 9) the Office of Management and Budget (OMB) for legislative coordination and clearance.

If you do not furnish the information requested on this form, the USPTO may not be able to process and/or examine your submission, which may result in termination of proceedings, abandonment of the application, and/or expiration of the patent.

Additional Uses

Additional USPTO uses of the information in this record may include disclosure to: 1) the International Bureau of the World Intellectual Property Organization, if the record is related to an international application filed under the Patent Cooperation Treaty; 2) the public i) after publication of the application pursuant to 35 U.S.C. 122(b), ii) after issuance of a patent pursuant to 35 U.S.C. 151, iii) if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections, or an issued patent, or iv) without publication of the application or patent under the specific circumstances provided for by 37 CFR 1.14(a)(1)(v)-(vii); and/or 3) the National Archives and Records Administration, for inspection of records.

**TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE
REGISTERED PRACTITIONERS**

NOTE: This form is to be submitted with the Power of Attorney by Applicant form (PTO/AIA/82B) to identify the application to which the Power of Attorney is directed, in accordance with 37 CFR 1.5, unless the application number and filing date are identified in the Power of Attorney by Applicant form. If neither form PTO/AIA/82A nor form PTO/AIA82B identifies the application to which the Power of Attorney is directed, the Power of Attorney will not be recognized in the application.

Application Number	12/487,639
Filing Date	06/18/2009
First Named Inventor	John Patrick Keady
Title	AMBIENT SITUATION AWARENESS SYSTEM AND METHOD FOR VEHICLES
Art Unit	2685
Examiner Name	Donnie L Crosland
Attorney Docket Number	PRS-157US (PERS-0049US)

SIGNATURE of Applicant or Patent Practitioner

Signature	/Peter A. Chiabotti/	Date (Optional)	08/08/2024
Name	Peter A. Chiabotti	Registration Number	54603
Title (if Applicant is a juristic entity)	Attorney of Record		
Applicant Name (if Applicant is a juristic entity)	ST CasesTech, LLC		

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. If more than one applicant, use multiple forms.



*Total of 1 forms are submitted.

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