data from "tethered" cameras to separate camcorders through IR signals to *eliminate the tethering cables*.

[0006] More recently, integrated hands-free, POV action sports video cameras have become available. FIGS. 2A and 2B present pictorial views of two prior art products implementing integrated solutions to first-person video recording. These products are still in their infancy and may be difficult to use well.

Summary of the Disclosure

[0006a] According to a first aspect, there is provided an integrated point of view digital video camera operable for mounting to a person, a vehicle, or equipment and operable for capturing video during motion of the person, the vehicle, or the equipment, comprising: a camera housing containing a lens and an image sensor, the camera housing defining a housing plane and the image sensor operable for capturing light propagating through the lens and representing a scene during motion of the person, the vehicle, or the equipment, the image sensor producing image data representing an image of the scene that is oriented with respect to a horizontal image plane, and the lens and the image sensor having an orientation that is adjustable with respect to the housing plane; a mounting mechanism adaptable for secure mounting of the camera housing to the person, the vehicle, or the equipment; a horizon adjustment control for adjusting with respect to the housing plane an orientation of the horizontal image plane of the image of the scene, the horizon adjustment control forming part of the housing but operationally independent of the mounting mechanism to enable adjustment of the orientation of the horizontal image plane when the camera housing is securely mounted to the person, the vehicle, or the equipment; and a control axis that extends through the camera housing, and the horizon adjustment control including a rotary controller that is operable for rotation about the control axis to rotate the lens and the image sensor which are supported in rotational congruence with the rotary controller and thereby change the orientation of the horizontal image plane with respect to *the housing plane such that the image sensor is operable to produce image data with* respect to the orientation of the horizontal image plane, in which the lens and the image sensor are operable for rotation about the control axis.

[0006b] According to a second aspect, there is provided an integrated point of view digital video camera operable for mounting to a person, a vehicle, or equipment and operable for capturing video during motion of the person, the vehicle, or the equipment, comprising: a camera housing containing a lens and an image sensor, the camera housing defining a housing plane and the image sensor operable for capturing light propagating

through the lens and representing a scene during motion of the person, the vehicle, or the equipment, the image sensor producing image data representing an image of the scene that is oriented with respect to a horizontal image plane, and the lens and the image sensor having an orientation that is adjustable with respect to the housing plane; a mounting mechanism adaptable for secure mounting of the camera housing to the person, the vehicle, or the equipment; a horizon adjustment control for adjusting with respect to the housing plane an orientation of the horizontal image plane of the image of the scene, the horizon adjustment control forming part of the housing but operationally independent of the mounting mechanism to enable adjustment of the orientation of the horizontal image plane when the camera housing is securely mounted to the person, the vehicle, or the equipment; and a control axis that extends through the camera housing, and the horizon adjustment control including a rotary controller that is operable for rotation about the control axis to rotate the lens and the image sensor which are supported in rotational congruence with the rotary controller and thereby change the orientation of the horizontal image plane with respect to the housing plane such that the image sensor is operable to produce image data with respect to the orientation of the horizontal image plane, in which: the scene has a level orientation; the housing plane includes the control axis; the image sensor and the lens are mounted along an optical axis that is collinear with the control axis; and the rotary controller adjusts the horizontal image plane with respect to the level orientation of the scene.

[0006c] According to a third aspect, there is provided an integrated point of view digital video camera operable for mounting to a person, a vehicle, or equipment and operable for capturing video during motion of the person, the vehicle, or the equipment, comprising: a camera housing containing a lens and an image sensor, the camera housing defining a housing plane and the image sensor operable for capturing light propagating through the lens and representing a scene during motion of the person, the vehicle, or the equipment, the image sensor producing image data representing an image of the scene that is oriented with respect to a horizontal image plane, and the lens and the image sensor having an orientation that is adjustable with respect to the housing plane; a mounting mechanism adaptable for secure mounting of the camera housing to the person, the vehicle, or the equipment; a horizon adjustment control for adjusting with respect to the housing plane an orientation of the horizontal image plane of the image of the scene, the horizon adjustment control forming part of the housing but operationally independent of the mounting mechanism to enable adjustment of the orientation of the horizontal image plane when the

camera housing is securely mounted to the person, the vehicle, or the equipment; and a control axis that extends through the camera housing, and the horizon adjustment control including a rotary controller that is operable for rotation about the control axis to rotate the lens and the image sensor which are supported in rotational congruence with the rotary controller and thereby change the orientation of the horizontal image plane with respect to the housing plane such that the image sensor is operable to produce image data with respect to the orientation of the horizontal image plane, in which the mounting mechanism includes a slidably engageable mounting feature on the camera housing.

[0006d] According to a fourth aspect, there is provided an integrated point of view digital video camera operable for mounting to a person, a vehicle, or equipment and operable for capturing video during motion of the person, the vehicle, or the equipment, comprising: a camera housing containing a lens and an image sensor, the camera housing defining a housing plane and the image sensor operable for capturing light propagating through the lens and representing a scene during motion of the person, the vehicle, or the equipment, the image sensor producing image data representing an image of the scene that is oriented with respect to a horizontal image plane, and the lens and the image sensor having an orientation that is adjustable with respect to the housing plane; a mounting mechanism adaptable for secure mounting of the camera housing to the person, the vehicle, or the equipment; a horizon adjustment control for adjusting with respect to the housing plane an orientation of the horizontal image plane of the image of the scene, the horizon adjustment control forming part of the housing but operationally independent of the mounting mechanism to enable adjustment of the orientation of the horizontal image plane when the camera housing is securely mounted to the person, the vehicle, or the equipment; and a control axis that extends through the camera housing, and the horizon adjustment control including a rotary controller that is operable for rotation about the control axis to rotate the lens and the image sensor which are supported in rotational congruence with the rotary controller and thereby change the orientation of the horizontal image plane with respect to the housing plane such that the image sensor is operable to produce image data with respect to the orientation of the horizontal image plane, wherein: the scene has a level orientation; the person, the vehicle, or the equipment has a mounting surface with an off-axis orientation with respect to the level orientation of the scene; the mounting mechanism provides positioning adjustment of the camera housing with respect to the level orientation of the scene; and cooperative adjustment of the mounting mechanism and the rotary controller facilitate adjustments of the horizontal image plane for pitch, yaw, and roll with

respect to the level orientation of the scene and permit orientation of the horizontal image plane to be parallel to the level orientation of the scene despite the off-axis orientation of the mounting surface.

[0006e] According to a fifth aspect, there is provided an integrated point of view digital video camera operable for mounting to a person, a vehicle, or equipment and operable for capturing video during motion of the person, the vehicle, or the equipment, comprising: a camera housing containing a lens and an image sensor, the camera housing defining a housing plane and the image sensor operable for capturing light propagating through the lens and representing a scene during motion of the person, the vehicle, or the equipment, the image sensor producing image data representing an image of the scene that is oriented with respect to a horizontal image plane, and the lens and the image sensor having an orientation that is adjustable with respect to the housing plane; a mounting mechanism adaptable for secure mounting of the camera housing to the person, the vehicle, or the equipment; a horizon adjustment control for adjusting with respect to the housing plane an orientation of the horizontal image plane of the image of the scene, the horizon adjustment control forming part of the housing but operationally independent of the mounting mechanism to enable adjustment of the orientation of the horizontal image plane when the camera housing is securely mounted to the person, the vehicle, or the equipment; and a control axis that extends through the camera housing, and the horizon adjustment control including a rotary controller that is operable for rotation about the control axis to rotate the lens and the image sensor which are supported in rotational congruence with the rotary controller and thereby change the orientation of the horizontal image plane with respect to the housing plane such that the image sensor is operable to produce image data with respect to the orientation of the horizontal image plane, in which the mounting mechanism includes first and second mounting pieces configured for coupling to, respectively, the camera housing and the person, the vehicle, or the equipment, and in which the first and second mounting pieces are rotationally coupled to assume an adjustable orientation relative to each other and thereby provide rotational positioning adjustment of the camera housing.

[0006f] According to a sixth aspect, there is provided an integrated point of view digital video camera operable for mounting to a person, a vehicle, or equipment and operable for capturing video during motion of the person, the vehicle, or the equipment, comprising: a camera housing containing a lens and an image sensor, the camera housing defining a housing plane and the image sensor operable for capturing light propagating through the

lens and representing a scene during motion of the person, the vehicle, or the equipment, the image sensor producing image data representing an image of the scene that is oriented with respect to a horizontal image plane, and the lens and the image sensor having an orientation that is adjustable with respect to the housing plane; a mounting mechanism adaptable for secure mounting of the camera housing to the person, the vehicle, or the equipment; a horizon adjustment control for adjusting with respect to the housing plane an orientation of the horizontal image plane of the image of the scene, the horizon adjustment control forming part of the housing but operationally independent of the mounting mechanism to enable adjustment of the orientation of the horizontal image plane when the camera housing is securely mounted to the person, the vehicle, or the equipment; and a control axis that extends through the camera housing, and the horizon adjustment control including a rotary controller that is operable for rotation about the control axis to rotate the lens and the image sensor which are supported in rotational congruence with the rotary controller and thereby change the orientation of the horizontal image plane with respect to the housing plane such that the image sensor is operable to produce image data with respect to the orientation of the horizontal image plane, in which: the camera housing has a length; the first mounting piece comprises a plug mount that has a circumferential edge and is matable to the camera housing to provide for linear positioning adjustment of the first mounting piece along the length of the camera housing; and the second mounting piece comprises a base mount that has a base mount cavity into which the plug mount fits, the base mount cavity having an inside edge to which the circumferential edge of the plug mount is matable, the matable fit of the base mount and the plug mount providing the rotational positioning adjustment of the camera housing about a mount rotation axis that is transverse to the length of the camera housing to enable setting of the digital video camera to a desired viewing angle.

[0007] A portable digital video camera (or camcorder) includes a camera housing and a lens.

[0008] Some embodiments of the portable digital video camera (or camcorder) comprise an integrated hands-free, POV action sports digital video camera (or camcorder).

[0009] Some embodiments of the portable digital video camera (or camcorder) or the integrated hands-free, POV action sports digital video camera (or camcorder) include an image sensor for capturing image data.

[0010] Some embodiments of the portable digital video camera (or camcorder) or the integrated hands-free, POV action sports digital video camera (or camcorder) include a manual horizon adjustment control for adjusting an orientation of a horizontal image plane recorded by the image sensor with respect to a housing plane of the camera housing.

[0011] Some embodiments of the portable digital video camera (or camcorder) or the integrated hands-free, POV action sports digital video camera (or camcorder) include a laser alignment system with one or more laser sources capable of projecting light emissions to define a horizontal projection axis that is coordinated with orientation of the horizontal image plane.

[0012] Some embodiments of the portable digital video camera (or camcorder) or the integrated hands-free, POV action sports digital video camera (or camcorder) include a microphone and a manually operable switch for controlling an audio and/or video data capturing operation, the switch having an activator that covers the microphone whenever the switch is in the OFF position.

[0013] Some embodiments of the portable digital video camera (or camcorder) or the integrated hands-free, POV action sports digital video camera (or camcorder) include a “quick-release” mounting system that can be used in conjunction with the