[004] It can thus be seen that there exists a need to provide a modular add-on head-up augmented reality functionalities to an eyewear of a host. Preferably, this modular add-on is foldable and the near-eye display or projection member is movable to an unobstructed view position during mission-critical, time-critical or safety-critical situations; these heads-up AR display systems are designed for ease of use and to augment productivity and efficiency during training or work.

Summary

[005] The following presents a simplified summary to provide a basic understanding of the present invention. This summary is not an extensive overview of the invention, and is not intended to identify key features of the invention. Rather, it is to present some of the inventive concepts of this invention in a generalised form as a prelude to the detailed description that is to follow.

[006] The present invention seeks to provide a modular head-up augmented reality (AR) display system to add-on to a host spectacle or an AR spectacle for mounting onto a helmet. Modules of the AR display system are for removeable attachment onto the host spectacle/helmet, and for extending functionalities of the host spectacle, which include multi-modal controls of forward equipment deployed ahead of the user.

[007] In one embodiment, the present invention provides a modular augmented reality head-up display system as defined in claims 1-17.

[008] In another embodiment, the present invention provides a modular augmented reality head-up display kit as defined in claim 18.

[009] In yet another embodiment, the present invention provides a realtime control system for an unmanned vehicle recited in claims 10-15, and an alternative autonomous control system as defined in claims 20-23.

CLAIMS:

1. A heads-up augmented reality (AR) display system wearable by a user in a rescue or combat mission comprising:

a processor module;

a battery module;

a trunking module disposed between the processor and the battery modules to protect wires connecting the processor and the battery modules; and

a host spectacle having two temple pieces and a front frame;

wherein the processor and the battery modules have hooks so that the processor and the battery modules are removeably attachable onto separate temple pieces whilst the trunking module is removeably attachable onto the front frame of the host spectacle; and

wherein a forward distal end of the processor module is pivotably connected to a display or projection unit by a drop-in slot connector, so that the display/projection unit is pivotable about one axis and is adjustable between an extended position (for AR view) and a retracted position (for full reality view), thereby allowing the user to stay vigilant during a mission-critical, time-critical or safety-critical situation.

2. The AR heads-up display system according to claim 1, wherein the host spectacle is a ballistic protection eyewear, a prescription eyewear or a non-prescription eyewear.

3. A heads-up augmented reality (AR) display system wearable by a user in a rescue or combat mission comprising:

a processor module;

a battery module; and

a helmet with a Picatinny rail disposed on either exterior side of the helmet for mounting the processor module and the battery module;

wherein a forward distal end of the processor module is pivotably connected to a display or projection unit by a drop-in slot connector, so that the display/projection unit is pivotable about one axis and is adjustable between an extended position (for AR view) and a retracted position (for full reality view), thereby allowing the user to stay vigilant during a mission-critical, time-critical or safety-critical situation.