CLAIMS

What is claimed is:

1. Eyewear comprising:

an optical element;

electronic components;

a support structure configured to support the optical element and the electronic components, the support structure defining a region for receiving at least a portion of a head of a user; and

a biometric sensor coupled to the electronic components and supported by the support structure, the biometric sensor attached to the support structure and positioned to detect, in the region, a biometric signal representative of a biometric of the user for processing by the electronic components, wherein the biometric sensor includes an infrared (IR) transmitter and an IR receiver, and wherein the electronic components are configured to control the IR transmitter to periodically transmit an IR signal and to receive the biometric signal from the IR receiver whereby the IR transmitter and IR receiver are energized and deenergized for defined periods of time during which no biometric signal is detected to reduce power consumption.

2. The eyewear of claim 1, further comprising:

a flexible printed circuit board (FPCB) positioned within the support structure, the FPCB connecting the biometric sensor to the electronic components.

~~3. The eyewear of claim 1, wherein the biometric sensor includes an infrared (IR) transmitter and an IR receiver, and the electronic components are configured to control the IR transmitter to transmit an IR signal and to receive the biometric signal from the IR receiver.~~

~~4.~~3. The eyewear of claim 1, wherein the biometric signal corresponds to a heart rate or a blood pressure of the user wearing the eyewear.

~~5.~~4. The eyewear of claim 1, wherein the support structure comprises:

a frame; and

temples connected to the frame, the temples and frame defining the region for receiving the at least a portion of the head of the user.

~~6.~~5. The eyewear of claim 5, further comprising:

nose pads positioned on the frame, the biometric sensor positioned within at least one of the nose pads.

~~7.~~6. The eyewear of claim 5, wherein the biometric sensor is positioned on at least one of the temples at a location adjacent to an ear of the user.

~~8.~~7. The eyewear of claim 5, further comprising:

a flexible printed circuit board (FPCB) positioned within the frame,

wherein the frame comprises optical rims and the FPCB extends from the electronic components to the biometric sensor though at least one of the optical rims.

~~9.~~8. The eyewear of claim 5, further comprising:

a flexible printed circuit board (FPCB) positioned within the temple,

wherein the FPCB extends from the electronic components to the biometric sensor though the temple.

~~10.~~9. The eyewear of claim 5, wherein the electronic components further comprise a controller configured to analyze the biometric signal to determine the biometric of the user and an output device configured to output an audible or visual indicator that corresponds to the biometric of the user.

~~11.~~10. The eyewear of claim 5, wherein the electronic components further comprise a memory device configured to record the biometric signal for downloading by a personal computing device.

~~12.~~11. The eyewear of claim 5, wherein the electronic components further comprise a wireless transceiver configured to transmit the biometric signal to a personal computing device for processing.

~~13.~~12. The eyewear of claim 5, further comprising:

another biometric sensor positioned on at least one of the frame or one of the temples, and positioned to detect another biometric signal representative of the same biometric or a different biometric of the user for processing by the electronic components.

~~14.~~13. The eyewear of claim 13, wherein the electronic components process both the biometric signal with the other biometric signal to determine the biometric.

~~15.~~14. An eyewear control method for detecting a biometric signal of a user, the method comprising:

triggering, by electronic components in the eyewear, a biometric sensor in the eyewear to detect a biometric signal representative of a biometric of the user by periodically triggering, by the electronic components, the biometric sensor to transmit an infrared (IR) signal into a region of the eyewear configured to receive at least a portion of the head of a user and receive a reflective IR signal for analysis to detect the biometric signal representative of the biometric of the user whereby the IR transmitter and IR receiver are energized and deenergized for defined periods of time during which no biometric signal is detected to reduce power consumption; and

processing, by the electronic components, the biometric signal to determine the biometric of the user.

~~16.~~15. The method of claim 15, further comprising:

sampling, by a controller of the electronic components, the biometric signal over a predetermined period of time and storing the samples in a memory device of the electronic components.

~~17.~~16. The method of claim 15, further comprising:

transmitting, by a transceiver of the electronic components, the biometric signal to a personal computing device remote from the eyewear, for processing to determine the biometric of the user wearing the eyewear.

~~18.~~17. The method of claim 15, further comprising:

analyzing, by a controller of the electronic components, the biometric signal to determine the biometric of the user wearing the eyewear.

~~19.~~18. The method of claim 15, further comprising:

outputting, by an audible or visual indicator of the electronic components, the biometric signal to the user wearing the eyewear.

~~20. The method of claim 15, wherein the triggering step comprises:~~

~~periodically triggering, by the electronic components, the biometric sensor to transmit an infrared (IR) signal into a region of the eyewear configured to receive at least a portion of the head of a user and receive a reflective IR signal for analysis to detect the biometric signal representative of the biometric of the user.~~