CLAIMS

What is claimed is:

1. An optical device comprising:

   at least one eyepiece fixed in a physical position with respect to an observer; and

   at least one image sensing assembly having an image sensor, at least one electrical connection, and an output image through the eyepiece;

   at least one objective lens, the at least one objective lens and the at least one image sensing assembly forming at least one channel,

   wherein at least one of the at least one image sensing assembly and the at least one objective lens is configured to move for focusing the output image projected through the at least one eyepiece to an eye of the observer.

2. The optical device of claim 1 wherein the at least one objective lens focuses in relation to the at least one image sensing assembly.

3. The optical device of claim 1 wherein the at least one image sensing assembly independently focuses to the at least one eyepiece.

4. The optical device of claim 1 wherein the at least one objective lens is capable of being independently purged from the at least one eyepiece and the at least one image sensing assembly.

5. The optical device of claim 1 wherein the at least one objective lens is capable of being purged simultaneously with the at least one eyepiece and the at least one image sensing assembly.

6. The optical device of claim 1 wherein the at least one electrical connection is integrated into the at least one image sensing assembly.

7. The optical device of claim 1 wherein the at least one electrical connection is configured to provide electrical connection as the at least one image sensing assembly moves for focus.

8. The optical device of claim 1 wherein the at least one electrical connection is integrated as part of a focus mechanism.

9. The optical device of claim 1 wherein the at least one electrical connection is a slip ring type connection.

10. The optical device of claim 1 wherein the at least one electrical connection is a translational sliding type connection.

11. The optical device of claim 1 wherein the at least one electrical connection is a flex circuit.

12. The optical device of claim 1 wherein at least one of the at least one image sensing assembly and the at least one objective lens is configured to focus through rotational movement and the other of the at least one image sensing assembly and the at least one objective lens is configured to focus through translational movement.

13. The optical device of claim 1 wherein both of the at least one image sensing assembly and the at least one objective lens is configured to focus through rotational movement or translational movement.

14. The optical device of claim 1 wherein the channel of the at least one objective lens and the at least one image sensing assembly has a non-adjustable collimation designed into the channel.

15. The optical device of claim 1 wherein the at least one eyepiece is permanently fixed in relation to at least one image sensor focus mechanism.

16. The optical device of claim 1 wherein at least one mechanical mounting assembly is integral to an eyepiece housing.

17. A night vision device containing an image intensifier, wherein the optical device of claim 1 is integrated into the night vision device.

18. A night vision device containing a thermal image sensor, wherein the optical device of claim 1 is integrated into the night vision device.

19. A night vision device, wherein the optical device of claim 1 is integrated into the night vision device, wherein the night vision device contains at least 4 channels of objective lenses and image sensing assemblies, and at least 2 eyepieces.

20. A night vision device wherein the optical device of claim 1 is integrated into the night vision device, wherein an image display is connected to the image sensing assembly.

21. The optical device of claim 1, wherein the at least one channel further comprises at least one image display.

22. The optical device of claim 1, wherein the at least one image sensing assembly further comprises at least a first image sensing assembly and a second image sensing assembly, the first image sensing assembly having a first image sensor and the second image sensing assembly having a second image sensor, wherein the first image sensor and the second image sensor are different types of imaging sensors.

23. The optical device of claim 22, wherein the output image through the eyepiece is a combination of an image from at least the first image sensor and an image from the second image sensor.