

# Thermal Optics Terms

**Thermal Rifle Scope** – A rifle scope used for hunting at night that uses a heat imaging core to display your area of view instead of light. A thermal rifle scope is basically a thermal camera with an aiming device (reticle).

**Thermal Heat Core** – The heart of any thermal optic is the thermal camera core. The better the thermal core, the better your optic will perform. The best cores in high-end optics now provide 640×480 resolution while the less expensive, but very good optics provide a 320×240 or similar resolution.

Other specifications of the thermal core are micron size and refresh rate. Today, most thermal optics are 12-17 microns, 12 being the best quality.

**Refresh Rates** – Thermal scopes refresh the image constantly. Although it is hard to distinguish the difference between 30 and 60 Hz refresh rates while you are standing still, there is an advantage to a scope that refreshes the image 60 times a second when moving.

**Thermal Scope Display Types** – Thermal scopes have different types of displays. Older scopes use Liquid Crystal Displays (LCD) but the new scopes now use better technologies, like OLED or AMOLED. There are several grades of AMOLED displays, and again, the higher end scopes will have the higher end OLED or AMOLED displays.

**Objective Lens Size** - Thermal scopes do not gather light, they rely on heat sensors, so while larger objective lens may help the image, the quality of the lens is the most important factor. For thermal scopes, the quality of the Germanium objective lens and the coating of the lens are what is most important for best performance.

**Ocular Lens** – The eyepiece, or **ocular lens**, is lens that is closest to the eye. The quality of the eyepiece varies in scopes but is a critical factor in clarity. About the only way you can determine the eyepiece quality is to compare similar scopes by actually looking through them.

**Re-calibrating (NUC'ing) The Scope** – Thermal Scopes are constantly “burning” an image onto the display screen. If you are hunting and leave your thermal scope pointed in the same direction for a more than a few minutes, it *may* require re-calibration. Some thermals do this automatically and some require manual re-calibration. If your scope has manual re-calibration, it is a simple procedure.

Call Jason Robertson at (877)350-1818, check out the informative [Late Night Vision Show](#) on Youtube or PodCast, or visit the [Outdoor Legacy Gear website](#).