Advanced Optics for Imaging Applications: UV through LWIR V

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Hyperion Optics have mature design team offering custom LWIR design. Welcome to contact us. LWIR lens plays a critical role in thermal imaging surveillance applications, beyond night vision capability, critical targets differentiation in poor vision conditions is considered the most practical attribute in homeland security and defense market segmentation. Compared to the cooled system, which focal plane array detector kept at -70°C needs cooling support, uncooled cameras are much more affordable. Aside from superior sensitivity of the cooling system, the uncooled system is dominating the market for surveillance and automobile segmentation due to its cost. A focus on optics The optics of a thermal imaging camera are designed in a similar way to those of a normal camera. However, the types of glass that are used in a normal camera cannot be used for thermal imaging camera optics, because glass does not transmit infrared radiation well enough. Advanced Thermal Solutions for a wide range of R&D and Science applications. The higher specification SC5000, X6000 sc, SC7000 and X8000 sc cooled cameras offer ultra-fast, ultra-sensitive performance in the MWIR and LWIR spectral bands, while the SC2500 operates in the NIR spectral band. In fact, anyone who wants to learn more about thermal imaging for any applications, before deciding to purchase a camera, is also invited. Reflected-ultraviolet imaging is a rather mysterious area of the imaging field. There is relatively little actual UV imagery to be found on the Internet. Digital ultraviolet imaging is becoming increasingly affordable and lends itself to a number of interesting applications that have been largely overlooked, and digital sensors are available that span the UV spectrum from 200 to 400 nm. Dr. Austin Richards, Oculus Photonics. Reflected-ultraviolet imaging is a rather mysterious area of the imaging field. FLIR's LWIR camera cores provide leading-edge imaging performance and reliability in a compact, lightweight packages. FLIR has sold more LWIR cores than any other manufacturer. It utilizes FLIR infrared video processing architecture to enable advanced image processing and several industry-standard communication interfaces while keeping power consumption low. The 12 µm pitch Vanadium Oxide (VOx) uncooled detector comes in two resolutions - 640 x 512 or 320 x 256. It is available with multiple lens configurations, adding flexibility to integration programs. 1. Introduction Infrared imaging applications are evolving at a rapid pace and continue to drive challenging requirements for reduced Size, Weight, and Power (SWaP). In particular, applications like Hand Held Thermal Imagers (HHTI), UAV, and small gimbals present a growing need for advanced, high-performance, IR thermal imaging systems with reduced size and weight. While advances in detector resolution should improve imaging performance, this is impossible without an accompanying improvement in the quality of the IR optical lens assembly. SPIE 10627, Advanced Optics for Defense Applications: UV through LWIR III, 1062707 (May 2018). by Kobi (Jacob) Lasri Ophir Optronics Solutions Ltd., MKS Instruments. Read as PDF. Products.