



DFM Engineering, Inc.

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Capabilities Statement

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Corporate Data: UEI: Z3DPGMZ6FUM6
CAGE Code: 0ETA2 NAICS Code: 541330
D&B: 34-743-9494; SBA Certification: Small Business per size standard; ITAR 22 CFR Compliant

Customer Testimonials: https://www.dfmengineering.com/customer_testimonials.html

Core Competencies:

DFM Engineering is a global leader in the design and manufacture of systems for Space Domain Awareness (SDA). Trusted by the US government and industry for over 45 years, DFM offers world-leading technology for accurate tracking of satellites, debris, and objects in all orbital regimes.

Our in-house state-of-the-art optical manufacturing and testing facility is experienced at producing the highest quality complete optical systems required for demanding SDA applications. DFM's extensive experience with electro-optical surveillance capabilities and their necessary sensors ensure custom SDA project success.

Computer control refined over four decades, provides a user-friendly interface with continual position display, status reporting, and an easy-to-use menu-driven command set allowing for complete autonomous operation. Third party software such as "TheSky", "CCD Soft", and "Orchestrate" are supported running under the ASCOM platform. DFM even offers an interface to the GEODSS Sensor Control Software (SCS). Reliability is assured as our current control system and its predecessors are used on more than 200 professional telescopes - more than any other control system worldwide.

Tracking speed and payload have a huge impact on the motors, the mount, and controls. DFM has experience with all 3 configurations of gimbals - Alt-Az, Alt-Alt, and equatorial mounts in many sizes for various applications. Key to continuous accurate tracking of many satellites is a mount capable of high speed and great precision utilizing absolute position encoders, with a high natural resonant frequency. All mounts are designed for high positioning accuracy and ultra-smooth tracking with large instrument payloads and make Nasmyth and Coudé configurations a thing of the past.

Differentiator:

DFM Engineering's satellite tracking Optical Ground Station (OGS) LEO Scope™ offers the highest performance/cost of all commercially available systems. This telescope / camera features F/1.7, 4.4-degree FOV 26-inch (66cm) aperture optics (using the 87-mm diagonal Ximea Gpixel GSENSE 6060 sCMOS camera) and offers low inertia and high stiffness to track at LEO rates which can exceed 10-degrees per second. 14th magnitude stars are easily detected in less than a tenth of a second exposure. Two degree step and settle performance is within one second. An 8-position filter cassette, when integrated with 3 or more telescopes can form a networked array, allowing real-time imaging in color or hyperspectral imaging for full-frame Space Object Identification (SOI). The well developed GEODSS Tracking, Pointing, Evaluation, and Dissemination (TPED) is supported and provides a vital interface for government SDA systems. The LEO Scope™ is also designed to offer the first practical platform for an optical communications ground station utilizing DFM's patent pending optical design.