



High-Bandwidth Mobile Communications NovaSol Corporation

NovaSol has recently developed a compact version of its successful Dual Mode Optical Interrogator (DMOI) for free space optical communications (FSOC) in the low atmosphere between moving platforms, using the eye-safe wavelength of 1.5 μm .

Taking advantage of technology advances in signal detection and pointing, acquisition, and tracking, the compact interrogator (CI) achieves better performance in a substantially smaller system. It includes all photonics, electronics, and onboard processing.

The compact CI can be transported and operated by a single person making it well suited for portable applications such as with miniature modulating retro-reflector (MRR) terminals.

It also comes with a Directed Perception **PTU-D300-ISM** pan-tilt unit for automatic, unattended use. The **PTU-D300-ISM** stabilized pan-tilt unit permits stabilized operation from moving platforms.

The CI provides a full duplex data link. MRR comms have been supported at 10 Mbps (MRR to interrogator) plus 1 Mbps (interrogator to MRR). Retransmission-on-demand protocols give full TCP/IP functionality, although a UDP-like mode is also available for real-time voice/video transmission. The dual-mode CI also supports direct interrogator-to-interrogator links using a pair of CIs. In this mode, Gbps communications have been demonstrated at a range of 8 miles.

“We were looking for an off-the-shelf pan-tilt solution that had the dynamics and accuracy required for our CI and the **PTU-D300-ISM** fit our needs well. It is also compact enough to keep our overall system weight low for both portable and airborne applications. Our latest CI has been successfully demonstrated during TW08 (Trident Warrior) U.S. Navy exercise, providing 10 Mbps communication with a MRR over more than 4 km between 2 U.S. Navy ships. We have been very pleased with the **PTU-D300** product and the support we have received from Directed Perception.”

– Eric Saint Georges, Chief Systems Engineer,
NovaSolCorp.



Compact Interrogator with PTU-D300-ISM

Customer Success Story



NOVASOL About NovaSol, (www.nova-sol.com) NovaSol, founded as Innovative Technical Solutions in October 1998, is a Hawaii-based, employee-owned company dedicated to providing best-value technical solutions to complex military, industrial, medical, and environmental problems. NovaSol specializes in the research, engineering development, and productization of next-generation active and passive optical systems.