



Army Remote Ground Terminal

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Background

Background: The Remote Ground Terminal (RGT) is a tactical, mobile, sensor agnostic Direct Downlink Demonstration system. It will provide assured, timely receipt of commercial imagery for analysts to utilize in their existing workflow. It can be seamlessly integrated with data from other sources to satisfy Requests for Information.

The RGT utilizes a U.S.-developed Commercial Common Imagery Processor that will process the raw satellite data into standard formats and allow for smoother connectivity and dissemination. The system is scalable and can be operated at multiple echelons.

Current Operations

The Remote Ground Terminal is a demonstration system used to directly downlink commercial imagery from the WorldView-2 and RADARSAT-2 satellites. It utilizes a 2.4 meter antenna and a commercial common imagery processor to process imagery into standard formats (i.e. NITF and SICD). It is a scalable system, to which additional sensors (e.g., GeoEye and TerraSar-X) can be added without increasing the tactical footprint.

Direct Downlink



2.4 meter RGT antenna with fixed reflector

The RGT provides a direct downlink capability for commercial imagery. After the imagery request has been planned and tasked, the imagery is downlinked and processed by the RGT. Testing has demonstrated that the timeline from the receipt of imagery by the 2.4M antenna, through processing by the commercial common imagery processor hardware suite to delivery to the user's workstation is less than twenty-five (25) minutes.

Commercial Common Imagery Processor



The RGT is currently only downlinking imagery from two satellites for the demonstration project. The Commercial Common Imagery Processor (CCIP) is able to process data from these satellites and output in formats that can be exploited into a wide selection of products. Analysts can disseminate the products as ESRI shapefiles, GoogleEarth KMLs, Powerpoints, and via ftp or email, libraries and other commonly used methods.

Transportability: The small footprint of the RGT — between the 2.4M antenna, four transit cases, and workstation — make it versatile for a variety of work environments. The demonstration antenna requires no disassembly prior to transport and the operational antenna will require only minimal disassembly. The antenna is equipped with a standard pintle hook (ball hitch optional) for towing. It needs only to be unhitched from the transport vehicle, connected to the opened transit cases and the equipment powered on, for the RGT system to be ready for collection.

Future Developments: Capabilities for future spirals are currently being discussed and may include sensor upgrades, certification of the processor, the integration of collection planning software and the development of an operational prototype.

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