



Building Strong®

Innovative Solutions for a Safer, Better World

Automated Route Reconnaissance Kit (ARRK)

Automated Rapid Collection and Processing of Route Data

The capacity to conduct route reconnaissance and analyze reconnaissance data while reducing time, minimizing security risks, and improving accuracy compared to conventional route reconnaissance methods is vital for deployed units. The U.S. Army Corps of Engineers (USACE) Reachback Operations Center (UROC) developed the Automated Route Reconnaissance Kit (ARRK) to provide an **adaptable, easy to use, mounted reconnaissance package** that allows the rapid collection, processing, and analysis of route reconnaissance data on a wide spectrum of mounted (ground and/or air) reconnaissance missions or for special data collection needs.

Continuous Information Collection

The ARRK can continuously collect route reconnaissance information and perform routine calculations without stopping or leaving the vehicle. During a recon, pictures, voice recordings, Global Positioning System (GPS) tracks and accelerometer and 3-D gyroscope data streams are collected. During the recon, users are also able to plot icons along the route to denote key route features such as bridges, intersections and constrictions.

Easy to use and apply

An operator with minimal training can collect, process and export route information using ARRK. ARRK operators may view a chronological picture replay of the route, a geo-referenced display of major features, and automated determination of slopes and radius of curvatures for sharp curves along the route. The data collected can quickly be converted by the operator to pre-formatted reconnaissance reports in accordance with FM 3-34.170, "Engineer Reconnaissance." Additional outputs are available in the form of JPEG snapshots and movie clips. The ability to export KMZ files has been useful when sharing data with host nation and non-governmental organizations.

Features

ARRKs include several components tailored to specific types of vehicles or aircraft:

- Accelerometer/GPS Technology/Audio Annotation Capability
- Digital and video cameras, including hand-held cameras on aircraft for more detailed ground views
- Durable laptop computer with touch screen technology and UROC-developed software
- Pre-formatted reconnaissance reports in accordance with FM 3-34.170, Engineer Reconnaissance
- The UROC (ARRK) and the Army Geospatial Center (AGC) Instrument Set, Reconnaissance and Surveying (ENFIRE) teams are currently collaborating regarding shared data and common equipment.

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The ARRK combines the power of graphical display software, global positioning system, video camera, and three-dimensional accelerometer to provide robust mounted vehicle or airborne automated route reconnaissance capabilities.



The Air ARRK has been used both in military and natural disaster response operations, and capabilities continue to evolve and improve through field testing and integration of user comments.