

Blighter[®] Explorer



- Portable, fully-integrated radar and camera system for border patrol and security applications
- E-scan radar for wide-area monitoring with detection of moving targets
- Integrated camera(s) for threat recognition and identification
- Fully scalable solution
- Automatic slew-to-cue of camera(s)
- All-weather, day/night operation
- Options for man-portable and vehicle-mobile configurations

Blighter Explorer is an integrated radar and camera system for rapid detection and identification of intruders in remote areas. The Blighter Explorer system is a compact, lightweight, low-power system enabling rapid deployment from a vehicle. The radar and video images may be viewed either from inside the vehicle, on a vehicle-integrated display system or remotely from the vehicle using the portable Sensor Control Unit (SCU).

Blighter Explorer is an integrated sensor system that uses the Blighter electronic-scanning Doppler Ground Surveillance Radar (GSR) for the rapid detection of moving targets. The radar automatically cues a long-range camera with optional night-time Thermal Imager (TI) to stare in the direction of the target, enabling the operator to recognise and identify that intruder. The radar image is displayed on the BlighterView HMI screen with the camera image on a secondary screen.

The Blighter Explorer system is ideally suited to vehicle-based operation. The sensor equipment may either be attached to a vehicle-mounted mast or rapidly deployed away from the vehicle using tripods. Either wired or wireless links may be used to remotely operate the equipment from the comfort and protection of the vehicle.

The Blighter Explorer equipment has very low power consumption. For battery-only operation, a small set of Li-Ion batteries allows continuous operation for a 12 hour shift, making it ideal for short-term deployment. For continuous 24/7 operation, the equipment may be powered directly from the vehicle or the batteries can be recharged from a combination of vehicle and solar power.

Remote border surveillance

Blighter Explorer is a cost effective solution to border surveillance where a relatively small number of vehicles and border patrol staff can move rapidly to

border areas that are being breached. The rapid deployment and pack-up of the equipment allows border patrol staff to react quickly to changes in intruder flow.

The Blighter B202 Mk 2 radar is ideally suited to operation in remote mountainous terrain. The radar's 20° vertical elevation beam allows it to see the tops of hills as well as down into valleys simultaneously. Its electronic-scanning technology allows it to detect humans moving slowly through rocky landscapes. A terrain calibration facility in the BlighterView HMI allows the camera to tilt to the correct elevation to see the intruder at a specific range and bearing.

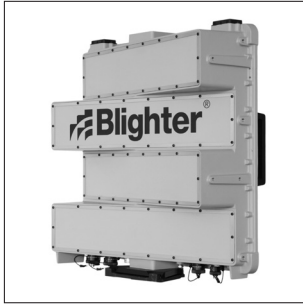
Temporary camp protection

Mobile security patrols often need to provide overnight surveillance to protect themselves when resting. The Blighter Explorer system can be rapidly deployed the moment the patrol stops. The Blighter radar can be remotely deployed either to look over the camp from a distance or to monitor known high-risk security areas.

The BlighterView HMI includes operator defined 'Alert' and 'Exclusion' zones. An intruder entering the Alert zone will be detected by the Blighter Radar, trigger an alarm on the BlighterView HMI and automatically cue the camera in the direction of the intruder. This automatic operation allows the operator to do other activities or rest until alerted by the Blighter Explorer system.

Radar Specification

B202 Mk 2 Radar



Target Detection Performance

- Maximum detection ranges:
 - Crawling person (RCS 0.1 m²): 1.5 km (0.9 mi.)
 - Walking person (RCS 1 m²): 3.3 km (2.1 mi.)
 - Moving vehicle (RCS 30 m²): 8.0 km (5.0 mi.)
 - Large moving vehicle (RCS 100 m²): 8.0 km (5.0 mi.)

Coverage

- Instrumented maximum range: 5 or 8 km (3.1 or 5.0 mi.)
- Instrumented minimum range: less than 10 m (33 ft.)
- Azimuth scan angle: 90° horizontal e-scan
- Elevation beam: 20° vertical beamwidth

B400 Series Radar



Target Detection Performance

- Maximum detection ranges:
 - Crawling person (RCS 0.1 m²): 4.5 km (2.8 mi.)*
 - Walking person (RCS 1 m²): 10.3 km (6.4 mi.)*
 - Moving vehicle (RCS 30 m²): 16.0 km (9.9 mi.)*
 - Large moving vehicle (RCS 100 m²): 27.3 km (17.0 mi.)*
 - Very large moving vessel (RCS 1,000 m²): 32.0 km (19.9 mi.)*

Coverage

- Instrumented maximum range: 5, 8, 16 or 32 km (3.1, 5.0, 9.9 or 19.9 mi.)
- Instrumented minimum range: less than 10 m (33 ft.)
- Azimuth scan angle: 90° (B402), 180° (B422), 270° (B432) or 360° (B442) horizontal e-scan
- Elevation beam: 10° or 20° vertical beamwidth

* Radar fitted with M10S long-range antenna horns and high-power transmitter

Camera Specification



Electro-Optical Camera

- Sensor type: daytime colour and/or night-time monochrome (peltier-cooled)
- Sensor format: 1/3 in. or 1/2 in.
- Zoom type: continuous
- Lens focal length: 12.5 to 750 mm or 250 to 1,540 mm
- Options: switchable 2x extender, context camera, wiper

Pan/tilt Positioner

- Positioner type: two-axis motorised
- Mounting type: threaded hole (for tripod mount)

Optional Thermal Imaging Camera

- Sensor type: cooled or uncooled
- Spectral band: mid-wavelength (3 to 5 µm) or long-wavelength (8 to 14 µm)
- Zoom type: fixed, wide/narrow switchable or continuous

Sensor Control Unit (SCU) Specification



Sensor Control Unit

- Form factor: ruggedised portable carry-case (Peli-style)
- Camera display: high-visibility LCD screen
- Integrated computer: ruggedised industrial PC or removable laptop/tablet PC
- Software: BlighterView HMI application
- Power supply: internal battery, external battery or mains power

Errors and omissions excepted. Plextek reserves the right to modify specifications without notice. Blighter radars are protected by a number of international patents. The Blighter name is an international registered trademark.

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Plextek

Plextek Ltd
London Road
Great Chesterford
Essex CB10 1NY UK

www.blighter.com
blighter@plextek.co.uk

Tel: +44 (0)1799 533200
Fax: +44 (0)1799 533201