

Blighter[®] Explorer



- Portable, fully integrated radar and camera system for border patrol and security applications
- PESA E-scan radar provides wide area monitoring with detection of moving targets
- Integrated visible and IR thermal imaging camera system for threat recognition and identification
- Easy-to-use Windows-based HMI
- Fully scalable solution
- Automatic slew-to-cue of camera
- All weather, day/night operation

Blighter Explorer is an integrated radar and camera system for rapid detection and identification of intruders in remote areas. Blighter Explorer 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 a ruggedised laptop and battery powered, portable video display.

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 2 screen with the camera video 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 compensation facility in the BlighterView HMI 2 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 then be remotely deployed either to look over the camp from a distance or to persistently monitor specific high risk security areas.

The BlighterView HMI 2 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 2 and automatically cue the camera in the direction of the intruder. This automatic operation allows the operator to conduct other activities or rest until alerted by the Blighter Explorer system.

Radar Specification



Blighter 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

Camera Specification



Aquila PTZ 640-150ZF Camera

Thermal Imaging Camera (Cam #1)

- Microbolometer: uncooled VOx 640 x 480 17µm
- Spectral response: 8 to 14µm
- Thermal sensitivity: NETD typically 50 mK @ F/1.0
- Format: NTSC / PAL
- Lens focal length and F/#: 25 - 150 mm continuous zoom F/1.4
- FoV: from 25.3° x 19° WFoV (25 mm) to 4.15° x 3.0° N FoV (150 mm)
- Focus: motorized
- Zoom 6.0 x true optical continuous zoom / x2, x3 and x4 digital
- AGC: Yes with two image contrast enhancement algorithms

Visible Camera (Cam #2)

- Optical zoom: 36x
- Digital zoom: 12x
- Lens focal length and F/#: 3.4 mm to 122.4 mm F/1.6 to F/4.5
- HFoV: 57.8° to 1.7°
- Resolution: 550 TVL
- Dynamic range: 50dB
- Light sensitivity (@ full video rate): 1.4 Lux Col, 0.2 Lux Mono
- Auto focus: yes
- Manual focus: yes
- Image stabilisation: yes

Visible Camera (Cam #3)

- Type: fixed focus situational awareness (wide field of view) camera

Errors and omissions excepted. Blighter Surveillance Systems Ltd 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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