DEFENCE AND FORCE PROTECTION

For defence and force protection applications, products need to be simple to install, robust, easy to use and effective. The Blighter radar's robust and modular design allows it to operate reliably in the toughest environments and in all weather conditions. The Blighter radar can be used on fixed masts for long range base protection, mounted on vehicles for temporary camp protection or backpacked for rapidly deployable forward observation applications.

The Blighter radar's electronic-scanning technology means that there are no mechanical moving parts to wear out or get contaminated with sand or dust, and the lack of mechanical movement makes it visually covert. A range of different Blighter radar products and variants satisfies a large number of defence and force protection related surveillance applications.

Forward Operating Base (FOB) Security

Blighter B400 series radars provide long-range area surveillance for bases in remote areas, where traditional security infrastructure is not available. A typical FOB surveillance system comprises of a containerised system with Blighter radar, long-range camera and thermal imager (electro-optic system), other remote sensors, power generation and an integrated command and control (C2) suite.

Situational Awareness is key to effective FOB surveillance and for this the Blighter radar can provide rapid scan times as fast as one second. Any movement is instantly detected and displayed on the C2 system without the delay associated with traditional tracked outputs. Operators know the instant that something or someone moves and can react instantly, receiving a constant series of position updates as the target moves.

To reduce operator fatigue, the Blighter radar includes a number of features to reduce unwanted or nuisance alarms from wind-blown vegetation and wildlife. Simple radar settings can adapt the radar to operate reliably in most environments and under all weather conditions.

A number of Blighter Surveillance Systems' partners can provide complete FOB security systems. Please contact us for details.

Pattern of Life Analysis

Radars, cameras, thermal Imagers and other remote sensors can provide an operator with a snapshot of what is happening at any one moment. Whilst this is useful, the experienced operator will know that the flow of people, vehicles and even wildlife through an area will change dynamically throughout the day and night, forming a 'Pattern of Life'. A number of Blighter Surveillance Systems' partners have developed software packages that analyse the Pattern of Life (PoL) using inputs from radar, cameras and other sensors. The PoL application is then able to spot divergence from the norm and alert the operator.

The Blighter radar is particularly well suited to Pattern of Life analysis as it provides rapid updates with very low latency into the PoL application. Specifically the Blighter radar can provide target plots directly from its Doppler processing circuits within a fraction of a scan. The plot data defines precisely where the target is without the filtering and delay associated with Tracked outputs which are common on most other ground surveillance radars. For operators requiring the benefits of a target tracker, Blighter still provides this capability.

Mobile Force Protection

The Blighter radar products are lightweight and robust making them suitable for installation on vehicles or stowed on vehicles for extended deployment by foot in backpacks. Blighter radars are well suited to conditions where minimal infrastructure is available, such as power and remote communications. The standard Blighter radar uses only the power of a laptop computer enabling it to run from batteries for an extended period of time or optionally from solar or other renewable power. With all the smart signal processing performed within the Blighter radar unit, the data distribution requirements of Blighter are much lower than traditional radars allowing long range wireless communication links to send the radar data back to either the vehicle or the FOB.

For wide area protection using the Blighter radar, up to six portable B202 Mk 2 radars can be deployed remotely with their radar data relayed back through a wireless mesh system to the command and control station. As all the radars have in-built GPS receiver and digital compass, they can automatically locate and orient themselves on the radar display enabling the operator to rapidly set up and operate a wide area surveillance network.

Checkpoint Security

The Blighter radar can look into the distance and provide the checkpoint security staff with early warning of incoming vehicles and especially those approaching with excess speed. The Blighter radar uses Doppler processing technology to instantaneously measure the speed of targets that it detects and this can be used to automatically trigger alert zones to warn the checkpoint staff.

For installations where a single approach road needs to be monitored, the Blighter radar's electronic beam scan can be reduced to cover just the area of interest. This improves the scan time allowing the radar to monitor the road more intensively. Alternatively alert zones covering the area between roads can be set up to monitor for intruders intent on entering by non standard routes.

Forward Observation

It is common practice to use ground surveillance radars to surveil land ahead of the current operating position to ensure that there is no undesirable activity or likely security threats. The Blighter radar offers unique capabilities that considerably enhance the quality of Forward Observation. The Blighter radar antenna has a wide 20° elevation beam (10° on the M10S long-range antennas) enabling it to operate in hilly or mountainous regions where with a single scan it can simultaneously surveil the hill-tops and valleys for any people or vehicles.

The electronic-scanning antenna and Doppler processing technology employed by the Blighter radar gives it the ability to detect extremely small and slow targets even if they are moving in heavily cluttered land. This combined with the wide elevation beam allows the Blighter radar to be operated in remote hilly and rocky terrain

looking for the slightest of movement in the large area it surveils. The Blighter radar is typically used in conjunction with a lightweight electro-optic system, which the Blighter radar can control, so that the operator can then observe the activity detected by the radar.

Airbase Perimeter Security

The Blighter radar can be installed high up on existing infrastructure and provide remote surveillance of the airbase perimeter, the areas within it and depending on the fence construction and surrounding environment, the land around the airbase. This allows intruders to be detected before they get to the fence and then tracked and followed as they climb the fence and move around the airbase. A single 360° Blighter radar (B442) may be used if the site topology allows, however it is typical to use two or three 180° radars (B422) to obtain optimal coverage with minimal radar obscuration by buildings etc.

The Blighter radar takes advantage of its electronic-scanning technology and Doppler processing system to enable it to detect intruders, walking or crawling even if they are moving next to large static objects such as buildings, vehicles and even under aircraft wings and fuselage. The radar may be used to cue a long range camera and/or Thermal Imager for intruder identification in daylight or darkness. Additionally the BlighterView HMI 2 allows the Blighter radar system to trigger existing surveillance cameras to enable intensive multi-intruder detection and tracking complete with evidential recording.

The radar may be used in fixed installations where the airbase is already established, however for short term installations or where the airbase is being extended, it is possible to deploy Blighter on a vehicle or trailer mounted platform. Wireless communications can be used to send the radar data and video back to the control tower or security room.