

Perimeter Intrusion Detection Solutions



RAFID



World Beating Perimeter Protection - Proven





Radio Frequency Intruder Detection

A huge variety of companies are finding themselves the targets of an ever increasing army of opportunist thieves, career criminals, terrorists or merely trespassers. Having the security of knowing that you have done all you can, with the best quality equipment, to make your perimeter as thief-proof as possible will be a great comfort.

Choosing a trustworthy system

There is no shortage of technology and techniques available, all purporting to be 'the best'. There can be no single choice in deciding on the best available system for your company, simply because different techniques are better suited to different applications. Any company which can offer a whole range of technologies and techniques will be top of the list for anybody considering this type of protection.

Geoquip is one of the very few companies worldwide which has developed the range of technology required to offer complete detection for perimeters, regardless of the terrain and environment. Whether you are needing protection for open spaces or walls, fencing or building, Geoquip has the flexibility to provide you with the most suitable solution. One such system is RAFID.

What is RAFID?

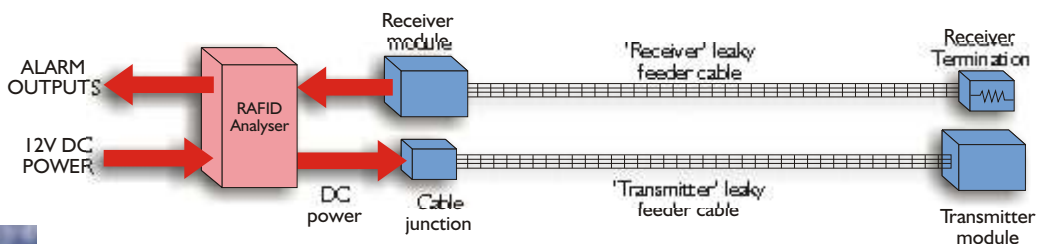
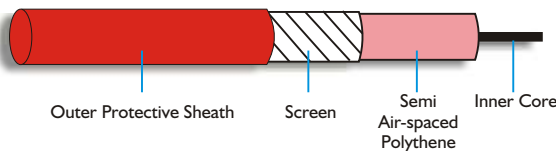
This Radio Frequency Intruder Detection system is one of a range of technologies developed by Geoquip Limited to offer complete protection in places where uninvited guests need to be discouraged. It is discreet - ideal for 'proximity detection' when an intruder will walk unknowingly into its invisible field. The strategically placed transmitters and receivers will cover the vulnerable area with a blanket of radio frequency rays whose characteristics are monitored by an analyser to be dealt with in an appropriate way.

How does it work?

The simplest description of RAFID is to consider a system using two specially designed cables - one transmitting a radio wave, while the other receives that wave. Changes in the amount of signal passing between the transmitter cable and receiver cable are analysed by a signal processor which determines whether these changes are due to the presence of a human. The system offers a great deal of flexibility, with individual cable positions determined according to the customer's needs either sited on a solid object or buried a few millimetres underground. The aim is to create a man-sized area of radio waves acting as invisible 'barbed wire'. Once the gatecrasher enters this barrier, they will in turn signal their presence and generate an alarm. Hopefully arrest will soon follow!



RAFID Radiating Cable

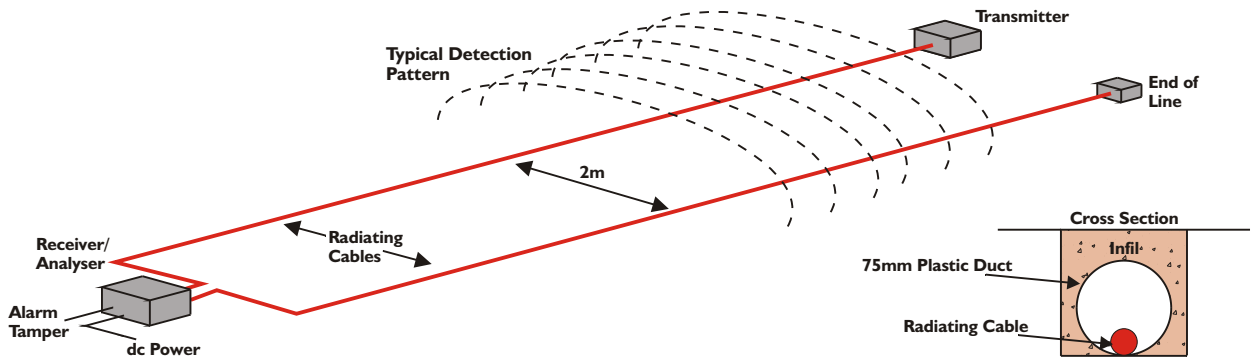
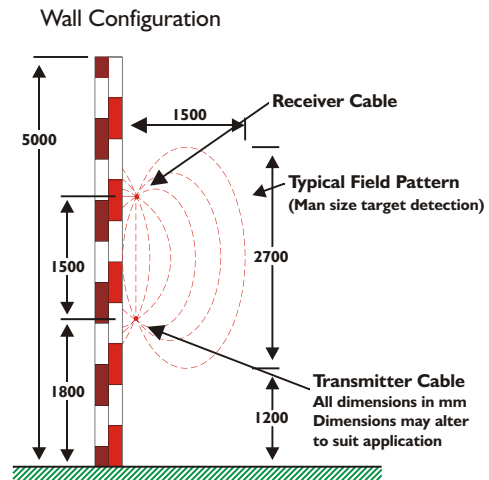




Radiating Cable

The cable is specially constructed and consists of an inner conductor which is separated and insulated from the outer screen by a dielectric sheath. What makes this cable unique are the gaps woven at intervals into the copper outer screen. These gaps are where the cable leaks the electromagnetic radiation from the current which flows within the cable. A radio signal transmitted along one of the feeders will be received by the parallel cable, establishing a coupled, invisible electromagnetic field. An intruder entering this field will create a change in the phase and amplitude in the received signal which when mixed and amplified by the receiver stage, can be processed to generate an alarm.

To sum up, RAFID will provide you with a high technology, flexible, reliable and weather-resistant intruder detection system which will ensure you and your company will have a secure working environment.



Why choose RAFID?

The unique design of RAFID means that it is unaffected by the environmental factors which can and do wreak havoc with other technologies. The system design features ensure that it is able to withstand the worst that the elements can throw at it. Standing water, running water, waterlogged sites, rain, sleet, mist, hail, snow and fog all have virtually no effect on RAFID! A plus in any climate.

The need to respond rapidly to an intruder is obviously a key issue in any security system. The RAFID technology embodies synthesised radio frequency modules to allow operation of adjacent zones on different channel frequencies within the allowable band width thereby avoiding possible interference problems between adjacent zones.

This feature of RAFID's coherent signal detection permits overlap between adjacent zones to eliminate possible blind spots and allows rapid location of intruder activity within the protected perimeter.



RAFID



withstanding the elements



RAFID Technical Information

- **Application:**
Covert system to detect climb over on walls and movement of people on open ground
- **General:**
Two 'leaky feeder' cables positioned in parallel. The transmitter cable radiates an RF field, which is detected by the receiver cable and the resulting signal is fed to the analyser. An intruder entering the detection field causes a change in the signal collected by the receiver cable. This change in signal is detected by the analyser, which then 'decides' if an alarm should be triggered.

Installations to be made only in non-ferrous mediums and 5m minimum away from moving traffic

- **Zone Length:** 10m to 150m
- **Area of Detection:** 3m x zone length (+/-0.5m)
- **Configuration:**
Each zone requires the following minimum of equipment:
 - One analyser / receiver unit
 - One transmitter module
 - One end of the line module
 - Two leaky feeder cables
 - 12v - 15v dc power supply @ 650mA

- **Analyser Housing:**
Standard cast aluminium
Dimensions: 330 x 230 x 102mm
This unit may be customised depending on the site requirements
- **Transmitter Housing:**
Standard cast aluminium
Dimensions: 260 x 160 x 90mm
This unit may be customised depending on site requirements
- **End of line module:**
Potted module
Dimensions: 30 x 20mm diameter
- **Operating Temperature:**
-40° to +70°C
- **Operating Frequency:**
40 to 41MHz (16 possible options)
- **Outputs:**
Solid state Alarm and Tamper relays 250v 120mA AC or DC
- **Dead Feeder Cable:**
Both the analyser and transmitter units can be located up to 50m away from the two main sensor cables by using standard non-radiating co-axial cable.
- **Controls:**
Sensitivity adjusted by local on-board push buttons with LCD Display
- **Connectors:**
Specially adapted CW20 brass coupling with built in UHF male connector fitted
- **Installation:**
By any Geoquip approved RAFID installer

Further information on Geoquip systems can be obtained from:

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