

# Applications for HAWK XTS & SEARCHER-2500 Non Linear Junction Detector



## Key Applications

- IED search (detection of improvised explosive devices)
- Technical surveillance countermeasures (TSCM)
- Mail screening for concealed electronic devices (suspect packages)



## Applications for HAWK XTS & SEARCHER-2500 Non Linear Junction Detector

Our aim is to offer customers worldwide a range of quality, cost effective systems that are designed for specific applications.

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➤ The HAWK XTS is lightweight, utilizes modern technology shaped to allow easy handling; single-body design containing transceiver, antenna and display assembly on a single extendible unit.

A Non-Linear Junction Detector has the ability to detect electronic devices containing semi-conductors including diodes, transistors, IC's, microprocessors, microcontroller, triac, power devices and bi-metal junctions.

The HAWK XTS is a portable, simple to use advanced electronic device detector, also known as a Non-Linear Junction Detector (NLJD). The HAWK XTS hand-held system includes automatic frequency selection & automatic power control to prevent saturation of targets and provide more accurate analysis. Rapid development of lithium technology means batteries for the HAWK XTS system will last longer, up to 4 hours operation on a single fully charged battery.

During the life of the HAWK XTS it may be deployed on a range of domestic operations such as technical surveillance countermeasures (TSCM), sweeps and noncombat operations such as peacekeeping missions, and on civil emergency tasks, where it can provide RCIED/IED search-and-support to react to terrorism threats.

### Technology

The HAWK XTS NLJD is used for the detection of electronic circuits commonly found in IEDs and radio transmitters. Most sophisticated electronic circuits contain semi conductors, which are non-linear junctions. The HAWK XTS can find these by emitting a very high frequency signal which simulate the non linear junction into emitting harmonic signals at two and three times the fundamental frequency. The XTS contains two highly sensitive receivers to pickup these harmonic frequencies and indicates the proximity of the device by means of a visual and audible alarm.



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### IED search (detection of improvised explosive devices)

**One of the greatest areas of concern to soldiers in the field is that of radio controlled improvised explosive devices (RCIEDs), which kill more soldiers in modern warfare than any other weapon system.**

Such devices are also being increasingly used by terrorist organisations and other subversive groups to target civilian VVIPs and their vehicle convoys. Winkelmann has nearly two decades of experience in developing NLJD's and has delivered over 2500 units to Military & Government agencies. Over the past few years, NLJD's have played an important role in detecting improvised explosive devices, this has fuelled the latest research, ideas and growth, and technology delivery.

The HAWK XTS-900 is capable of locating and confirming the presence of electronic components found in devices, regardless whether they are switched on or off. The HAWK XTS-900 allows the operator to search voids and areas where they are unable to gain physical or visual access, in order to detect electronic components and determine if the area is free from an Improvised Explosive Device (IED). The lower frequency of the HAWK XTS-900 detector has an advantage of detecting devices in the ground. The lower the frequency, the better the penetration in the ground.

### Technical surveillance countermeasures (TSCM)

**TSCM is defined as the gathering of any information using audio, visual, or technical attack methods leading to loss or unauthorised disclosure of data or information.**

The HAWK XTS-2500 is capable of locating "bugging" devices even if they are switched off behind plaster board, concrete or brick walls, steel and glass. TSCM sweeps can be monotonous, repetitive, and stressful in certain environments, non-linear junction detection is an extremely powerful search technique in addition to normal physical search procedures.

The higher frequency of the XTS-2500 detector has an advantage on well-screened targets such as mobile phones and similar devices. The smaller waveform at 2.5GHz makes it more likely for the signal to get through gaps in the screening enclosure of the electronic device.



### Mail screening for concealed electronic devices (suspect packages)

**The SEARCHER-2500 is the most compact handheld non-linear junction detector available on the market today. It has been designed to the very highest standards, in terms of functionality, ease of operation and reliability.**

Used for checking suspect packages for electronic devices such as mobile phones, digital recorders, cameras and high value electronics.

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