

HAWK 450XD

Non-Linear Junction Detector


Nato Stock No.

 (4Watt Version)
 6665-99-445-9337

FEATURES

- High Transmit power, ERP up to 4W providing greater detection range
- Dual Harmonic with discrimination algorithms minimizes false alarms
- Continuous wave (CW) transmission removes risk of missing a target due to sweeping to quickly
- “All in one” single body configuration or for extended use antenna separated from the control module
- Circular polarized antenna reduces search time and improves reliability
- Minimum set-up time, no bulky transceiver unit to carry
- Light weight, balanced ergonomic design for ease of use
- 4-way thumb control for most commonly used functions

APPLICATIONS

- Detection of concealed “bugging” devices
- Technical Surveillance Counter Measures (TSCM) Sweeps
- High Risk Search Capabilities
- Protecting the railways from attack
- Detection of Mobile Phones in Prisons
- Detection of remote-controlled detonators
- Search operations in a conventional military context and in aid to the civil power

Controls for the most commonly used functions are below the display screen. Selection via a unique 4-way thumb control.



Winkelmann has developed a portable, field operatable handheld NLJD system, which is an advanced detector using the harmonic radar principle to aid the security professionals in the search of concealed electronic devices.

The HAWK 450XD has been designed to the very highest standards, in terms of functionality, ease of operation and reliability. As a result the HAWK 450XD offers a performance that is second to none in quality, cost and operation.

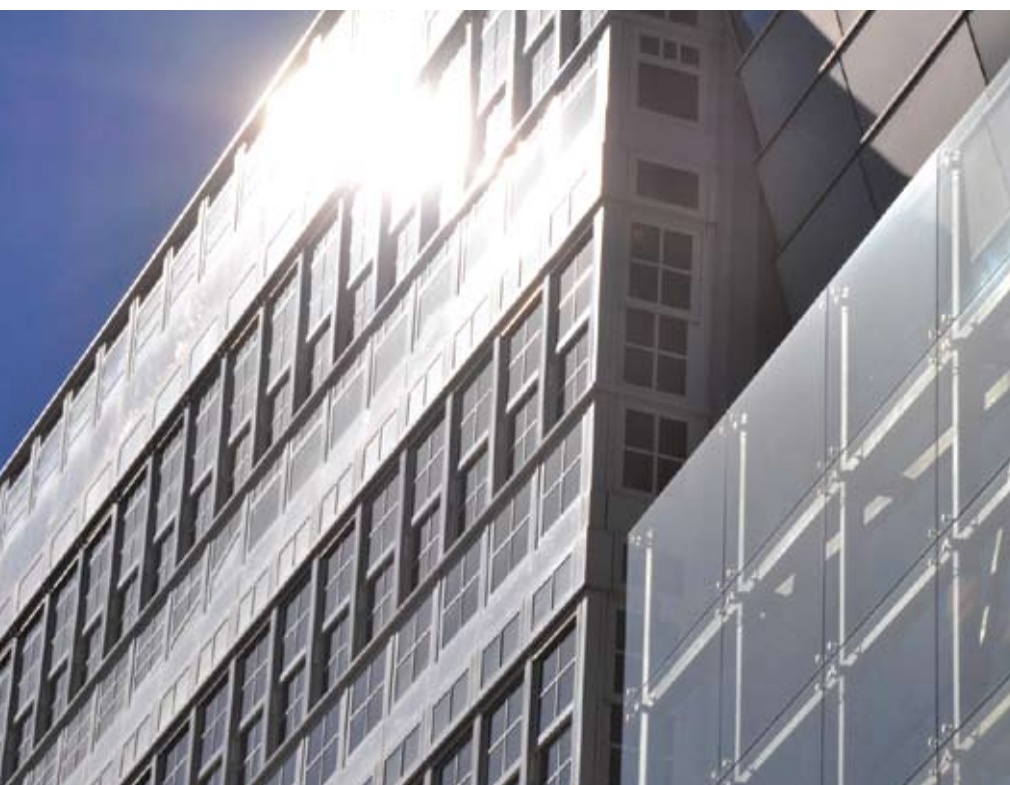
The controls for the most commonly used functions such as receiver selection and range control, have been placed conveniently below the display screen. Selection via a unique 4-way thumb control.

The 450XD provides real time detection against electronic devices containing semi-conductors and bi-metallic junctions. Devices like radio transmitters, power amplified microphones and electronic timers etc. contain non-linear junctions and will be detected even if switched off.

The **450XD** has been designed to be as versatile as possible. It provides the operator with the option of an 'All-in-one' single-body unit or separated as with previous modules.



“ The equipment would generally be used inside buildings, but may be operated in vehicles, aircraft, outdoors, or in terrains ranging from urban areas, to water depths of up to 30mm, sand, and areas containing rocks up to 150mm in diameter.”



The 450XD is the preferred model of choice of TSCM operators where concealed or buried electronic devices (bugging equipment) must be detected and located. Examples of devices detected are attachments to telephone or mains cables, transmitters of all types, tape recorders, hidden cameras, wired electric microphone systems.

The equipment would generally be used inside buildings, but may be operated in vehicles, aircraft, outdoors, or in terrains ranging from urban areas, to water depths of up to 30mm, sand, and areas containing rocks up to 150mm in diameter.

The 450XD should be able to detect and search for IEDs containing semiconductor devices; including diodes, transistors, ICs, microprocessors, microcontroller, diac, triac, thermistors, thyristors power devices etc. plus non-linear metallic junctions made of two different kind of metal; bi-metallic junctions.

TECHNICAL SPECIFICATIONS

Transmitter	
Frequency range	Four spot frequencies in the range of 869-916 MHz (dependent on country of use)
Power output	Adjustable 2mW to 1W ERP (2 Watt and 4 Watt optional)
Filtering	10 section filter
Output connector	50 ohm double screened co-ax socket
Modulation	Continuous wave transmission (CW)
Receiver (RX1)	
Frequency range	1738 - 1832 MHz (Transmitter selection controls receiver frequencies)
Sensitivity	Detection at -132 dBm
Filtering	6 section filter
Input connector	50 ohm double screened co-ax socket
Receiver (RX2)	
Frequency range	2607-2748 MHz (Transmitter selection controls receiver frequencies)
Sensitivity	Detection at -132 dBm
Filtering	6 section filter
Input connector	50 ohm double screened co-ax socket
Displays	
	Target response/comparison Transmitter output power. Battery level, Mode selection (RX1 & RX2). Frequency selection, signal strength (R1 and R2)
Controls	
	4 way thumb control selects Range and Receiver selection Volume up and down, Frequency select and ON/OFF
Antenna	
Freq. coverage	860-920 MHz 1720-1840 MHz and 2580-2760 MHz
Gain	6 dbi
Polarisation	RHC Right hand circular
Charger	
Input voltage	100-240 VAC
Charging current	1200mA/auto trickle charge
Charge time	Up to 1.5 hours
Type	Microprocessor controlled, short circuit and timer
Battery	
Type	Nickel metal hydride - smart battery
Voltage	10.8V DC/1700 mAh
Test	Built in battery level indicator
Run time	2 hours (1 Watt version)
Operation Temperature Range	
Operation	-15° C to +60° C temp. range
Humidity	95% RH

PHYSICAL DATA

Transit Case	
	Black, moulded in structural resin, foam inserts Dimensions 48 cm by 34 cm by 12 cm. Weight 2.24 kg
Control Module	
	Black, machined aluminium case and protective pouch Dimensions 21 cm by 11 cm by 4 cm. Weight 0.98 kg
Display Module	
	Black, aluminium tube, plastic display facia, foam grip Dimensions 35 cm by 3.6 cm diameter. Weight 0.36 kg
Antenna Head	
	Black, fibreglass and abs, aluminium bracket Dimensions 17 cm diameter by 4 cm. Weight 0.40 kg
Extension Tube	
	Black, aluminium tube, foam grip Dimensions 36 cm by 2.5 cm diameter. Weight 0.18 kg
Separation Lead	
	Black, co-ax lead with protection braid covering Dimensions 120 cm. Weight 0.32 kg
110/240 Charger	
	Black, plastic housing complete with lead and plug Dimensions 14 cm by 7.5 cm by 6 cm. Weight 0.48 kg
Earphone	
	Black, lightweight, plastic, rubberised ear grip Dimension 6 cm by 4 cm by 4 cm. Weight 0.02 kg
Battery Pack (1 & 2 Watt x 2) (4 Watt x 3)	
	Black, Nickel Metal Hydride battery, plastic Dimensions 15 cm by 5 cm by 1.5 cm. Weight 0.32 kg
Complete System	
	Total Weight of all items above in transit case Weight 5.6 kg



Warranty

The HAWK 450XD comes with a return-to-base warranty against defective materials and workmanship for a period of 2 years from delivery.

After Sales Support

Technical Support business hours (GMT)
Monday – Friday 8.30am – 5.30pm
E: technicalsupport@winkelmann.co.uk

Training

Winkelmann and its Partners are able to offer full training in the operation of products together with general countermeasures training and seminars (Contact us about basic & advanced TSCM courses).

The HAWK 450XD is a portable, simple to use advanced Electronic Device Detector, also known as a Non-Linear Junction Detector (NLJD).

The HAWK 450XD incorporates the very latest technology in Non-Linear Junction Detector evaluation. Designed for the detection, location and analysis of concealed passive or active electronic devices. Small, lightweight and robust for the harshest of environments.

The HAWK 450XD 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 bugging devices or an Improvised Explosive Device (IED). The HAWK 450XD is an essential tool for electronic countermeasure searches, IED search-and-support and a variety of security applications.

The 450XD is lightweight, robust, and utilizes modern technology shaped to allow easy handling. The 450XD gives both audible and visual alarms to allow the searcher to conduct searches in a covert environment.

During the life of the 450XD it may be deployed on a range of domestic operations and non-combat operations such as peacekeeping missions, and on civil emergency tasks, where it can provide CBRN and IED search-and-support to react to terrorism threats.

TECHNOLOGY

The HAWK 450XD 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 450XD 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 450XD 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. ■

PRODUCT CODES

HAWK 450XD Non-Linear Junction Detector - Full System

3-299-226	HAWK 450XD - 1Watt max (ERP) - c/w control module, display module, antenna head (6dBi gain), 110/240V charger, charger lead, battery pack (2), separation lead, extension tube, earphone, test target and transit case (4 user selectable frequencies in the range 869-916MHz)
3-299-228	HAWK 450XD - 2Watt max (ERP) - c/w control module, display module, antenna head (6dBi gain), 110/240V charger, charger lead, battery pack (2), separation lead, extension tube, earphone, test target and transit case (4 user selectable frequencies in the range 869-916MHz)
3-299-230	HAWK 450XD - 4Watt max (ERP) - c/w control module, display module, antenna head (6dBi gain), 110/240V charger, charger lead, battery pack (3), separation lead, extension tube, earphone, test target and transit case (4 user selectable frequencies in the range 869-916MHz)

HAWK 450XD Non-Linear Junction Detector - Accessories & Components

3-299-260	HAWK 450XD - Control Module (1Watt Version)
3-299-280	HAWK 450XD - Control Module (2Watt Version)
3-299-290	HAWK 450XD - Control Module (4Watt Version)
3-299-261	HAWK 450XD - Display Module
3-299-262	HAWK 450XD - Antenna Head
3-299-263	HAWK 450XD - 110/240V Battery Charger
3-299-264	HAWK 450XD - Charger Lead
3-299-265	HAWK 450XD - NiMH Battery Pack (1/2W – small)
3-299-275	HAWK 450XD - NiMH Battery Pack (4W – large)
3-299-266	HAWK 450XD - Separation Cable
3-299-267	HAWK 450XD - Extension Tube
3-299-268	HAWK 450XD - Earshell (Earphone)
3-299-269	HAWK 450XD - Test Target (Electronic)
3-299-270	HAWK 450XD - Transit Case with foam
3-299-271	HAWK 450XD - Pouch w/shoulder strap/belt for control module
3-299-272	HAWK 450XD - Foam grips(2) Handle & extension
3-299-273	HAWK 450XD - Set of Aerial covers (slipper) 5 per set
3-299-274	HAWK 450XD - Guidance Manual
3-299-276	HAWK 450XD - Antenna Hinge
3-299-277	HAWK 450XD - Acrylic Display Cover
3-299-278	HAWK 450XD - Maintenance Kit
3-299-279	HAWK 450XD - Maintenance Manual

The device is successfully deployed in military operations.



For further information contact

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