

## DATASHEET

# SuperBroom Advanced

## Advanced Non Linear Junction Detector

### Features

- Sophisticated signal processing technique (patent applied for) to reduce false triggering of susceptible devices
- Ergonomic Sweep head for passing over all types of surface combined with extendable carbon-fibre handle
- Sweep Antenna head LED displays showing radiated and received signal strength for convenience
- Circularly polarised receiver antennae allow efficient detection of harmonic returns regardless of the orientation of the Sweep Antenna head
- Transmitter and receiver operating frequencies are frequency synthesised from a common reference to eliminate tuning drift
- Removeable, rechargeable Lithium Ion technology provides high energy density battery-packs to ensure maximum continuous operating time
- Integral and optional stand-alone battery charger ensures that a continuous power source is always available
- Optional ruggedised carrying harness

SuperBroom Advanced is a portable simple to use advanced non-linear junction detector which discriminates between electronic targets and innocent return signals. Radiating a spectrally pure signal, SuperBroom Advanced detects the second and third harmonic return signals re-radiating by non-linear junctions (NLJs) found in all semiconductors such as diodes and transistors.

Designed for the Security Professional, SuperBroom Advanced is simple to use, providing easy and user friendly operation to detect active, dormant or non-operational electronic devices. SuperBroom Advanced is an indispensable tool wherever there is a need to locate electronic devices.

### 2nd and 3rd Harmonic Returns

The relative strength of second and third harmonic returns reflected by non-linear junctions varies depending on the material from which the junction is made. By comparing the relative strengths of the two harmonics SuperBroom Advanced gives the operator a clearer indication of the source of any reflected signal.

### Variable Power Output

As well as allowing manual control of the power output in automatic mode SuperBroom Advanced automatically adjusts power output to prevent saturation of target non-linear junctions. This allows more accurate analysis of the return signals and optimises unit performance.



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# TECHNICAL SPECIFICATIONS

## Transmitter Section

Frequency	888.5 MHz
Power (at chassis)	Typically variable to 4W (+36dBm +0dB -2dB)
Output Filter	High order combine bandpass filter, 2nd and 3rd harmonic rejection >125dB
Modulation	FM, 1kHz tone, 1 KHz deviation

## Receive Section

Filtering	High order coaxial bandpass filter
Frequency	1777 MHz and 2665.5 MHz
IF	21.4 MHz and 455KHz dual conversion, FM and AM demodulation
Sensitivity (at chassis)	-130dBm for visible RSSI LCD bargraph indication -130dBm for audible Geiger click indication

## Sweep Antenna Head

Antenna	Linear polarised transmit antenna. Microstrip circularly polarised receive antennas (Circularly polarised receive antennas respond to cross-polarised signals)
Head Display	16-segment LED bargraph for signal strength (4-bit resolution) LED display for power output and other status information

## Output

Audio	Through internal switched loudspeaker or headphones for: Signal strength given by Geiger type click; or Receiver demodulated output
Output	Maximum 1.8V p/p into 8ohms
Displays	Signal strength LCD bargraph (7-bit resolution) Selected function LEDs

## Power Requirements

Battery	Internal Li-Ion rechargeable battery provides between 3 and 20 hours of operation dependent on transmit power
DC input	External AC/DC adaptor; 14V @ 2.7A, universal input

## Accessories

Standard	One antenna head, extendable carbon-fibre handle 470-1510mm, mains adaptor/charger, headphones, test target, operators manual, robust carrying case
Optional	Stand-alone battery charger, additional lithium ion battery packs and ruggedised carrying harness

## Dimensions

Antenna head	W x D x H	210 x 155 x 60 mm
Handle		470-1510 mm
Unit	W x D x H	345 x 245 x 70 mm
Carrying case	W x D x H	650 x 3500 x 235 mm

## Weight

Sweep antenna	1.1 Kg
Unit	5.2 Kg
Carrying case	10.2 Kg

## Order Codes

SuperBroom Advanced (888.5 MHz)	2-197-532
SuperBroom Advanced (915 MHz)	2-197-533

## Warranty

SuperBroom Advanced comes with a return-to-base warranty against defective materials and workmanship for a period of 2 years from delivery. With regular authorised maintenance and recalibration of the unit the basic warranty can be extended for a further period. See local dealer for details.

## After Sales Support

Technical Support business hours  
Greenwich Mean Time  
Monday - Thursday 8.30am - 5.15pm  
Friday 8.30am - 12.30pm  
Email: [support@audiotel-international.com](mailto:support@audiotel-international.com)

## Training

Audiotel International is able to offer full training in the operation of our products together with general countermeasures training and seminars.

## Contact Details

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Due to our policy of continuous improvement, all specifications are subject to change without notice.



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