

## 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 for operation.
- 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-radiated 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 & 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.





## SPECIFICATIONS

### TRANSMITTER SECTION

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

### RECEIVE SECTION

|                             |  |
|-----------------------------|--|
| Filtering                   | High order coaxial bandpass filter.  |
| Frequency                   | 1.777 MHz and 2665.5 MHz   |
| IF                          | 21.4MHz and 455KHz dual conversion, FM and AM demodulation.                                      |
| Sensitivity<br>(at chassis) | -130dBm for visible RSSI LCD bargraph indication<br>-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).<br>LED display for power output and other status information.                                   |

### OUTPUT

|          |  |
|----------|--|
| Audio    | Through internal switched loudspeaker or headphones for:<br><br>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).<br>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

|                    |           |                     |
|--------------------|-----------|---------------------|
| Sweep Antenna Head |           |                     |
|                    | W x D x H | 210 x 155 x 60 mm   |
| Handle             |           | 470-1510mm          |
| 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 | 1.1Kg  |
| Unit          | 5.2Kg  |
| Carrying Case | 10.2Kg |

### ORDER CODES

|                                |           |
|--------------------------------|-----------|
| SuperBroom Advanced (888.5MHz) | 2-197-532 |
| SuperBroom Advanced (915MHz)   | 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).



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