

# ORION™ 900 HX

## NON-LINEAR JUNCTION DETECTOR



Main Screen selection offers quick, easy mode selection.

### OVERVIEW

The ORION 900 HX detects and locates hidden electronics regardless whether the device is radiating, hard wired, or turned off. Non-Linear Junction Detectors (NLJDs) detect circuitry in eavesdropping devices, recording devices, cell phones and other electronic contraband. The ORION 900 HX transmits on the 900 MHz frequency band for penetration through thicker, denser building materials and detection of older or less refined circuitry.

The lightweight polycarbonate body includes a touch screen display. The ORION 900 HX is hand-held and compact when retracted and can extend to a full length of 58 inches (147 cm) for investigating hard to reach areas. The ORION 900 HX is available in multiple transmit power models dependent upon regulatory requirements.

### TECHNICAL ADVANTAGES

- 1 INCREASED SIGNAL RESPONSE THROUGH DENSE MATERIALS** - 900 MHz frequency band penetrates dense materials such as concrete, stone, or soil
- 2 DIGITALLY MODULATED SPREAD SPECTRUM TRANSMIT SIGNAL** - Provides increased detection range and interference rejection
- 3 WIDE TRANSMIT SIGNAL** - 1.25 MHz wide increases detection sensitivity
- 4 HISTOGRAM GRAPH** - Displays continuous history of harmonic response and power adjustment
- 5 FREQUENCY ADJUST SCREEN** - Displays the full RF spectrum for Transmit, 2nd, or 3rd frequency ranges
- 6 ADJUSTABLE DSP GAIN** - Provides increased detection range for the same power
- 7 -130 dBm CORRELATED RECEIVER** - 2nd & 3rd harmonic response correlated to Tx improves detection and minimizes interference
- 8 MULTIPLE ALERT METHODS** - Visible display, alert tones, and haptic (vibration) alert can be selected to alert on detection
- 9 FREQUENCY AVOIDANCE** - Tx searches for quiet frequency to avoid interference
- 10 MANUAL OR AUTOMATIC POWER CONTROL**
- 11 SYNTHESIZED TRANSCIEVER** - Provides frequency stability and agility to automatically search for quiet operating frequencies



Tx and Rx graph displays power, 2nd and 3rd harmonic levels and touch screen trip and power level adjustments.



The histogram graph displays continuous history of harmonic response and power adjustment from 10 - 60 second duration.

### APPLICATIONS

- Commercial security applications such as checking corporate board rooms or offices for unauthorized or hidden electronics.
- Searching secure areas for hidden or prohibited electronics.
- Searching for cell phones or other electronic contraband in corrections facilities.

U.S. PATENTS: 6,057,765; 6,163,259;  
7,212,008; 7,630,853; 9,209,856.  
U.K. PATENTS: GB2344423;  
GB2351154; GB2381077;  
GB2381078.



# ORION 900 HX

## NON-LINEAR JUNCTION DETECTOR



### MARKETING CHARACTERISTICS

### ORION™ 900 HX ADVANTAGES

#### UTILIZES 900 MHz FREQUENCY BAND

OPTIMIZING DETECTION THROUGH DENSE MATERIALS

#### MINIMUM SETUP TIME

SETUP IS QUICK, QUIET, AND EASY - NO CABLES, POLE SECTIONS, OR BULKY TRANSCIEVER TO ASSEMBLE OR CARRY

#### ANTENNA MOUNTED DISPLAY

FOR LINE-OF-SIGHT TARGET FOCUS



Custom user settings and screen captures can be saved to micro SD card. The USB port can be used for future software updates.



An antenna-mounted LED headlamp illuminates surfaces and low-lit areas, especially beneficial at extended lengths.



### TRAINING BY REI INSTRUCTORS

REI offers regularly scheduled technical security training courses. On-site training is also available. View course dates and register online at [www.reiusa.net](http://www.reiusa.net)



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### TRANSMITTER

**Transmit Power\*:** 1.4 W EIRP; G model: 3.2 W EIRP

**Power Control:** Manual or auto control

**Frequency Band:** 905 - 925 MHz; G model: 840 - 960 MHz

**Transmit Channels:** Manual or auto selection

**Transmit Modulation:** Digital 1.25 MHz BW

\*G model available to entities, agencies, and persons not restricted by FCC/IC. Both power levels are CE marked for public safety and security. For commercial CE compliance, a lower power model is also available.

### RECEIVER

Simultaneous 2nd & 3rd harmonic receive

Digitally Correlated

**Frequency Bands:**

Second Harmonic: (1810 MHz - 1850 MHz); G model (1680 MHz - 1920 MHz)

Third Harmonic: (2715 MHz - 2775 MHz); G model (2520 MHz - 2880 MHz)

**Sensitivity:** -130 dBm for both harmonics

### DISPLAY

Handle Mounted Touch Screen Controller Display\*\*

Antenna-mounted Display

**Bar Graph Display** for transmit power level, 2nd harmonic level, 3rd harmonic level, data field display, for other information (operation mode, low battery, volume, DSP gain, etc.)

\*\*Keypad model also available

### MECHANICAL

**Extension Lengths:** 16-51 in (40.6-129.5 cm)

**Case Dimensions:** 6.25 in x 14.9 in x 18.5 in (15.9 cm x 37.8 cm x 47.0 cm)

**ORION 900 HX Dimensions:** 23 in x 3.75 in x 3 in (58.4 cm x 9 cm x 7.5 cm)

**Overall Extended Length:** 58 in (147 cm)

**ORION 900 HX Weight with Battery:** 3.6 lbs (1.6 kg)

**Case Weight Including ORION & Accessories:** 12.6 lbs (5.7 kg)

### BATTERY

**Input AC:** 100-240 V, 50-60 Hz

**Run Time:** >4 hours per battery (typical)

**Charge Time:** 2.5 hours per battery

**Batteries:** Lithium Ion Rechargeable (2 included)



## ORION™ HX Deluxe

Two Non-Linear Junction Detector models in one easy-to-carry case. The ORION HX Deluxe includes interchangeable 2.4 GHz and 900 MHz transmit antenna heads to equip professionals for any situation.