



Auto Scan

User's Guide

White's Electronics, Inc.
1011 Pleasant Valley Rd.
Sweet Home, OR 97386



Auto Scan

The Auto Scan Security Detector designed and manufactured by White's Electronics, Inc., is a very sophisticated, sensitive and easy to operate electronic device with many complex features built into its circuitry.

The Auto Scan is designed primarily for ease of use with quick turn-on characteristics and fast detection response to metallic objects. There are no controls to adjust; the unit is completely automatic.

The operation of the detector is controlled by two simple *momentary* push-button switches, the first labeled "ON" and the second labeled "OFF".

The status of the internal electronic circuitry is constantly being monitored to insure proper operation. Normal detector operation is indicated and displayed by a constantly blinking green "READY" LED (light emitting diode) and a low level audio tone.

To activate the detector, simply apply slight momentary pressure over the "ON" touchpad with a thumb or finger. The detector will then perform a series of "self-test" and "initialization" functions, including a battery test, and upon completion of these tests, which require approximately one second to complete, display a blinking "READY" light and a faint, high frequency, threshold audio tone. The unit is now ready for operation. A loud or otherwise abnormal audio tone and/or "NO" Ready LED indication signify a malfunctioning detector and/or a dead battery. Operation should not be attempted until the problem is corrected.

It is *highly* recommended that proper detector operation is verified by testing the detection capabilities of the unit

using a *known* metallic object such as a ring, watch, coins, etc. The internal monitoring circuitry is capable of testing approximately 90% of the internal circuitry function, however, the monitoring circuitry *cannot* test itself. Due to the slight *normal* degree of fallibility associated with *all* electronic devices, it is strongly suggested that a quick verification test be performed prior to any searching activity. This will insure reliable detection of any *unknown* metallic objects encountered during the search operation. The Auto Scan must be moved (in motion) for metals to respond. If the Auto Scan is not in motion (held stationary) metals will cease to respond. Thus, continuous movement of the Auto Scan is required for continuous detection of metals.

The Auto Scan is uniformly sensitive on both the top and bottom surfaces, 0.5 inches from the tip back, and approximately 7.5 inches toward the control pad. Detection "off the sides and the forward end" is also possible, but at reduced sensitivity. It is *strongly* recommended that a given area be covered at least twice to insure the detection of smaller metallic objects as well as larger objects that may, because of their orientation in relation to the Auto Scan internal search coil, be missed. A "no detection" response on physically large targets, due to the detector orientation in respect to the metallic object, is extremely rare and relies on a precise relationship of the internal search coil to the metallic object. It is highly unlikely, during normal searching activities, that this relationship can be repeated twice, therefore is highly likely that the metallic object will be detected at least once for every two attempts.

The Auto Scan responds differently to large and small targets using the **ATD** (Audio Tone Discrimination) feature. Typically, *small* metallic targets produce a change in the audio *volume* only, while detection of *large* targets produces a change in *both the volume and pitch of the audio tone*. This feature allows the operator to determine the relative size of the target without physical inspection.

However, in critical life threatening circumstances, this ATD response should **not** be used solely in the determination of relative target size. Some alloys of stainless steel can produce much smaller detection responses than their physical volume would otherwise deliver for targets of the same physical size being composed of more detectable alloy (s). In this circumstance, physical inspection of the detected object is considered **mandatory**.

The audio response of the Auto Scan is highly compressed to insure high dynamic range target detection responses. Maximum detection sensitivity is preserved for smaller, distant targets while maintaining adequate audio range to accurately "pinpoint" larger, less distant metallic targets.

The "ON" touchpad button also activates a reset function while the detector is operating. If, during normal operation, the normal threshold tone volume deviates from the "preset" value, simply apply momentary pressure to the "ON" touchpad to return the threshold tone to a normal volume level. This effect may be noticed if the temperature of the local environment changes rapidly.

The Auto Scan incorporates an automatic battery testing feature that constantly monitors the remaining battery

capacity and provides the operator with an audio indication when less than approximately 10% remains. A "low battery" will cause a louder than normal, "intermittent" (at approximately a 1 Hz rate) audio tone to be produced by the transducer element and the **READY LED** will be extinguished. The detector will remain somewhat functional with the battery capacity below 10% but it is *highly* recommended that a fresh battery be installed as reliable operation **CANNOT** be guaranteed due to the varying discharge properties of the numerous battery types available.

Simply apply momentary pressure to the "OFF" touchpad upon completion of searching activity. This will return the unit to the "STANDBY" or **OFF** mode of operation. While in this mode of operation the electronic circuitry consumes some battery current (less than 1 microamp). This level of current drain will **NOT** reduce the "shelf life" of the average "good" battery to any significant degree. However, if a "dead" battery is left in the unit for an extended period of time, usually measured in months, there is a chance that the battery could leak electrolytes. This **WILL VOID** the unit Warranty. It is also advisable not to leave a battery installed while the unit is to be "stored" for periods longer than a year.



Specifications: Auto Scan

Meets or exceeds NILECJ standard for Class 2 Active Detector with the exception of Security Application 1 (responds to large foil such as a cigarette package).

Operating Frequency

50KHz +/- 10% - Extremely clean sine wave oscillator, harmonics, and spurious-50dbc.

Power Requirements

9 volts (7.2 volts min) Current drain 5-6 ma @ threshold audio, 15-17 ma full audio tone volume. NEDA 1604 or equivalent battery. Alkaline battery will provide in excess of 50 hours of continuous normal operation.

Audio Characteristics

Threshold tone, 500Hz, 60db @ 1". Small target response (max) 500Hz, 110db @ 1". Large target response (max) 3000Hz, 106db @ 1", "A" weighting. Note: Audio tone frequency increases for larger detected responses.

Target Sensitivity

Approximately 3.5 inches on a "penny" sized object, approximately 5 inches on an "average" key ring, approximately 6 inches on an "average" larger pocket knife and approximately 7-10 inches for an "average" non-stainless steel handgun. NOTE: These are typical distances, the actual distance can vary considerably depending on alloy, orientation and search speed. White's recommends passing the detector within an inch of the search surface.

Weight and Dimensions

Weight: 11 oz. with battery. Length: 17.3 inches. Width: 2.7 inches at search coil, 1.9 inches at handle. Height: 1.0 inch at search coil and handle, 1.5 inches at keypad and battery drawer.

Temperature Range

Operating: 0-50 degrees Celsius.
Storage: -25 to 75 degrees Celsius.



Warranty

The Auto Scan is guaranteed to perform as specified for a period of 24 months from the original purchase date by the original owner. This warranty explicitly does not cover any defects deemed to be caused by physical or electrical abuse.