

# Hand Held Deactivator

General Overview  
Preliminary

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The Hand Held Deactivator (HHD) is a self-contained electronic wireless portable proximity deactivator for detection and deactivation of Electronic Article Surveillance (EAS) anti-theft tags. Accompanying the hand held unit is the Base Charging Station (BCS), which serves as a docking station to secure the HHD from theft and charge the battery to full power.

Transmitter electronics contained within the Hand Held Deactivator drive an antenna coil to generate a low frequency pulsed magnetic field to excite the tags. Receiver electronics, using the same coil, looks for the unique response from the tag in-between transmit pulses. Once a tag has been detected, the deactivation cycle begins. Control by power electronics, again utilizing the same coil, an extremely low frequency sinusoidal magnetic field ( $\ll 9\text{kHz}$ ) of greater amplitude than the excitation (transmit) field is generated. The end of this cycle consists of the signal amplitude decaying at a predetermined rate to create an AC magnetic degaussing field, which deactivates the anti-theft tag.

Operator interfaces consist of a nine-button keypad for unit configuration, manual sequence initiation, and security code entry. An audio annunciator and LEDs provide primary unit status information. An eight character by two-line LCD display provides status and mode operation to the operator.