

# USS POWER OF 4™

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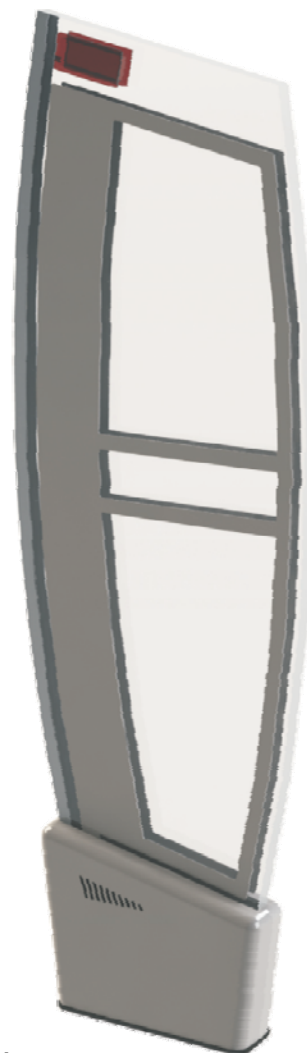
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## About this Guide

This User's Guide provides functional overview of the Power of 4™ along with the Installation Requirements and Setup Procedure for the User.

## Limitation of Warranty

Any deviations from the materials or procedures specified herein shall void the warranty of Universal Surveillance System with the owner/buyer. In no event shall Universal Surveillance Systems be liable for loss or damage caused by the use of materials or procedures that do not meet the specifications of Universal Surveillance Systems.



## System Overview

The Power of 4™ is an advanced EAS System with early detection tools. It provides four levels of security, which include:

- **EAS Technology:** The System has advanced Acousto-Magnetic Technology detection designed to detect 58 KHz hard tags and labels. Audible and visual alarms are provided for the detection.
- **Booster Bag/Foil Lined Bag Detection:** The System includes an early detection system that triggers an alarm when a Booster Bag/Foil Lined Bag is detected. Once the Booster Bag/Foil Lined Bag is detected within the detection range, the system alerts store personnel via one or several optional notification devices.
- **Magnet Detection:** The third level of security allows the Power of 4™ to detect when Magnetic Detachers are illegally brought into the store.
- **Anti-Jamming Circuit:** The Power of 4™ has an intelligent anti-jamming feature which detects EAS jamming devices affecting the Power of 4™ System.

## Materials Required

For all Power of 4™ installations, the following materials should be prepared prior to an install, in addition to basic required tools and parts:

- Cables – 45 ft maximum length (to connect pedestals with control box )
- USB Dongle (to establish connection between control box and computer)
- Ethernet Cable and Connector Unit (to establish Internet connection, if applicable)
- Computer or Laptop (should be loaded with 'AM Application' Software)
- CAT5 Cables (to extend alarm outputs for Voice Annunciation purpose)
- 2 Low Power Transformers, 15 VAC (for Booster and Magnet Detection Systems)
- Booster Bag/Foil Lined Bag, Magnetic Detacher, AM Tags, and Jammer Device (to be used for testing purpose)
- Digital Multimeter

## Installation Requirements

It is strongly recommended that a Site Survey is performed prior to the actual installation. The Survey should include pictures, actual measurements and special notes about the location. The survey enables the installer/technician to select a good location for system installation. In addition to a Site Survey, the installer/technician should also consider the following requirements:

- Verify that all equipments, tools and parts have arrived in good condition, and be able to select a proper system configuration for the installation site.

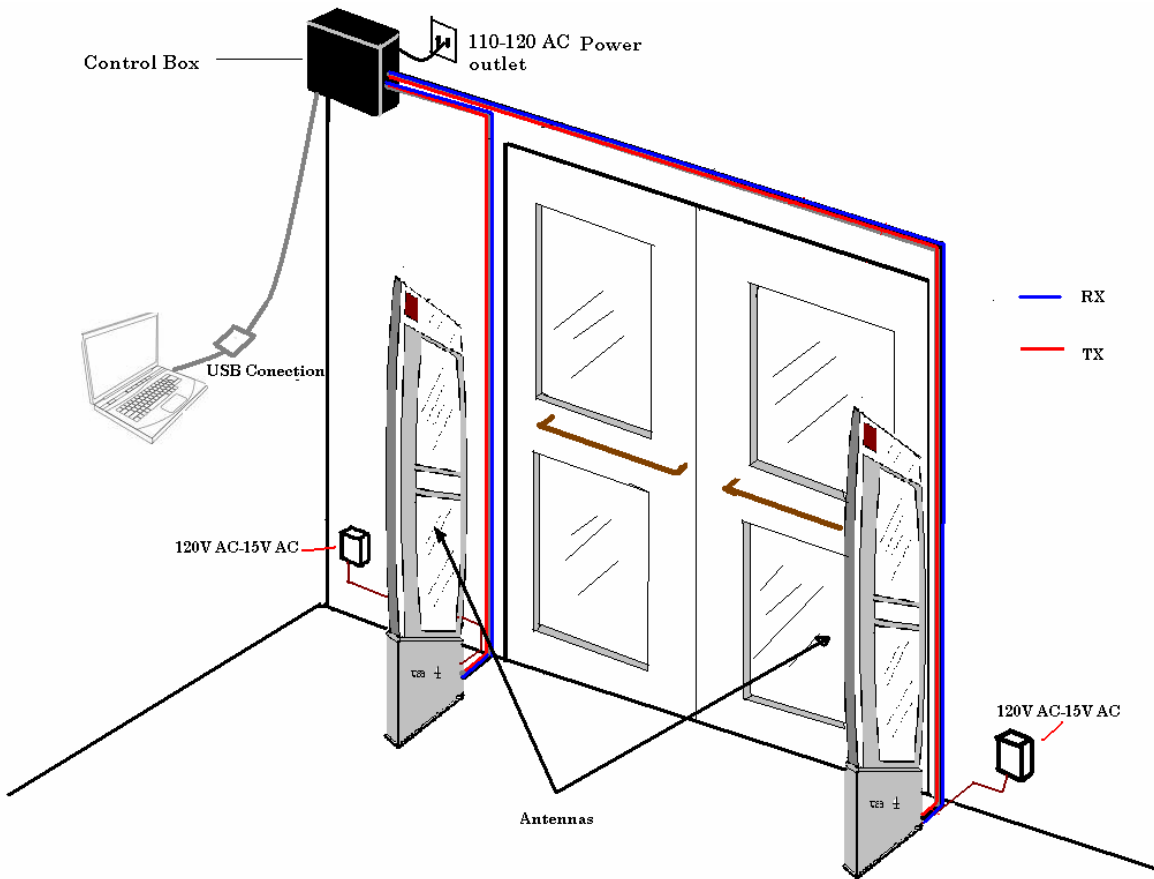


Figure 1. USS Power of 4™

- Check the Store's electrical supply: There should be a minimum of 4 outlets for the AM Control Box while the Electrical Line should be a dedicated 110V AC @ 60Hz. Neutral to ground voltage check should be a maximum of 0.5 VAC.

**⚠ WARNING!**

Do not install this product in hazardous areas where highly combustible or explosive products are stored or used.

**⚡ WARNING—RISK OF ELECTRIC SHOCK!**

The AC power line could be carrying 110VAC.

- The Location of the Power of 4™ control box should be at maximum of 45 "cable" ft length from each pedestal. Shorter lengths are preferred and will contribute to better response of the system.

- Ensure good detection of all subsystems (EAS System, Booster Bag/Foil Lined Bag System, Magnet and Jammer Detector) before mounting pedestals to the ground. Spacing between pedestals should be from 5 to 6 ft and keeping appropriate distance between pedestals and doors. Power cables, computers, mirrors, and other big metal objects may affect the system operation so it is advisable to keep the pedestals away from these materials as much as possible.
- Bolt the pedestals to the floor and install the cables. Pull cords should be provided in the conduit/wire trench from each pedestal location to adjacent pedestals, and from each pedestal to the control box location.
- Conduit/wire trench from each pedestal will carry four (4) CAT5 low voltage signal and sync cables; the cables should originate from each pedestal and terminate near the dedicated line outlets. All pedestals can share a common conduit/wire trench, but it should be big enough to accommodate the increased number of cables.

## Set up Procedure

- Check for correct connections of all the cables before turning the EAS System power ON.
- Establish the connection between the Control Box and Computer (or laptop) using a USB Dongle.
- Load the AM Application Software; then, connect the system with software by searching for an appropriate COM Port.
- Set up the configuration using the software; select a proper system configuration from 8 available options (from the drop down menu) that you wish to install and confirm it by clicking 'Set Config'. According to the chosen configuration, a picture with description of individual transmit and receive pedestal will be displayed on the computer screen.
- Check the correct tuning of TX antennas and adjust the jumpers of the tuning capacitor board "TX\_CAPS" for fine-tuning of TX loop into resonance, if necessary.
- Factory setting of TX1 and TX2 power is 200, which is the maximum specified limit for the transmitter power.
- Check for good synchronization with other systems (window "Sync") from surroundings. If interference is seen, use "Auto Sychro" to synchronize the system with surrounding AM Systems automatically. To activate this function, it is necessary to start loading the signals from surroundings (use 'Automatic Read' and 'Hold Maximum' set up) and wait for at least twenty patterns to be loaded, and then click "Auto Synchro".

- If soft labels are used, RX 'Sweep' is recommended to be set to ON. Set RX 'Sweep' OFF if only hard tags are used.
- Set the sensitivity of receivers (window "RX"). Gain is correct, if window "input level" shown on the computer screen is in green or green/yellow. Gain is acceptable, if "input level" is in yellow. If "input level" is in red, it is recommended to decrease the gain for the RX channel. Factory setting is 9 for optimal receiver sensitivity. Test the detection using all types of tags and labels in all 3 positions to check the receiver sensitivity.
- If the detection is not acceptable, modify the RX detection criteria as Standard Detection, Best Detection, etc....
- Set up sound and light alarms (type of beeping, time duration, etc...).
- Test jammer detection using a test jammer.
- Set up and test the Internet connection between the system installation site and service office (if remote monitoring is used).
- Turn ON the power supply for Booster Bag/Foil Lined Bag System by plugging in the 15 VAC Power Transformer.
- Choose the Booster transmit frequency from available 4 frequencies. Set up different Booster transmit frequencies when installing more Booster transmitters near each other. The Minimum distance for using the transmitters with same frequency is 10 meter. The minimum distance also depends on surroundings at the place of installation.
- Check the level of TX power of Booster Bag/Foil Lined Bag detector and adjust it if necessary. Maximum allowable power setting is 100%.
- Test the Booster Bag/Foil Lined Bag detection using the test Booster Bag/Foil Lined Bag. The Booster Bag/Foil Lined Bag receiver can also be set to block the alarms triggered by heavy metal objects such as shopping carts, baby strollers and trolleys. Adjust the "CADDY" to block such alarms.
- Turn ON the power supply for Magnet Detector by plugging in the 15 VAC Power Transformer.
- Test the Magnet Detector using a test magnet. Adjust the sensitivity "SENS" of the RX Magnet Detector board, if needed.
- Perform a final test on the Power of 4™ system (EAS, Booster Bag/Foil Lined Bag, Magnet and Jammer Detector) before wrapping up installation process.
- Observe the Power of 4™ system for several minutes and re-tune the system if necessary.

## Specifications

- Primary Input: 100-120 VAC @60Hz
- Input Power: 150W
- Operating Frequency: 58KHz ( $\pm 200$ Hz)
- Transmitter: 2 multiplexed output channels
- Receiver: 4 multiplexed input channels
- Operating Temperature: 32° to 122°F (0° to 50°C)
- 2 Pedestals: 6-12 ft coverage (Pedestal separation at 5-6 ft)
- Dimensions: a. Pedestal: 61"H x 19.5" W x 4" D  
b. Control Box: 4"H x 16" W x 11"D

## Declarations

**FCC Compliance:** This Device has been tested and found to comply with the limits for a class A device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a commercial installation. This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. The user is cautioned that changes and modifications made to the equipment without the approval of manufacturer could void the user's authority to operate this equipment.