AeroScout Exciter EX2000BW

User Guide

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Introduction

The AeroScout Exciter is a component of the AeroScout suite of enterprise visibility solutions that enables location-based applications. The Exciter extends the AeroScout suite to provide robust and sophisticated RFID detection capabilities, using the same AeroScout tags that can also be accurately located in real time by the AeroScout system.

The Exciter triggers AeroScout's tags as they pass through a choke point, and those transmit a message to AeroScout Location Receivers or compatible Access Points in range.

This provides instant acknowledgment that a tagged asset passed through a gate, doorway or some other well-defined area. The detection capabilities of the Exciter, combined with the location features of the AeroScout Visibility System, make the AeroScout suite the most sophisticated enterprise visibility solution for a wide variety of industries.
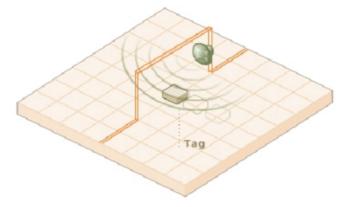

Figure 1: Exciter positioned at choke point triggering a tag

The Exciter2000BW features both LAN and WLAN support. The WLAN interface ensures wireless communication where a LAN connection is not available.

Application and Industry Examples

High value asset tracking

Health care facilities and general enterprises can tag valuable assets that are intended to stay within a certain area. The AeroScout system can track the location of those assets, and if they leave through an exit or enter a restricted area, the Exciter triggers a tag message.

Process control

Manufacturing and supply chain facilities can track the location and presence of equipment and in-process inventory as it moves through the production process. This gives an enterprise a real-time view of which (and how many) assets have passed each step in the process, enabling better supply chain management.

Inventory management

Logistics and manufacturing enterprises can automatically update inventory records as inventory enters and leaves the warehouse, ensuring real-time knowledge of levels without manual checks or physical scanning.

Security applications

Government agencies and enterprises can tag secure assets and people that are restricted to certain areas or require historical location tracking. If those assets leave through an exit or enter a restricted area, Exciter triggers a tag message.

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Network connectivity

Enables remote programming, monitoring and software updates by the AeroScout Engine. In addition, the Exciter can work in offline mode disconnected from the network, thus eliminating the need for a physical network feed. In this mode, remote configuration and monitoring is not enabled.

Wireless LAN

Wireless LAN Bridge 802.11 b/g for areas with no LAN connection.

Security

The WLAN connection can be secured with WPA2 128-bit security code.

IP Reset Switch

This switch resets the tags IP address to its factory default. You will use it in case you forgot the configured IP address and lost contact with the Exciter. After resetting the address to the known IP, you can reconfigure the device with a new address. The factory-default is 192.168.1.173.

Figure 2. AeroScout Exciter EX-2000-BW

LED Indications

The front panel of the Exciter consists of three LEDs. Figure 3 describes these LEDs.
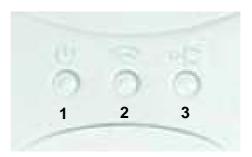

Figure 3. LED Indicators

Power – Green LED indicates that the unit is ON and connected to a power source.

Status – The green LED indicates the unit's operational status. The statuses are:

Status	Means
Blinking (according to transmission interval)	The Exciter is transmitting LF (Low Frequency) signals.
Off	A fault situation.

Link – Orange LED indicates active Ethernet communication (in offline mode, when not connected to the network, this LED should be off).

Mounting the Exciter

Mounting the Exciter Using a Fixed Mount

The Exciter can be mounted on a wall using the fixed mounting bracket (provided with the Exciter). The mounting bracket includes five optional screw holes that can be mounted to a wall, a ceiling or any other placement as shown in Figure 4. The adapter also has a swivel with which it can be adjusted to various angles. After setting the required angle, fasten the screws on the sides of the mounting adapter.

Figure 4. Exciter Mounting Adapter

The Exciter can now be mounted directly to a wall or similar surface or attached to any other adapter. See Figure 5.

Figure 5. Exciter mounting

Mounting the Exciter Using a Flexible Mount

Wherever mounting Exciters with the fixed mount is not sufficient, you can use the flexible mount that provides both swiveling and tilting.

Figure 6. Flexible Mount

To mount the Exciter using the flexible mount:

1. Remove the flexible mount's cover.

2. Fix the flexible mount to the wall or any other placement using the three screws.
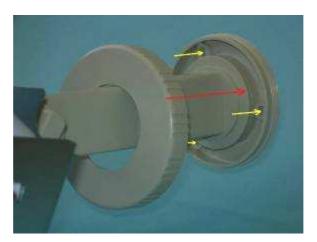

Figure 7. Attach the mount to the wall and return cover.

3. Return the cover to its place.
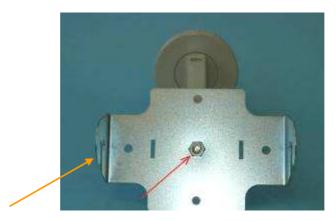
4. Place and screw the fixed mount to the flexible mount.

Figure 8. Attach fixed mount to the flexible mount

5. Attach the Exciter to the fixed mount.

Figure 9. Exciter attached to the flexible mount.

Mounting the Exciter Using a Ceiling Mount

A ceiling mount can also be attached to the Exciter's fixed mount for mounting on false/acoustic ceilings (Ceiling mount is acquired separately).

Figure 10. Ceiling Mount

Exciter Specifications

Range

- Adjustable range up to 6.5 m (20 feet)

- Supports AeroScout Tags

Physical and Mechanical

- Dimensions: 220mm (8.6 inches) diameter, 115mm (4.5 inches) depth

- Weight: 800g (28 oz.)

Network Interface

- Ethernet (RJ-45)

Wireless

- Meets requirements of standard Wi-Fi 802.11 b/g.

- WPA2 128 bit security code

Power

- Input voltage: 48VDC

- PoE (802.3af)

- Maximum power consumption: 10W

Environmental Specifications

- Operating temperature: -20°C to +60°C (-4°F to 140°F)

- Humidity: 0 to 95%, non-condensing

LF Channel

- 125kHz

- Field intensity limits: 37.3dBµA/m at 10m (ETSI)

- Propagation limits: 21.8dBµV/m at 300m (FCC)

- Modulation: ASK

Certification

- Radio:
  FCC Part 15, Sub-part B, Class B, Sub-part C
- Safety:
  CE, cTUVus (EN60950)

Safety and Warnings

SAFETY

AeroScout Exciters should always be professionally installed. A minimum distance of 50cm (20 inches) should be maintained between Exciters and critical medical care equipment in order to mitigate possible electromagnetic interference (EMI) issues. The electromagnetic environment in healthcare facilities can be extremely variable and healthcare facilities must actively manage their equipment to assure electromagnetic compliance (EMC) and mitigate the risks of EMI. On-site EMC analysis with critical care medical devices in accordance with ANSI C 63.18 should be performed by designated hospital staff on an ongoing basis. We recommend that the hospital address implications for medical implant devices with the medical device vendors themselves as to guidelines on wireless use in close proximity to their devices.

FCC STATEMENT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential 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. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

a) Reorient or relocate the receiving antenna.

b) Increase the separation between the equipment and receiver.

c) Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.

d) Consult the dealer or an experienced radio/TV technician.

This device complies with Part 15 of the FCC Rules.

Operation is subject to the following two conditions:

a) This device may not cause harmful interference

b) This device must accept any interference received, including interference that may cause undesired operation.

FCC Warning

Modifications not expressly approved by the manufacturer could void the user authority to operate the equipment under FCC Rules.

Instructions concerning human exposure to radio frequency electromagnetic fields.
To comply with FCC Section1.307 (b)(1) for human exposure to radio frequency electromagnetic fields, implement the following instruction: A distance of at least 20 cm between the equipment and all persons should be maintained during operation of the equipment.

Warranty

Hardware. AeroScout Inc. ("AeroScout"), warrants that commencing from the date of delivery to Customer, and continuing for a period of one year the Hardware will be free from defects in material and workmanship under normal use. The date of shipment of a Product by AeroScout is set forth on the packaging material in which the Product is shipped. This limited warranty extends only to the original user of the Product. Customer's sole and exclusive remedy and the entire liability of AeroScout and its suppliers under this limited warranty will be, at AeroScout's or its service center's option, shipment of a replacement within the period or a refund of the purchase price if the Hardware is returned to the party supplying it to Customer, if different than AeroScout, freight and insurance prepaid. AeroScout replacement parts used in Hardware repair may be new or equivalent to new. AeroScout's obligations hereunder are conditioned upon the returned of affected articles in accordance with AeroScout's then-current Return Material Authorization (RMA) procedures.

Restrictions. This warranty does not apply if the Product (a) has been altered, except by AeroScout, (b) has not been installed, operated, repaired, or maintained in accordance with instructions supplied by AeroScout, (c) has been subjected to abnormal physical or electrical stress, misuse, negligence, or accident; or (d) is sold for beta, evaluation, testing, or demonstration purposes for which AeroScout does not receive a payment of purchase price or license fee.

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