AeroScout®

AeroScout EX4200 Ultrasound Exciter

User's Guide

EX4200-UG-150712-11

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Introduction

The AeroScout EX4200 Ultrasound Exciter is a component of the AeroScout suite of enterprise visibility solutions that enables location-based applications. The EX4200 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 EX4200 Exciter triggers AeroScout's T2 Wi-Fi Ultrasound Tags in range, and the tags in turn transmit a message to AeroScout Location Receivers or compatible Access Points at room-level accuracy. This provides instant acknowledgment that a tagged asset was present in a specific room. The detection and programming 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.

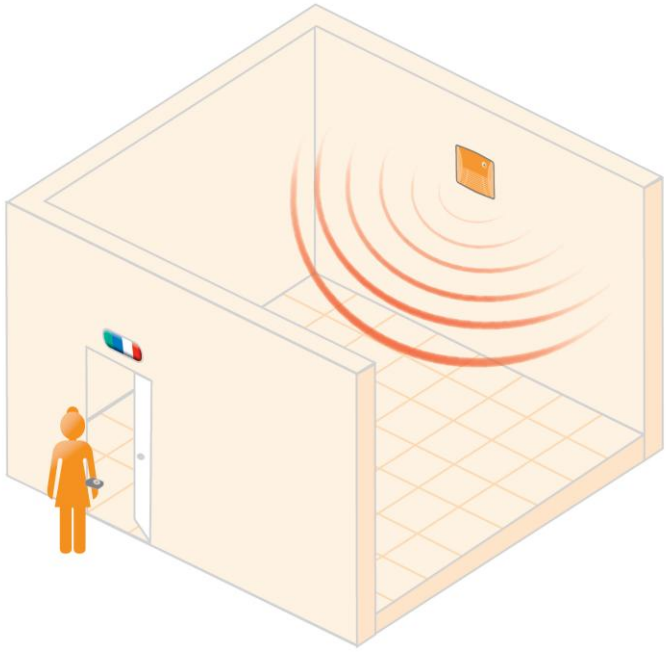

Figure 1: AeroScout EX4200 Exciter

EX4200 Features

RFID detection of AeroScout Wi-Fi Ultrasound Tags

The EX4200 triggers T2u Tags to transmit when entering a room. The Exciter is comprised of LF and ultrasound transmitters.

High room separation

The Ultrasound Exciter provides high room separation capabilities.

Message Programming functions

Provide the ability to use the EX4200 Exciter to store messages on the tag for later transmission. Message transmission can later be triggered by other Exciters, enabling sophisticated process control functions.

Configurability

The EX4200 Exciter is configured via System Manager. The configuration involves operations such as allocating an Exciter ID and setting power levels.

Flexible Mounting and Usage Options

The Exciter can be mounted on flat hard surfaces.

Speaker System

The EX4200 is equipped with two speakers covering the entire area in front of it in all directions (half-sphere). The speakers are rotatable so that they can be directed towards various points in the room.

External Speakers Unit

The optional External Speaker unit is designed to cover small rooms such as bathrooms adjacent to patient rooms or to extend the range of the Exciter in a large room.

External LF Antenna Unit

The optional External LF Antenna unit is especially designed to turn off the Exciter's ultrasound receiver when the asset leaves the room (the Exciter's internal antenna turns it on). It is positioned outside the room covered by the Exciter. It is typically deployed at the exit of patient rooms in the Nurse Call use case.

LED Indications

The front panel of the EX4200 Exciter includes one green LED that blinks when transmitting.

Connectors Panel

Figure 2 describes the Exciter connector panel (bottom panel).

Figure 2: AeroScout EX4200 Exciter Connectors Panel

1. Ethernet LAN Connection – RJ-45 interface. In a configuration that uses a physical Ethernet cable connection to the LAN, the network cable is attached here. Permanent connection to a wired network is not mandatory. However you must have a wired connection for configuring the Exciter. In addition, some of the monitoring functions will not be available if the Exciter is not wired. This connection is also used for Power over Ethernet (PoE, 802.3af).

2. Power jack – Accepts an input voltage of 48V DC. This is a standard 2.5mm jack connector for direct power supply. Alternatively, you can use the power supply that is packaged along with the Exciter. When PoE is used, this connection is not used.

3. Chain IN Connector – RJ-45 connector. This connector is used for receiving power from chained Exciters.

4. Chain OUT and Control Connector – RJ-45 connector. This connector is used for distributing power to chained Exciters and to connect the External LF Antenna unit. The output voltage is 12V DC.

5. Auxiliary connector – Designed for connecting an External Speaker unit.

WARNING: The auxiliary connection is for connecting an External Speaker unit only. Connecting other devices or a POE connection to the auxiliary input may harm the Exciter.

EX4200 Hardware

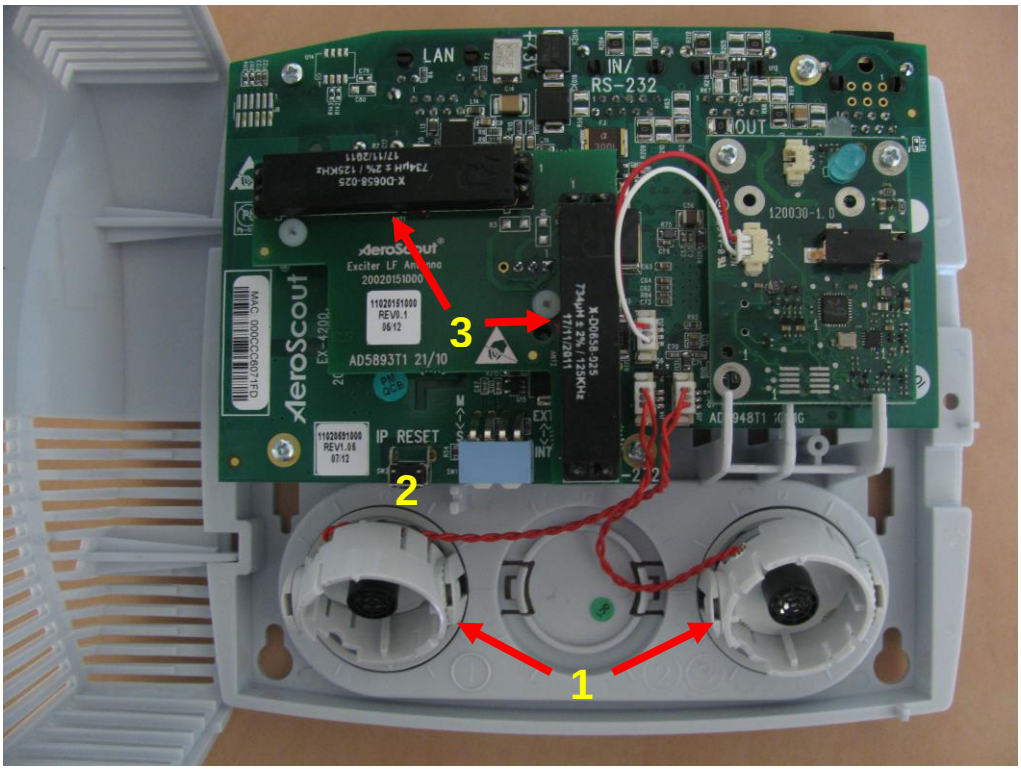

Figure 3: AeroScout EX4200 Exciter board

The AeroScout EX4200 includes:

1. **Two ultrasound speakers** - The speakers are rotatable so that they can be directed towards various points in the room.
2. **IP Reset Switch:** Restores the device's IP address to the company default.
3. **LF Antennas**

Note

Exciters with Hardware Version H1033 and above are equipped with 2 internal ultrasound speakers.

Figure 4: HW Version indication on Aeroscout Exciters

Connecting the Exciter to the Network and Power Source

The following is a brief summary of available powering and networking options:

Usage option	Description
Single Exciter – not connected to network	Exciters can be used as standalone devices that function independently without any network connection. In this case you need to connect the Exciter to the power supply only.
Single Exciter – connected to network	Exciters can be remotely controlled (for configuration and monitoring purposes) through the local area network. In this case you need to connect it to both a power source and the network. AeroScout Exciters also support power-over-Ethernet (PoE), which supply both power and network services via a single connection.

Usage option	Description
Single Exciter with External LF Antenna unit	There is an option to connect an External LF Antenna unit to the EX4200 Exciter. The External LF Antenna unit should be mounted outside the room, next to the door. It should be configured to turn off the ultrasound receiver of the T2u Tag.

Power Supply Options

The various power supply options for powering up the Exciter are described below.

Direct Power Supply

Directly connect a 48VDC power source to the Exciter's power jack (connector 2 in Figure 2).

Note

An Exciter requires approximately 10W of power. When connecting an Exciter to a direct power source with one of the above voltage levels, verify that the current level is sufficient.

When using a direct power source for chained Exciters, you can drive power to no more than three Exciters sequentially even if the source power is sufficient for more.

Unit shall be powered only by limited power source (marked LPS or NEC class 2) power supply.

PoE Switch

If your network has a Power-over-Ethernet infrastructure, you can connect a CAT-5 Ethernet cable from the PoE switch to the Exciter's LAN connector (connector 1 in Figure 2). This supplies both the power and the network connection.

Note

PoE standard 802.3af class 0 allows power for not more than one Exciter. When using PoE with chained Exciters, a PoE connection must be made to every single Exciter in the chain. In addition, the LAN connectivity that the PoE supplies will not be utilized for slave Exciters in a chain.

110/220 VAC to 48VDC PoE Single-Port Injector

The PoE Single Port Injector converts 110/220VAC to 48VDC. In addition, it can receive a network connection and enable the installer to run a single cable to the Exciter's LAN connector, thus supplying both power and network connectivity.

When using this injector, the power jack of the Exciter will not be used.

Figure 5: Single-Port Injector

The injector's IN connector is connected to the network. The injector's OUT connector is connected to the Exciter's LAN connector (connector 1 in Figure 2).

The injector can be used for both networked and non-networked Exciters. In case of a non-networked Exciter, the IN connector on the injector is not used.

Note

An injector can provide enough power for one Exciter only. When using the injector with chained Exciters, an injector must be connected to every single Exciter in the chain. In addition, the LAN connectivity that the injector supplies, is not to be utilized for slave Exciters in a chain.

110VAC/220VAC to 48VDC Power Supply Adaptors

These adaptors convert 110VAC or 220VAC inputs to 48VDC

Figure 6: 110VAC to 48VDC or 220VAC to 48VDC Adaptor

The adaptor is connected to the Exciter's power jack). The network should be connected separately to the Exciter's LAN connector (connector 1 in Figure 2). This adaptor is most common for chained Exciters. It can be used for supplying power to up to three Exciters.

Power Connection Summary

The following table summarizes the power connection options:

Power supply	Input	Output	Maximum Current	Available Power	Maximum # of Exciters with one source
POE single port injector	100-240V AC 50-60Hz	48VDC	0.32A(1)	15.4W	1
Standard POE 802.3af switch port(2)	-	48VDC	0.32A(1)	15.4W	1
External power source	-	48VDC	>1A	>48W	3(3)

Note

Cable losses are included assuming cables are less than 100m long.

The POE class should be 0.

The Exciter port cannot support power required by more than three Exciters.

Chaining Exciters

In an area where the required LF coverage exceeds the capacity of one Exciter, you can chain up to three Exciters, thus extending the coverage area. For example, a large entrance gate for trucks and heavy equipment that is 30m wide might require three Exciters chained to one another. This solution is relevant for LF transmissions only.

Exciter EX4200 can be chained to either another Exciter EX4200 or to an Exciter EX3210.

The chained Exciters are treated by the system as a single entity. Their transmissions do not interfere with one another.

Note

The Exciters' transmission ranges and physical position should be set in a manner that will allow overlapping between neighboring Exciters' coverage areas.

Figure 6 illustrates chained Exciters and shows the connections.

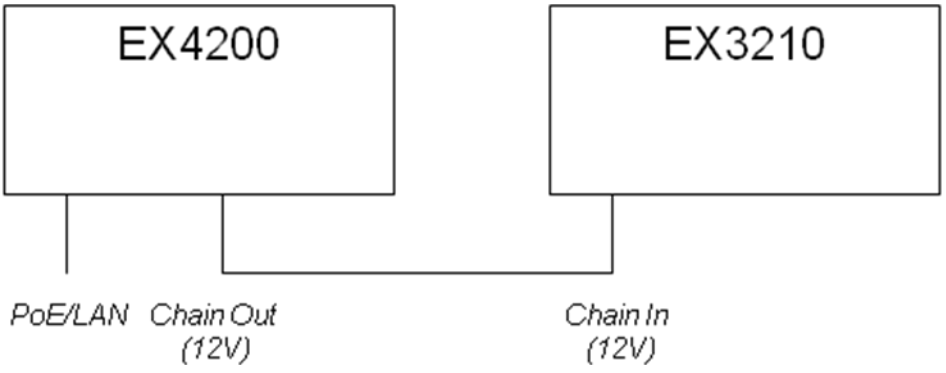

Figure 7: Exciter chaining

Chain Connection

Up to 3 Exciters can be connected to each other in a chain, as follows:

1. The first Exciter in the chain that's directly connected to the LAN is called the "master". The others are called "slave". Any EX4200 can be master.
2. The master is connected to the next slave from the master's OUT connector (connector 4 3 in Figure 2) to the slave's IN connector (connector 3 in Figure 2).

3. A slave is connected to a subsequent slave in the same manner (from OUT to the next slave's IN).

4. In the System Manager, under **Exciter Properties, Settings**, Mark the check box **Exciter is Slave**.The slaves will inherit the master's ID and its LF configurations aside from the transmission range. The transmission range and ultrasound settings need to be configured individualy for each Exciter.

Note

Exciter EX4200 chaining is supported by Exciter FW V308 or higher and Engine 4.3 or higher.

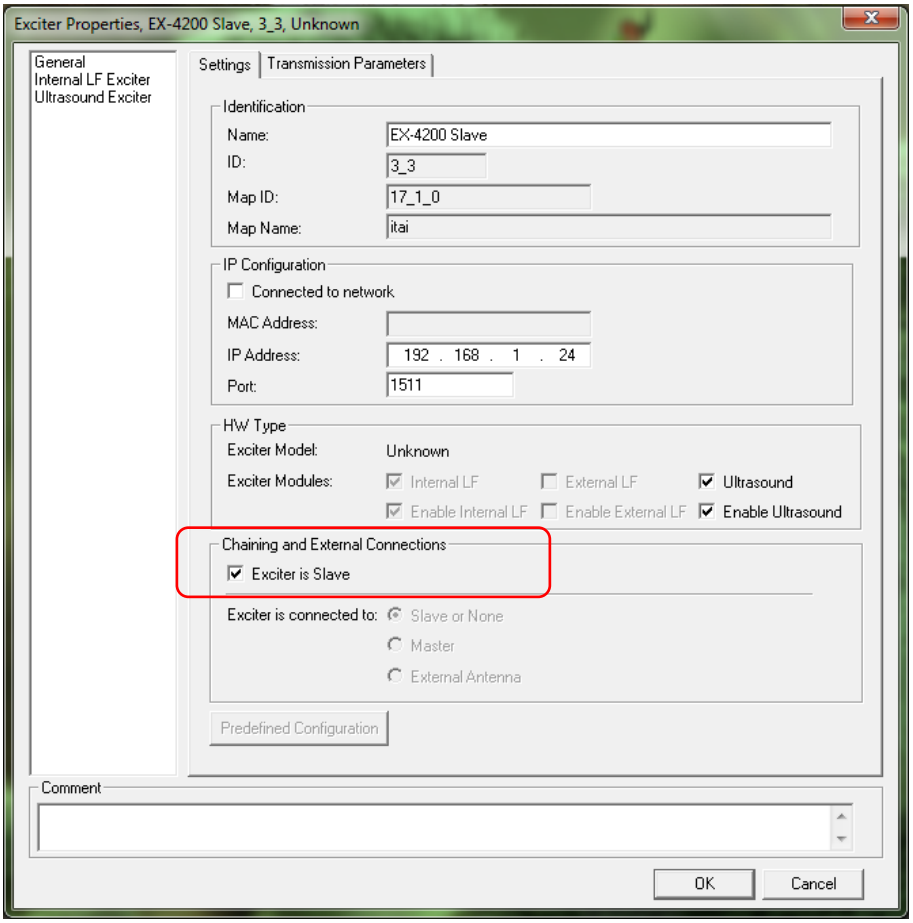

Figure 8: Slave configuration in System Manager

Chaining an EX3210 Exciter

To connect the EX3210 Exciter to the EX4200 Exciter, follow these steps:

1. The EX4200 Exciter in the chain that's directly connected to the PoE/LAN is called the "master". The EX3210 Exciter is also a "master". Each Exciter has its own ID.
2. Configure the EX3210 Exciter as not connected to the network.
3. Connect the EX3210 Exciter to the **Chain Out** connector of the EX4210 Exciter.

Connecting an External LF Unit

The External LF Antenna Unit is designed to cover the exit of a patient room, typically in the Nurse Call use case. It turns off the Exciter's ultrasound receiver when the person leaves the room (the Exciter's internal LF antenna turns it on). It is positioned outside the room covered by the Exciter. The external antenna also clears the last ultrasound Exciter ID.

The two devices communicate via a standard CAT5 cable connection. Connect the Exciter's Chaining OUT connector to the external LF unit's IN connector.

The external LF's LED blinks while the Exciter transmits.

Connecting an External Speaker Unit

The external speaker unit is designed to cover smaller rooms such as bathrooms adjacent to patient rooms or to extend the range of the Exciter in a large room. The device is equipped with two speakers. You can turn on and off both speakers independently using the On/Off switches on the side panel.

Figure 9: External LF/Speaker unit

The Exciter and External Speaker unit communicate via a standard CAT5 cable connection. To connect the External Speaker to the Exciter, first, remove the AUX connector cover (Figure 10). Second, connect the Exciter's AUX connector to the External Speaker's IN connector.

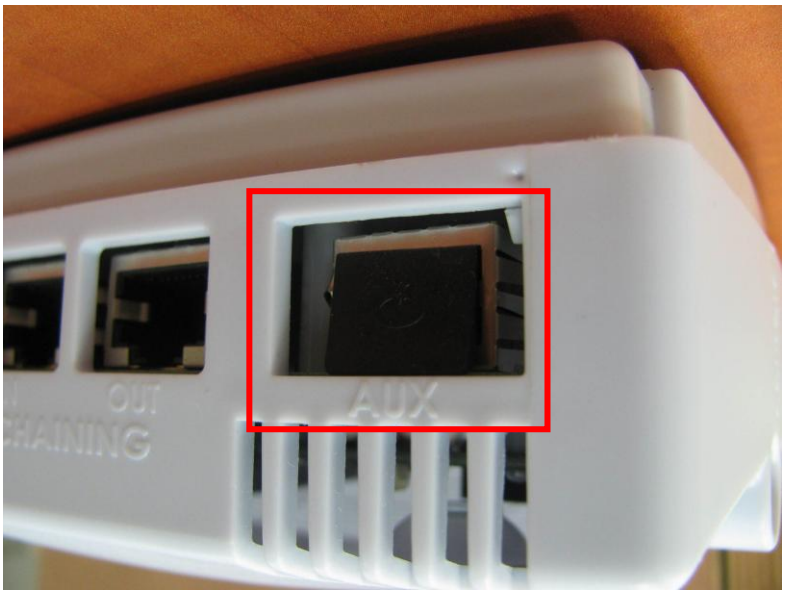

Figure 10: AUX connector cover

Figure 11: External Antenna/ Speaker, IN connector and mounting brackets

Attaching the External LF Antenna and External Speaker to a false/ acoustic Ceiling

The brackets on the External Units' bottom panel are designed for mounting to a false ceiling.

Follow these steps:

1. Couple the bottom panel of the external unit with the grid of the false ceiling at a 45 degree angle.
2. Next, twist the external unit clockwise so that the brackets are aligned with the grid of the false ceiling.

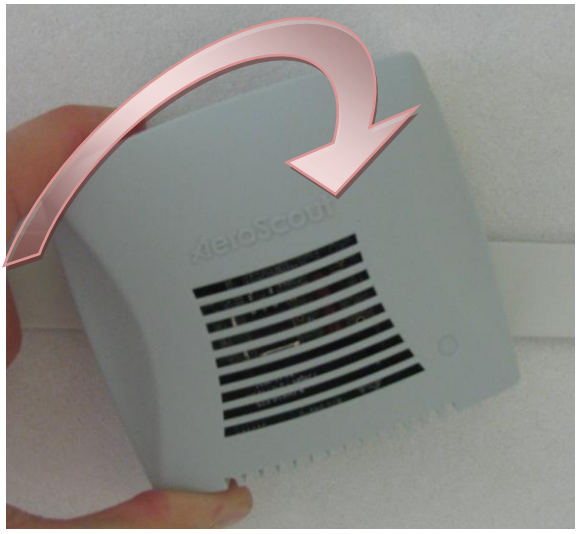

Figure 12: Mounting an External Unit to a false ceiling

Figure 13: External Unit mounted on a false ceiling

Attaching an External LF Antenna or an External Speaker to the Wall

The External LF Antenna and External Speaker can be mounted on a wall using screws. First screw two screws into the wall at an even height. The distance between the screws shall be 67.7mm (2 2/3 in) and is also marked on the bottom panel of the external unit. After the screws are in place on the wall, place the mounting holes over the screws and hang the external unit.

Exciter Configuration

Exciters are configured using the AeroScout System Manager or MSE. The configuration settings consist of device installation and network definitions.

Configuring the Exciter via System Manager

The configuration procedure involves the following steps:

1. Connect all Exciters with a wired Ethernet connection to a dedicated segment.
2. Add the Exciters with the AeroScout System Manager, configure their parameters and define their IP settings (The preconfigured IP is supplied per Exciter).

   If you wish to later change the IP settings (IP, subnet, gateway or ports) you can do so by right-clicking on the Exciter and selecting IP Settings.
3. Check that the Exciter's status is OK by right clicking on the Exciter icon and selecting Status. Also verify in the status window that the firmware versions (DSP and Second Boot) are compatible with the current installed Engine version and Exciter hardware version. Consult AeroScout Support regarding the appropriate firmware versions.
4. Position the Exciter in the site according to site survey recommendations, and mount it.
5. Align the Exciters' positions according to the required area coverage.
6. If you wish to define the Exciter as an offline Exciter not connected to the network, you should approve the above configuration, wait for a confirmation, define the Exciter as disconnected from network from the Properties window, approve the settings again and disconnect the Exciter from the network.

For more information please refer to the AeroScout Engine User's Guide.

Configuring the Exciter via MSE

The configuration procedure involves the following steps:

1. Open the WCS and select **Configure, Chokepoints**.

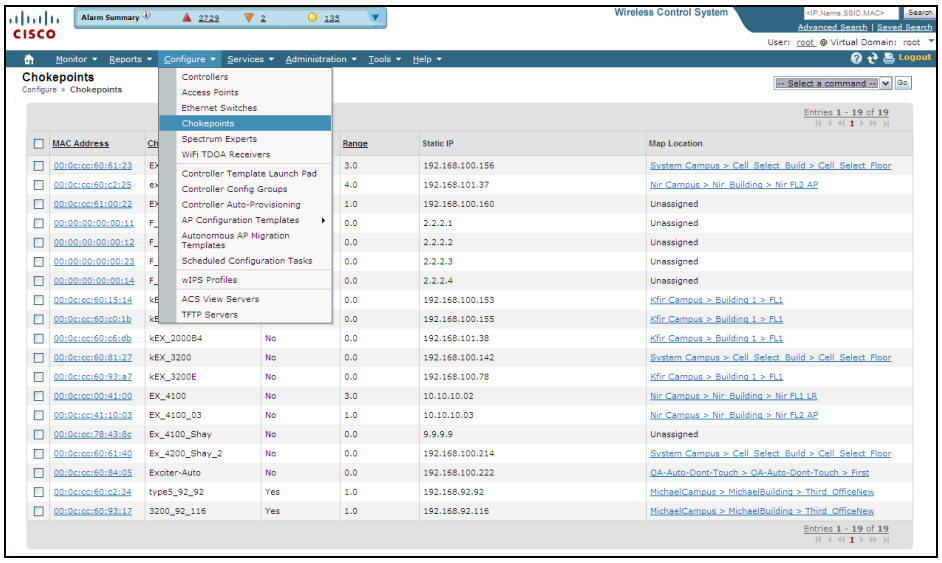

Figure 14: Exciter configuration in MSE

2. Select **Add Chokepoint**.

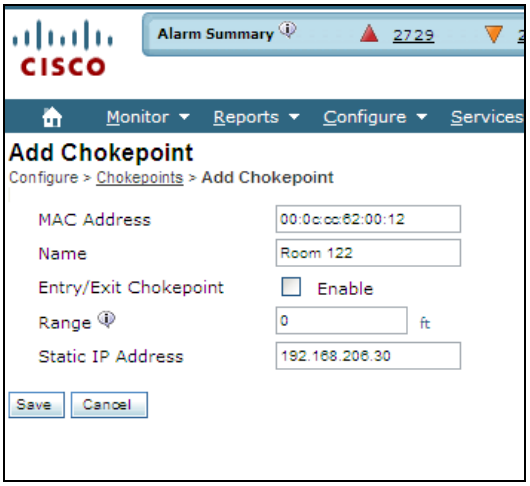

Figure 15: Adding Chokepoint

3. Enter the Exciter MAC address, name, static IP address, and click the **Save** button.

4. Select **Monitor, Maps** and then the relevant campus, building and floor.

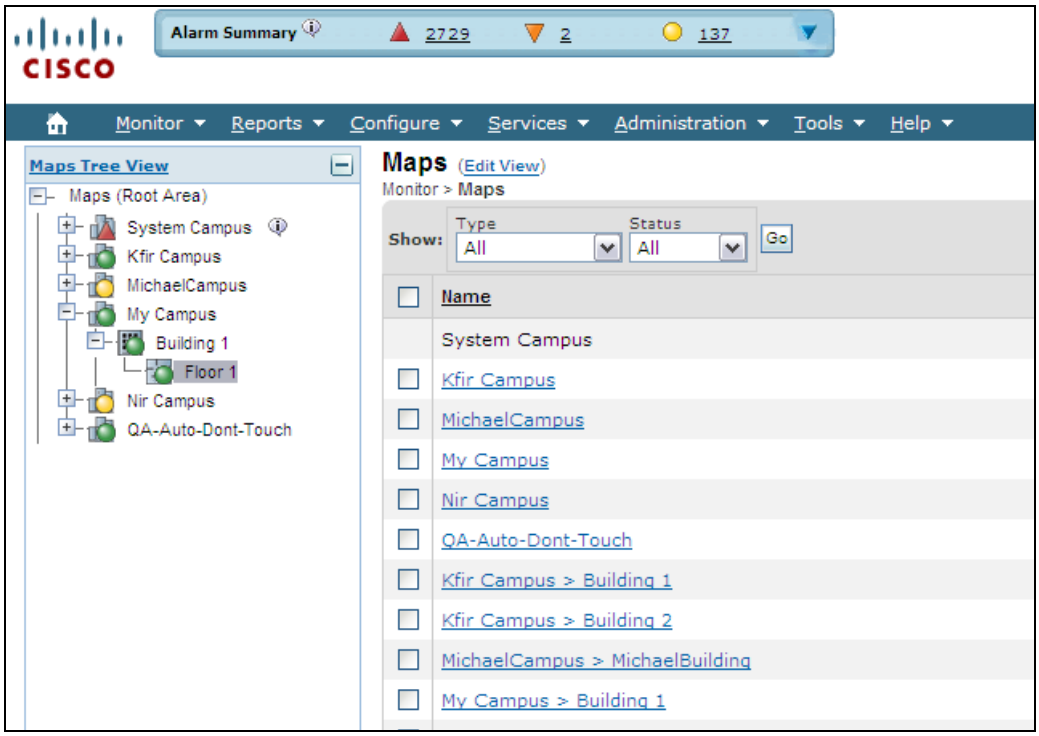

Figure 16: Exciter configuration in MSE

5. Select **Add Chokepoint** and click **Go**.

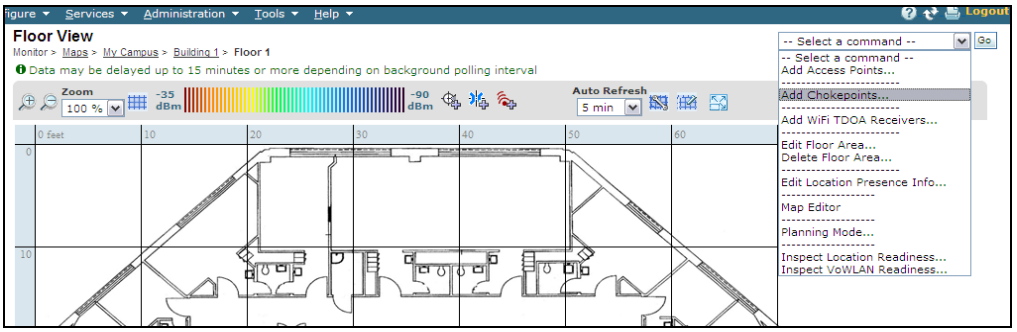

Figure 17: Exciter configuration in MSE

6. Check the relevant Exciters and click **OK**.
7. You will be switched back to the relevant floor area.
8. Locate the added Exciter on the map and click **Save**.
9. Select **Services, Synchronize Services** and synchronize the relevant MSE.
10. Open System Manager and configure the Exciter.

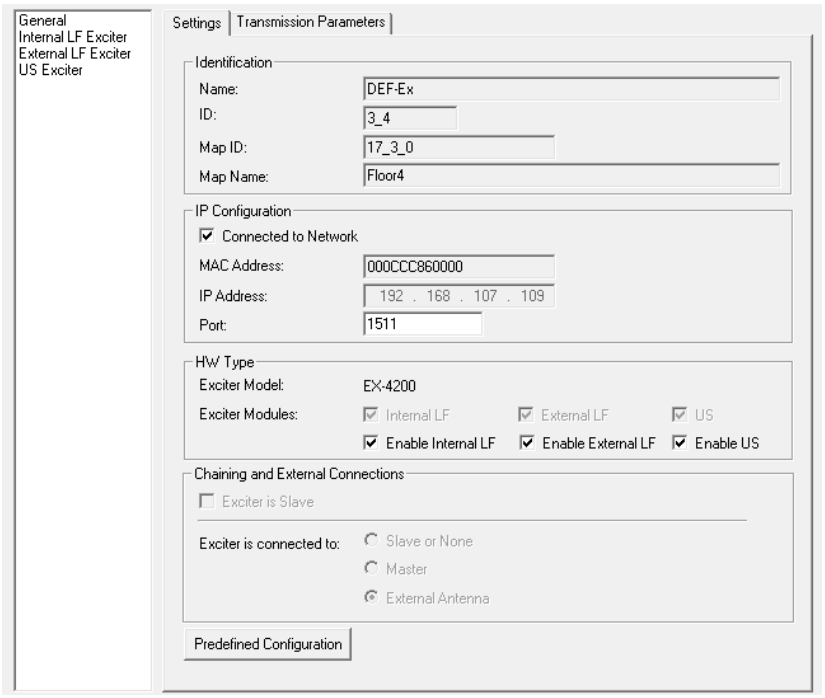

Figure 18: System Manager configuration - Settings

11. On the left panel select the Internal LF entry and configure it.

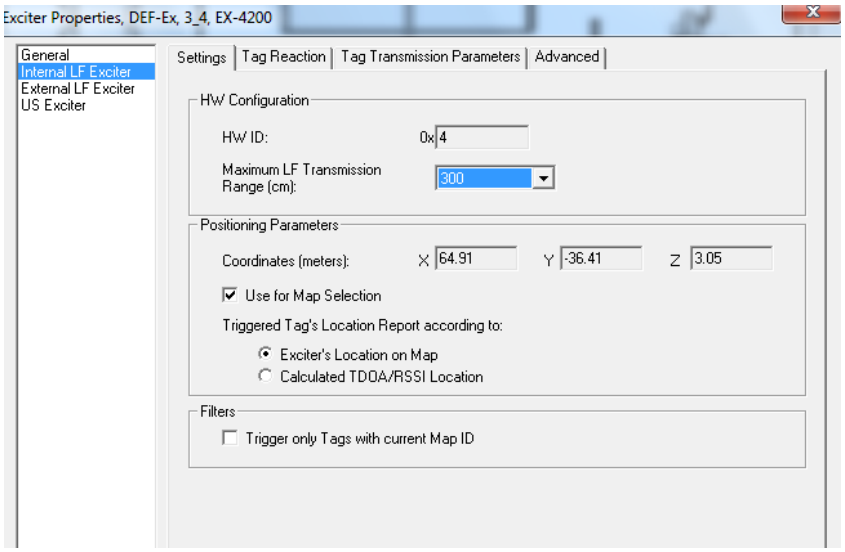

Figure 19: System Manager configuration – Internal LF

12. Repeat the procedure for the External LF Antenna (the parameters are identical for both).

13. If Ultrasound is enabled, select the US Exciter entry on the left and configure the ultrasound device.

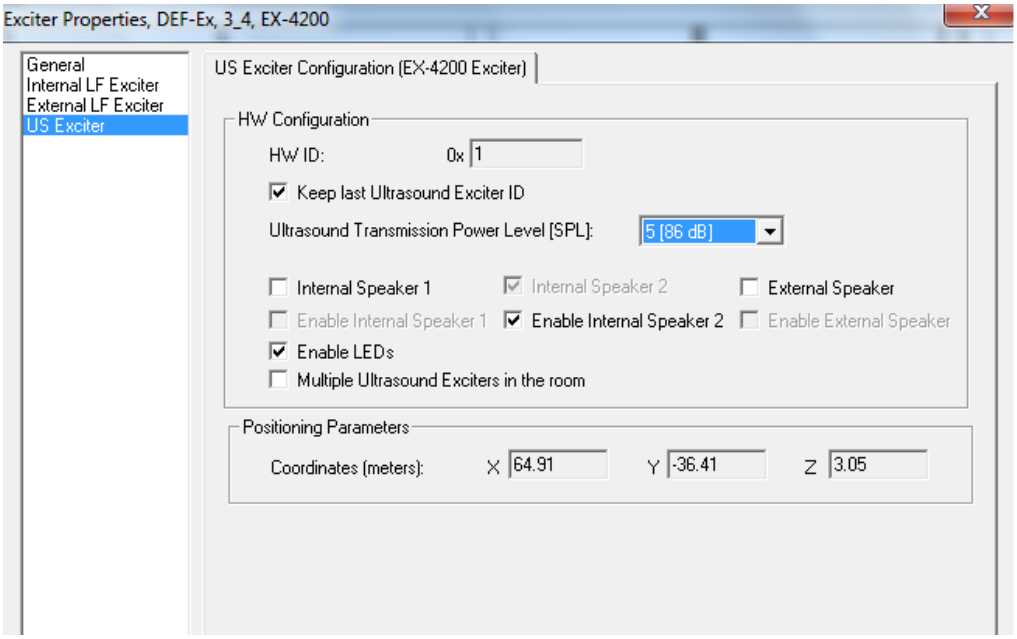

Figure 20: System Manager configuration –US Exciter

Note the **Ultrasound Transmission Power** parameter: Usually the power is set to 5 in patient rooms and to 9 in utility rooms (the power depends on the size of the room).

Note

Starting from Engine version 4.3, master-slave configuration is done using System Manager. Use the Slave Exciter Configuration Tool (SECT) for earlier versions.

For more configuration options and the relevant use cases, please refer to the *AeroScout Exciter Deployment Guide*.

Note

Do not connect the console data cable which is used to configure the EX4100 Exciter to the external connector on the EX4200 Exciter housing. This connector is used only for EX4100 Exciter configuration and EX4200 Exciter configuration is done only using System Manager.

Mounting the Exciter

Mounting the Exciter on a Wall

Mount the Exciter with the AeroScout logo facing up.

Fix the Exciter on the wall using four screws threaded through the four holes at the back of the casing.

Mounting the Exciter Using a Mounting Plate

The Exciter can be mounted on a wall using the Mounting Plate (provided with the Exciter), which provides various mounting options, including strapping the mount on a round surface.

Once the mount is in place, fix the plate on the four hooks and push is down until it snaps into position.

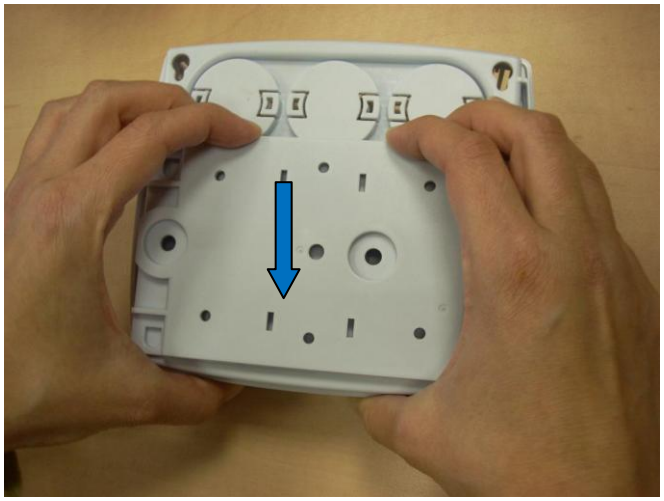

Figure 21: Exciter Plate

To remove the plate, push the release button on the right, slide the plate up and remove it from the hooks.

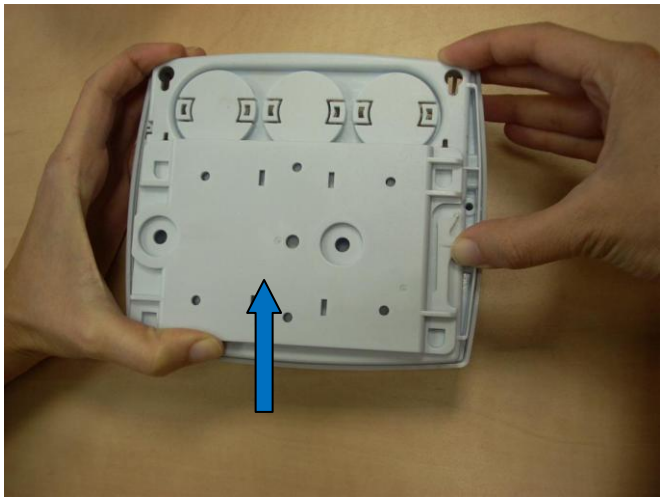

Figure 22: Exciter Plate removal

Mounting the Exciter Using a Ceiling Mount

A ceiling mount can also be attached to the Exciter's fixed mount for mounting on false or acoustic ceilings.

Figure 23: Ceiling mount

Ceiling Mount

Figure 24: Exciter mounted on the ceiling

Deployment Considerations

The section provides recommendations on how to deploy the Exciter to prevent leakage beyond the confines of the room and avoid poor coverage of the room area.

When mounting a single EX4200 Exciter, either mount it on the same wall as the entrance door or on the ceiling above it. The speaker should be directed away from the door, towards the opposite wall. The following figure illustrates the case.

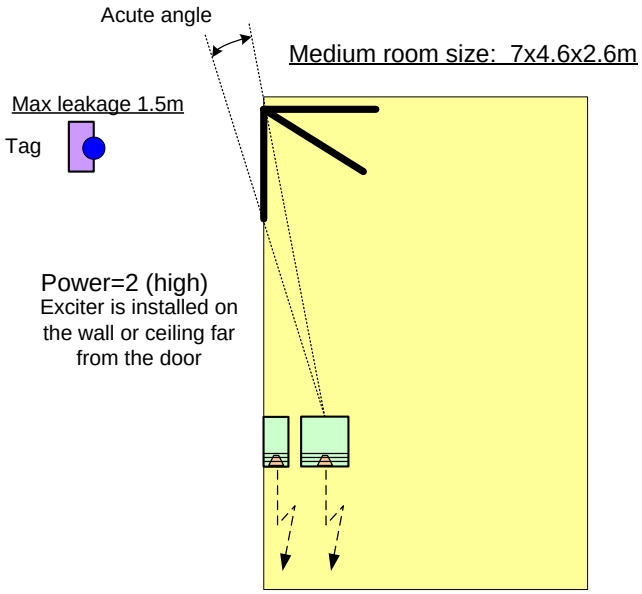

Figure 25: Exciter deployment consideration

In larger rooms that cannot be covered by one Exciter, install two Exciters on the same wall, a few meters apart. Make sure their effective range overlap. The Exciters should be configured with **Enable Multiple Ultrasound Exciters usage in the room**=Yes (check the box). The following figure illustrates the case.

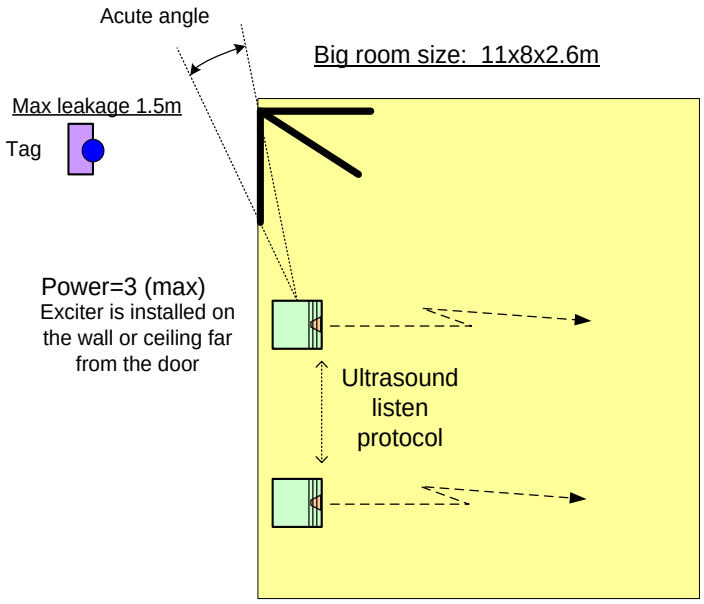

Figure 26: Multiple Exciter deployment consideration

In a Nurse Call application, the EX4200 Ultrasound Exciter can be deployed with a chained LF Exciter.

The EX4200 Exciter is mounted at the entrance of the room (inside). When the tag enters the room, the on-board LF enables the ultrasound receiver. An External LF Antenna unit or EX3210 Exciter is mounted outside the room, at the entrance. The LF should cover the entrance with minimal leakage into the room or into adjacent rooms. The External LF Antenna unit disables the ultrasound receiver when the tag leaves the room.

For more information on deployment considerations, please refer to the ***Exciter Deployment Guide***.

WARNING: Devices that transmit an ultrasound signal, like ultrasonic occupancy detectors, may interfere with the proper functionality of ultrasound tags. It is recommended to disable the ultrasound components of these devices.

Ultrasound Exciter Hardware Components

Use the following information to determine the correct part number of the Exciter depending on the required hardware:

Product	SKU	Description
EX4200 Exciter	EX-4200	EX4200 Ultrasound Exciter. Includes 48V DC input, Ethernet and PoE interface
EX4200 Power Supply	ADP-047	AC/DC adaptor 45W 48V/1.0A 90-264VAC.
Exciter Detector Tool	EXD-1000	Tool for visualization of the effective Ultrasound and LF Exciter transmission field. Analyzes the Exciter coverage during deployment. Includes a PC application and the detector hardware that can be connected via USB to a PC.
Ceiling Mounting Adapter	LRAC-100	For false/acoustic ceilings
External LF Antenna	ANT-4200	External LF Antenna Unit for EX4200 and EX2000B Exciters. Powered directly from the connection to the EX4200 or EX2000B Exciter. Includes mounting plate and a ceiling mount.
External Speaker unit	SPK-4200	External ultrasound speaker unit for EX4200 Exciter. Powered directly from the connection to the EX4200 Exciter. Includes mounting plate and a ceiling mount

Specifications

EX4200 Exciter

Physical and Mechanical

- Dimensions: 162mm x 142mm x 55mm (63.8in x 55.9in x 21.6in) – without the mounting plate
- Weight: 300g (11oz)
- Housing: ABS, indoor use only

Coverage

- Adjustable coverage range up to 8m x 8m (26ft x 26ft)

Ultrasound Transmitter

- Frequency 40-60 KHz

LF Channel

- 125kHz
- Field intensity limits: 37.3dBμA/m at 10m (ETSI)
- Propagation limits: 21.8dBμV/m at 300m (FCC)
- Modulation: ASK

Network Interface

- Ethernet (RJ-45)

Power

- Input voltage: 48VDC
- PoE (802.3af) – 48VDC
- Maximum power consumption: 6W.
- Maximum power consumption of External LF Unit: 6W.

Environmental

- Operating temperature: 0°C to +50°C (32°F to 122°F)
- Humidity: 0 to 95%, non-condensing

Certifications

- Safety:
    - FCC Part 15, sub-part C class B, sub-part B
    - EN 300-328, EN 300-330, EN 301-489
    - CE and cTUVus (EN60950)

External LF Antenna

Physical and Mechanical

- Dimensions: 93mm x 84mm x 34 mm (3.7in x 3.3in x 1.3in)
- Weight: 100 gr (3.5 oz)
- Housing: ABS, indoor use only
- RJ-45 Input Connector
- Connected to the Exciter's Chain Out connector

Coverage

- Adjustable coverage range: 0.25m-3m (0.8ft x 9.8ft)

Power

- Powered directly from the Exciter

Environmental

- Operating temperature: 0°C to +50°C (32°F to 122°F)
- Storage temperature: -40°C to +85°C (104°F to 185°F)

Other:

- Connecting to EX2000B Exciter requires a 48/12V adapter

External Speaker

Physical and Mechanical

- Dimensions: 93mm x 84mm x 34 mm (3.7in x 3.3in x 1.3in)
- Weight: 80 gr (2.8oz)
- Housing: ABS, indoor use only

- RJ-45 Input Connector
- Connected to the Exciter's AUX connector
- 2 Speakers

Coverage

- Adjustable coverage range up to 5m x 5m 16.4ft x 16.4ft)

Power

- Powered directly from the Exciter

Environmental

- Operating temperature: 0°C to +50°C (32°F to 122°F)

Safety and Warnings

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.

WARNING: This device complies with Part 15 of the FCC Rules and RSS-210 of Industry and Science Canada. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Limited Warranty

Hardware. AeroScout Inc. ("AeroScout") warrants that commencing from the date of delivery to Customer and continuing for a period of one (1) year thereafter (the "Warranty Period"), the Hardware will be free from defects in material and workmanship under normal use subject to terms hereof. 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 return 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 provided for beta, evaluation, testing, or demonstration purposes for which AeroScout does not receive a payment of purchase price or license fee.

Exclusions:

This warranty shall have no coverage of the following:

- Batteries (other than DOA -Dead On Arrival)
- Plastics (including defects in appearance, cosmetics, decorative or structural items including framing and non-operative parts).
- Tag Calibration
- Expenses related to removing or reinstalling the Product

Defects or damage that result from the use of Non-AeroScout certified Products, Accessories, Software or other peripheral equipment are excluded from coverage.
Defects or damages resulting from service, testing, adjustment, installation, maintenance, alteration, or modification in any way by someone other than AeroScout, or its partners, are excluded from coverage.

Extended Warranty:

AeroScout offers an extended warranty. The initial year of the extended warranty must be purchased at the time of the product purchase or before the original warranty expires. The extended warranty may be renewed again for a maximum of two additional years (on top of the initial warranty period). Warranty extensions must be purchased prior to the existing warranty expiration and will not be available after the original/extended warranty expires.

DISCLAIMER OF WARRANTY. EXCEPT AS SPECIFIED IN THIS WARRANTY, ALL EXPRESS OR IMPLIED CONDITIONS, REPRESENTATIONS, AND WARRANTIES INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NONINFRINGEMENT, SATISFACTORY QUALITY OR ARISING FROM A COURSE OF DEALING, LAW, USAGE, OR TRADE PRACTICE, ARE HEREBY EXCLUDED TO THE EXTENT ALLOWED BY APPLICABLE LAW. TO THE EXTENT AN IMPLIED WARRANTY CANNOT BE EXCLUDED, SUCH WARRANTY IS LIMITED IN DURATION TO THE WARRANTY PERIOD. BECAUSE SOME STATES OR JURISDICTIONS DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, THE ABOVE LIMITATION MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS, WHICH VARY FROM JURISDICTION TO JURISDICTION.

This disclaimer and exclusion shall apply even if the express warranty set forth above fails of its essential purpose. Under no circumstances shall AeroScout's liability under this limited warranty exceed the actual cash value of the Product at the time Consumer returns the Product for repair, determined by the price paid by Consumer for the Product less a reasonable amount for usage.

Please use the following link to submit your tickets using AeroScout's support portal:
http://support.aeroscout.com

About AeroScout

AeroScout is the market leader in Unified Asset Visibility solutions. Clients improve operational efficiency and quality using AeroScout products that leverage standard Wi-Fi networks to track and manage the location, condition and status of mobile assets and people. AeroScout's global customer base consists of leading hospital, manufacturing and logistics organizations, including many of the Fortune 500. The company originally invented the first Wi-Fi-based Active RFID tag, and today is widely recognized as leading the market in number of deployments and tags shipped. Headquartered in Redwood City, Calif., AeroScout has offices in Europe, Asia, the Middle East, Latin America and Australia. For more information, please visit www.aeroscout.com.

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