



AeroScout EX5100 Exciter

User's Guide

EX5100-UG-040313-02

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Introduction

The AeroScout EX5100 Exciter is a component of the AeroScout suite of enterprise visibility solutions that enables location-based applications. The EX5100 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 EX5100 triggers AeroScout's tags as they pass through a choke point or when they are located near the Exciter and the tags in turn transmit Wi-Fi message to Internal Receiver or compatible Access Points in range. The Exciter can activate/deactivate the tags, program the tags or even cause tag reaction such as blinking. This provides instant acknowledgment that a tagged asset passed through a gate, doorway or some other well-defined area.

The EX5100 Exciter has built in Wi-Fi receiver which enables it to receive AeroScout tag messages. The Exciter also has an embedded Wi-Fi transmitter which is utilized by the Exciter for self-health monitoring. These capabilities make the Exciter ideal for security applications.

The detection capabilities of the EX5100, 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.

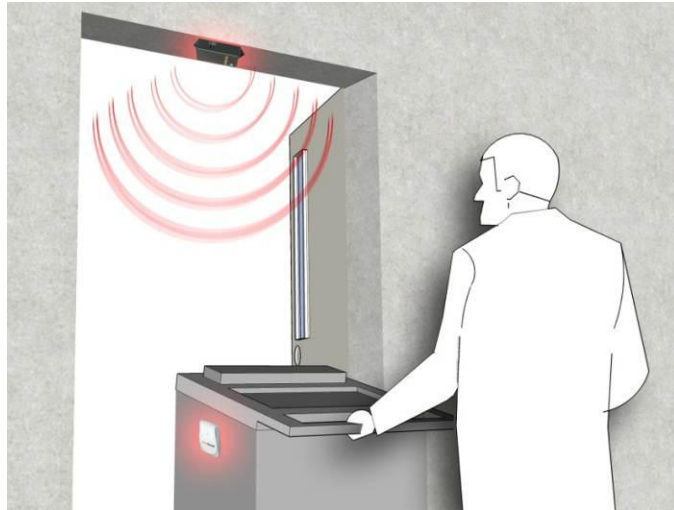


Figure 1: EX5100 positioned at choke point triggering a tag

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 EX5100 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, EX5100 triggers a tag message.

EX5100 Features

RFID detection of AeroScout Tags

Triggering the tags to transmit as they pass through a defined area, EX5100s reach up to a 6.5 meters (21.3 ft) range, enough to cover typical door or gate areas. EX5100s can also be chained one to another, thus increasing the RFID detection range for accommodating even very large areas.



Note

The exciter's effective range, based on specific environment and placement, may be less than the configured range. The effective range should be taken into consideration when planning and designing the deployment.

Tag behavior modification:

The EX5100 can wirelessly active and deactivate tags. Tag battery life can be extended further by switching the tags off when they leave a defined tracking area through a gate or doorway.

It is also possible to configure the Exciter to change of tag transmission rate temporarily or indefinitely to accommodate different usage patterns in various physical spaces.

Message Programming functions

The EX5100 has the ability to store messages on the tag for later transmission. Message transmission can later be triggered by other EX5100s, enabling sophisticated process control functions.

EX5100 can trigger a tag to:

- transmit up to 15 bytes of data sent to it by the EX5100;
- transmit one of 15 pre-stored messages;
- transmit and store up to 15 bytes of data sent to it by the EX5100.

Network connectivity

Enables remote programming, monitoring and software updates by the AeroScout Engine. In addition, the EX5100 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.

EX5100 Hardware

The AeroScout EX5100 includes the following components:

- 125 KHz LF Tx
- Bidirectional Wi-Fi module with only the receiver enabled
- Wi-Fi transmitter (T2 Tag) which is used by the exciter for health management.
- Exciter controller



Figure 2: AeroScout EX5100

LED Indications

Top panel LED



Figure 3: EX5100 LED indicators

- **Green LED** constantly lit indicates that the unit is connected to a power source but not transmitting, or it is in slave mode and not transmitting. **Blinking Green LED** (according to transmission interval) indicates that the EX5100 is transmitting LF (Low Frequency) signals.
- **Green LED** constantly lit when the unit is connected to a power source.
- **Orange LED** represents Link (LAN Connection)

Connectors Panel

Figure 4 displays the EX5100 connector panel.



Figure 4: AeroScout EX5100 Connectors

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. The output voltage is 12V DC (0.5A maximum).

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.



6. Termination Switch – For defining termination settings in a chained Exciters installation. The default factory setting is Termination On (o-o). In chained Exciters installations, the termination of the first and last Exciters in the chain should be set to **On** (o-o) and the rest should be set to **Off** (-o-o-).

7. IP Reset Switch: Restores the device's IP address to the company default.

Connecting the EX5100 to the Network and Power Source

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

Usage option	Description
Single EX5100 – not connected to network	EX5100s can be used as standalone devices that function independently without any network connection. In this case, you need to connect the EX5100 to the power supply only. Using System Manager, set the control switch to EXT, and set the unit to be “not connected to the network”.
Single EX5100 – connected to network	EX5100s 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 EX5100s also support power-over-Ethernet (PoE), which supply both power and network services via a single connection. Set the control switch to EXT.

Usage option	Description
<p>Chained EX5100s – not connected to network</p>	<p>EX5100s can be connected to each other in a chain and receive the power/data from one master EX5100 in the chain. This configuration does not require any network connectivity. Up to 8 EX5100s can be connected in a chain. Up to 3 EX5100s can use the same power source (depending on the source’s power). See Direct Power Supply</p> <p>Directly connect a 48VDC power source to the Exciter’s power jack (connector 2 in Error! Reference source not found.).</p> <hr/> <p> Note</p> <p>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.</p> <p>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.</p> <p>Unit shall be powered only by limited power source (marked LPS or NEC class 2) power supply.</p> <hr/> <p>PoE Switch</p> <p>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 Error! Reference source not found.). This supplies both the power and the network connection.</p> <hr/> <p> Note</p> <p>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.</p> <hr/> <p>110/220 VAC to 48VDC PoE Single-Port Injector</p> <p>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.</p> <p>When using this injector, the power jack of the Exciter will not be used.</p>



Direct Power Supply

Directly connect a 48VDC power source to the Exciter's power jack (connector 2 in **Error! Reference source not found.**).



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 **Error! Reference source not found.**). 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 **Error! Reference source not found.**).

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 **Error! Reference source not found.**). 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 several Exciters, thus extending the coverage area. For example, a large entrance gate for trucks and heavy equipment that is 10m wide might require three Exciters chained to one another.

The chained EX5100s will be treated by the system as a single entity and as a single Exciter with a single ID covering a larger area. Transmissions will not interfere with one another.

The EX5100s' transmission ranges and physical positions should be set in a manner that will allow overlapping between neighboring EX5100s' coverage areas.

Figure 7 illustrates chained EX5100s and shows the connections.

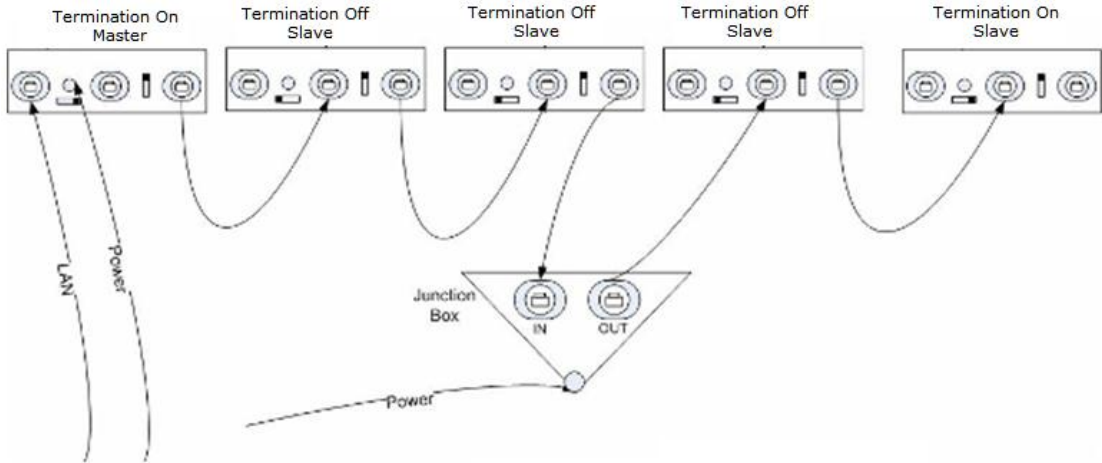


Figure 7: EX5100 chaining

Chain Connection

Up to 8 EX5100s can be connected to each other in a chain, as follows:

6. The first Exciter in the chain that is directly connected to the LAN is called the "master". The others are called "slave". Any EX5100 can be a master or slave.
7. The master is connected to the next slave from the master's OUT connector (connector 4 in Figure 4) to the slave's IN connector (connector 3 in Figure 4).
8. A slave is connected to the next slave in the same manner (from OUT to the next slave's IN).

9. The Termination Switch (item 5 in Figure 4) of the master and the last slave in the chain should be set to On (o-o).

On the other slaves, it should be set to Off (-o o-).

10. The **Master/Slave** configuration is done using System Manager 4.3 or higher. If you are using an older version of System Manager, the master-slave configuration is done using the Slave Exciter Configuration Tool (SECT). See Appendix A. Slave Exciter Configuration Tool.

The slaves will inherit the master's ID and its LF configurations aside from the transmission range.

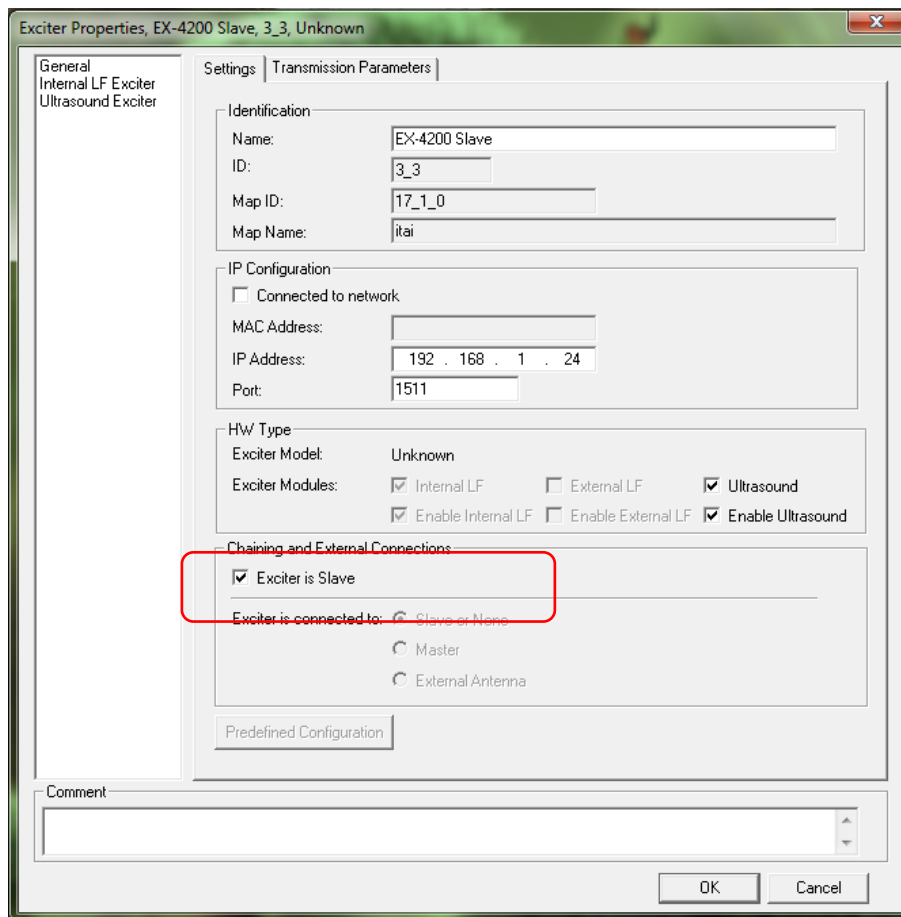


Figure 8: Slave configuration in System Manager

Chaining an EX3210 Exciter

To connect the EX3210 Exciter to the EX5100 Exciter, follow these steps:

1. The EX5100 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 EX5100 Exciter.

Power Connection Considerations

As mentioned earlier, an external power supply or AC/DC adaptor can support up to three chained Exciters, and a PoE connection can support one Exciter. In order to chain more Exciters than the currently connected power supply can feed, an additional power supply element can be added using a junction box.



Figure 9: Junction box

1. Connect the junction box to its power supply.
2. Connect the last of the currently connected slave's OUT to the junction box's IN.
3. Connect the junction box's OUT to the next slave's IN.
4. Connect subsequent slaves to each other as explained above.

If necessary, you can use more than one junction box to supply more power along the chain.

Resetting the EX5100

You can reset the EX5100's IP address to the factory defaults by pressing the IP Reset button using a thin, pin-like object. The Reset button is located on the LAN side of EX5100. The default IP address is 192.168.1.178. After a successful IP reset the red LED will lit for two seconds.



Figure 10: IP Reset button

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**.

MAC Address	Chokepoint Name	Range	Static IP	Map Location	
00:0c:cc:60:61:23	EX	3.0	192.168.100.156	System Campus > Cell_Select_Build > Cell_Select_Floor	
00:0c:cc:60:42:25	EX	4.0	192.168.101.37	Nir Campus > Nir_Building > Nir_Fl2_AP	
00:0c:cc:61:00:22	EX	1.0	192.168.100.160	Unassigned	
00:00:00:00:00:11	F_	0.0	2.2.2.1	Unassigned	
00:00:00:00:00:12	F_	0.0	2.2.2.2	Unassigned	
00:00:00:00:00:23	F_	0.0	2.2.2.3	Unassigned	
00:00:00:00:00:14	F_	0.0	2.2.2.4	Unassigned	
00:0c:cc:60:15:14	kE	0.0	192.168.100.153	kfir Campus > Building 1 > Fl1	
00:0c:cc:60:c0:1b	kE	0.0	192.168.100.155	kfir Campus > Building 1 > Fl1	
00:0c:cc:60:c8:d0	kEX_2000B4	No	0.0	192.168.101.38	kfir Campus > Building 1 > Fl1
00:0c:cc:60:81:27	kEX_3200	No	0.0	192.168.100.142	System Campus > Cell_Select_Build > Cell_Select_Floor
00:0c:cc:60:93:a7	kEX_3200E	No	0.0	192.168.100.78	kfir Campus > Building 1 > Fl1
00:0c:cc:00:41:00	EX_4100	No	3.0	10.10.10.02	Nir Campus > Nir_Building > Nir_Fl1_LB
00:0c:cc:41:10:03	EX_4100_03	No	1.0	10.10.10.03	Nir Campus > Nir_Building > Nir_Fl2_AP
00:0c:cc:78:43:8c	EX_4100_Shay	No	0.0	9.9.9.9	Unassigned
00:0c:cc:60:61:60	EX_4200_Shay_2	No	0.0	192.168.100.214	System Campus > Cell_Select_Build > Cell_Select_Floor
00:0c:cc:60:84:05	Exciter-Auto	No	0.0	192.168.100.222	QA-Auto-Dont-Touch > QA-Auto-Dont-Touch > First
00:0c:cc:60:c2:34	type4_92_92	Yes	1.0	192.168.92.92	MichaelCampus > MichaelBuilding > Third_OfficeNew
00:0c:cc:60:93:17	3200_92_116	Yes	1.0	192.168.92.116	MichaelCampus > MichaelBuilding > Third_OfficeNew

Figure 11: Exciter configuration in MSE

2. Select **Add Chokepoint**.

Alarm Summary ▲ 2729 ▼

CISCO

Monitor Reports Configure Services

Add Chokepoint

Configure > Chokepoints > Add Chokepoint

MAC Address

Name

Entry/Exit Chokepoint Enable

Range ft

Static IP Address

Figure 12: 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.

Alarm Summary ▲ 2729 ▼ ▼ 2 ● 137

CISCO

Monitor Reports Configure Services Administration Tools Help

Maps (Edit View)

Monitor > Maps

Show: Type Status

<input type="checkbox"/>	Name
<input type="checkbox"/>	System Campus
<input type="checkbox"/>	Kfir Campus
<input type="checkbox"/>	MichaelCampus
<input type="checkbox"/>	My_Campus
<input type="checkbox"/>	Nir Campus
<input type="checkbox"/>	QA-Auto-Dont-Touch
<input type="checkbox"/>	Kfir Campus > Building_1
<input type="checkbox"/>	Kfir Campus > Building_2
<input type="checkbox"/>	MichaelCampus > MichaelBuilding
<input type="checkbox"/>	My_Campus > Building_1

Figure 13: Exciter configuration in MSE

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

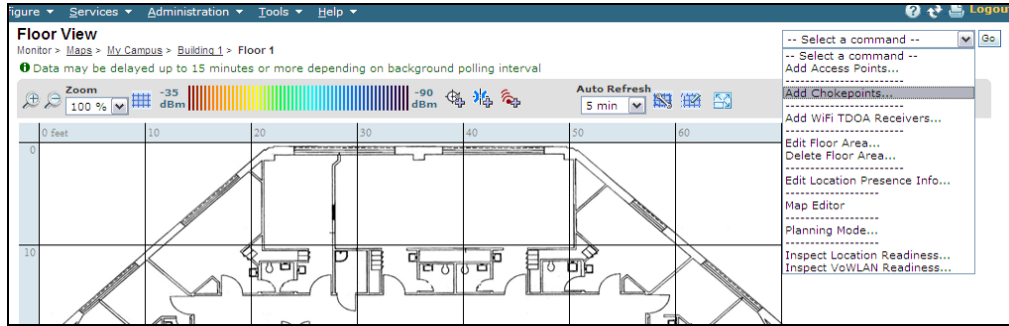


Figure 14: Exciter configuration in MSE

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.

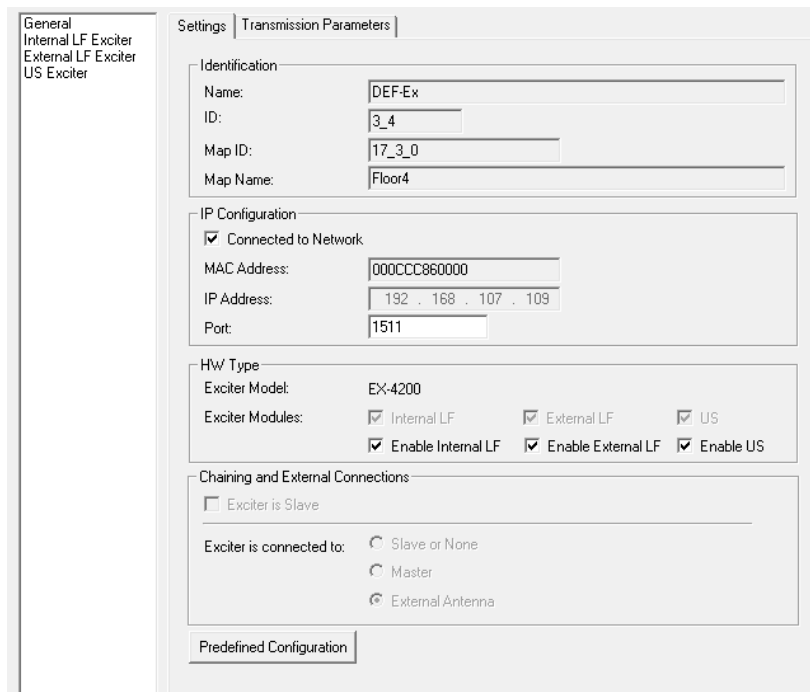


Figure 15: System Manager configuration - Settings

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

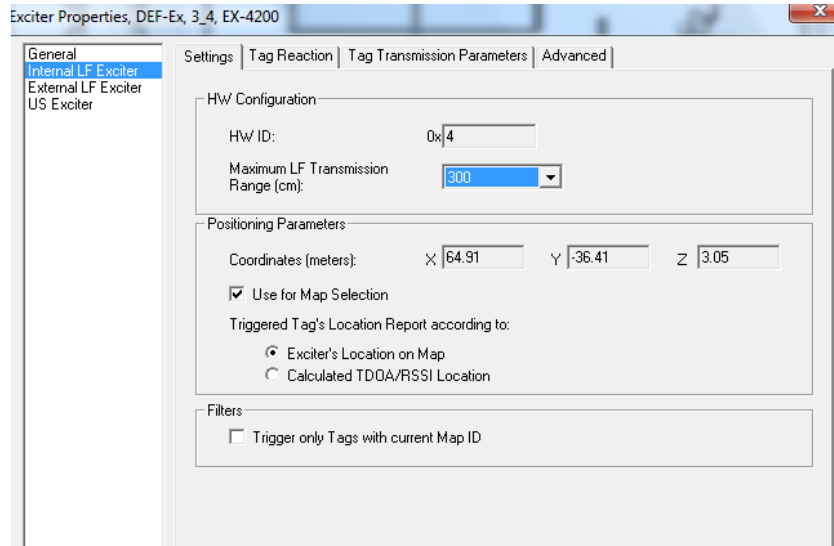


Figure 16: System Manager configuration – Internal LF



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*.

Mounting the Exciter

Mounting the Exciter to a floating ceiling:

Attach the device to the false ceiling by the ceiling mounts which are located on the bottom panel of the unit.



Figure 17: Exciter mounting brackets

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.

EX5100 and Accessories Model Numbers

Product	SKU	Description
EX5100 Exciter	EX-5100	EX5100 Exciter. Includes 48V DC input, Ethernet and PoE interface
EX5100 Power Supply	ADP-047	AC/DC adaptor 45W 48V/1.0A 90-264VAC.
Exciter Detector Tool	EXD-1000	Tool for visualization of the effective 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.

EX5100 Specifications

Physical and Mechanical

- Dimensions: 180 x 155 x 45 mm (7.1in x 6.1in x 1.8in)
- Weight: 450g (16oz)
- Housing: Polycarbonate

Coverage

- Adjustable coverage range up to 6m (19.6ft) by intervals of 0.5m (1.6ft)

LF Channel

- 125kHz
- Field intensity limits: 37.3dB μ A/m at 10m (ETSI)
- Propagation limits: 21.8dB μ V/m at 300m (FCC)
- Modulation: ASK

Network Interface

- Ethernet (RJ-45)

Power

- Input voltage: 48VDC
- PoE (802.3af) 48VDC
- Maximum power consumption: 10W.

Environmental

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

Certifications

- EMC Certifications
- US standard: FCC part 15
- European standard: ETSI 300.328, 300.330, ETSI 301.489
- Canada: RSS 210

- EMC standard for healthcare: IEC 6100 / EN 60601
- Japan : ARIB per demand
- Australia : C-tick per demand
- Korea : MIC per demand
- Safety Certifications
- US – cTUVus: UL 60950
- Europe – CE mark: EN 60950

Appendix A. Slave Exciter Configuration Tool

This appendix describes the Slave Exciter EX5100 Configuration Tool, which is designed to configure Exciters EX5100 as slaves in a chained Exciter configuration.



Starting from AeroScout Engine version 4.3, the tool is part of the Engine.

Installation

To install the tool, run "AeroScout Slave Exciter EX5100 Configuration Tool.msi" and follow the instructions displayed on the screen.

Activation

1. If AeroScout Engine or AeroScout Network Exciter Manager is installed, stop the corresponding services.
2. Launch the tool.

Its main window appears.

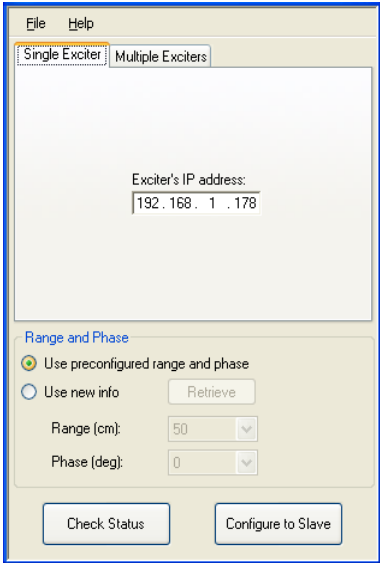


Figure 18: Activation – Single Exciter

Configuring a Single Exciter

The computer's IP address should be in the same subnet as the Exciter.

1. Connect the Exciter to the same LAN as the computer running the tool.
2. Under the **Single Exciter** tab, enter the Exciter's IP address.
3. If, before configuring it, you want to check whether the Exciter is in working order, click the **Check Status** button.
4. Do one of the following:
 - If you wish to modify the Exciter's range while configuring it, select the **Use new info** radio button and click the **Retrieve** button. The value appears in the **Range** fields. If necessary, change the **Range** values.

This operation also retrieves the **Phase** value. The phase should not be changed unless instructed so by AeroScout Support.
 - If you want to keep the values already configured (set via AeroScout System Manager or AeroScout Network Exciter Manager), select the **Use preconfigured phase and range** radio button.
5. Click the **Configure to Slave** button.

It is assumed that the listening port of the Exciter is the default 1511. If the port was changed, it should be restored to 1511 (using AeroScout System Manager or AeroScout Network Exciter Manager).

Configuring Multiple Exciters

This section explains how to configure multiple EX5100 Exciters in a single operation.

The computer IP address should be in the same subnet as the Exciters.

1. Connect the Exciters to the same LAN as the computer running the tool.
2. Select the **Multiple Exciters** tab.

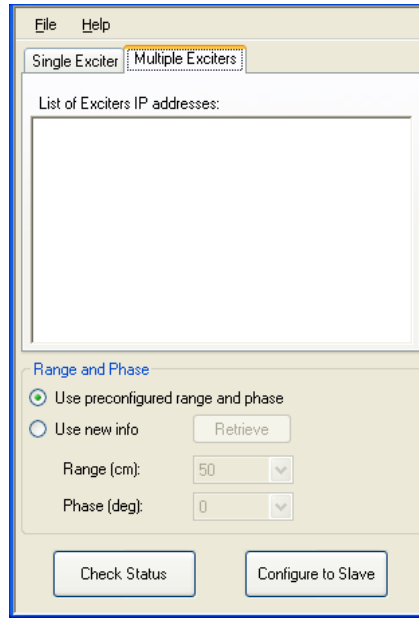


Figure 19: Activation – Multiple Exciters

3. In the **List of Exciters IP addresses** type the IP address of the Exciters to configure.

You can separate the IP addresses with any of the following characters: commas, spaces, semicolons (;), tabs.

4. To check whether the Exciters are in working order, click the **Check Status** button.

The tool returns a report specifying the Exciters that have responded and those that have not responded. For the latter, the type of failure. The report also lists the illegal IP addresses, if any.

5. If you wish to modify the Exciters' range, select the **Use new info** radio button and type the value in the **Range** field. All of the Exciters included in the operation will be set to the range you entered.

The phase should not be changed unless instructed so by AeroScout Support.

If you want to keep the values already configured (using AeroScout System Manager or AeroScout Network Exciter Manager), select the **Use preconfigured phase and range**.

6. Finally, to configure the Exciters as slaves, click the **Configure to Slave** button.

The tool returns a report specifying the Exciters that have been configured and those that have not been configured. In the latter case, the type of failure is indicated. The report also lists the illegal IP addresses, if any.

It is assumed that the listening port of the Exciter is the default 1511. If the port was changed, it should be restored to 1511 (using AeroScout System Manager or AeroScout Network Exciter Manager).

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.

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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