

OVERVIEW

The Air Access™ **AA-GATEWAY** is a Gateway communication device used within the Air Access™ wireless system. It is fully compatible with Alarm Lock's wireless ArchiTech Network™ devices, including the NETWORKXPANEL wireless control panel and Network Expanders. The Air Access™ model **AA-GATEWAY-PW** includes a UPS (Uninterruptible Power Supply) and battery back up.

The Air Access system allows you to upload and download lock programming features wirelessly, using the cloud-based *Air Access Cloud Web Portal*. As shown in the illustration below, the connection to the Air Access Cloud Web Portal is made through a secure Internet connection (cloud). The Web Portal is then connected through a secure cellular connection to an Air Access communicator (e.g. the series model **AA-LTEA**) that can be wired to up to 1-6 **AA-GATEWAYS** (no switch is required if connecting to only one **AA-GATEWAY**). Each **AA-GATEWAY** can communicate to up to 63 door locks via a private wireless signal. In this way, the Air Access software allows for secure control and programming of each wireless door lock in the system.

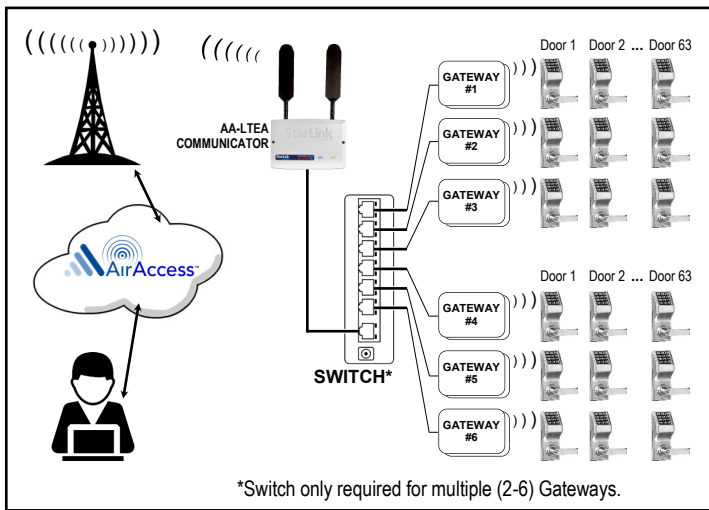


Fig. 1: Air Access Overview Flowchart

CAPACITIES

As shown in the illustration above, each Air Access communicator supports up to 6 **AA-GATEWAY** devices. Up to 7 Expanders are supported for each **AA-GATEWAY**; the combination of Gateways and Expanders can support up to 63 locks.

Blue ID Card

We strongly recommend that when installing a Gateway, a blue-colored "Gateway ID Card" (OI357) be completed. Gateway physical locations may easily be forgotten. These ID cards are useful when replacing Gateways, when selecting a particular Gateway to use to discover locks, or whenever an installed Gateway needs to be physically located.

AA-GATEWAY SPECIFICATIONS

NETWORK INTERFACE: The **AA-GATEWAY** creates its own

private network using industry standard AES encryption, and must never be connected to any other network structure (such as corporate LANs).

NETWORK RANGE

Gateway / Expander to Locks: Clear field range 500'.

Typical indoor range: Networkx 75-175'; ArchiTech Networkx: 50-125'.

Gateway / Expander to Expander: Clear field range 500'.

Typical indoor range: 75-175'. **Note:** Actual range varies with building construction.

AL RADIO LINK: 900 MHz GFSK, 50 Channels, 10mW power output

POWER

AA-GATEWAY:

Provided by UL Listed Class 2 Transformer, powered by a standard 120V AC wall outlet.

Peak Supply Current: 650mA

Input Voltage: 5 - 6VAC

AA-GATEWAY-PW

Powered by **AA-TRF Battery Powered UPS**. Provides up to 10 hours of standby time. See the section **Wiring the AA-TRF Battery Powered UPS** on page 4 for all included cables and their part numbers.

ENVIRONMENTAL

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

Storage Temperature: -40° to 85°C (-40° to 185°F)

PHYSICAL

Enclosure Size: 4.5"H x 6.0"W x 1.94"D

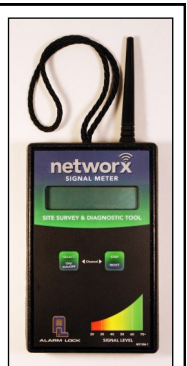
Weight: 0.5lbs.

GATEWAY LOCATION GUIDELINES

Before selecting a final mounting location for your Gateway:

- **Do NOT mount the Gateway within 6 feet (1.8m) of the AA-LTEA-Series communicator**
- Gateways should be located within 175 feet (radially) from the intended wireless lock locations
 - Open areas will increase range while concrete construction, walls, ceilings / narrow corridors will decrease range
 - ArchiTech series locks generally have shorter range to/from a Gateway

TIP The **AL-NSM Networkx Signal Meter** tool can help you perform a site survey test of the premises to find the optimum location for Gateways relative to Networkx wireless locks; as well as determine the optimum number of Gateways (or Expanders) needed for signal area coverage. See WI2092 or speak to your alarm sales representative for more information.



- The Gateway should be within approximately 75 feet (radially) from an **AL-IME2-EXP** Expander (see WI2156)
- Select a location with convenient access to a standard 120VAC wall outlet and also that allows enough room to run a network cable between the **AA-GATEWAY** and the Air Access communicator (or switch). Remember, do NOT mount the Gateway within 6 feet (1.8m) of the communicator
- Mount in elevated areas; however mounting in a drop ceiling can adversely affect signal range
 - Preferred mounting position = 6 to 12" below standard 8-9 foot ceiling
- Gateways must be mounted vertically; *horizontal "flat" mounting must be specifically avoided*
- Although wood / wallboard construction can have little effect upon signal strength, concrete or brick can reduce signal strength by up to 35%. Steel-reinforced concrete or metal lath and plaster can reduce signal strength as much as 90%!
- Do NOT mount close to electrical wiring or other metal obstructions such as pipes or conduits
- Installing in computer closets or server rooms can negatively impact signal strength

Helpful Tips

- In difficult installations wherein signal problems exist, the use of (multiple) **AL-IME2-EXP** Expanders throughout the premises is recommended. **AL-IME2-EXP** Expanders extend the coverage area of the **AA-GATEWAY**, allowing control of up to its rated maximum of 63 locks. Up to 7 Expanders can be added to one **AA-GATEWAY**. For more information, see the **AL-IME2-EXP** Expander installation instructions (WI2156).
- We recommend obtaining or creating a layout of your intended system identifying all proposed installation locations, also noting building construction materials to assist in determining optimal Gateway installation locations

IMPORTANT: If you plan to use **AL-IME2-EXP** Expanders with your Gateway, be sure to read the "**ADDING AL-IME2-EXP EXPANDERS**" section (below) **before** powering your **AA-GATEWAY**. The aforementioned guidelines and tips should be followed for each additional Gateway added to the system.

MOUNTING INSTRUCTIONS

The **AA-GATEWAY** rear housing must be mounted "up". In other words, when the front housing is attached, the **Air Access** logo on the front housing must be located at the lower right to ensure the entire unit is positioned "up" in a conventional manner (the Gateway contains internal antennas that must be positioned vertically). *Horizontal "flat" mounting of the enclosure is to be specifically avoided.*

1. Insert a flat-head screwdriver into the slots at the bottom and twist while applying gentle inward pressure (see Fig. 2)

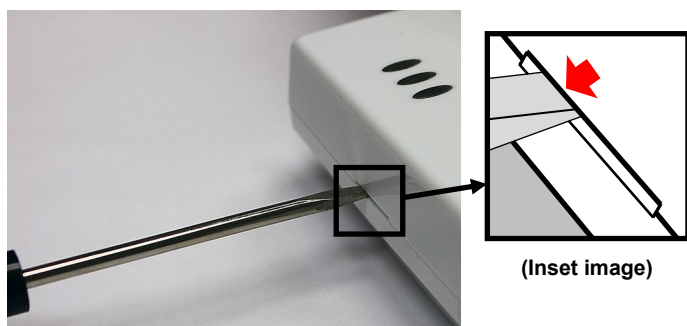


Fig. 2: To separate rear housing from cover
(Inset: Insert flat-head screwdriver closer to the edges of the unit)

Insert the screwdriver closer to the edges of the unit, as shown in the Fig. 2 "inset" image.

2. Using the rear housing as a mounting template, secure the unit to a wall or other flat surface using the hardware provided (see page 4 for printed template). Shown in Fig. 3, the rear housing includes two mounting holes for single-gang (A) and four mounting holes for double-gang (B) electrical utility boxes, as well as four all-purpose holes (C) for mounting to drywall or other surfaces (use minimum #6 screws suitable for the surface).

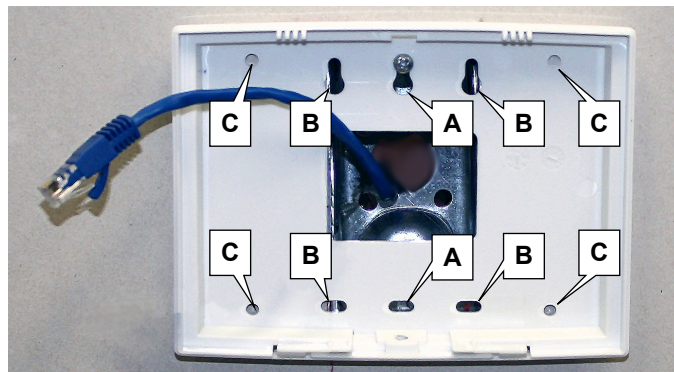


Fig. 3: Rear housing mounting holes for single-gang (A) and double-gang (B) electrical boxes, and four all-purpose holes (C)

ADDING AL-IME2-EXP EXPANDERS

Inside the **AA-GATEWAY** are two rotary Expander Group Dials (see Fig. 4).

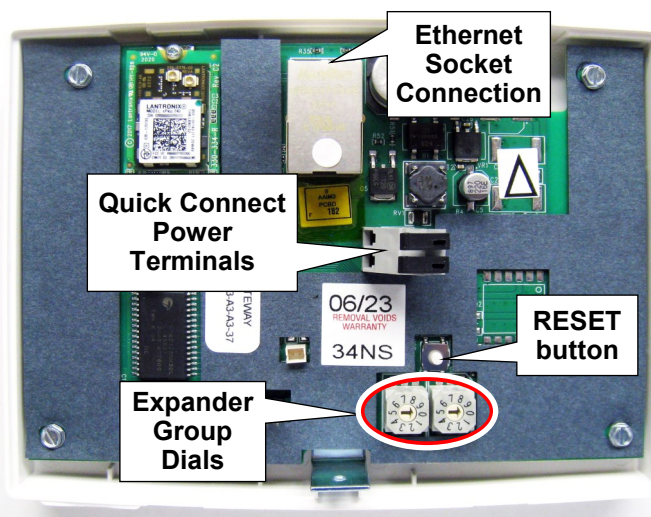


Fig. 4: Important parts of your **AA-GATEWAY**

These dials are used to set the "Expander Group" when you wish to add **AL-IME2-EXP** Expanders in your system (all **AL-IME2-EXP** Expanders include an identical set of dials). Therefore, the dial values set on your Gateway **MUST** then match the dial values set on your **AL-IME2-EXP** Expanders. **IMPORTANT:** Each **AA-GATEWAY** in your system **MUST** be set to a different "Expander Group" value along with its associated Expanders. The "Expander Group" dial setting determines which Expanders are associated with each Gateway, thus preventing **AA-GATEWAYs** from discovering unintended Expanders. See WI2156 for more information about installing **AL-IME2-EXP** Expanders in your system. Expander Group values of "00" through "99" are valid selections.

IMPORTANT: The small "selection arrow" on each dial must be pointing directly to the desired Group value. For example,

in Fig. 5 (below), the Group value is set to "50". Use a small flat-head screwdriver to turn the dials and make the selections. *Be sure to orient the Gateway as shown in Fig. 4 with the **RE-SET** button ABOVE the dials to ensure proper Group setting!*

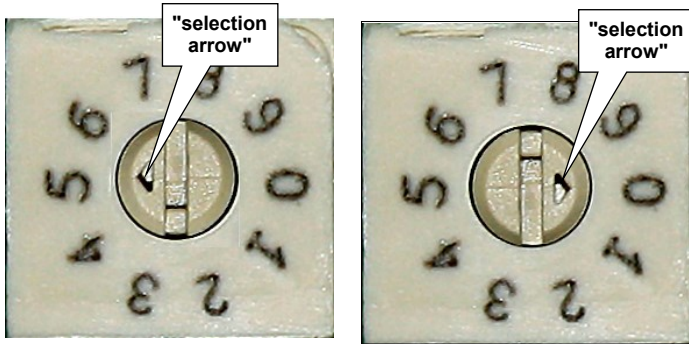


Fig. 5. Example: The above Expander Group dials are set to "50"

POWER UP

Connect all Ethernet cables before powering the **AA-GATEWAY**. In addition, perform the following items, where required, in the order listed:

- If using one **AA-GATEWAY**, connect the network cable between the Air Access communicator's Ethernet socket and the Gateway's Ethernet socket.
- If using multiple **AA-GATEWAYS**: The Air Access communicator is connected to the system's stand-alone Ethernet switch. Connect the network cable between an open port in the Ethernet switch and the Gateway's Ethernet socket.
- Do not install the front housing yet
- **AA-GATEWAY**: Apply power using the supplied power pack. Do not install the front housing yet.
- **AA-GATEWAY-PW**: Apply power using the **AA-TRF** Battery Powered UPS, as described in the next section. Do not install the front housing yet.

Wiring the AA-TRF Battery Powered UPS

The **AA-TRF** kit includes the following components (Fig. 6):

- **AA-TRF Battery Powered UPS** (order part MX1588) includes a rear keyhole for wall mounting, an **ON/OFF** switch, and two sockets (one labeled **IN**, the other **OUT**)
- **120V/9V Power Adapter** (MX1589) with barrel connector. Requires a standard unswitched (continually powered) 120V wall outlet
- **Barrel Cable** (MX1590) that includes two tinned bare wires that are connected to the quick connect power terminals located on the **AA-GATEWAY-PW** circuit board
- Dual barrel connector cable (not used)



Fig. 6: Left to Right: AA-TRF Battery Powered UPS (MX1588), Barrel Cable (MX1590) and 120V/9V Power Adapter (MX1589)

Wire and power the AA-GATEWAY-PW as follows:

1. Mount the **AA-TRF** (if needed) using its rear keyhole.
2. Before inserting the **120V/9V Power Adapter** into a wall outlet, insert its barrel plug into the **AA-TRF** socket labeled **IN**.
3. Insert the plug of the **Barrel Cable** into the **AA-TRF** socket labeled **OUT**. Use the cable length as needed to make the bare wire connections in the next step.
4. The two tinned bare wires located at the other end of the **Barrel Cable** are non-polarized, therefore insert each bare wire into each of the two quick connect power terminals located on the **AA-GATEWAY-PW** circuit board.
5. Insert the **120V/9V Power Adapter** into an unswitched (continually powered) wall outlet and slide the **AA-TRF** switch to **ON**. After powering the Gateway, you **MUST** perform the following Gateway reset procedure, even if the Gateway is new "out of the box" and/or has never been used previously.

Reset the Gateway Procedure

Always reset the **AA-GATEWAY** to ensure it is completely clear of all data. Note that you can also reset the Gateway any time after the Gateway is powered. With its front housing uninstalled, proceed as follows:

- Power the Gateway, and ensure the green LED is flashing (either fast or slow). This could take up to 2 minutes after power up.
- Press / hold **RESET** button (see Fig. 4 for button location).
- Continue holding button until the **Red** LED turns on solid.
- Continue holding until the **Yellow** LED also turns on solid.
- Release button. The **Yellow** LED will remain on solid, and after up to two minutes the **Green** LED will start to flicker rapidly indicating the reset process is complete.

Gateway LED Indications

Yellow	Receiver On (normal operation)
Red	Transmitter On
Green	(Gateway Status)
	Gateway Not configured - Rapid blinking / flickering
	Normal Idle Mode- 1 blink per second
	Lock Communication Fail - 2 blinks (continuously)

CLOSE HOUSING COVER

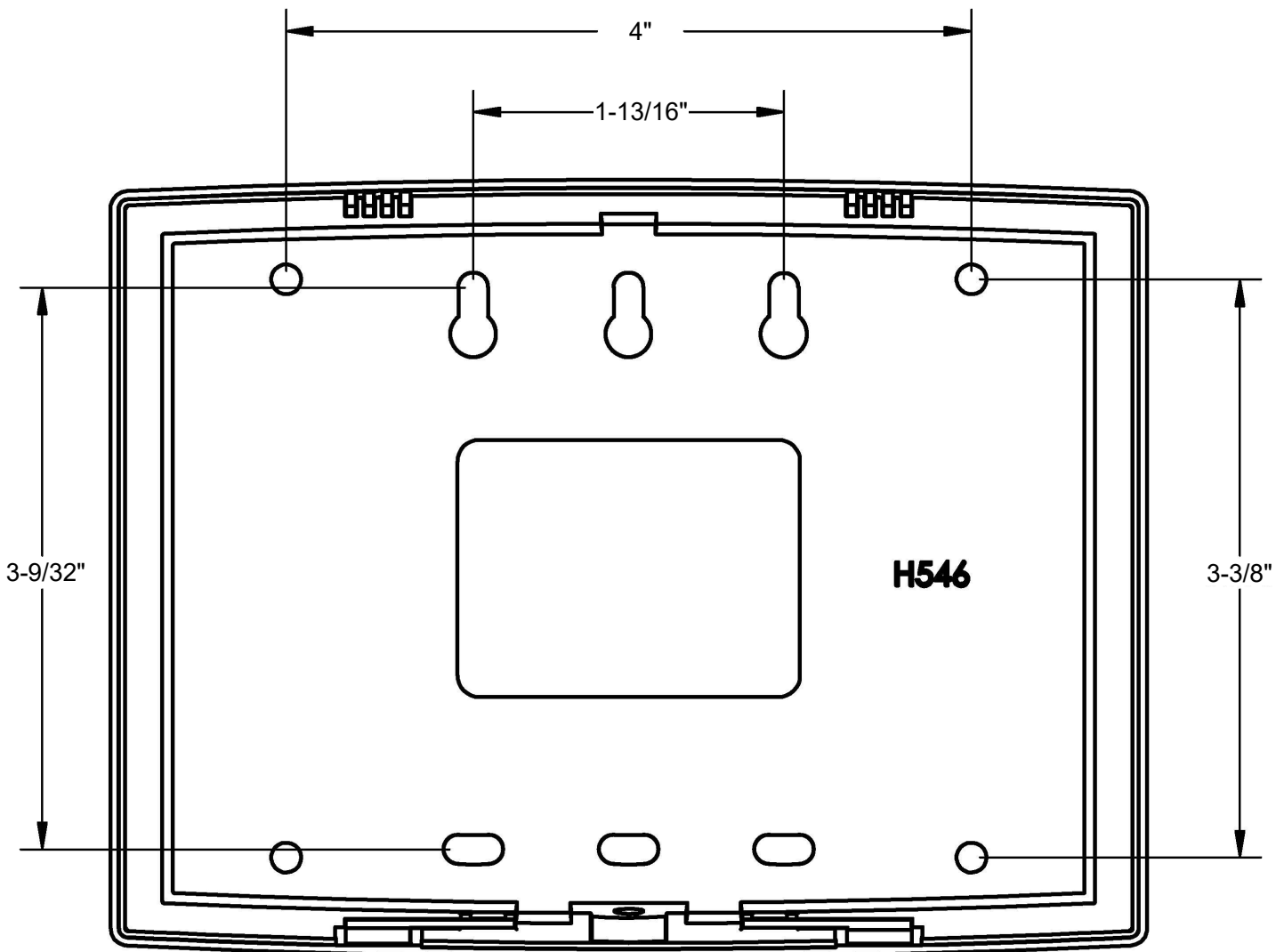
Close the housing cover by first engaging the hooks at the top, then snapping the bottom together. Secure the cover with the Bottom Screw with the provided as shown in Fig. 7.



Fig. 7: Bottom Screw

Done! Visit the Air Access Cloud Online Help for how to discover your Gateway using the Air Access software.

AA-GATEWAY Mounting Template



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This warranty shall not apply to any equipment, or any part thereof, which has been repaired by others, improperly installed, improperly used, abused, altered, damaged, subjected to acts of God, or on which any serial numbers have been altered, defaced or removed. Seller will not be responsible for any dismantling or reinstallation charges.

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NAPCO RECOMMENDS THAT THE ENTIRE SYSTEM BE COMPLETELY TESTED WEEKLY.

Warning: Despite frequent testing, and due to, but not limited to, any or all of the following; criminal tampering, electrical or communications disruption, it is possible for the system to fail to perform as expected. NAPCO does not represent that the product/system may not be compromised or circumvented; or that the product or system will prevent any personal injury or property loss by burglary, robbery, fire or otherwise; nor that the product or system will in all cases provide adequate warning or protection. A properly installed and maintained alarm may only reduce risk of burglary, robbery, fire or otherwise but it is not insurance or a guarantee that these events will not occur. CONSEQUENTLY, SELLER SHALL HAVE NO LIABILITY FOR ANY PERSONAL INJURY, PROPERTY DAMAGE, OR OTHER LOSS BASED ON A CLAIM THE PRODUCT FAILED TO GIVE WARNING. Therefore, the installer should in turn advise the consumer to take any and all precautions for his or her safety including, but not limited to, fleeing the premises and calling police or fire department, in order to mitigate the possibilities of harm and/or damage.

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