# Installation Instructions
for the
# EA102A-304 Receiver

## 1.0 Specifications

| | |
|---|---|
| Enclosure | Available in indoor and weatherproof outdoor enclosure |
| Temperature Range | -40° to + 149°F (-40° to +65°C) |
| Power | 12VDC, 25mA typical, 55mA with horn sounding |
| RF Input Frequency | 304.000 Mhz |
| Signal Strength | Measured in 255 steps |
| Antenna Type | Diversity antennas |
| Compatibility | SE2x-304 Series and SE4x-304 Series Transmitters; EA500B Transponder with a ROM version 4.00 or greater |

NOTE: The EA102A-304 is compatible only with other "-304" equipment (e.g., the SE2x-304 and the SE4x-304). Also, do NOT install this unit in conjunction with an EA500B Transponder with a ROM version earlier than 4.00.

## 2.0 Mounting

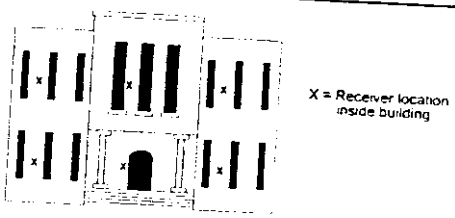
Choose a mounting location based upon the previous site survey. The receiver should be mounted as close as possible to the location found with the test receiver. The following is a guideline for receiver mounting and spacing:

### *Indoor Receiver Installation*

**Receiver Spacing:** Receiver spacing should be no more than 80 feet (24.4 meters) between receivers for standard construction. Range will be dependent upon the construction of the building. For example: a building with hollow drywall walls may support 80 foot spacing; a building with steel reinforced concrete may require reduced spacing. It is very important to maintain a consistent spacing as this will ensure optimum signal locating. The more receivers that can detect a transmitted signal, the more accurate the locating will be.

**Mounting Height:** Receivers should be mounted 5 to 6 feet (1.5 to 1.8 meters) from the floor. Maintain a consistent mounting height to ensure optimum signal locating. Do not place receivers close to the ceiling; this will cause them to be closer to the floor above, and therefore, reduce the floor to floor location accuracy. It may also be helpful to place the receivers somewhat higher only on the top floor to be covered and somewhat lower only on the bottom floor to be covered.

**Multi-Floor Installations:** Receivers MUST be mounted over one another in multi-floor installations. This helps maintain proper floor-to-floor reception. (See diagram at the top of the next column.)




Select a mounting location that:
- provides a clear line-of-sight of the protected area, if possible,
- is at least one foot away from metal objects such as HVAC ducts,
- is on an inside wall, if possible,
- is 5 to 6 feet (1.5 to 1.8 meters) from the floor,
- is not at a barrier where it is important to resolve which side an alarm location is on, and
- will not be damaged by tampering or opening doors.

### *Outdoor Receiver Installation*

**Receiver Spacing:** Receivers should be mounted every 300 feet (91.5 meters). It is very important to maintain as consistent spacing as possible, as this will ensure optimum signal locating. The more receivers that can detect a transmitted signal, the more accurate the locating will be. Each receiver should have a clear line-of-sight of the intended protection area.

**Mounting Height:** Receivers should be mounted 10 feet (3 meters) above grade. Maintain a mounting height that is as consistent as possible to ensure optimum signal locating.

**Overhangs/eaves:** Receiver locations should be below building overhangs and eaves. Most transmissions will occur a few feet (1 meter) above grade; mounting above overhangs and eaves could result in inaccurate signal locating. Be especially careful around metal roofs as these can block the signal.

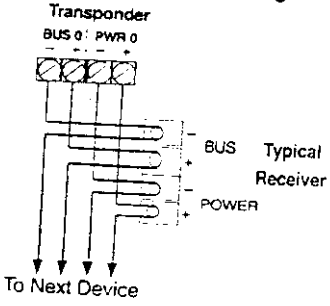
Select a mounting location that:
- provides a clear line-of-sight of the protected area,
- is away from metallic objects such as chain-link fences and electrical transformers. If coverage is required near such items, testing should be performed near these items to determine the potential need for additional receivers,
- is 10 feet (3 meters) above grade,
- is not at a barrier where is it important to resolve which side an alarm location is on,
- is easy to service, and
- will not be damaged by tampering.

## 3.0 Wiring

CAUTION: Apply power only after all connections have been made and inspected.

Connect wiring as shown:

**Multiplex Loop Wiring**

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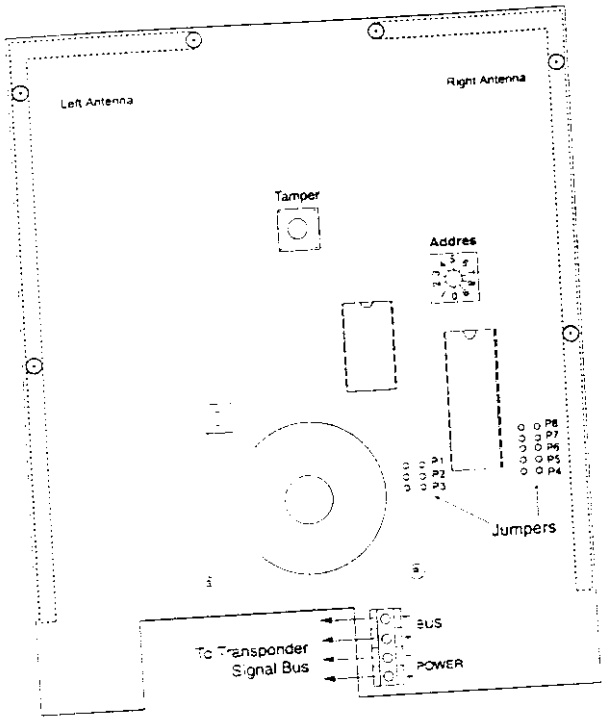
EA102A-304 Layout:

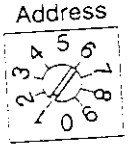



## 4.0 Switches and Jumpers

### *Loop Address*

The Rotary Switch is used to select the loop address. This is the address that is reported to the transponder the receiver is connected to. Each device on a loop should have its own address. Only addresses 0 through 7 are valid. Do not use addresses 8 and 9.

Address




### *Jumpers*

There are two groups of jumpers on the EA102A-304 Receiver. The first group contains Jumpers P1 through P3. The second contains Jumpers P4 through P8. The function of each jumper is indicated in the table below:

| Jumper | Operation With Jumper in Place |
|---|---|
| P1* | Sounder is enabled |
| P2* | Green LED is enabled |
| P3* | Red LED is enabled |
| P4** | Test Mode is enabled |
| P5** | Receiver Spacing Mode is enabled |
| P6** | Left Antenna is disabled |
| P7** | Right Antenna is disabled |
| P8 | Do not place a jumper across these pins. |

NOTES:

* Remove Jumpers P1, P2, and P3 when installed in an outdoor enclosure.

** Remove Jumpers P4, P5, P6, and P7 for normal operation.

### *Test Mode*

The module goes into Test Mode when Jumper P4 is in place (Jumper P5 removed). In this mode, all test and alarm receptions will be sounded.

NOTE: The sounder and LEDs (Jumpers P1, P2, and P3) must also be enabled to operate the Test Mode.

Each receiver should be tested using the following method (test only one receiver at a time):

1) Enable the Test Mode by placing the P4 Jumper across both pins (Jumper P5 removed).

   - The red LED will turn ON and stay ON during the test.
   - The green LED will flicker if the receiver is connected to a working transponder.
   - There will be no data transmitted to the central station.
   - The central station will receive a "not responding" failure.

2) Activate the transmitter from at least five different locations near the receiver.

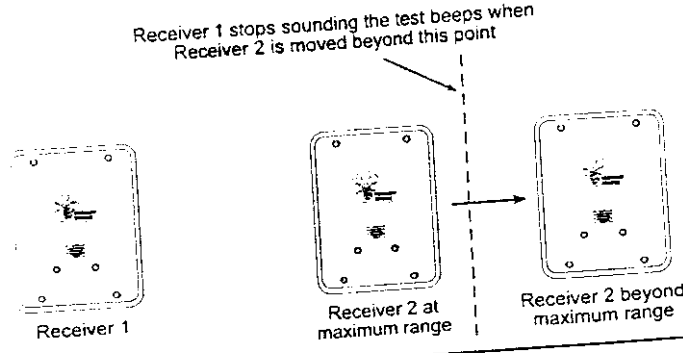
   - The LEDs will respond to a received transmission.
   - If the receiver detected all the packets from the transmission, the sounder will beep three times.
   - If the receiver detected the transmission, but some of the packets were missing, it will beep once. This could indicate that the signal is not sufficient from this location.

### *Testing Receiver Spacing*

Receiver Spacing Mode is enabled with Jumper P5 in place (Jumper P4 removed). This mode is exactly the same as the Test Mode above, except that only transmissions with an adequate receive margin are sounded. This indicates the maximum acceptable spacing of receivers. Use the following procedure to test the spacing of receivers:

1) Mount the first receiver.
2) Take the second receiver and a transmitter a distance away from the first receiver.
3) Activate the transmitter.
4) If Receiver 1 sounds the test beeps, Receiver 2 is within range. Repeat this test until Receiver 1 no longer sounds the test beeps. Move back to the last location where Receiver 1 received the test beeps. This location marks the maximum spacing between receivers. Mount Receiver 2 at this location or closer to Receiver 1.

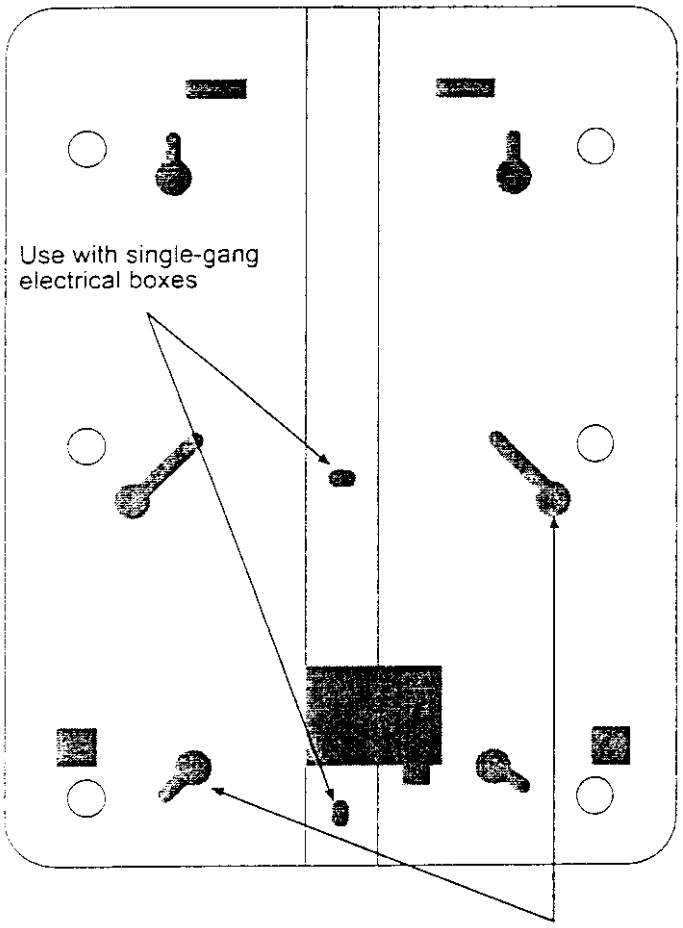
NOTE: Do not use the Test Mode (Jumper P4) to determine receiver spacing.



## 5.0 Pre-Wired Installations

When mounting the enclosure to a pre-wired electrical box, make sure that the electrical box has a six inch overhead clearance. The enclosure should be mounted as shown below.

Back of AE100 Indoor Enclosure



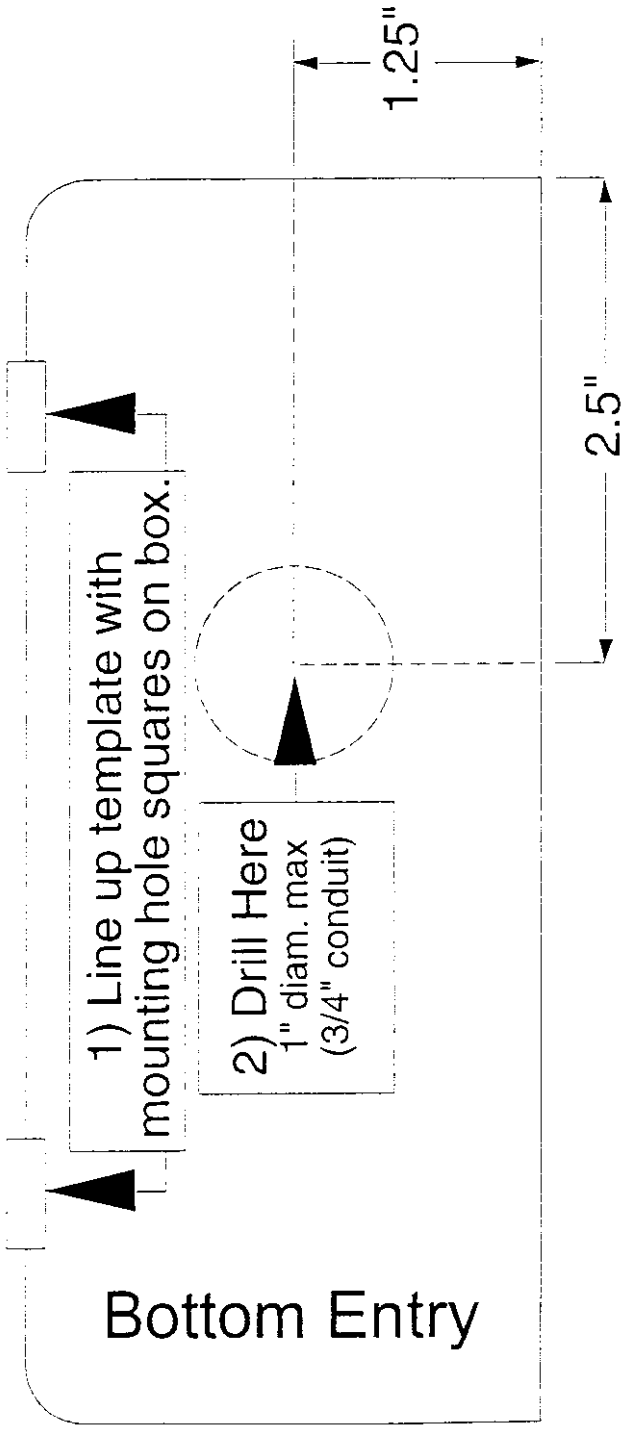

NOTE: The enclosure does not currently support octagonal electrical boxes.

**Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.**

## 6.0 Drilling Templates

Use the following templates for mounting the AE101 Outdoor Enclosure. Remember to remove Jumpers P1, P2, and P3 prior to installing the receiver.

### *6.1 Drilling Template for AE101 Outdoor Enclosure Bottom Entry*



*6.2 Drilling Template for AE101 Outdoor Enclosure Rear Entry*