EndRun
TECHNOLOGIES
"Smarter Timing Solutions"
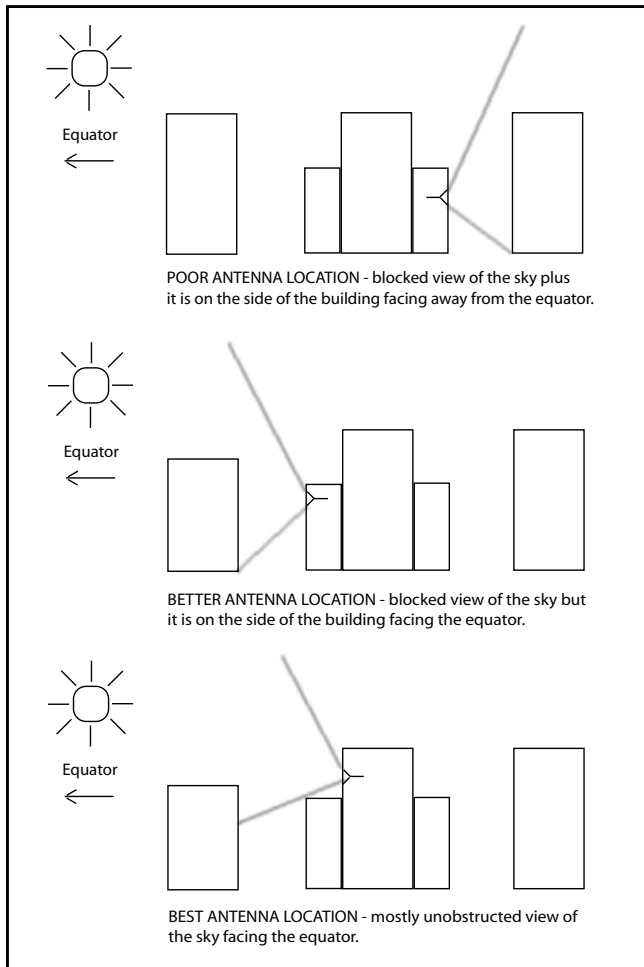
INSTALLATION GUIDE

Window-Mount GPS Antenna

The best place to mount a GPS antenna is outside, with an unobstructed view-of-the-sky. However, an inside window-mount antenna can also work. Following are instructions for determining if your window location is adequate. Window-mounting guidelines are on the reverse.

Check Your Window

1. Make sure no obstructions: Your antenna works best if it has a big view of the sky. Look out the window in question. Are there high-rise buildings or large trees close by? Anything blocking the view of the sky is a possible problem.

2. Avoid metallic film coating: Many windows have a coating on them that you cannot see. This will prevent your GPS antenna from working. If you happen to have a handheld GPS Positioning Receiver then see if it will work next to the window. If it doesn't, then there may be a metallic film on the window and your EndRun GPS Antenna will not work either. If it does work, then that proves the window has no metallic film.

3. Face in the best direction: If you are near the equator then your window can face in any direction. However, the further you are from the equator, then the more the direction of your window matters. So, if you are far from the equator and in the Northern hemisphere, then a south-facing window is best and in the Southern hemisphere, the opposite is true.

Temporarily Mount the Antenna

Place the antenna somewhere in or very near your chosen window. Connect the cable to the antenna and the Sonoma. Be sure to not kink or bend the cable too tightly.

Get a Position

Your Sonoma needs to calculate its position in order to operate properly. It only needs to do this once, but it requires that four satellites are visible. If your Sonoma has a limited view of the sky, it may not be able to see that many satellites, so you will need to manually enter your position. See *Appendix E - GPS Reference Position* in your Sonoma User Manual for instructions.

Validate Operation

If your Sonoma was able to calculate a position on its own, then this window is a good location for the GPS Antenna. Proceed to permanently mount the antenna in this window. If you had to manually enter your position, then wait for Sonoma to indicate that it has acquired time and is locked. This should take less than 15 minutes. If it does not lock, then call or email EndRun Customer Support for assistance.

Equator
←

POOR ANTENNA LOCATION - blocked view of the sky plus it is on the side of the building facing away from the equator.

Equator
←

BETTER ANTENNA LOCATION - blocked view of the sky but it is on the side of the building facing the equator.

Equator
←

BEST ANTENNA LOCATION - mostly unobstructed view of the sky facing the equator.

Permanently Mount the Antenna

See the reverse for detailed instructions on how to window-mount your antenna.

Improve Reliability

Because of the reduced sky visibility that is typical of a window-mount installation, your Sonoma may go through many hours without locking to a GPS signal. This is fine - as long as it locks at least once every 24 hours. If it goes longer than 24 hours without locking, then it will stop serving Stratum 1 time. The optional OCXO upgrade will allow your Sonoma to serve Stratum 1 time for 35 days without receiving a GPS signal. An OCXO upgrade is extra insurance for window-mount installations.

GPS Antenna Window-Mounting Guidelines

WARNING: The tape used in Step 2 is difficult to remove and will be destroyed in the process. Make sure your Sonoma can lock to GPS with the antenna in this window before proceeding.
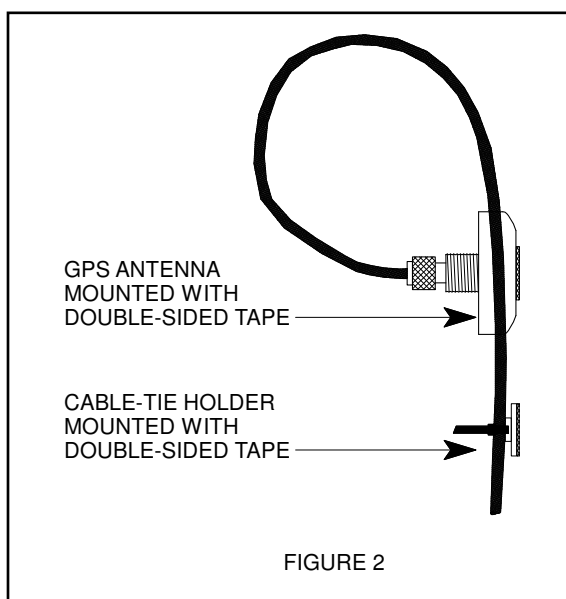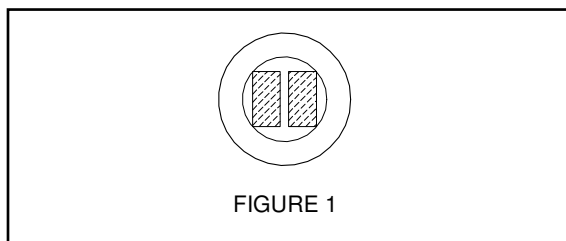
Step 1

Separate antenna from outside-mounting kit. The 3/4 - 16 nuts and metal flat washer are not used with this mounting method. Remove them from antenna, if present.

Step 2

Cut off two strips of tape, each approximately 1" long. note clear backing on one side of tape.

Step 3

Press non-backed side onto flat surface of antenna approximately as shown in Figure 1.

FIGURE 1

Step 4

Remove backing from tape and position antenna in front of mounting location. Firmly press antenna, seating exposed tape against dust-free window surface.

Step 5

Re-connect cable to antenna. Route cable to prevent kinking, avoiding sharp bends and providing adequae strain relief. Figures 2 and 3 illustrate possible installation methods using materials supplied with this kit.

To mount cable-tie holder on window, remove self-adhesive and backing, exposing nylon surface of holder. Use 1" length of double-sided tape to attach holder to window or aluminum frame as shown in Figure 3.

Use of the double-sided tape provides a sun/heat-resistant, removable mounting method. To mount holder on rough frame or wall surface, use the self-adhesive as-is by simply removing the backing.

GPS ANTENNA MOUNTED WITH DOUBLE-SIDED TAPE

CABLE-TIE HOLDER MOUNTED WITH DOUBLE-SIDED TAPE

FIGURE 2

CABLE-TIE

GPS ANTENNA MOUNTED WITH DOUBLE-SIDED TAPE

FIGURE 3