



Ground Mount Installation Guide 6.0

GM-1000
GM-4000

The RAQ-Ground Mount Instructions

Use Standard 2 $\frac{3}{8}$ " OD-Galvanized Schedule 40 Fence Posts for Vertical Supports.

Use $\frac{3}{4}$ " OD Schedule 80 Pipe for horizontal support.



Step 1: Layout

Place two parallel string lines at 72" apart, for the total length of the intended solar array. The Solar Array will over hang the front and rear string lines nominal dimensions given above varies slightly based upon final azimuth angle of array.

We recommend standard steel rebar to hold the two string lines that are spaced at 72". When placing vertical pole locations we recommend the below small flags available from any local hardware store.



Step 2: Vertical Post Layout

Each flag represents a vertical post location; two length posts are used:
Front row: 7'-2 $\frac{3}{8}$ " OD-Galvanized Schedule 40, Corner fence posts 15/16 gauge
Back row: 11'-2 $\frac{3}{8}$ " OD, Galvanized Schedule 40, Corner fence posts 15/16 gauge
These posts are readily available at local suppliers to save shipping costs



Step 3: Vertical Posts

Prior to driving any vertical posts, we recommend the proper agencies have been contacted to confirm no underground utilities are marked and not in conflicting locations

1. Drive vertical posts with a minimum depth of 4'
2. Set height of first front post to desired distance above ground, taking into account solar panel perimeter and/or distance of desired overhang of array.
3. Drive rear posts partially, measure down from top of post to desired azimuth angle, make a mark on the rear pole (see chart in Appendix).
4. Using a 6' level from top of front post, towards rear post, continue to drive rear post until desired level is reached.
5. Driving the 4 corner posts and using an elevated string line is recommended for efficiency.
6. Minor "final" height adjustments will be done at a later time during the install.





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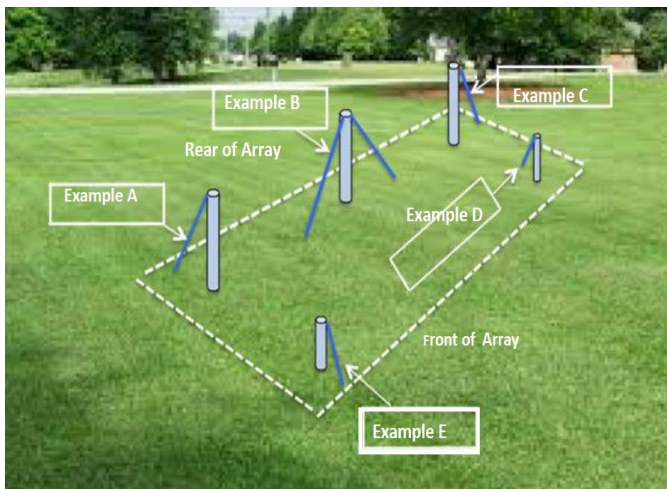
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Auger Steel Eye Anchor



- Cable Ties can face any direction needed for maximum stabilization
- Cable Tie standard patterns will be issued for wind zones & snow loads
- Keep Cable ties within perimeter of Solar Array to help prevent trip hazards

Options for placing Ground Auger & Cable Direction



Ex. A)

A rear facing cable tie, on a rear post

Ex. B)

A mid post side facing cable tie, used for lateral stabilization

Ex. C)

A side facing cable tie on a corner post verses mid post

Ex. D)

A rear facing cable tie on a front post

Ex. E)

A front facing cable tie on a front post



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Step 4: Place Post Mounts, 3/4" Pipe & Couplers

1. Sleeve Post Mounts over vertical posts, while sliding 3/4" pipe through Post Mounts
2. Over hang 3/4" pipe a minimum of 20" past the corner posts
3. 3/4" pipes come in 21' lengths, use structural couplers to connect pipes & cut to length. (Not included)



4. Using a level & the Type 23 bolts provided – level the 3/4" pipe and pre-drill vertical post with a 17/64 metal drill bit & insert the Type 23 bolts to secure Post Mount to proper height for level
5. See Specifications sheet for Post Mount Details



Ground Spike Cable Tie Off

1. Cable tie direction and location subject to final Structural Engineering
2. High Wind Zones – may require more cable ties
3. Low Wind Zones – may require less cable ties
4. Front row cable ties, may be reversed in high wind zones
5. Array Corner-Post cable ties may be angled in varying degrees for lateral winds.



Cable Connection to 3/4" pipe details

1. Wrap 3/16" Cable around 3/4" pipe 3 times, then secure with U-Bolt
2. Measure the Cable Tensioning prior to securing to 3/4" pipe
4. As much as possible keep angle of cables within the perimeter of the array to prevent trip hazards, essentially 30" from base of vertical pole, field confirmation required.



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Mounting the RAQ –

Place the RAQ on the $\frac{3}{4}$ " Pipe, centering with Bi-fold hinge in line with vertical posts.



Self Squaring Arms Secure and locks RAQ.



Adjust The RAQ vertically to desired over hangs, 4" adjustment points provided.

- Secure the "J" Bolt around the $\frac{3}{4}$ " horizontal pipe
- Tighten to a minimum 8lbs Torque
- Place 4 "J" bolts on each RAQ



One Start Bracket for 3 RAQS, will be needed for each column.

No Start Bracket is required on the 4 RAQs.

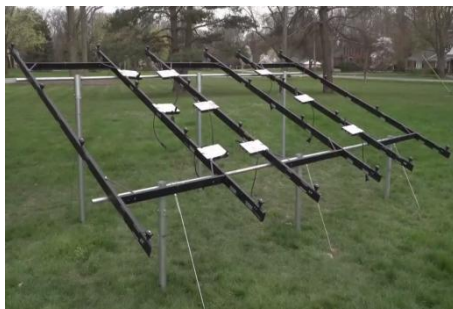


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Install Inverters...



Grounding ...



and place panels as required securing the bottom panels first.

