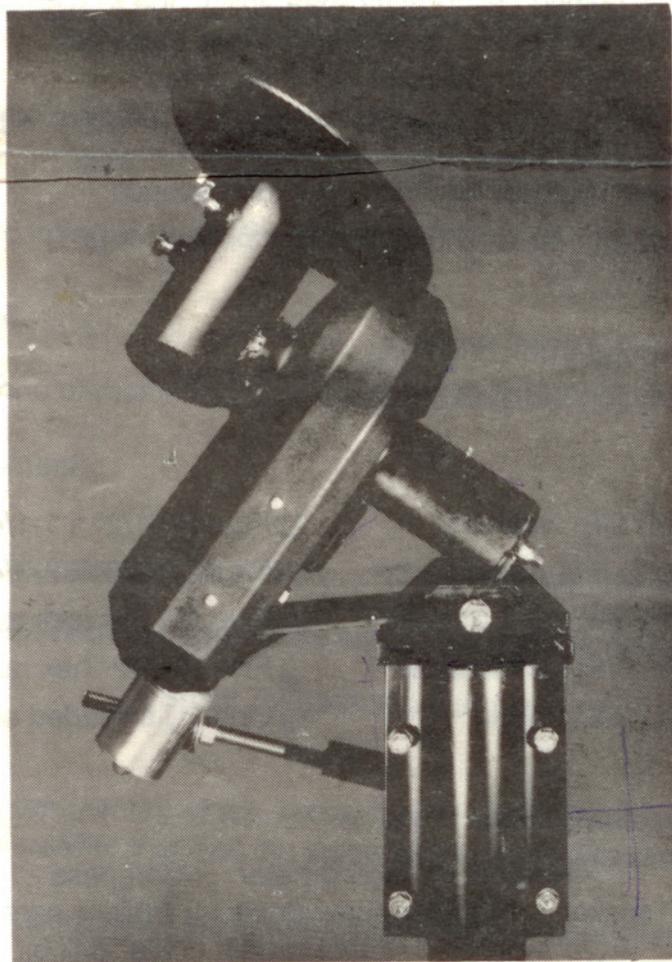


# Instruction & Assembly Manual



## **ORBITRON-AIMER** Motorized Horizon-to-Horizon Polar Mount

MADE IN AMERICA

# **ORBITRON**

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## Satellite Antennas

A Division of Greenbriar Products Inc.

**Please note:** This manual does not cover the assembly of the reflector or feed assembly. Consult booklet packed with ORBITRON antenna for this information.

## 1. General Information

**Sensor:**..... High-resolution reed sensor provides nine counts per degree.

**Accuracy:**..... Excellent pointing accuracy/repeatability due to high-resolution sensor and freedom from mechanical deflection and backlash.

**Motor:**..... 24v/36v direct current input at 2.5 amperes.

**Limits:** ..... Limit switches stop mount at 150 degrees rotation, adjustable to 180 degrees if desired.

**Speed:** ..... Traverses 150-degree arc in 70 to 80 seconds.

**Ground Pole:** .. Requires 3.5" O.D. pipe (3" schedule 40).

## 2. Parts List

One fully assembled motor/gearbox drive unit.

One mast clamp assembly for 3.5" O.D. pipe.

One bolt kit containing:

- |   |  |
|---|--|
| <input type="checkbox"/> Four (4) 5/8" washers      | <input type="checkbox"/> Four (4) 1/2" x 1-1/4" bolts    |
| <input type="checkbox"/> Three (3) 5/8" hex nuts    | <input type="checkbox"/> Four (4) 1/2" x 2-3/4" bolts    |
| <input type="checkbox"/> One (1) 5/8" x 5-1/2" bolt | <input type="checkbox"/> Five (5) 1/2" lock washers      |
| <input type="checkbox"/> One (1) 5/8" lock washer   | <input type="checkbox"/> Five (5) 1/2" hex nuts          |
| <input type="checkbox"/> One (1) 3/8" roll pin      | <input type="checkbox"/> One (1) threaded elevation rod. |

## 3. Tools Required

- Ratchet • Inclinator • Compass
- 3/4" socket • Regular screwdriver • Phillips screwdriver
- 3/4" wrench • Electric drill • 3/8" drill bit
- 15/16" wrench • 10" crescent wrench

## 4. Assembly

**A.** Place clamp assembly on ground pole. Insert four 1/2 x 2-3/4" bolts and lock washers. Install elevation rod with 1/2" x 1-1/4" bolts, nuts and lock washers.

**B.** Attach motor assembly to clamp with 5/8" x 5-1/2" bolt, nut, flat washer and lock washer. Lift motor upward to allow threaded rod to enter slotted hole. Use two 5/8" nuts and flat washers as shown.

**C.** Install spinclination tube of antenna into output tube of motor assembly. Install three 1/2 x 1-1/4" bolts into nuts welded on output tube of motor assembly.

## 5. Adjusting the Aimer

A. Sighting alongside the mast clamp with compass, rotate the mount on pole to achieve a true north-south orientation. (Don't forget local magnetic correction factor.) Tighten bolts moderately.

B. Place inclinometer on polar axis and adjust elevation rod to give a reading of site latitude plus correction factor.

Latitude	0-3°	3-7°	7-12°	12-16°	16-22°	22-28°	28-65°
Correction Factor	0°	0.1°	0.2°	0.3°	0.4°	0.5°	0.6°

C. Adjust declination according to direction in antenna instruction booklet.

## 6. Tracking the Arc

**Note:** The following is one of many methods used by satellite installers for this critical operation.

A. Recommended equipment:

- Signal-strength meter
- East-west control box
- Satellite receiver (preferably simple non-programming type)
- Small TV hooked up at dish

B. With antenna at exact top (zenith) of arc, rotate mount and find satellite that is due south of site location. (This will be the satellite that has the same longitude as the site location.)

C. Fine tune elevation adjustment for maximum signal and put a pencil mark on pole and clamp for reference.

D. Select a transponder number that is active on both a westerly and easterly satellite. Moving alternately between the satellites, make small corrections in north-south setting until no further improvement in signal strength is obtained.

E. Tighten clamp bolts in steps so as not to disturb the north-south setting. Recheck signal strength.

F. Drill 3/8" diameter hole using existing hole in clamp for guide. Drive 3/8" roll pin into hole to secure clamp.

G. Move antenna to satellite due south. Pull up and down on bottom edge of antenna while observing signal strength. If signal is not optimum, recheck declination setting.

## 7. Final Steps

A. Tighten all mount bolts thoroughly. Recheck signal strength.

B. Run antenna to each limit. Bend switch blade to obtain desired stopping point.

**C. Connect final wires as follows:**

- Motor wires to terminals one and two.
- "Sensor" or "Pulse" wire to terminal three.
- "Shield" or "Neutral" to terminal four.
- Ground of counting circuit to terminal five.

**D. Install weather covers and seal overlapping edges with RTV silicone.**

**E. Complete indoor work and programming.**

**8. Periodic Maintenance**

The main gear teeth should be greased annually with a lithium-based wheel-bearing grease. The main shaft bearing should be greased annually using a grease gun on the grease fitting. No other maintenance is required.

BOLT = VITAK  
FLAT / LOCK WASHER = PODLOŽKA / PODLOŽKA VZMETNA  
NUT = MATICA



**Ajak Industries Inc. Two Year Limited Warranty**

Ajak Industries Inc. warrants their satellite components to be free of defects in material and workmanship for a period of two years from the date of purchase. The warranty is valid only if:

1. The product is returned with a "RETURN AUTHORIZATION" number that can be obtained by calling Ajak Industries during regular business hours.
2. The product is returned, freight prepaid, to Ajak Industries in Florence, Colorado. Return freight will be paid by Ajak Industries only if the product returned is deemed to be defective.
3. Proof of the date of purchase is supplied with the returned product.

Ajak Industries' two year warranty is limited. The limitations include, but are not restricted to, the following:

1. This warranty is only applicable to the original purchaser.
2. This warranty does not apply to paint or finish of the product.
3. Labor necessary to package, prepare and ship the product to the manufacturer is not covered under this warranty.
4. Charges for service calls are not reimbursable under this warranty.
5. Any claims for damage during shipping must be presented to the shipper.

The repair or replacement of the product, at the option of the manufacturer, is your exclusive remedy under this limited warranty. Ajak Industries will not be liable for incidental or consequential damages. This warranty gives you specific legal rights, and you may have other rights which vary from state to state.

**For technical assistance, call AJAK Industries, Inc., (719) 784-6301.**