

INSTRUCTION MANUAL

G-550



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YAESU G-550

MEDIUM-DUTY ANTENNA ELEVATION ROTATOR & CONTROLLER



The Yaesu G-550 provides 180° elevation control of unidirectional satellite antenna arrays under remote control from the station operating position. The factory-lubricated rotator unit is housed in weatherproof melamine resin coated die-cast aluminum, to provide maintenance-free operation under all climatic conditions.

The controller unit is a handsomely-styled desktop unit which indicates antenna elevation offset from zenith up to 90° in both directions.

Please read this manual carefully before installing the G-550.

SPECIFICATIONS

Voltage requirement:

110-120 or 220-240 VAC

Power consumption:

30 VA

Motor voltage:

24 VAC

180° rotation time (approx.):

67 seconds @ 60 Hz

Rotation torque:

1,400 kgf-cm (101 ft-lbs)

Stationary braking torque:

4,000 kgf-cm (289 ft-lbs)

Pointing accuracy:

±3 percent

Control cable:

6 conductors (#20 AWG or larger)

Mast diameter:

38-63 mm (1-1/2 to 2-1/2 inches)

Boom diameter:

32-43 mm (1-1/4 to 1-5/8 inches)

Weight:

Rotator; 3.6 kg (7.9 lbs),

Controller; 1.7 kg (3.7 lbs)

Packaged; 5.8 kg (12.7 lbs)

UNPACKING & INSPECTION

When unpacking the rotator confirm the presence of the following items;

Rotator Unit	1
Controller Unit	1
7-pin Metal Connector	1
Water Resist Cap	1
Instruction Manual	1
Plastic Bag containing;	
① 8mm Spring washer	8
② 8mm Nut	8
③ 8mm Flat washer	8
④ 8mm dia Stud bolt	4
⑤ Pipe clamp	6
⑥ U-Bolt	2
⑦ 6mm Flat washer	4
⑧ 6mm Spring washer	4
⑨ 6mm Nut	4
⑩ Spare Fuse (117V;1A, 220V; 0.5A)	1

If any of these items are missing or appear to be damaged, save the carton and packing material and notify the shipping company (or dealer, if purchased directly at his shop).

Before proceeding with installation, confirm that the AC voltage label on the rear of the Controller matches your local line voltage: either “117V” for 110 to 120 VAC, “220” for 220 to 240 VAC. If the labeled voltage range does not match, return the controller to the dealer from whom you purchased it (different power transformers are installed for the different voltage ranges).

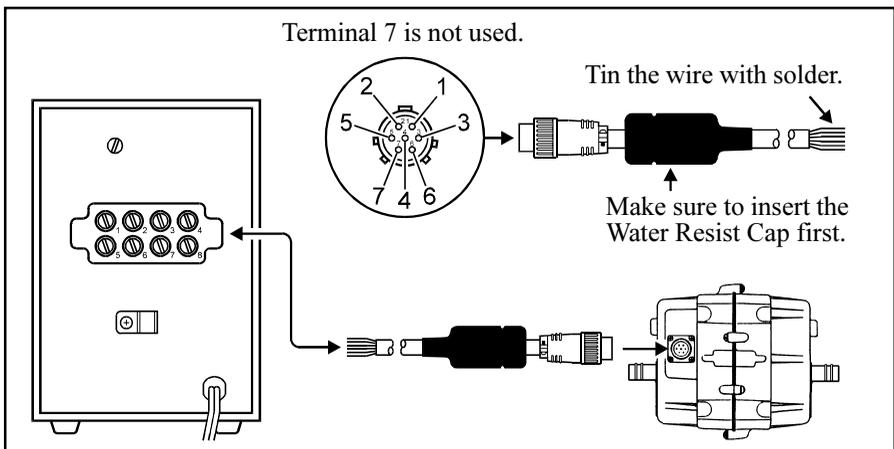
Note that cable is not included with the rotator, as the length must be determined case-by-case. Contact your Yaesu dealer to obtain the length of cable your installation requires. For runs of over 100 feet, use #18 AWG instead of #20 AWG.

CONTROL CABLE PREPARATION & CONNECTION

1. Assemble the cable according to the following diagrams.
2. Connect each wire to the terminal on the rear panel of the controller, making sure to match the numbers on the pins (terminals 7 and 8 are not used), and insert the connector to the Jack on the rotator.
3. On the controller, make sure that the **POWER** switch is in the "OFF" position, and connect the line cord to the AC power outlet.
4. Turn on the **POWER** switch. The meter lamp should light and the meter indicate approximately 90° (center).
5. Press the **UP** switch. The rotator should turn as the meter indication moves to the right. Release the **UP** switch and confirm that the rotator slowly stops.
6. Repeat step 5, pressing the **DOWN** switch instead of the **UP** switch. The rotator should turn in the opposite direction as the meter indication moves to the left.
7. If operation does not occur as described above, check for a wiring error in the cable connections. When everything checks out in the above steps, slide the water resist cap over the connector on the rotator. Remove the cable clamps from the controller, clip them over the cables, and screw them back onto the controller. Then replace the terminal cover.

Notes on Controller Operation:

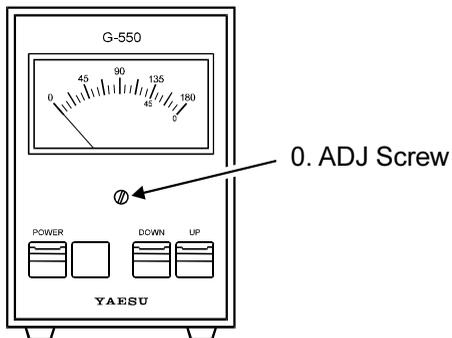
- If both **UP** and **DOWN** switches are pressed at the same time, the rotator turns clockwise (up).
- Remember to turn the controller off when the rotator is not in use.



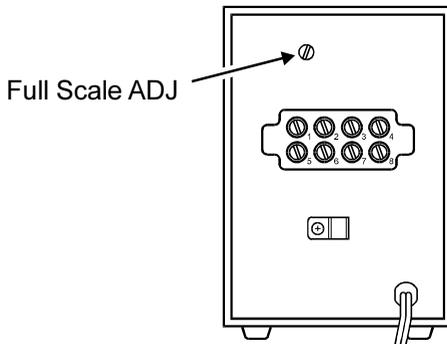
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ELEVATION INDICATOR CALIBRATION

Turn the controller off and note the position of the meter needle, which should be precisely at the left edge of the scale. If not, adjust the zero adjust screw beneath the meter face.



Press the **UP** switch to align the 180° markers on the rotator. The meter should now point precisely to 180° (right edge of scale). If not, adjust the Full Scale ADJ potentiometer on the rear panel so that it does.



ROTATOR INSTALLATION

The G-550 is designed to accommodate small- and medium-size antenna arrays. The maximum safe load depends on the physical size of the antenna, method and quality of mechanical installation, and maximum wind velocity at the installation site.

The diagrams below show several recommended installations. Notice that the preferred mounting method requires that each antenna be attached to the boom at its center of gravity, with the boom there attached to the rotator at its center of gravity. This minimizes stress on the rotator and supporting structure, especially during strong winds.

1. Referring to Figure 1, screw one 8mm nut over the end of each stud bolt with the shortest thread. Slip a spring washer over the threads, and screw each stud bolt into holes in the side of the rotator.
2. Slip an 8mm flat washer over each installed stud bolt, and then the pipe clamps, as shown in Figure 2. Place another flat washer and then spring washer over the end of each stud bolt, and start a nut on each to hold the hardware in place.
3. Slide the boom through the rotator.
4. Place one U-bolt over each arm of the rotator, and assemble one pipe clamp, flat washers, spring washers and nuts on the U-bolts as shown in Figure 2. Center the boom carefully, and alternately tighten the nuts on each U-bolt 1/2-turn beyond the point where the spring washers are flattened.

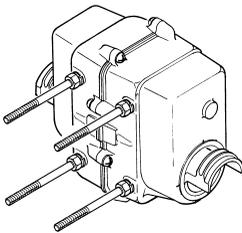


Figure 1

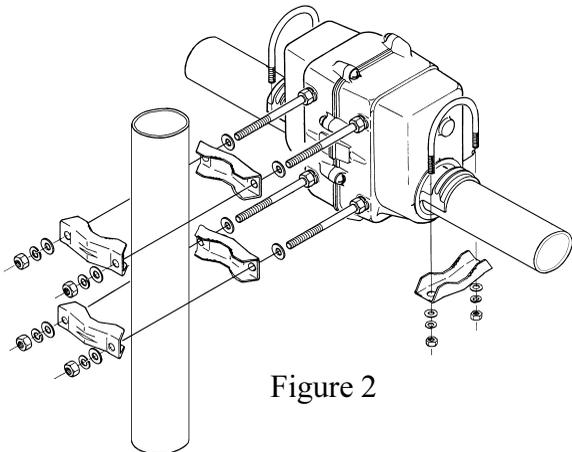


Figure 2

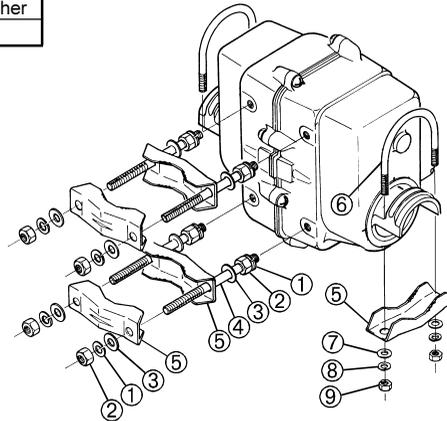
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Be sure to leave enough slack in both the elevation control cable and the coaxial cable feedline around the azimuth rotator so the antenna can rotate 180° without straining the cable or feedline.

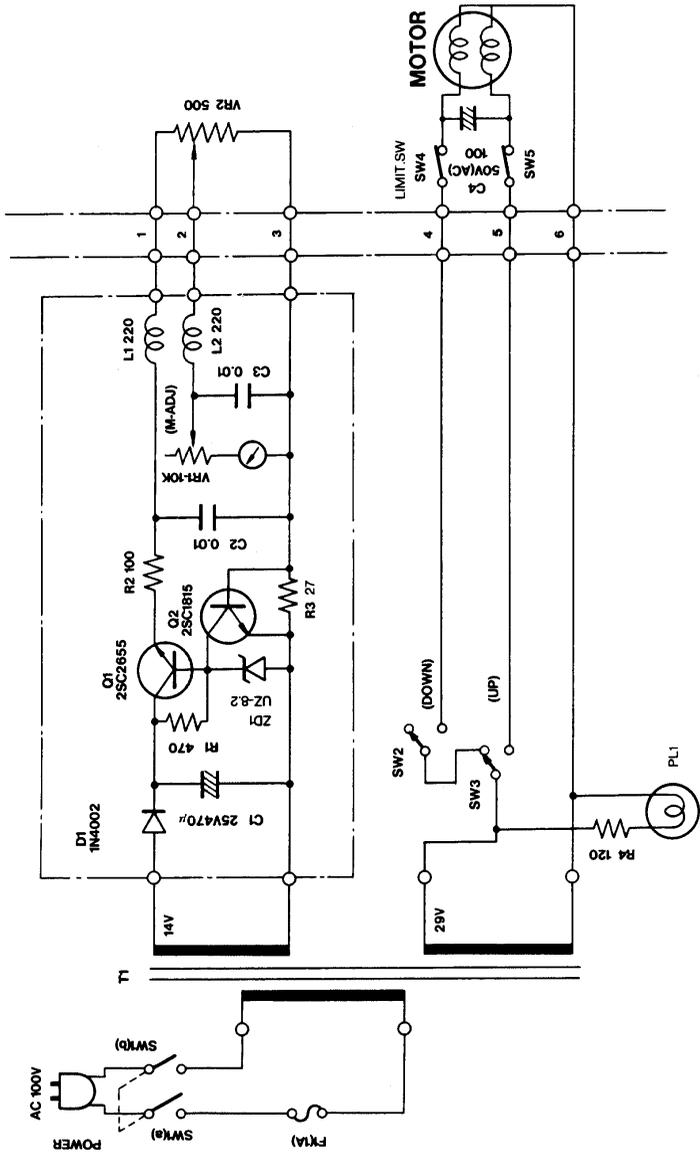
For dual parallel arrays, feedlines should be taped to the boom on either side of the rotator, with enough slack left to allow 180° rotation without stressing the feedlines.

The rotator motors are rated for five-minutes intermittent duty. However, they be brought to rest for at least 15 minutes afterwards.

No	Qty	Description
①	8	8φ Spring Washer
②	8	8φ Nut
③	8	8φ Washer
④	4	8φ Stud Bolt
⑤	6	Boom/Mast Clamp
⑥	2	U Bolt
⑦	4	6φ Washer
⑧	4	6φ Spring Washer
⑨	4	6φ Nut



G-550 Schematic Diagram



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Note



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