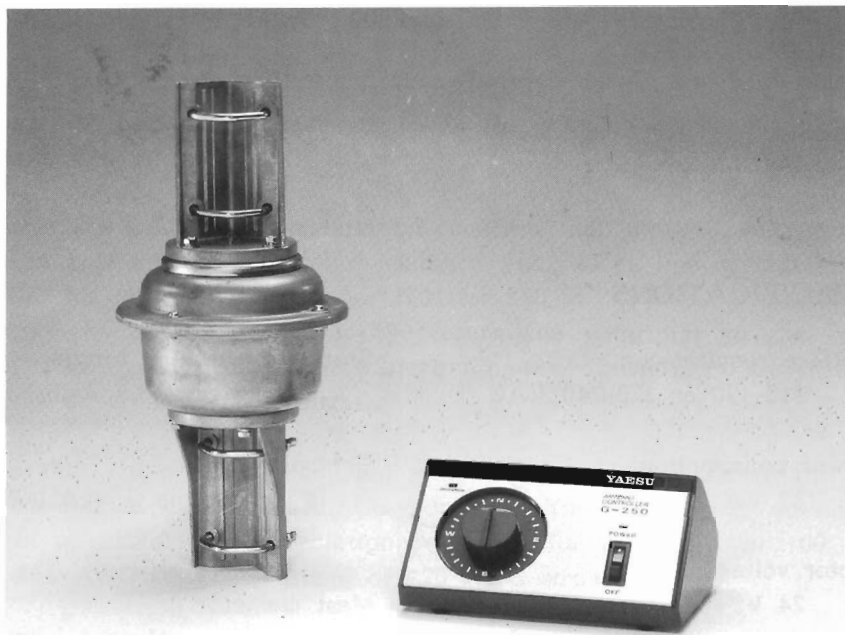


INSTRUCTION MANUAL G-250



YAESU MUSEN CO., LTD.
C.P.O. BOX 1500
TOKYO, JAPAN

YAESU G-250

FM/TV ANTENNA ROTATOR & CONTROLLER

The Yaesu G-250 is designed to support and rotate small- and medium-size FM radio and television antenna arrays under remote control from your living room. The factory-lubricated rotator unit is housed in weatherproof die-cast aluminum, to provide maintenance-free operation under all climatic conditions. An internal thermal switch protects the rotator from overheating during periods of heavy use.

The controller unit is a handsomely-styled desktop unit which provides circular 360° indication of actual antenna compass direction.

Please read this manual carefully before installing the G-250.

SPECIFICATIONS

Voltage requirement:

110-120 or 220-240 VAC

Power consumption:

37 VA

Motor voltage:

24 V, split phase

360° rotation time (approx.):

43 seconds @ 60 Hz

Rotation torque:

200 kg-cm (14 ft-lbs)

Stationary braking torque:

600 kg-cm (43.3 ft-lbs)

Control cable:

6₊ conductors - #20 AWG or larger

Mast diameter:

25 - 38mm (1 to 1-½ inches)

Weight:

Rotator: 1.8 kg (4 lbs)

Controller: 1.1 kg (2.5 lbs)

UNPACKING & INSPECTION

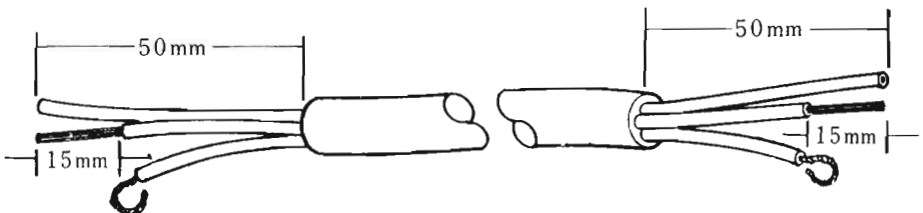
When unpacking the rotator confirm the presence of the following items:

Rotator Unit	1
Controller Unit	1
Mast Clamp	2
Guy Bracket	2
"U" Bolt	4
Hex Bolt (M6)	8
Split washer	8
Flat washer	8
M6 Nut	8
Spare Fuse (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, or "220" for 220 to 240 VAC. If the labelled 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 stranded instead of #20 AWG stranded.



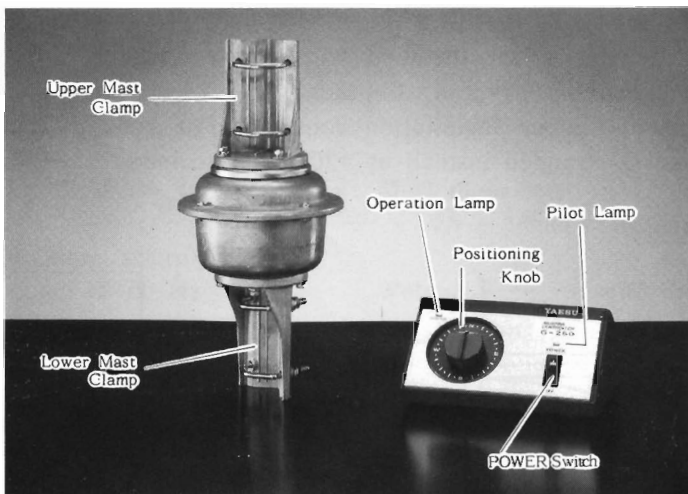
CONTROL CABLE PREPARATION & CONNECTION

Before installing the antenna and rotator, make all connections and test rotator operation thoroughly on the ground.

Control Cable Preparation

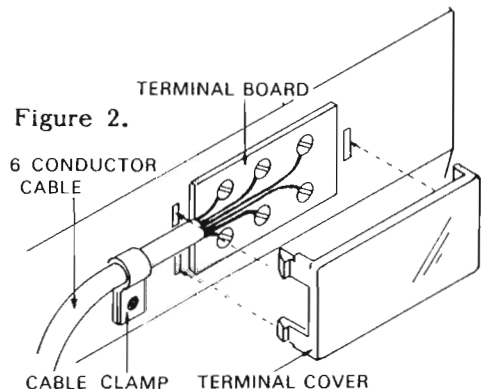
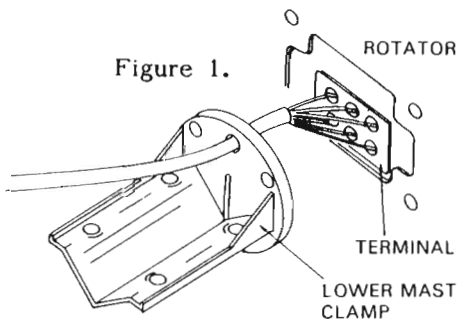
Your control cable should have six conductors of at least #20 AWG gauge (if less than 100 feet long).

- (1) Push one end of the control cable through the grommet in the lower mast clamp, as shown in Figure 1.
- (2) Using special care to avoid nicking the insulation of the individual wires, strip back about 50mm of the outer jacket of the cable from each end, and then strip 15mm of insulation from each wire.
- (3) Twist the strands of each wire, and form each into a hook large enough to encircle the terminal screws on the rotator and controller. Then lightly tin each hook with solder (both ends of the cable should be prepared in the same way).



Control Cable Connection

- (1) Connect each wire to a terminal on the bottom of the rotator. Note the color of the wire at each terminal.
- (2) Referring to your notes of the wire colors at each terminal on the rotator, connect the wires to the terminals on the rear of the controller (Figure 2) so that the wire from each terminal on the rotator plug connects to the terminal with the same number on the controller, ie., 1 to 1, 2 to 2, etc.
- (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 pilot lamp should light, and when the positioning knob is rotated the operation lamp should come on and the rotator move in the same direction as the knob was turned. Check both directions. The operation lamp should turn off when the rotator stops.
- (5) 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, remove the cable clamps from the rotator and controller, clip them over the cable, and screw them back into position, leaving a little slack in the cable between the clamp and the terminals.



CONTROLLER CALIBRATION

Turn the positioning knob fully counterclockwise. When the rotator stops turning, note whether the operation lamp remains on or if motor noise is heard in the rotator. If so, adjust point B in Figure 3 until the operation lamp turns off and the motor stops.

Note the relative position of the top of the rotator with the bottom, and then turn the positioning knob on the controller 360° clockwise, and wait for the rotator to stop turning. If the rotator did not turn fully 360°, adjust point A in Figure 3 until it does.

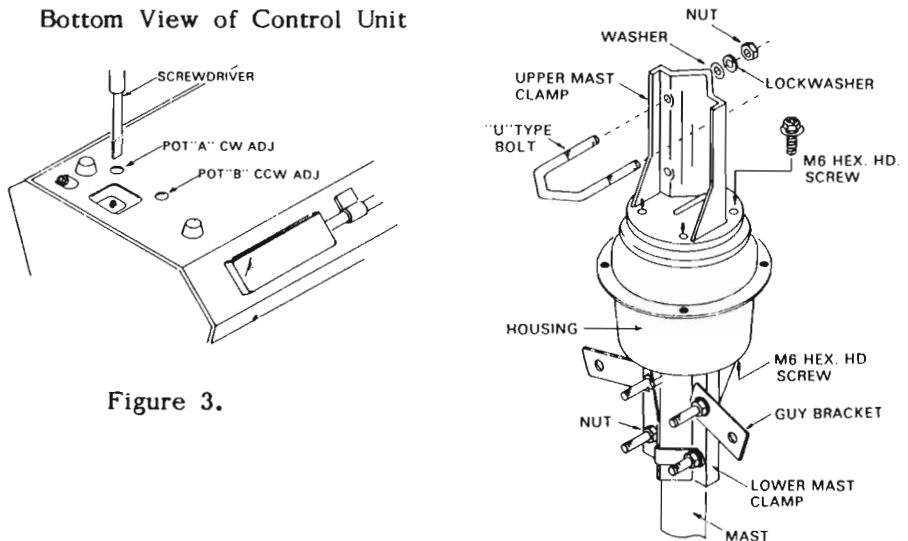


Figure 3.

Note on Rotator Operation:

If the antenna is turned very often, particularly in warm weather, the thermal switch in the rotator may act to temporarily disable operation. When this occurs, allow the rotator time to cool before operating again.

ANTENNA & ROTATOR INSTALLATION

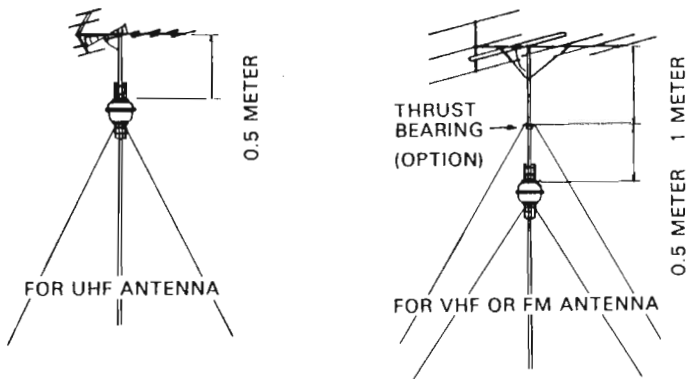
The G-250 is designed to accommodate medium and small-size television antenna arrays. The maximum safe load depends on the physical size of the antenna, method and quality of mechanical installation, and maximum wind velocity at the place of installation.

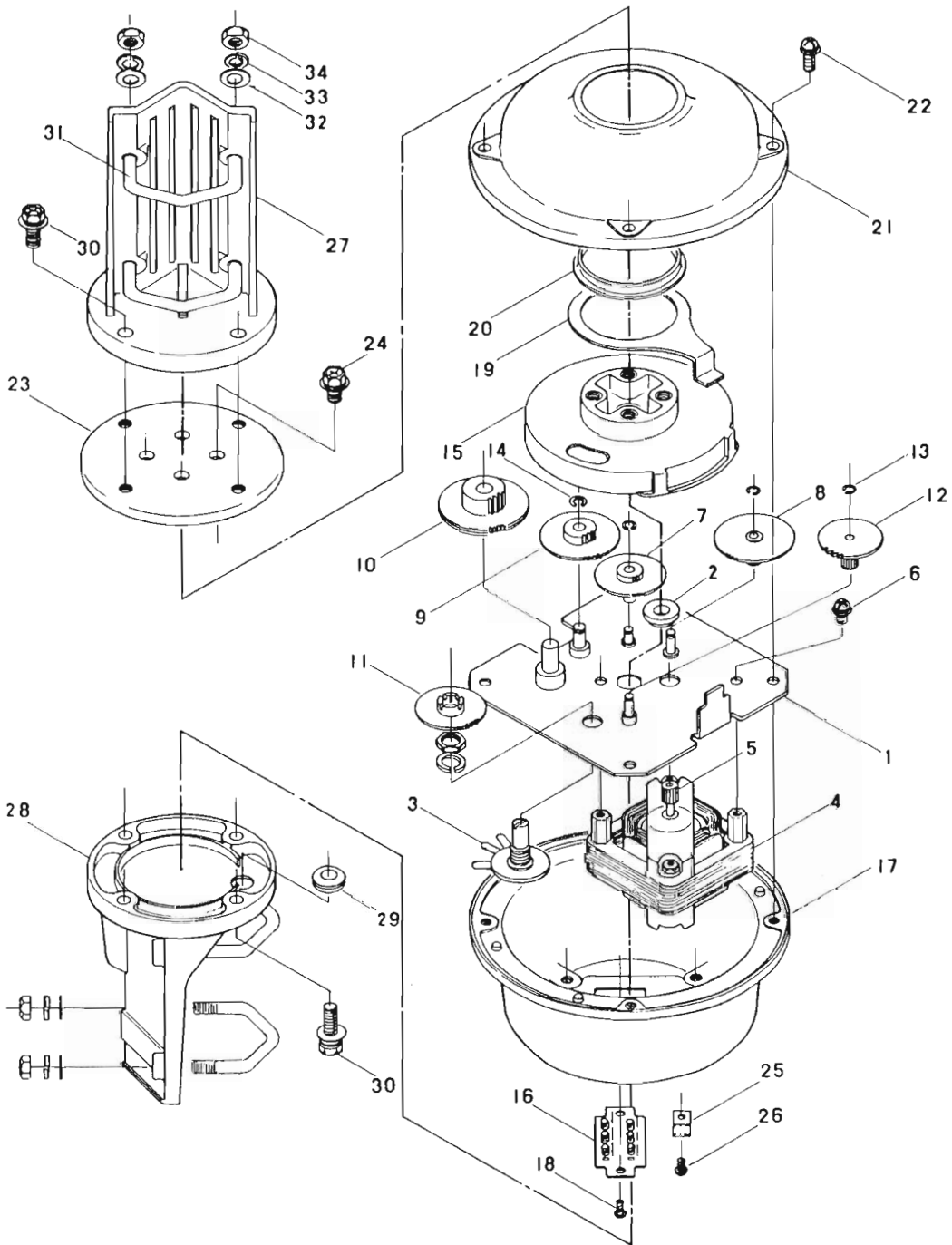
The diagrams below show several recommended installations. Notice that all but the lightest antennas should include support by two sets of guy wires. The upper set of guy wires attaches to the mast above the rotator by a thrust bearing (available as an option from your dealer). During installation, make certain that the guy wires all have the same tension, and that the mast above and below the rotator is precisely vertical.

Make certain that the antenna attaches to the mast at the center of gravity of the antenna. That is, the antenna should be balanced, providing only downward force on the mast (when there is no wind). The G-250 can support up to 200 kg (440 lbs).

Be sure to leave enough slack in the antenna feedline around the rotator so that it can rotate 360° without straining the feedline or stand-offs.

CAUTION: The G-250 is designed for vertical mounting only. Water and contaminants will damage the motor unit if it is mounted horizontally or upside-down.

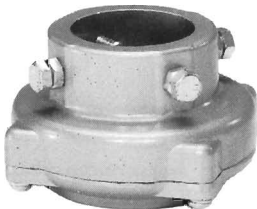




PARTS LIST (Rotator)

- | | |
|-------------------------------|--------------------------|
| (1) Gear Mounting Plate Ass'y | (18) 3x6mm Screw (x2) |
| (2) Central Shaft Bushing | (19) Rotation Limit Arm |
| (3) Potentiometer | (20) Upper Shaft Bushing |
| (4) Motor | (21) Upper Housing |
| (5) Motor Pinion | (22) M4x14 Screw (x4) |
| (6) M4x8 Screw (x2) | (23) Mast Support Plate |
| (7) Gear Ass'y (#2) | (24) M5x12 Bolt (x4) |
| (8) Gear (#1) | (25) Cable Clamp |
| (9) Gear Ass'y (#3) | (26) Cable Clamp Screw |
| (10) Gear (#4) | (27) Upper Mast Clamp |
| (11) Pot. Divider Gear (#1) | (28) Lower Mast Clamp |
| (12) Pot. Divider Gear (#2) | (29) Cable Grommet |
| (13) 'E' Ring | (30) M5x15 Bolt (x4) |
| (14) 'E' Ring | (31) 'U' Bolt (x4) |
| (15) Internal Gear | (32) M6 Flat Washer |
| (16) Terminal Board | (33) M6 Split Washer |
| (17) Lower Housing | (34) M6 Nut |

OPTIONAL PARTS



GS-050 50mm
Thrust Bearing



GS-065 65mm
Thrust Bearing

G-250 SCHEMATIC DIAGRAM

