

MODEL 660 ROTATORS AND CONTROLLERS



HTI's *Model 661H/662H Rotator* and *Model 660 Remote Rotator Controller* present a cost efficient means of remotely aiming sonar transducers, underwater video cameras, and other instruments in water depths up to 45 m (150 ft). The *Model 661H/662H Rotator* has a heavy duty motor, gears, and shaft bearings, and is capable of fine rotation increments with repeatability. Available in either single-axis (tilt) or dual-axis (pan and tilt) configurations (denoted the *Model 661H Single-Axis Rotator* or the *Model 662H Dual-Axis Rotator*, respectively), up to two (optionally) rotators of either configuration can be controlled by a *Model 660 Remote Rotator Controller*.

The *Model 660 Remote Rotator Controller* permits automatic feedback of the rotator(s) aiming angle(s). With the addition of a *Model 241/243/244 Digital Split-Beam System*, one can automatically conduct remote scanning of an area at user-programmable aiming angles and time intervals. Rotator aiming angles are recorded automatically to the *Model 241/243/244 System* output data files.

The HTI *Model 660-series Rotator System* offers the following:

- Relatively inexpensive alternative to automatic rotation of sonar transducers, underwater video cameras, and other instruments in depths of up to 45 m (150 ft).
- Angular resolution of 0.1°.
- Capable of automatic scanning of an area at user-programmable aiming angles and time intervals, with locations recorded to data output files (requires *Model 240-series Echo Sounder*).

Technical Specifications: Model 661H Rotator

Rotator Housing:	Anodized aluminum.
Dimensions:	114 mm diameter x 267 mm length (4.5 x 10.5 inches), plus a 28 mm (1.1 inch) mounting boss.
Weight:	5.4 kg (12 lb).
Maximum Depth:	45 m (150 ft).
Power Supply:	See <i>Model 660 Remote Rotator Controller</i> specifications below.
Operating Temperature:	0-50°C (32-122°F).
Power Consumption:	See <i>Model 660 Remote Rotator Controller</i> specifications below.
Angular Resolution:	Typically 0.1°.
Rotation Speed:	Typically 0.5°/sec.
Limit Switches:	Pre set at 350° (<i>Model 660 Controller</i> typically limits rotation to +/- 90°).
Torque:	30 ft lbs max.
Backlash:	<6 arc minutes.
Output Shaft Size:	40 mm (1.6 inch).
Manual Control:	Manual control is available via the <i>Model 660 Remote Rotator Controller</i> . See specifications below.
Automatic Control:	<i>Model 660 Remote Rotator Controller</i> can optionally be automatically controlled by HTI <i>Model 241, 243, and 244 Digital Split-Beam Systems</i> using <i>SCANNER</i> software. See separate specification sheets for <i>Model 241, 243, and 244 Digital Split-Beam Systems</i> .
Data Displays:	See <i>Model 660 Remote Rotator Controller</i> specifications below.
Dual-Axis Rotator:	Two <i>Model 661 Single-Axis Rotators</i> can be mated (and a jumper cable added) to create a <i>Model 662 Dual-Axis Rotator</i> .
Rotator Cables:	<i>Model 650 Rotator Cables</i> are available in 9-305 m (30-1000 ft) lengths standard. Lengths > 305 m (> 1000 ft) optional. Cable is nominally 16 mm (0.63 inch) diameter. Cable jacket is nominally 2.5 mm (0.1 inch) thick extruded polyurethane which is waterproof and resistant to abrasion.
Armored Rotator Cables:	<i>Model 656 Armored Rotator Cables</i> are steel reinforced, and available in 45 m (150 ft) lengths.
Rotator Mounts:	For fixed-location monitoring in lakes and rivers, HTI offers two styles of mounting pods for rotator/transducer combinations. Contact HTI for specifications.

Technical Specifications: Model 660 Remote Rotator Controller

Power Supply:	Nominal 120 VAC standard (100, 220, and 240 VAC optional).
Dimensions:	116 mm height x 259 mm width x 348 mm depth (4.6 x 10.2 x 13.7 inches).
Weight:	4.1 kg (9 lb) in air.
Operating Temperature:	0-50°C (32-122°F).
Power Consumption:	Per motor 60 watts, maximum 254 watts, quiescent 14 watts.
Automatic Control:	Users of HTI <i>Model 241/244 Digital Split-Beam Systems</i> can use <i>SCANNER</i> software to direct the <i>Model 660 Remote Rotator Controller</i> , permitting automatic control of <i>Model 661 Single-Axis</i> and <i>Model 662 Dual-Axis Rotators</i> at user-selected aiming angles and time intervals. Aiming angles are written to output data files. See separate specification sheets for <i>Model 241/243/244 Digital Split-Beam Systems</i> .
Data Displays:	Output display consists of angular readings to 0.1°.
Control of Two Rotators:	While the <i>Model 660-2 Remote Rotator Controller</i> will permit remote operation of either a <i>Model 661 Single-Axis Rotators</i> or <i>Model 662 Dual-Axis Rotator</i> , the <i>Model 660-2 Remote Rotator Controller</i> will control any combination of two <i>Model 661 Single-Axis Rotators</i> and/or <i>Model 662 Dual-Axis Rotators</i> .
Note:	Specifications subject to change without notice.

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