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# WR-ARP-ELAZ-100 Antenna Rotator/Positioner with WR-RCU-100 Controller



*WR-ARP-ELAZ-100 Antenna Rotator/Positioner*

The WINRADIO WR-ARP-ELAZ-100 rotator/positioner system is a versatile and robust system primarily developed for automated satellite tracking, but it may be useful in many other applications. A complete functional system, combined

## Features

- Heavy-duty rotator construction with high-quality steel gears
- Elevation and azimuth control to  $\pm 0.5$  degree accuracy
- Double worm drive per axis
- Weather-proof for outdoor application
- Mechanical overdrive protection
- Electrical and temperature limits protection
- Versatile control unit with USB interface
- Software controlled positioning and braking
- Automatic calibration
- Control software provided with control unit
- Easy installation and calibration
- Automated satellite tracking software option
- Programmers' API SDK is available
- A compatible **tripod** is available

with the WR-RCU-100 rotator controller, contains the following items:

- WR-ARP-ELAZ-100 Rotator/Positioner
- WR-RCU-100 Rotator Control Unit
- Power supply, USB cable, application software, user's manual

Whatever is fitted onto the rotator is entirely a matter for the user, be it a Yagi, log periodic or a satellite dish antenna, or, on the other hand, a telescope, heliostat or a security camera. The software provides the user with the ability to manually or automatically position the rotator in a specified direction, with an accuracy of  $\pm 0.5$  degree in each of the vertical and horizontal axes.



*WR-RCU-100 Rotator Controller*



*Screenshot of standard software supplied with rotator*

The operation of the supplied control software is very simple. Manual positioning of the rotator is achieved by using the four keyboard arrow keys, or by spin control mouse clicks. Automatic positioning is effected by entering the desired bearing or elevation into a numeric edit field.

Development support is available for experienced users who want to write their own software control application. The API to the Rotator Control Unit is via a set of function calls provided through a DLL file. This support is available at no cost in the form of a Software Development Kit.

## WR-RCU-100-ATC Automatic Tracking Controller Software Option

The WINRADIO WR-RCU-100-ATC Automatic Tracking Controller software option provides the following additional features:

- Fully automated real-time satellite tracking
- Fully automated task scheduler
- Flexible task definition system

What makes the system exceptionally powerful is the ease with which this software automatically tracks orbiting satellites in real time. To enable automatic tracking, simply select the satellite(s) of interest from the presented list, add them to the scheduler, and the scheduler will then position the antenna automatically, to follow the selected satellites as they pass.

The integrated world map also shows the specified satellites orbiting the Earth in real time, and the times of the satellite overhead passes are calculated and displayed.

The user can also program tasks for the scheduler by specifying the action to be performed, its duration, start time and date. Fully unattended, automatic satellite tracking can therefore be planned a long time in advance.



*Screenshot of WR-RCU-100-ATC  
Automatic Tracking Option*

The intuitive and user-friendly interface will plot the various satellite positions in real time, as well as show their transmission beam footprints superimposed on a world map.

## Technical Specifications

### Rotator / Positioner

Model	WR-ARP-ELAZ-100
Type	Dual-axis (azimuth and elevation)
Gearing	Metal gears with double worm drive reduction (2 worms/axis)
Mount	Mast top
Braking	Self-braking
Casing	Steel
Azimuth Range	0 - 360 degrees $\pm$ 20 degrees over-travel
Elevation Range	0 - 180 degrees $\pm$ 20 degrees over-travel
Rotation Speed	5 deg/sec
Resolution	1.0 degree
Accuracy	$\pm$ 0.5 degree
Position Sensor	Sealed reed switch and magnet
Self Protection	Built-in limit switches disconnect power
Power Requirement	24 V DC @ 4 A (max. 2 A per axis)
Rotating Torque	203 Nm (1800 in-lbs)
Braking Torque	1016 Nm (9000 in-lbs)
Weight	13.5 kg (29.7 lbs)
Height	320 mm (12.6")

Radius	170 mm (6.7") max.
Elevation mast receptacle size	50 mm (2") max. inner diameter
Azimuth mast receptacle size	66 mm (2.6") max. inner diameter
Cabling Required	4-pair cable (8 wires)
Wire Gauge	AWG #18 recommended

### Rotator Control Unit

Model	WR-RCU-100
Type	Dual-axis (azimuth and elevation)
Resolution	1.0 degree
Accuracy	±0.5 degree
User Interface	Via PC software application (included)
Communication Protocol	WiNRADiO Proprietary
Computer Interface	USB 2.0 / USB 1.1 compliant (WiNRADiO USB cable included)
Power Supply	24 V @ 4.16 A (included)
Built-in Protection	Over-temperature, under-voltage, over-current, motor overload
Status Indication	Dual-colour LED (software configurable)
Dimensions	Length: 164 mm (6.5") Width: 96 mm (3.8") Height: 41 mm (1.6")
Weight	460 g (16 oz)

### Options

WR-RCU-100-ATC	WR-RCU-100-ATC Automatic Tracking Controller software option
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### System requirements

Operating System	Windows 2000 / XP / Vista / 7 / 8 / 8.1 / 10
CPU Speed	Minimum 1 GHz recommended
RAM	Minimum 512 MB recommended
Hard Disk Capacity	Minimum 20 MB free space
Ports	USB port required
Internet access	Internet connection required for precise clock synchronization and orbital data update for WiNRADiO WR-ARP-ELAZ-100-ATC Automatic Tracking Controller software option



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