

Antenna Relay PANT-8 NEW ver.11/2012

1. External Description

Antenna Relay PANT-8 NEW ver.11/2012 the same as previous versions has been made very carefully.

The printed circuit board is made of laminated two-sided epoxy-based: System of paths and the same print was made professionally with appropriate distance and the width of the path which guarantees the wave impedance of 50Ω .

For installation we have used relays RELPOL S.A type RM-85 for cross mounting / adapted them to surface mounting SMT / airtight performed; mounting the antenna terminals UC-1 to lower cover was performed using rivets , printed circuit board is soldered to the center pin coaxial connectors UC-1 / SO-239 /.

The entire circuit plate is covered with a double layer of electrically insulating varnish which is a good protection against ruptures. We were doing rupture resistance test On the UUT relay test device at $U_{max} = 2kV$ - attempt was positive.

The cover is made of chrome-nickel steel, corrosion-resistant which allows for mounting the switch directly to the mast without the use of additional protection.



Photo 1. View of the assembled board antenna relay-8 PANT NEW ver.11/2012



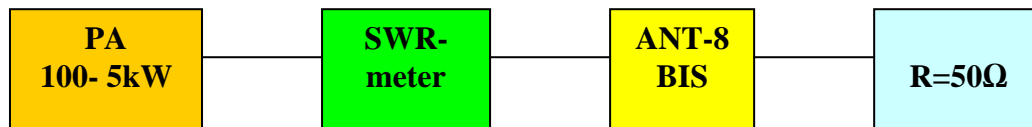
Photo 2. Antenna Relay PANT-8 NEW ver.11/2012 view from the sockets UC-1 side

To control relay NEW PANT-8 use a manipulator with rotary switch or with processors circuit. This last one is not recommended for use with high power.

2. Measurements

The purpose of the measurements was to check the basic parameters / R_s , X_s , SWR / switch in the amateur HF bands + 6m. Measurements were made using antenna analyzer on an artificial load. The measurements are summarized in Table 1

Next, we have taken "power" measurements in the circuit shown in the following photo



Measurements were performed on all HF bands / 1.8 - 28MHz / 50MHz +.
 Power given in the ranges: 1000 - 2000 - 3000 - 4000W. At max power 4.0 kW there were no disturbing changes when relay was working, or any impact on nearby devices / drivers, computers /. The 50 MHz band measurements were Made only for 2.0 kW power due to the measure meter constraints / TDR NAP /. With more than 2.5 kW power coax type RG214U connecting relay to Artificial load heat up slightly. We tested every range of power for about 15 minutes.

3. Summary

"Power" tests were positive, the relays used in the device allows you to Move much higher capacity up to 7.5 kW
 Relay compared to other products on the market HAM also works well in the range of **50 - 51.850 MHz** but with limited power **2.0 kW** supplied to them, which puts him at the top of devices from the same class, preparing relay for "8 antennas" is a matter relatively difficult because of the critical distance between the ground and "hot"paths while keeping up "wave" parameters.

Tested out relay antenna works better in the 50 MHz band in comparison With previous versions, in HF range parameters were not affected.
 Due to the use of this relay to work with major powers it would be Recommended to use the N-type coaxial socket and connections to the power amplifier and antenna should be made with professional coax type LDF-4-50A.

