



Vortex Antenna Systems Remote Antenna Switch (V-RAT) V1.0 Data Information

Vortex Antenna Systems released the 'VRAT' (Vortex Remote Antenna Switch) MKI unit in the Autumn of 2018. The unit was designed by **Steve GOUH** at Vortex with the RF work by **Camtech PCB** in Haverhill, UK.

The VRAT consists of two parts, the indoor 'Switching Box' which would normally be located in the shack, and the outdoor/external 'Relay Box'. Both enclosures are professionally manufactured in the UK by '**PEP Engineering**' of Tewkesbury from 2mm aluminum with silk screen graphics and logos.

The switch box also includes fully detachable front and rear panels and LED's showing the output port and the 'Rat's Eyes' on power up. The shack units look really nice and make a pleasant change to the 'Black Boxes' that seem to swamp everyone's shack these days!



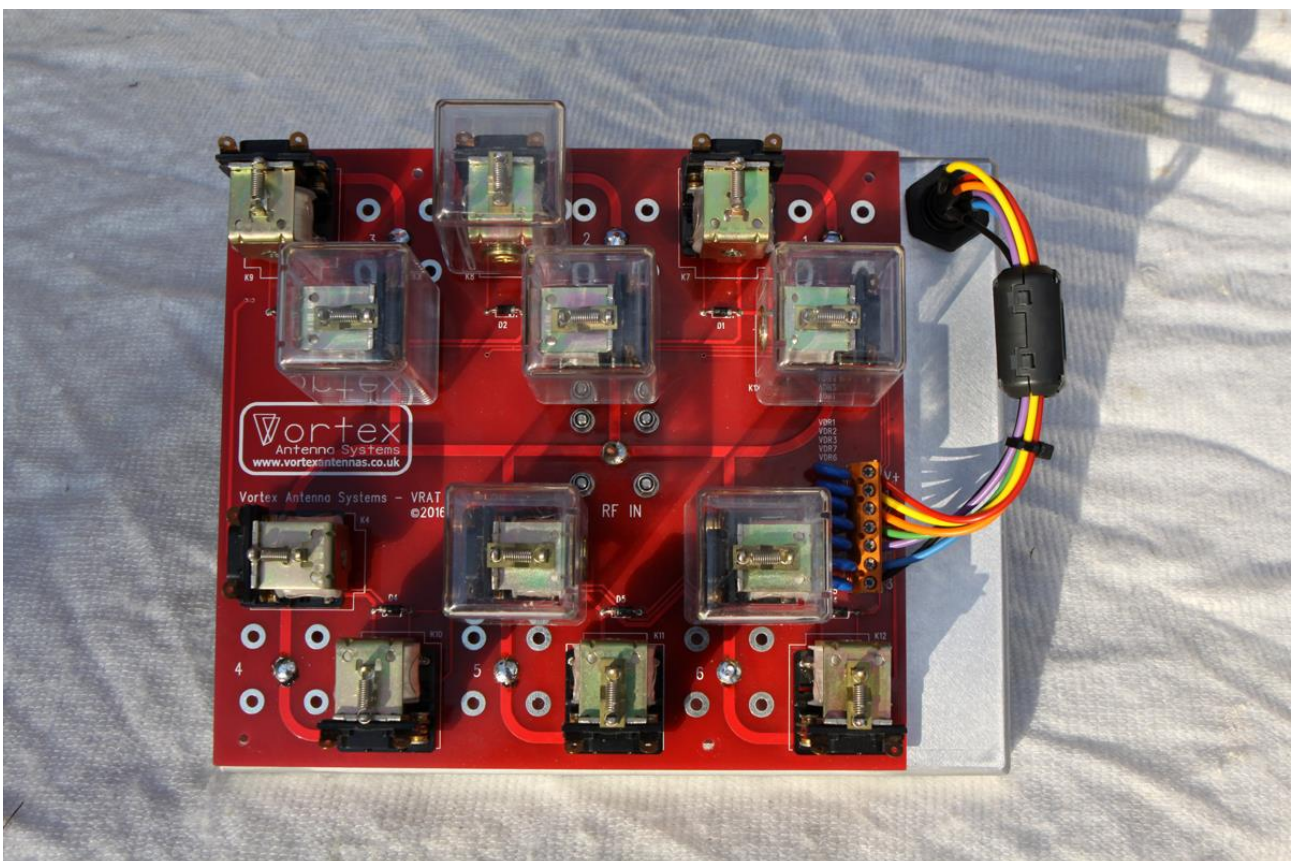
The switch operates 6 ports, covers all HF bands and is an impedance-controlled design. To optimize port isolation, two relays per port are used.

The bespoke relays are rated at 30A by ganging 2 x 15-amp outputs. Power rating is estimated at over 3.5kw and at 2.5kw continuous key-down of 3 minutes during testing, the relay box never got warm nor did the relays or components show any signs of stress.

The VRAT was available with either SO239 (PTFE) sockets as the outputs or 'N-Type' (PTFE) as an option. Because there are only a handful of units remaining, the current option is only SO239 sockets.

Vortex also used professional 'Weipu SP17' plugs and associated sockets for the control line. The Weipu connectors are rated at IP68 (which is 100% waterproof) and all hardware is included. A standard 13.8v DC power supply is all that's needed to power the unit and a DC lead and plug are also included.

As additional user protection, each port has a MOV (**Metal Oxide Varistor**) for additional lightning and static protection and the DC input on the switch box has reverse polarity protection.



Features List

- VRAT – 6 Port Antenna Switch - 12 Relays (2 per port) rated 30A (2 x 15amps) ganged
- Frequency coverage (HF) 1-30MHz
- Power Rating – 3.5kw+ [conservative]
- SO239 chassis mounted sockets (With PTFE dielectric) as standard
- Impedance controlled design (50 ohms) for lower SWR and improved matching
- Designed by 'Camtech PCB' – a professional RF design service from Haverhill, UK
- Superior un-used port isolation by using 2 relays per port
- 2mm Aluminum relay control box and switch box both coated with silk screen graphics
- Professional 7 way 'Weipu' connectors rated at IP68 (fully waterproof) for the control lines
- Operates from a nominal 13.8v DC supply
- MOV's for additional lightning/static protection
- Switch box has reverse polarity protection
- Switch box uses 2A DC high quality UK produced rotary switch [RS Components/CK Switches]
- When power is 'On' - All un-used ports are open – main center feed only
- When power is 'On' - Earth and Grounding – all ports are grounded (Common ground)
- When power is 'Off' - All ports are open – main center feed only
- When power is 'Off' - Earth and Grounding – all ports are grounded (Common ground)

