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## Operation of the new Super-Quick 8 Band Vertical Antenna.

- Vertical with linear-loaded elements (see figure).
- Total element length 18 m (a close quarter wave for 80 m)
- Small loading coil in use for operation on 80 m
- No traps
- No power limit (750 W)

A good ground connection or the use of radials is essential for efficient operation. Good experience is obtained with 3 radials of 16 m, 11 m and 6m length each. When a ground rod is used, the antenna performance depends very much on the ground conductivity. A ground strip connected to a vehicle typically provides an excellent ground plane with low resistive losses. Be careful connecting to the ground system of your house. Although the ground may electrically be good, all kinds of RFI may result! Environmental influences and different ground systems varying the resonance of the antenna may be corrected with the help of the 1 m long telescoping rod at the balun. For 80 m, the wire length following the coil should be changed. The antenna contains 3 jumper switches. With the jumpers on and off, the antenna can be matched to all amateur bands between 80-10 m. including the WARC bands. The SWR should be below 2. Changing jumpers can be done in less than 1 minute. When an ATU is available and changing jumpers is considered inconvenient, leave jumper 2 (the one in the middle) open. With the exception of 24 MHz, all bands can easily be matched to the 50 Ohm output of your transceiver. An excellent mount for the antenna is provided by the 10 m long Fiberglass Telescope Tower (FTT), together with the 1.5-2 m long horizontal spreader arm. For transport, the antenna wire can be spooled on the spreader. The FTT and spreader arm are delivered in a black cloth sack, making transportation easy. Summary: Considering the small size, easy installation and low cost, the antenna makes a good choice for both permanent and portable amateur radio operation.

## Assembling the antenna.

Unroll the wire from the spreader arm. Pull out the smallest section of the Fiberglass Telescope Tower (FTT) and secure it to the next section. Put the spreader arm over these sections and pull out the next section. Now put the wire with the small silver eye over the top end. Further extend the telescoping sections of the FTT. Secure the pieces carefully when pulling the sections out applying a slight rotation against one-another. Do it with force, the fiberglass will not break! If you do it too gently the sections of the tower may collapse. The lowest section of the FTT can easily be fixed to the ground. Remove the cap by turning it off and put the tubing over a small wooden pole driven into the soil. Two wires are now hanging down from the horizontal spreader arm. Use string to fix the end where you find the insulator. If space permits, pull the wire a bit away to the side. The wire with the blue plug is connected to the telescope rod containing the balun. Connect the coax cable and a short ground strap (use the braid from a discarded RG 8 coax cable) to the ground rod driven into the soil.

There are three methods to match the SQ-Vertical to the transceiver:

1. The easiest one is to use an antenna tuner. Many transceivers have one built in. Connect the wire with the first two jumpers, disconnect the third jumper (the one next to the coil). Although the antenna is not on resonance on the different amateur bands, the feeding impedance is within a range which easily can be matched by the tuner. With feed line lengths of less than 10 m loss caused due to the higher SWR on the coax is small.
2. When using coax cable longer than 10-15 m it is recommended to select the jumpers according to the settings given in the included table. SWR on the cable will be low. However, changing bands means you have to take the antenna down. Although somewhat inconvenient, this affair takes not much more than a minute.
3. Even without the use of an ATU you can match the antenna to the 50 Ohms output impedance of your transceiver. The telescoping rod at the balun permits an adjustment of the antenna resonance (or better: to SWR <1.5) Shortening the rod results in a higher resonant frequency. With the telescope in full length, resonance should be at or below the lower end of the amateur bands. On 80 m, resonance may be obtained by changing the wire length after the coil. This can be done easily in shifting the knot. For first steps the use of an antenna analyzer might be helpful.

Jumper Settings			
Band	Jumper 1	Jumper 2	Jumper 3
80	Closed	Closed	Closed
40	Open	-	-
30	Closed	Closed	Closed
20	Closed	Closed	Open
17	Closed	Open	-
15	Open	-	-
12	Closed	Closed	Open
10	Closed	Open	-

