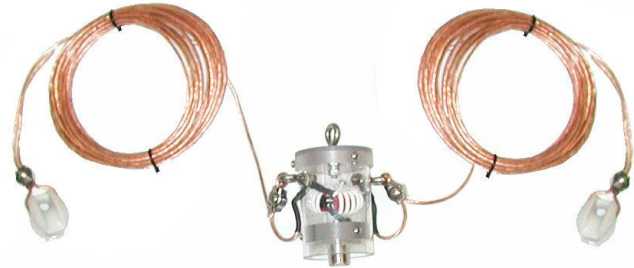




Kelemen Half-Wave Dipoles with Balun and Dual-Band Dipoles Part No. 11510.xx / 11520.xx

In addition to the full-size dipoles, there are shortened dipoles that can be used advantageously in confined spaces. The shortening is achieved by extension coils made of Teflon cable inserted into the radiator. However, the greater the shortening, the lower the usable bandwidth: use antenna tuners!
Like all Kelemen antennas, the shortened antennas are very light, weather and temperature resistant.



Monoband-Dipoles

Model	max. power	Length	Order No.
DP-80	1kW	39m	11510.80
DP-80-H	2kW	39m	11510.80H
DP-60	1kW	27m	11510.60
DP-40	1kW	20m	11510.40
DP-40-H	2kW	20m	11510.40H
DP-30	1kW	15m	11510.30
DP-20	1kW	10m	11510.20
DP-17	1kW	8m	11510.17
DP-15	1kW	7,5m	11510.15
DP-12	1kW	6m	11510.12
DP-10	1kW	5m	11510.10
DP-6	1kW	3m	11510.6

Monoband-Shortend-Dipoles

Model	Max.power	Lenght	Order No..
DPK-160-24m	1kW	24m	11510.KL24
DPK-160-32m	1kW	32m	11510.KL32
DPK-160-38m	1kW	38m	11510.KL38
DPK-80	1kW	19m	11510.K80
DPK-60	1kW	14m	11510.K60

Dual-Band Dipoles 80/40m

DPD-8040	1kW	39m	11520.D84
DPD-8040-H	2kW	39m	11520.D84H

Kelemen antennas are made of high-quality materials. The potting parts are milled from weatherproof polycarbonate, all screws, nuts and cable clamps are made of stainless steel. The Baluns have a weatherproof, screwed, transparent polycarbonate housing. They are not encapsulated. This is very costly to manufacture, but very advantageous for the user, because if there is an 'accident' the balun can be repaired by the user. In addition, the balun weighs at most half as much as a potted balun! Condensation can never be completely avoided; therefore, the baluns have a drainage hole at the bottom so that condensation can evaporate. These are complete ready-to-use antennas including the Balun with SO-239 connection and insulators.

Kelemen antennas are available for power ratings from 200 watts to 2000 watts, depending on the model. The power specification refers to PEP SSB or CW, whereby CW means 'Morse' and not 'continuous wave'.

Inverted Vee suspension of wire antennas ('inverted V')

If the antennas cannot be mounted horizontally for reasons of space, the inverted-V suspension is a good alternative: instead of the typical directional effect of a dipole, you then get an almost omnidirectional antenna, and you only need a center mast. An angle between the legs of 90 to 130 degrees is suggested. 75 degrees should not be used, and the ends of the dipole legs should not be brought all the way to the ground - extend them with some rope!

Tuning

The antennas are manufactured with some extra length wire. Since every antenna reacts differently to the environment, it is quite possible that you will have to adapt the antenna length to your own environmental conditions.

For adjustment, the dipole legs must be shortened evenly. To do this, fold more stranded wire inwards at the insulator and fix it with cable ties. Shortening the stranded wire is only necessary in rare cases.

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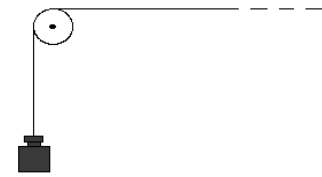
Safety instructions - please note!

Do not exceed the maximum tensile strength of the antenna strand!

The antenna strand is made of PVC-insulated copper according to DIN 46431/40500 with a tensile strength of 210-280 N/mm². This tensile strength is the breaking load and one is far beyond the reversible range of elongation (permanent damage to the strand). With a certain degree of certainty, this results in a max. permissible tensile strength of 120N/mm² at the most, and thus:

Antenna Version	Diameter	max. Tensile force
1000W 80m-10m and DPK160-24/32	1,5mm ²	18 'Kilo'
2000W 80m-10m and DPK-160-38	2,5mm ²	30 'Kilo'

- If the antenna is to be hung between two trees, a length compensation must be provided to prevent the antenna from tearing due to swaying of the trees in windy conditions. This can be done with a pulley at the top of the tree, over which the rope is guided vertically downwards, see sketch. A weight hangs from the bottom of the rope. Alternatively, use elastic material such as rubber cords or springs. Provide fall protection in case the spring breaks.!
- Before hanging the antennas, check the stainless steel clamps on the insulators and on the Balun for tightness!
- Because maximum voltage is reached at both ends of these antennas, touching the wires will cause electric shocks or RF burns. If possible, keep a distance of 1 to 2m between the ends of the antenna and a house wall or mast to avoid possible interference from coupling.
- Keep an appropriate safety distance from power lines and pylons and do not forget lightning protection.



General notes on wire antennas:

- In order to be able to tune the antenna at the place where it is to operate, it is practical to make it easy to set up and take down.
- The height of the antenna above the ground determines its effectiveness as much as its fixed set-up.
- The SWR is influenced by the position of the feed line downwards from the Balun. Do not run the coaxial cable parallel to one of the dipole wires.
- When setting up the dipole antennas, it should be noted that the two separate dipoles should not be suspended parallel to each other.
- Antennas suspended parallel to overhead lines can pick up considerably more QRM or also cause TVI more easily.

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