

# PRO.SIS.TEL.

Produzione Sistemi Telecomunicazioni

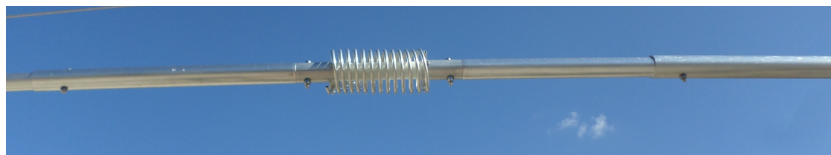
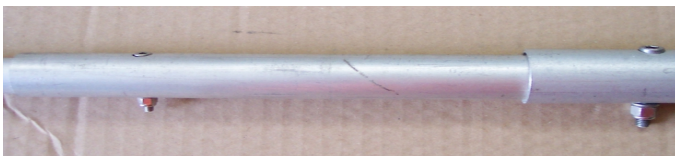
## PST-RD34T v1.0

### Antenna assembling instructions:

Take antenna parts out the box and find the semi-dipole main alluminum tubes. They have pre-assembled inside the other tubes in a telescopic sequence. Tilt down the main tube end and shake it to have each one inner tubes heads out for about 15 cm or 6 inch. Make sure to have enough free space to extend the entire semi-dipole. Pull out the smaller tube, find the passtrought hole on the inner end, make it coincident whith the passtrought hole present on the next diameter tube which has two different diameter holes, from the larger hole side insert and push down the hallen screw passing trough the inner tube hole, put washer and selflock nut and screw down.

Make sure to have the bolt head as in the picture below. Do not forget to **lubrificate** the stainless steel bolts or nuts before to install them. Any kind of oil or grease is ok.

Do the same way for the other tubes joints. Some inner ends have more holes, they will help you in tuning antenna on your preferite band section, use the one in the middle for now.



Make sure to have heach one tubes connection having bolts head on the same side.

When completed, insert on the semi-dipole end the trap set. Bolt down each one tube joint following the same way used before. **Make sure to have traps drainage holes on the lower side.**

When the two half dipole are ready, prepare the central plate and assemble all the parts as in the pictures below. Make sure to have about 10-12mm or half inch of clearance in between the two dipole ends, with connection bolts aligned on the front side.



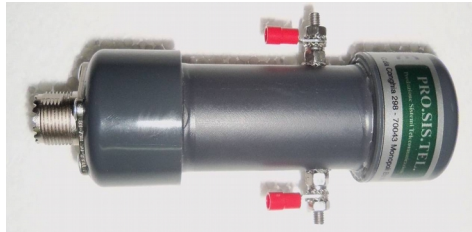
The truss cable will only be installed when the dipole is completed.

The antenna has a series of holes on the **D6** 20mm tube section before the 30m trap with which you can adjust the 30m tuning and a set of holes on the terminal end **D8** for 40m tuning.

Tune 30m before and after 40m ends. By shortening it rises, lengthening decreases in frequency.

Connect a 1:1 balun (suggested) using two short wires, not longer than 8-10 cm or 3-4 inches (connections wires will influence the antenna tuning making it longer), if you don't use a balun, than use a coax cable choke, open the coax ends to have two short leads like a V no longer than 3-4 cm or 1-2 inches, soldering on them two eyelet ends. Don't forget to insulate and seal coax end from moisture. (If you don't have any sealing liquid, use nails painting and when dry, cover with good rubber tape)

(Balun and eyelet ends are optionals not included in the antenna parts)



Balun or coax choke do not improve antenna performance, but reduce the RF presence on the coax shield reducing the risk of TVI or other RF noise on electronic devices.

When assembled antenna will look like the one in the picture below.



#### *Half dipole tapering*

**D1** 40x125/**D2** 35x94/**D3** 30x105/**D4** 25x105/**D5** 25x75/**D6** 20x104/**D7** 16x30/**D8** 12x80mm

**D2** has load coil on it. **D6** has 30m trap on it.

**D6** has 30m tuning steps, **D8** has 40m tuning steps

For constructive requirements individual measurements may undergo variations without changing the final operation

Install antenna on your mast, make sure to have almost 5-6meters or 15-20 ft over the roof or ground and if installed over an HF yagi antenna, make sure to have dipole in line with yagi's boom spacing them almost 2m or 8 ft. Antenna will have the best performance if installed almost a  $\frac{1}{4}$  wave of the lower frequency band, over the ground.

Using an antenna analyzer or a SWR meter, check the antenna tuning on each band.

Antenna tuning frequency could be influenced from the environmental conditions for which could became necessary retuning it. If necessary begin from the higher band, unbolt the multi holes dipole joints and move to next hole, don't forget, longer element lower frequency, shorter element higher frequency.

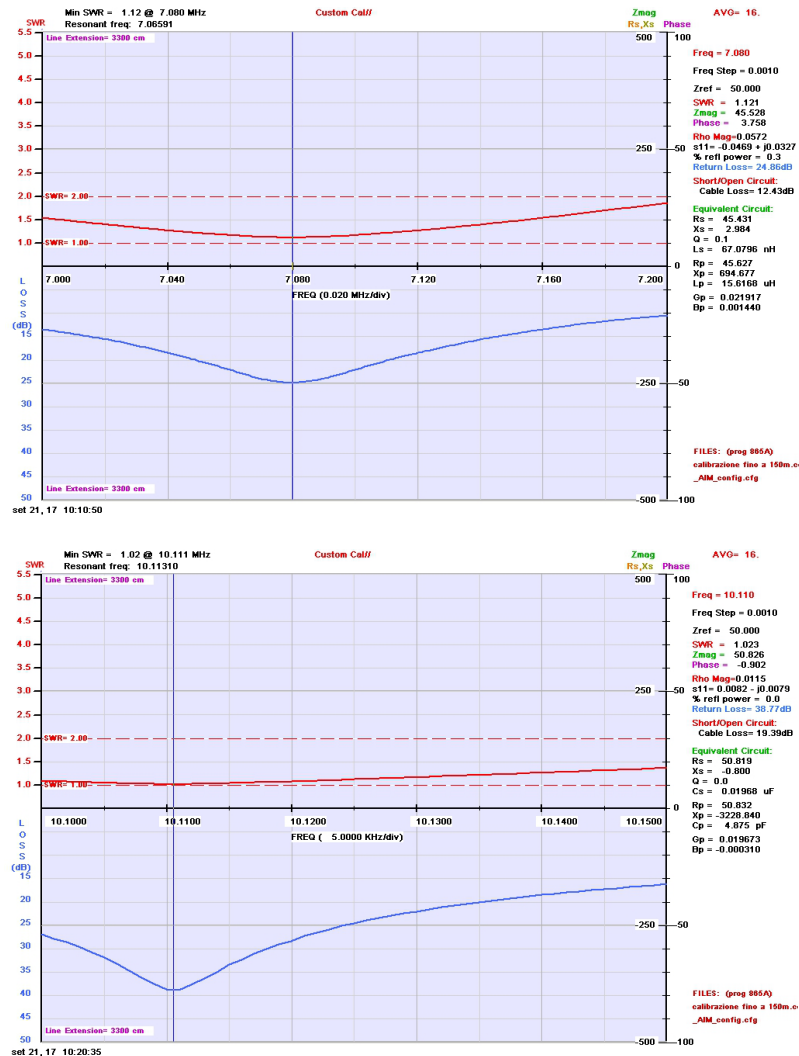
**When the tuning operations are completed, check all bolts, make sure that they are well screwed down.**

## Performance:

The antenna has a bandwidth of 180-200Kc/s with center band at 7080-70100Kc/s approximately. It covers the entire range of 30m.

Performance may vary depending on the local conditions in which the antenna is installed. However, it is advisable not to install it at a height less than 5 m from the roof/ground.

## Tuning charts at 10m above the ground.



## Specifications:

**Gain** = 0 dBd

**Bands** = 40m – 30m

**Front-side** = about 15 dBd

**Impedance** = 50 ohm

**ROS** = within 1:1,5 or better

**Max power:** 2KW ssb, 1,5Kw cw-rtty

**Reccomeneded balun** 50 ohm 1:1

**Total lenght** = about 14,25m

**Weight** = about 8 kg

**Wind area** = about 0.3m<sup>2</sup>

**Mast diameter** = 40-50mm (60mm on request)

**Max wind** = 130Km

**Hardware** = Al 6060 T6 stainless bolts



**WARNING!!!**

**Do not install the antenna in the vicinity of exposed power lines or other sources of power at risk of lightning, you may be killed or seriously injured. Make sure anyone does not even come into contact with it accidental during use**

**Install the antenna on properly dimensioned supports to hold the load even under stormy wind conditions.**

**The fall of all or part of it could hit people and / or things with unrecoverable damages.**



**In case, the responsibility is to be solely charged by the user.**

**This manual is an integral part of the product, keep it handy.**

**Dear buyer,**

thank you for purchasing a Pro.Sis.Tel antenna ..

Making it we have used the best materials available on the market, worked and finished with the best care possible allowed by the state of art.

Use it within the rating for which it was built and will serve you faithfully for many years.

In case of doubts or concerns, our technical department is always ready to provide all the necessary help.

**If you are satisfied with it tell the others, otherwise ..... tell to us.**

**Your opinion and your suggestions will help us to improve even more our products.**

**Best regards**

**Annamaria Fiume IK7MWR**

**Made in Italy**

**WARNING! Defend the environment**

Disposing components and materials

The antenna consists mainly of aluminum, in the event of disposal, conferred the scrap to a specialized disposal center, in compliance with the requirements of local law.

