VERTICAL HF MULTIBAND ANTENNA 80 – 6M BY CT7BOR

Technical details:

- Number of turns: 136
- Wire diameter: 1.78 mm (Copper HO7VU 2.5mm stripped)
- Spacing between turns: 2.0 mm
- Total length of the spool: 512 mm
- Tube diameter: 40 mm (make a thread with a 3.75 pitch).
- Connection type: Selector via collar with banana plug chassis
- Top connection: M10 stainless steel spacer
- Bottom connection: M10 stainless steel bolt for ground
- Purpose: Multi-band RF use with moving plug adjustment

This manual describes the construction of a multiband vertical RF antenna with adjustable coil.

Materials:

- 40 mm PVC pipe, ~65.5 cm long with high-pressure caps.
- Wire spool H07VU 2.5 mm² for stripping, total length 17.09 m, spacing of 2 mm between the turns.
- 5.60 m radiant stainless steel telescopic strand, adjustable according to the selected belt.
- Connection via M10 stainless steel bolts and eyelet lug to ensure good RF contact.
- Band selector via banana plug and sliding collar on the spool.


Lexman
H07V-U 1x2,5 mm² 20m
SIVAL SGS PT19/07060 PVC D 40 x 3.0 -B- EN 1329 17:03 46324 N.7


D 40 x 3.0 -B- EN 1329


5. 6m

PLAN

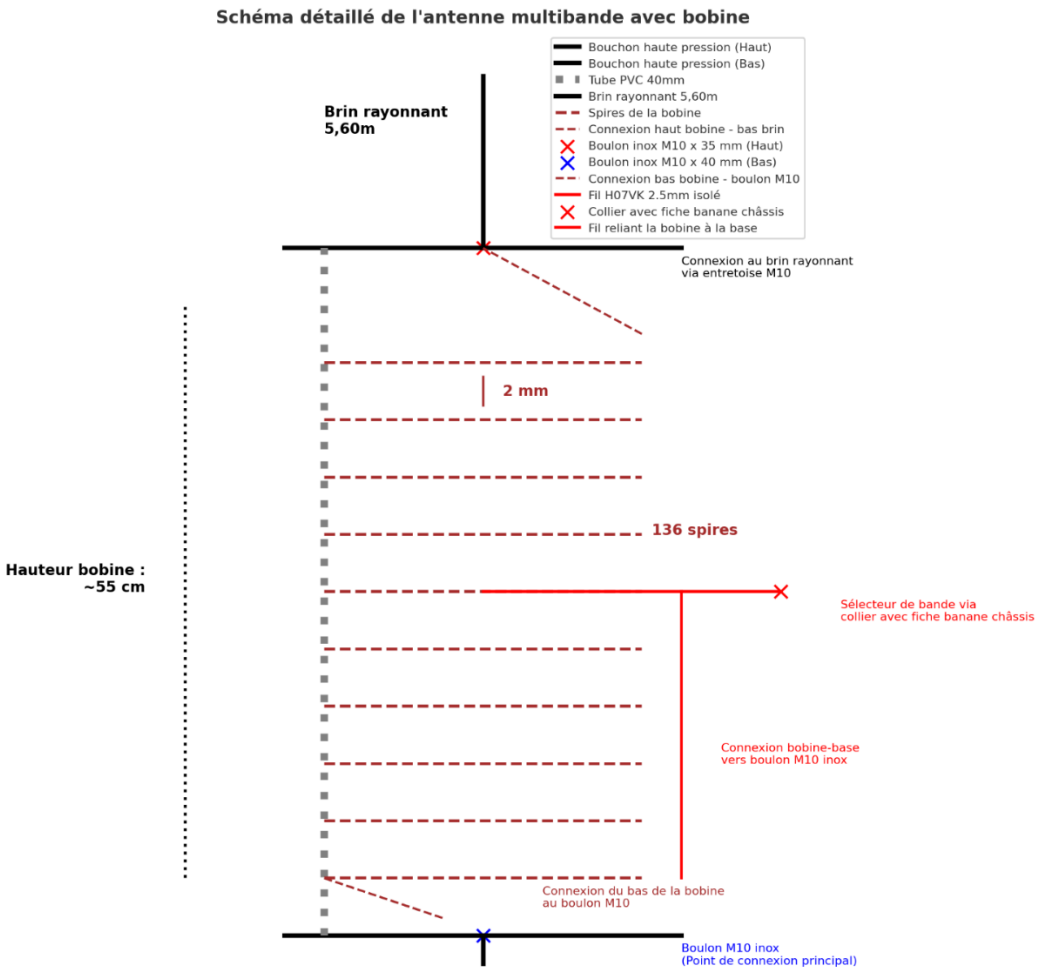
Schéma détaillé de l'antenne multibande avec bobine
Bouchon haute pression (Haut)
Bouchon haute pression (Bas)
Tube PVC 40mm
Brin rayonnant 5,60m
Spires de la bobine
Connexion haut bobine - bas brin
Boulon inox M10 x 35 mm (Haut)
Boulon inox M10 x 40 mm (Bas)
Connexion bas bobine - boulon M10
Fil H07VK 2.5mm isolé
Collier avec fiche banane châssis
Fil reliant la bobine à la base
Brin rayonnant 5,60m
Connexion au brin rayonnant via entretoise M10
2 mm
136 spires
Hauteur bobine : ~55 cm
Sélecteur de bande via collier avec fiche banane châssis
Connexion bobine-base vers boulon M10 inox
Connexion du bas de la bobine au boulon M10
Boulon M10 inox (Point de connexion principal)

RADIATING STRAND ADJUSTMENT AND POINTS ON THE COIL

Bande	Fréquence (MHz)	Longueur 1/4 d'onde (m)	Spires utilisées	Longueur du brin rayonnant (m)
80m	3.65	20.55	136	5.6
60m	5.3	14.15	93	5.6
40m	7.1	10.56	69	5.6
30m	10.1	7.43	49	5.6
20m	14.2	5.28	34	5.28
17m	18.1	4.14	27	4.14
15m	21.3	3.52	23	3.52
12m	24.9	3.01	19	3.01
11m	27.2	2.76	18	2.76
10m	28.5	2.63	17	2.63
6m	50.5	1.49	9	1.49

PS: You can also put a round lug just at the bottom of the strand or you can connect the banana plug

(normally connected to the collar) on it to go above 20m by adjusting the strand to the value of the 1/4 wave of the band where we want to go.

RADIAL COUNTERWEIGHT

I use 12 Radians which are along the railing of my very discreet balcony.

12 radians (4x 5.35m, 4x 2.67m, 4x 1.33m)