



The Hentenna

The Japanese
"miracle" wire*

Field report by OE9HRV

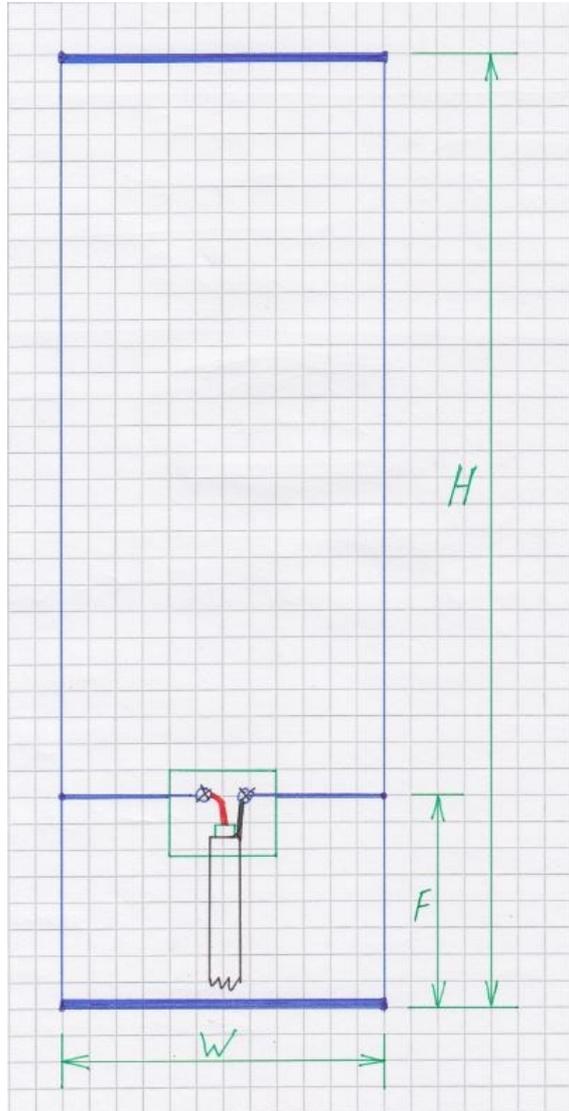
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- Many resources are available on the Internet for constructing the antenna for the amateur radio bands
- Main features: 3 dBd gain, low radiation angle, wide bandwidth

Antenna layout



Dimensions:

Height (H) = $1/2$ lambda

Width (W) = $1/6$ lambda

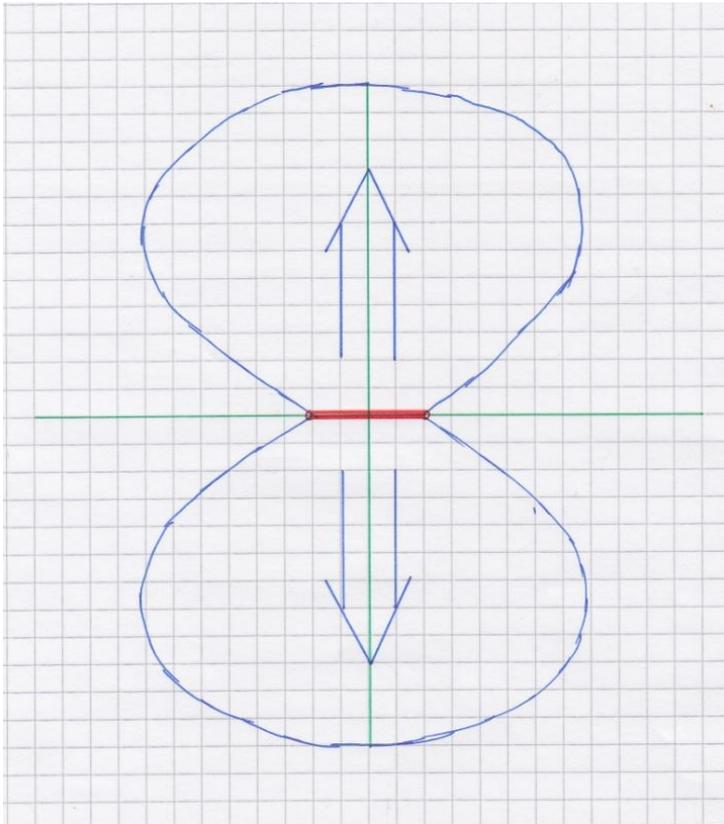
Feedpoint (F) : $1/10$ from
bottom element

about 60 Ohm +-

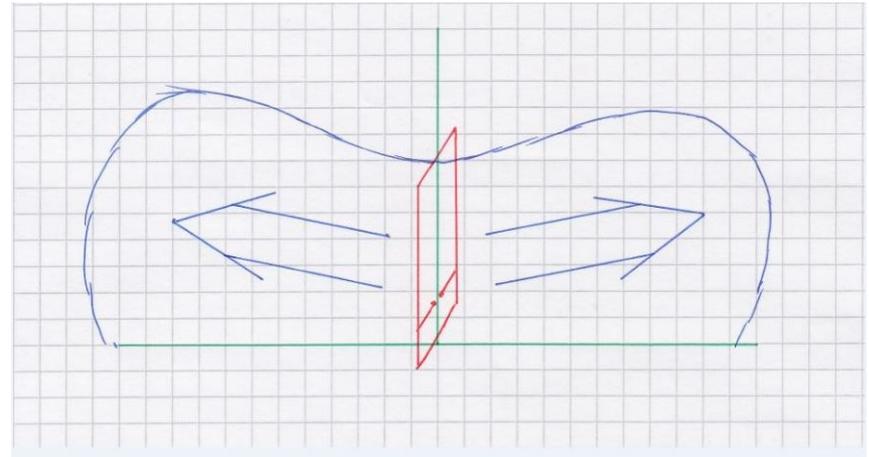
SWR 1:1.4

Electrical properties

Azimuth

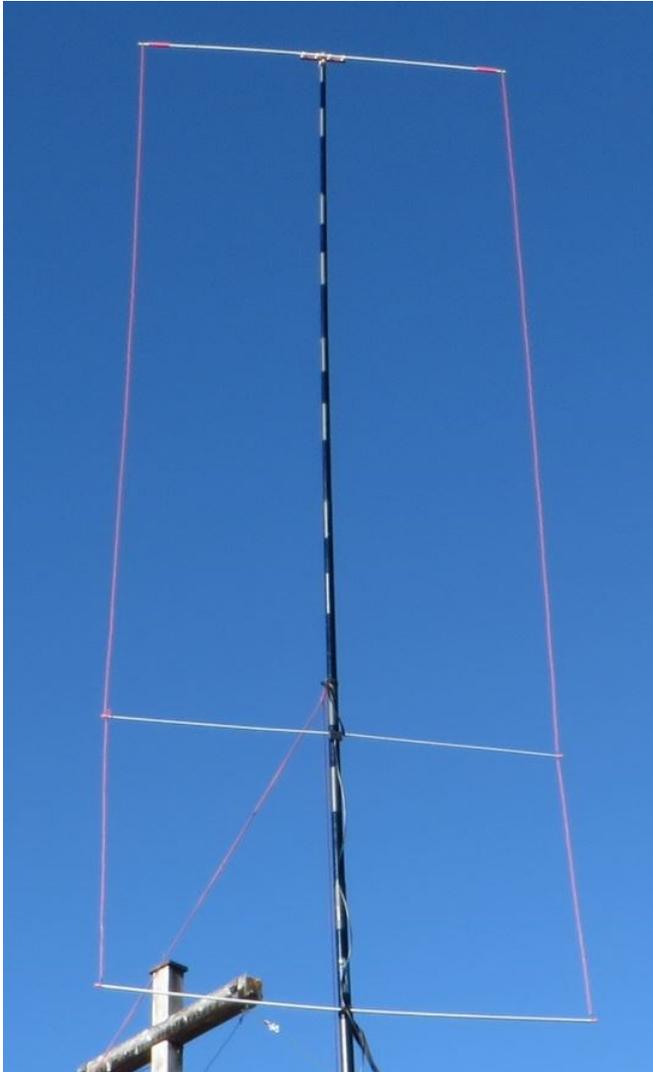


Elevation



Elevation angle is about
13 degrees, radiation
is horizontally polarized,
good for DXing!

Example design for 28 MHz



Dimensions:

Height (H) = 526 cm

Width (W) = 175 cm

Feedpoint (F) : 120 cm

Materials:

Three aluminum tubes
(12 mm and 6 mm)

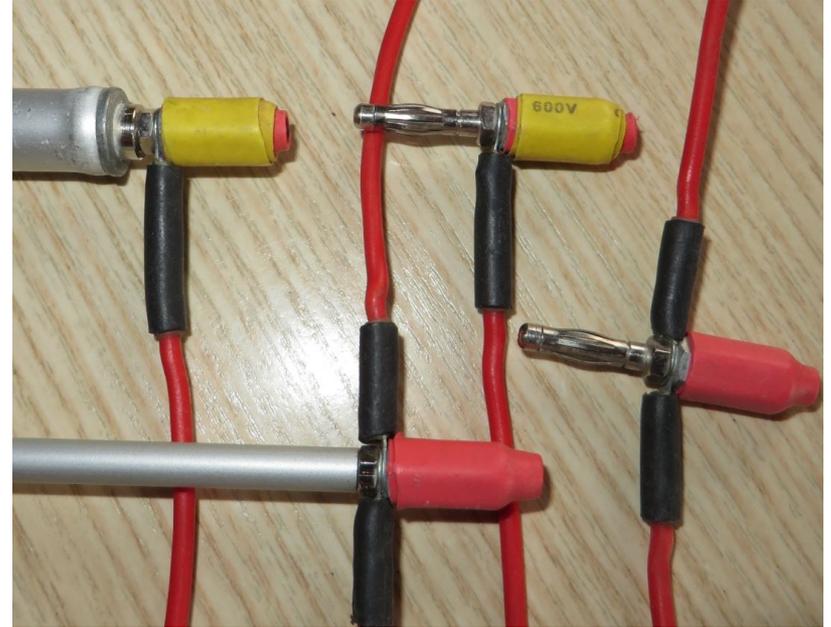
Copper stranded wire
(1.5 mm²)

Telescopic mast (12m)

My homebrew design



12 mm aluminium tubes
assembly banana jacks



banana jacks
with copper
stranded wire

My homebrew design

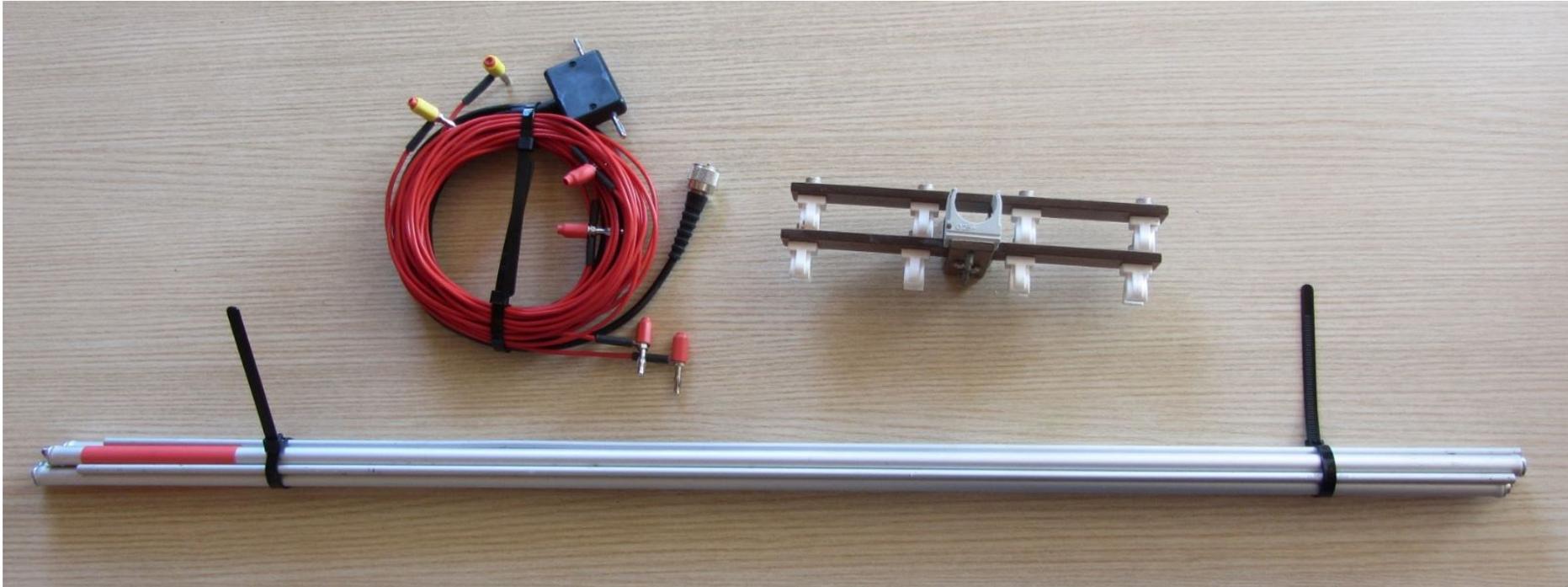


Feedpoint
(aluminum tubes 6 mm)



Mast attachment

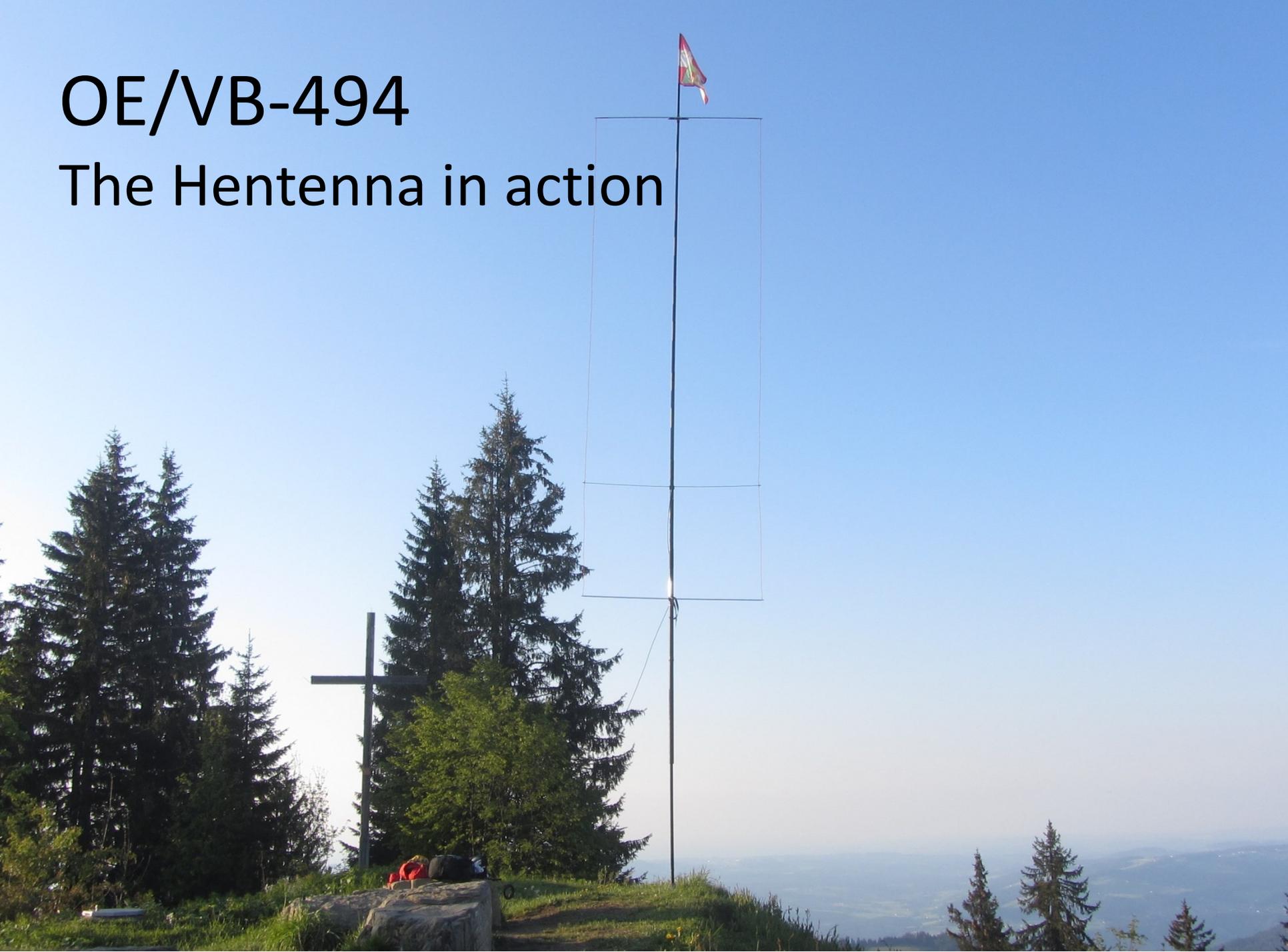
All components, ready to go



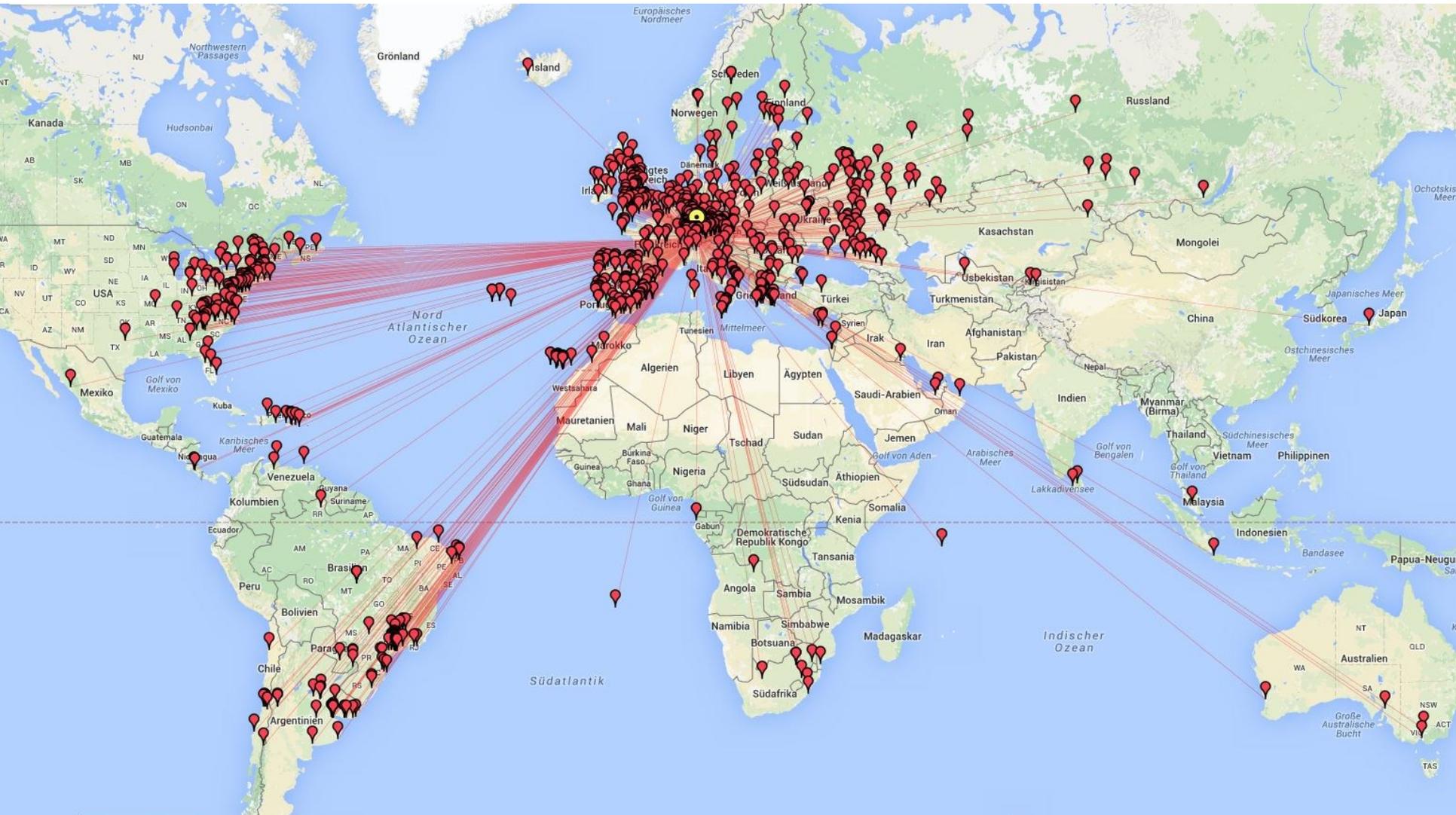
weight is 1.1 kg + fibreglass pole

OE/VB-494

The Hentenna in action



Results for the 10m SOTA challenge



OE9HRV/P - JN47UI
<http://www.opencontest.org/qso-map>

Hentenna vs Dipole

Simultaneous activation of two summits:

OE9HRV/P
on OE/VB-487
1537m ASL

HB9BIN/P
on HB/BE-102
1382m ASL

10m Hentenna
KX3 and
amplifier
150 watts

10m full-sized
rotary dipole
6m above ground
FT-857D
100 watts

Time	Call	Band	Mode	Notes	OE9HRV RST geg.	OE9HRV RST erh.	HB9BIN RST geg.	HB9BIN RST erh.	DXCC
12:53z	US4IGH	28MHz	SSB	Sergei	57	58			UR
12:54z	PP5NY	28MHz	SSB	IKE	55	56	59	57	PY
13:03z	UT3MA	28MHz	SSB	Valery	57	57			UR
13:08z	VE1WT	28MHz	SSB	Phill	44	55			VE
13:11z	UR8MG	28MHz	SSB	Vlad	55	57			UR
13:33z	WX3B	28MHz	SSB	James	58	57			W
13:34z	K2TTT	28MHz	SSB	Jay	57	58			W
13:36z	AC1Z	28MHz	SSB	Bob	55	57			W
13:37z	K1ZZ	28MHz	SSB	Dev	59	59	59	55	W
13:48z	WA5FWC	28MHz	SSB	Gary	56	55	55	57	W
13:53z	VA1SEA	28MHz	SSB	Tom	59	59	55	56	VE
13:59z	K4MIJ	28MHz	SSB	Ralph	59	58			W
14:01z	W1OW	28MHz	SSB	Will	59	59	55	57	W
14:05z	VE3LOE	28MHz	SSB	Ralph	57	58	57	56	VE
14:15z	W4KA	28MHz	SSB	David	57	57			W
14:18z	N0FW	28MHz	SSB	Peter	59	59	55	55	W
14:24z	KC1CCV	28MHz	SSB	Den	55	55			W
14:27z	KC8HF	28MHz	SSB	Glenn	59	58			W
14:29z	KD4WKP	28MHz	SSB	Danny	57	58			W
14:31z	KD2FND	28MHz	SSB	Rich	58	59	55	55	W
14:35z	K4MZR	28MHz	SSB	Gregg	59+	59	55	45	W
14:42z	KW4FF	28MHz	SSB	Albert	58	58			W
14:45z	N4EX	28MHz	SSB	Rich	59	58	55	44	W
14:49z	VE2FRP	28MHz	SSB	Rigo	59	58	55	42	VE
14:59z	WA2BJN	28MHz	SSB	Rich	57	58			W
15:04z	KB1WSR	28MHz	SSB	Ray	59+	59	57	43	W
15:10z	KB1RJC	28MHz	SSB	Herman	57	58			W
15:15z	VA3VET	28MHz	SSB	Bob	55	55			VE
15:19z	KB1RJD	28MHz	SSB	Merle	56	58			W
15:23z	N4DXS	28MHz	SSB	Stephan	57	57			W
15:37z	N1GB	28MHz	SSB	George	58	59	53	33	W
15:46z	N2BTD	28MHz	SSB	Brian	55	55			W

Result:

Time	Call	Band	Mode	Notes	OE9HRV RST geg.	OE9HRV RST erh.	HB9BIN RST geg.	HB9BIN RST erh.	DXCC
	average				58	58	56	50	

- The Hentenna was as much as 3 S units stronger compared to the dipole...

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Wed 15:47 HB9BIN/P on HB/BE-102 28.477
          33 IN VT (Posted by N1GB)
Wed 15:46 OE9HRV/P on OE/VB-487 28.477 ssb
          with hb9bin/p on HB/BE-102, still on (Posted by DJ5AV)
Wed 15:46 OE9HRV/P on OE/VB-487 28.477 ssb
          59 in Vermont (Posted by N1GB)
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- Jürg HB9BIN was only able to make contacts with 13 out of the 32 DX stations with his dipole. He couldn't hear the other 19 and they couldn't hear him.

The portable
Hentenna is
mechanically
feasible up to
the 15m band



Hentenna: Pros and Cons



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- + Outperforms all other portable solutions
- + Excellent DX antenna
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I strongly recommend the Hentenna because working with it is lots of fun!

**Thank you for your
attention**

