

Von: Philippe Vandekerckhove
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An: info@wimo.de
Betreff: XR-100 field test

Hello,

We had the opportunity today to do a severe field test with the XR-100 mini dipole. The antenna was purchased at Wimo by ON8PD who was at my place for testing.

the equipment:

- FT 817 ND with 5 watts on external battery.
- DQ9SQ fiber pole 33ft (extended up to 25 feet for securing the small XR-100 support)
- Old 6 meter fishing pole extended up to 4 meter (also for holding the XR-100 support)

Some small observations:

- The antenna dips on all bands as promised. Even at very low heights (f.e. 20 meter band only at 2 meter above ground level the antenna dips nicely in the centre of the amateur band with SWR as low as 1,1:1.
- The SWR settings can change little due to close objects, but so far while testing all the adjustments were simple and most of the time spot on.
- On lower bands the antenna radiates as NVIS antenna when only 7 meters up, but still with only 5 watts we made european 500km contacts on 40 meters f.e.
- On lower bands the signals are somewhat -2 to -3 S-points against a full size dipole at 55feet on a tower. Still a good compromise if you ask me.
- When we talk about the higher bands good dx is possible when antenna gets at 1/2 wavelength. We did some nice 2000km qso with Spain and Balkan with 5 watts on 17 and 15 meters.
- Not seen in the manual or text, but when you take away the coils and use only the whips, the antenna works very well as a normal 1/2 wavelength dipole at 50 Mhz, 144 Mhz and even 435 Mhz.
- Fully extended the dipole (without coils) dips at 50.400 Mhz and in SSB part SWR is 1:2 to 1:3 to 1. So very usable and save to operate SSB on 6 meters (with longer telescopic whips f.e. MFJ it would be possible to tune antenna from 6 to 12 meters without coils as full size dipole, but antenna would be larger to setup).
- Extended to about 47cm each side we had a spot on 145 Mhz dip.
- Fully collapsed, the whips and therefore the small dipole will resonate at 435 Mhz. For 430, the SWR is to high, but from 435 to 440 no problem to obtain dip.

Further the antenna is well made. You need to be careful when collapsing or extracting the whips. They can bend if you are too brutal.

A big plus is the portability of the antenna, only 51 cm long and fits inside a briefcase. Together with a small sized fishing rod you can travel very light and put up a dipole up to 12 feet or 4 meters, and you can extend the same distance from a window or balcony in a hotel to use the antenna.

In a vertical position, the antenna does very well and acts as vertical dipole, better for low heights with better take-off angles.

We tried a vertical dipole setup on the 4 meter fiber mast and put it outside a window, worked well...

When the antenna is high enough (1/3 wavelength above ground) the direction effect becomes really noticeable. At 7 meters on the DK9SQ fiber mast, we had 3 to 4 S-points when antenna was turned to or 90° off the opposite station.

On lower bands, the antenna was too close to ground and acted more omni ...

Final result, we think that for people that travel a lot, need a small package that still radiates and works good in receive, the XR-100 can be a solid solution. But always keep in mind that the antenna is base loaded with coils, and base loading is not the most efficient way to resonate, however it makes the antenna most handy for weight and small setup.

Maybe the BUDDIPOLE is a little better in results, has more overall length and center loading of the elements with higher Q coils and will result in better signals. But this XR-100 is a smaller and lighter package, easy to setup in a very small place. So it will come down to the idea of what is most important.

I personally will keep always in mind that the antenna must be good, because with QRP power you already lose 12 dB against a full 100 watt rig.

Next the smaller the antenna, the less your signals will go "out". But apart from that, taking into account we now are in the dip of a sunspot cycle, I must say the XR-100 surprised me as a good /P package deal for a reasonable price tag ...

Sincerely,

ON4VP.

ps, photos and text can be published on the Wimo website. Just please send a small note if so.



With the RX-100 decent reports on 40 meters however -2 to -3 s-points over a full size dipole. Still, with 5 watts 750km is no problem...



XR-100 dipped on 6 meters, at 5 watt SWR is FB in SSB segment



ON8PD setting up the 6M dipole XR-100 next to this motorcycle on a 25ft fiber pole



More close-up view of the XR-100 (with 20M coils) in the 25ft fiber pole.



All the XR-100 coils and the two telescopic whips next to the Yaesu FT-817ND





Close-up view of the feedpoint.
2 3/8 fittings for coils and whips.
PL 239 connection for coax.



With 2 simple straps the small
RX-100 base support is secured
against the Fiber pole

When the whips are full
collapsed the dipole resonates at
434 Mhz, so even UHF is possible



Whips collapsed for 144 VHF.



Making a 1350 KM QSO on 6M with 5 watt and
the RX-100 dipole at 25ft (fiber pole)



When using no coils the 2 whips fully extracted will
dip the dipole at 51 Mhz. Very usable for DX or 6M
repeaters



Nice reports on 17m



Good signals on 17 meters (with 20M coil)



Good signals on the 20M band



17M band setup using the 20M coils and little collapsed whips for adjustment.



6 Meter configuration (2 telescopic whips only at 25 feet on 33ft telescopic fiber mast)



ON8PD holding the 25ft mast
6 meter Dipole configuration



QRV on 20 meters Nvis for PSK31
DK9SQ fibermast (with RX-100 up to 7m)



