

Roelof Bakker
Esdoornlaan 11
4334 CC Middelburg
The Netherlands

Date: January 30, 2007

The antenna has been tested on the air and works fine. Installation is straightforward and instructions can be found in the drawings.

Take care to connect the power feed unit the right way. Otherwise the 12 V at the antenna port might damage the input circuits of your receiver.

In my location it is mounted on a four metre high non conductive mast, to get clear of the bushes in my garden. I have had excellent results in the open field with a height of only two metre. I am using RG58 cable and this works fine for me. Other type coax cable can be used as well. Cable length is not very critical.

Intermodulation performance has been made as good as possible (IP3 > + 30 dBm, IP2 > + 70 dBm) and the output level is set to prevent receiver overload. General signal level depends on height. The following table gives an estimate of signal strength versus height, measured at a field location.

| Height cm | Relative signalstrength |
|-----------|-------------------------|
| 120 | 0 |
| 240 | + 4 |
| 360 | + 6 |
| 480 | + 8 |

If you experience any overload, adjusting height might help.

You can use any power supply between 10 and 15 volts. At 12 volt, current draw is 45 mA.

A RF-isolating transformer has been added to the PFU, which might help in case of common mode problems.

Best regards,
Roelof

P.S. The use of an earth rod, as shown in the drawing is not always necessary. In my location it helped quite a bit in reducing local noise, which was received on the shield of the 15 metre long feed line inside the house. Omitting the use of a mains earth connection at my receiver made 7 dB (less) difference in local noise level.

The *pa0rdt-Mini-Whip*© manual

The *pa0rdt-Mini-Whip*© is an active antenna for reception in the 10 kHz to 30 MHz frequency range. The *pa0rdt-Mini-Whip*© is connected by means of a coaxial cable with an impedance of 50 – 100 ohms. The *pa0rdt-Mini-Whip*© requires a supply voltage of 12 - 15 volts. Current draw is 45 mA @ 12 V. A small wall wart power supply is ideal.

Power is fed to the *pa0rdt-Mini-Whip*© via the coaxial feed line. A fully protected Power Feed Unit couples the power through the coaxial feed line to the *pa0rdt-Mini-Whip*©. A second coaxial cable couples the signal to the receiver. **Take care to connect the power feed unit in the proper way. If not, the 12 V at the antenna connector might damage your receiver.**

Specifications:

pa0rdt-Mini-Whip©:

Frequency range: 10 kHz – 30 MHz

Power: 12 – 15 volts at 45 mA.

Second order output intercept point: > + 60 dBm.

Third order output intercept point: > + 30 dBm.

Connector: BNC 50 ohm

Dimensions:

Length: 100 mm, diameter: 40 mm

Power Feed Unit:

Reverse voltage and short circuit protected.

RF-isolating transformer included.

Nominal current: 100 mA

Drop out current: 200 mA

Self restoring fuse. Remove supply voltage after short.

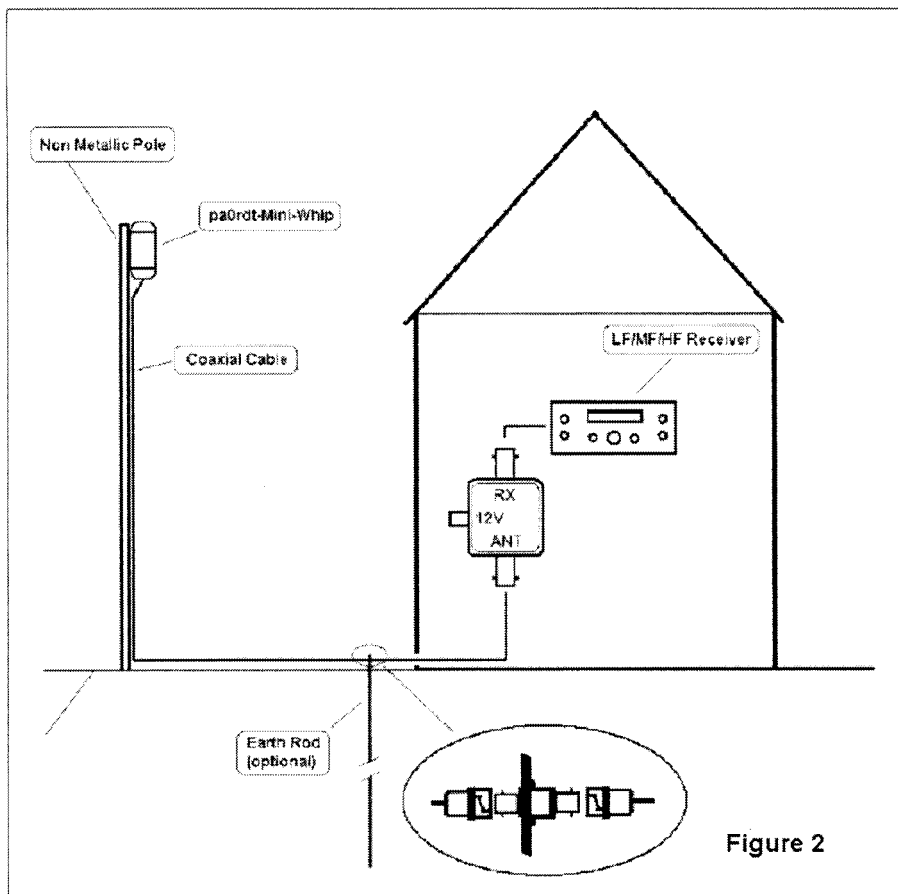
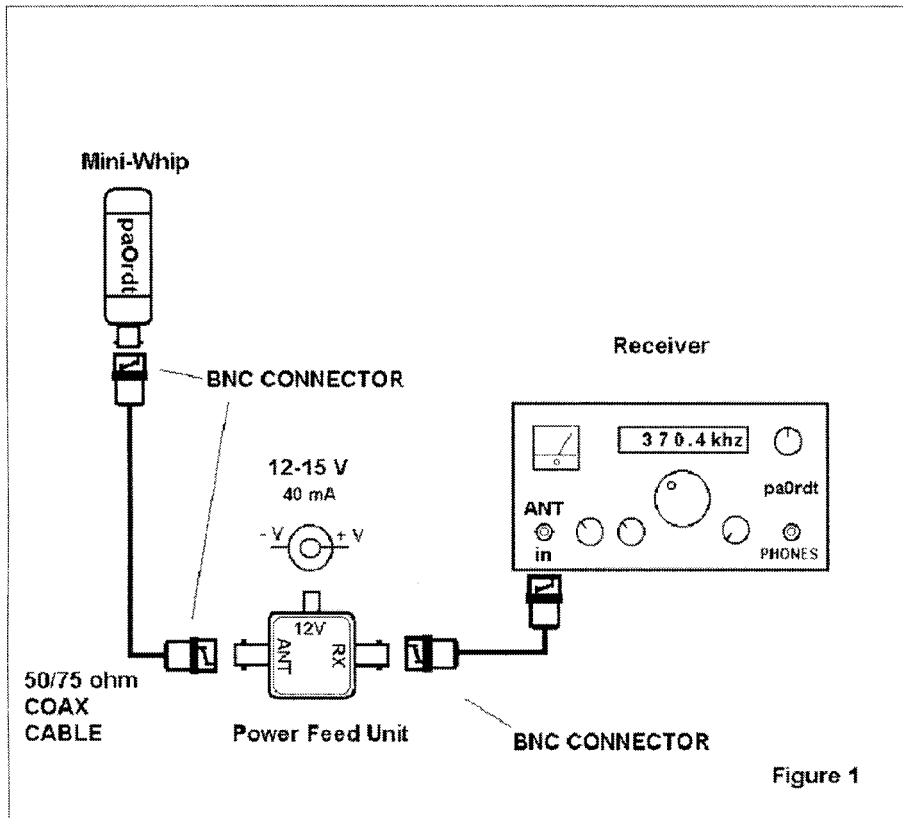
Connectors: RF: BNC 50 ohm

Power: 2.1 mm DC connector, centre pin is V+

Dimensions: 65 X 55 X 35 mm.

Feed line: 50 – 100 ohm coaxial cable up to 100 metre long.

The *pa0rdt-Mini-Whip*© is supplied with Power Feed Unit, but without power supply and interconnecting cables.



pa0rdt-Mini-Whip© and Power Feed Unit circuit diagram.

