

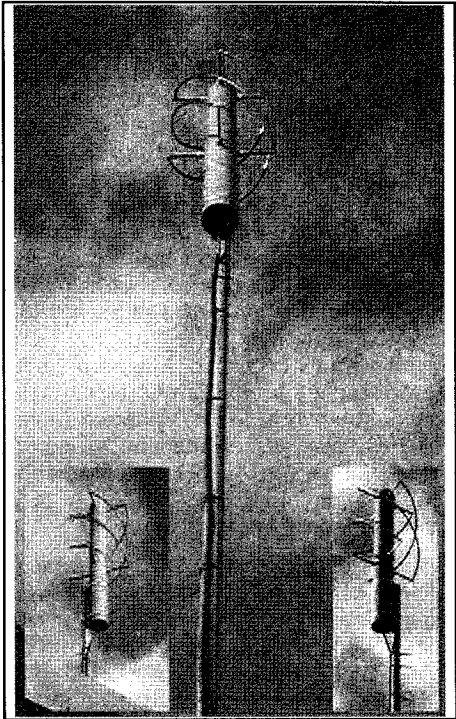
**Fig 5: Polar diagram for turnstile antenna.**

ment use of selective pre-amplifier for frequency range of 137MHz, preferably using bipolar transistor. Experience has shown that summer storms have a rather bad impact on MOS-FET transistors. In an environment with industrial interference it is often desirable to use a band pass helix filter in front of the pre-amplifier.

## 6.

### Power supply for the receiver

The receiver requires a stabilised power supply adapter with a voltage of 9 - 12V. It is highly that you pay special attention to the selection of a power supply adapter. If you have an oscilloscope, look at it's output when on load at 150mA and check that there is no ripple. The low-frequency amplifiers IC2 and IC6 are fed directly from the adapter. The other supply voltages, 5V for receivers circuits and 5V for synthesiser and microprocessor, are stabilised by IC5 (LM7805). The supply voltage for the analogue part of the receiver is also isolated by choke L6. The input of the power supply is protected against reverse polarity by diode D2. Bridging jumper JP2 enables the use the feeder cable to supply the antenna pre-amplifier or Meteosat converter. This requires a higher capacity power supply



**Fig 6 : General views of Quadrifilar Helix antennas.**

adapter, for connection of the OK2XDX Meteosat converter [16], I recommend a power supply adapter of 12V/500mA.

## 7.

### Construction of the receiver

Building the receiver is very simple, it can be done by any beginner, who has a knowledge of rf techniques, and is able to use a multimeter. If care is taken there will be no need for special rf measurement equipment. The secret of success is to put the correct value components in the right place on the printed circuit board and solder them in properly.

If you build the receiver from the EMGO kit you will have all of the components