

# The helmet antenna

## A multifeed Luneberg antenna by Dr. Farrag

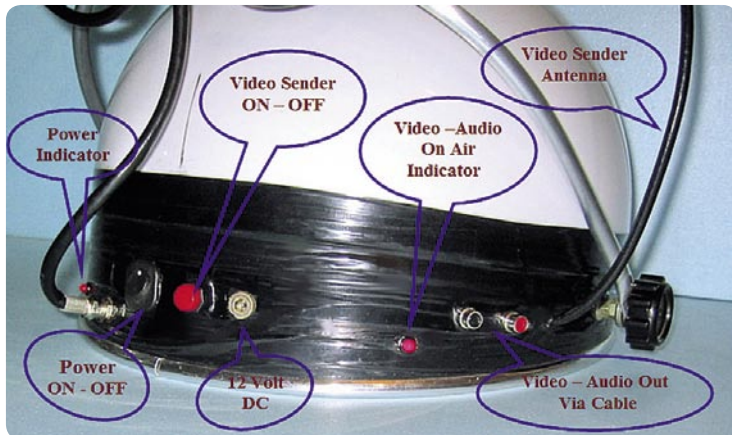
**TELE-satellite readers** may already know Dr. Farrag: a few issues ago (in no. 191, to be precise) we reported on the globe antenna of the Egyptian medical doctor. This antenna was based on the principle of the Luneberg lens, which will be dealt with in the subsequent report.



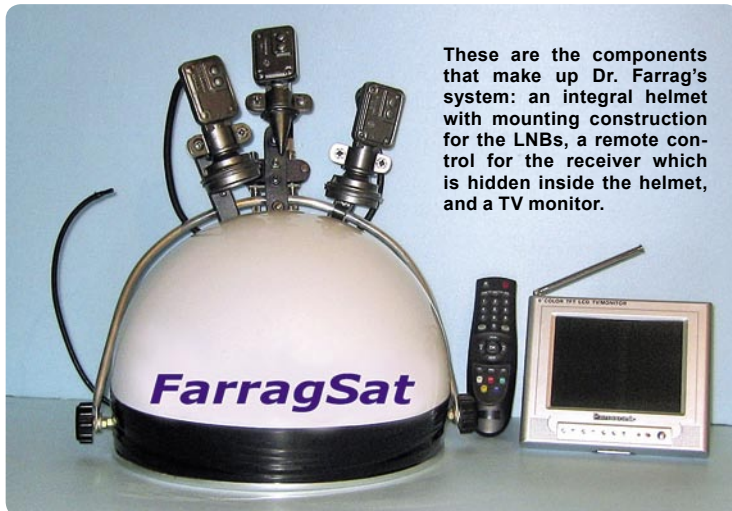
A close-up of the mounting construction for several LNBS

Dr. Farrag has not stopped experimenting and finally discovered the motorbike helmet. How come? Well, its shape is similar to that of a globe and it has just about the right size. So with a little bit of DIY the LNB was mounted according to the Luneberg lens principle and the whole construction was soon ready for a first test. And would you believe it, Dr. Farrag was actually able to receive NILESAT, ARABSAT and HELLASAT in his hometown of Cairo.

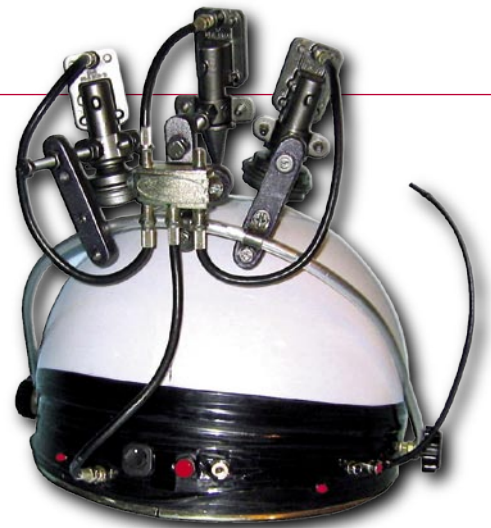
The reception quality is sufficient



Connection panel of the 30 cm helmet dish



These are the components that make up Dr. Farrag's system: an integral helmet with mounting construction for the LNBS, a remote control for the receiver which is hidden inside the helmet, and a TV monitor.



The back of the helmet with the hidden satellite receiver (below) as well as the DiSEqC switch for the three LNBS



Dr. Farrag finetuning his own invention – an integral antenna. Thanks to a built-in video transmitter no cables are required for connecting the antenna to the TV set or inside a car

for regions in which satellite signals with 49 dBw or more are available.

Dr. Farrag has of course further improved his helmet dish and even integrated a satellite receiver into the padded layer of the helmet, thus giving a new meaning to the term 'integral helmet'. With the help of an additional – and of course also integrated – video transmitter he is able to receive satellite signals without wiring the helmet to the TV set. An innovative design for mobile use.



Dr. Farrag with his sons and additional designs of his globe antenna.