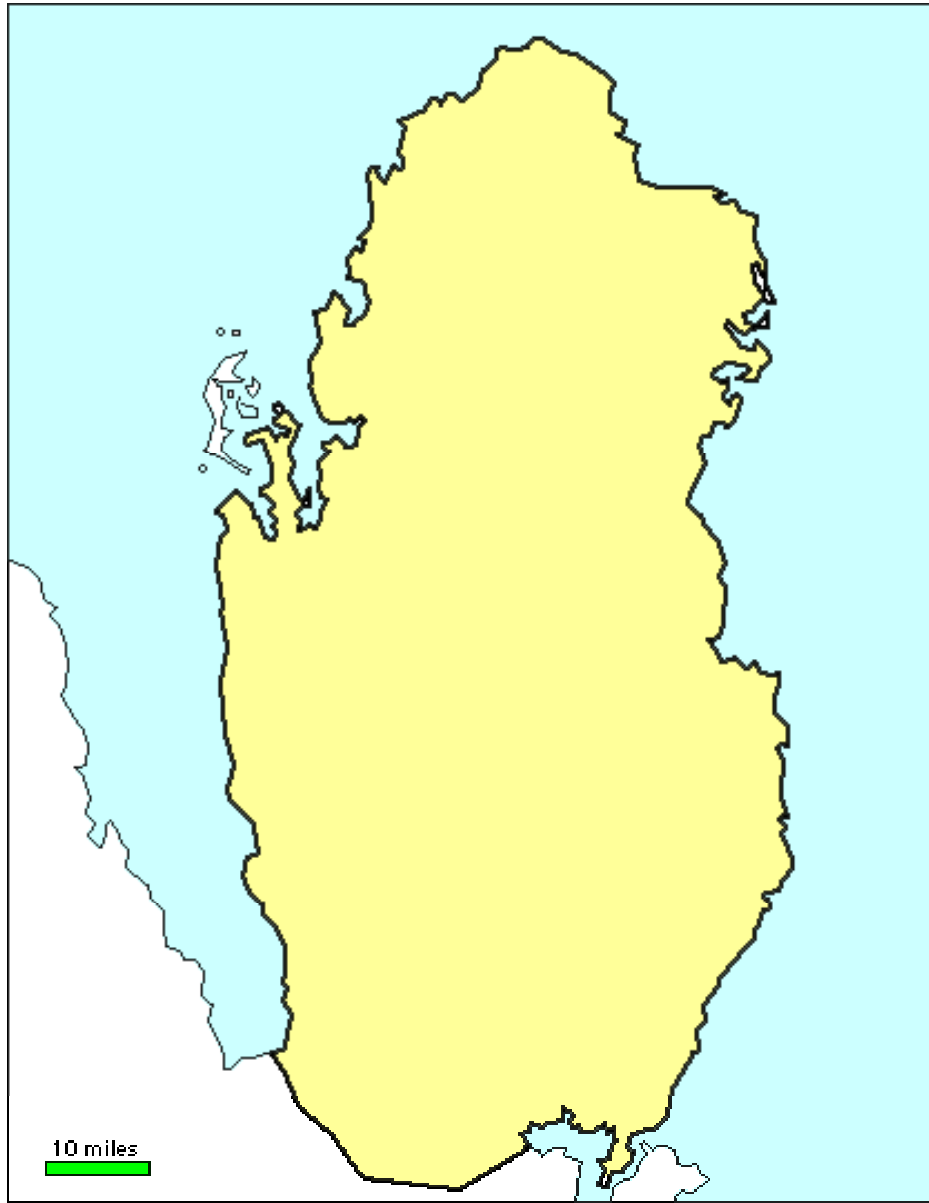


# Camel Tracking



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## **Camel Tracking in Qatar**

**Camels are very mobile animals and sometimes can move more than 100 km or more from base.**

**It is difficult to quickly locate the missing camels without the help of technical equipment.**

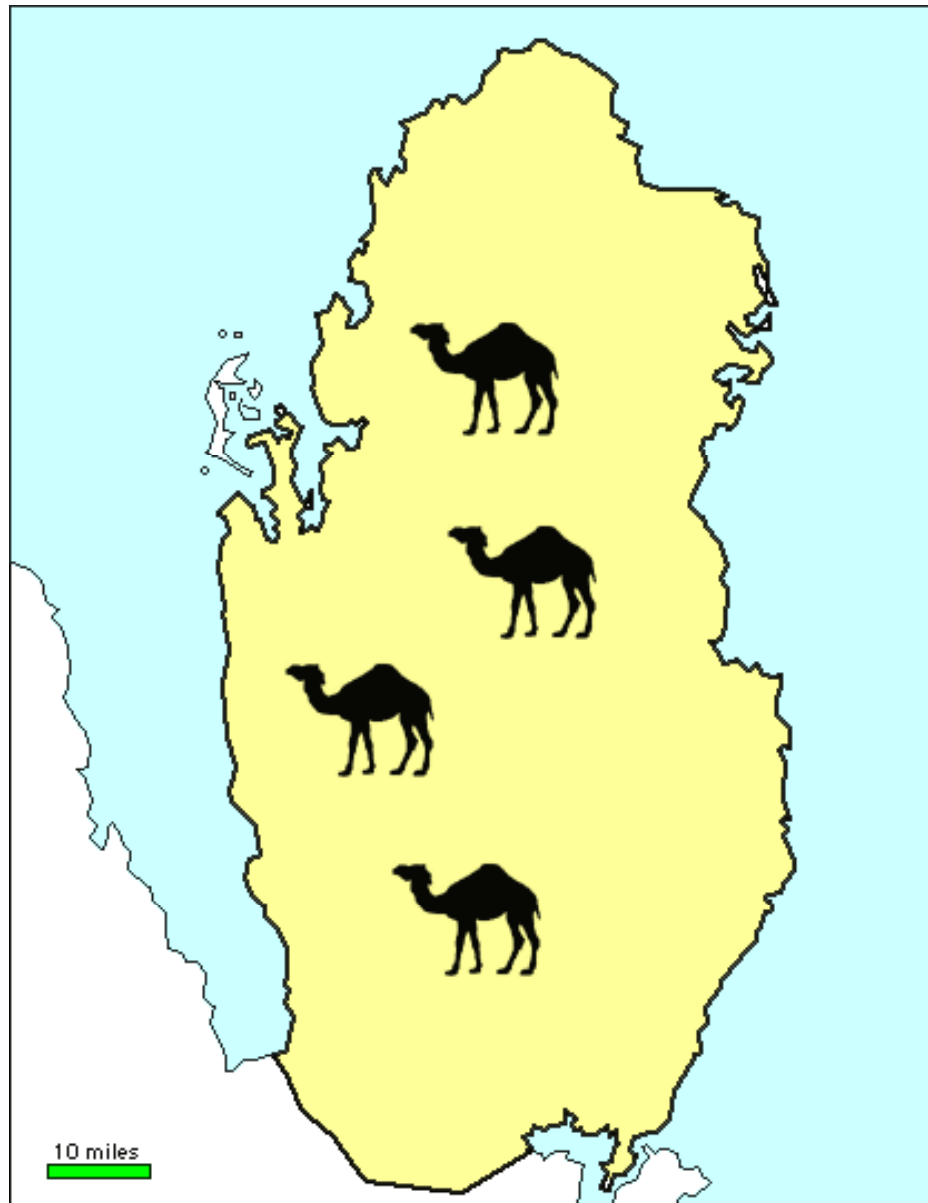
**Human beings use GPS-mobiles. Camels are not able to use it.**  
**The other question is: Who would charge the mobile battery?**  
**The next important difference is, that camels walk longer distances from the transmitters. The radius of a transmitter (GSM 900 MHz) is around 10 km. In the desert there are no relay stations.**

## Camel Tracking in Qatar

**Our system uses VHF-frequencies with a radius of more than 100 km.**

**The tracking system contains a GPS receiver, a VHF-transceiver and a solar powered battery, all controlled with a microcontroller unit. It works self-sufficiently for several months.**

**How does this system work?.....**

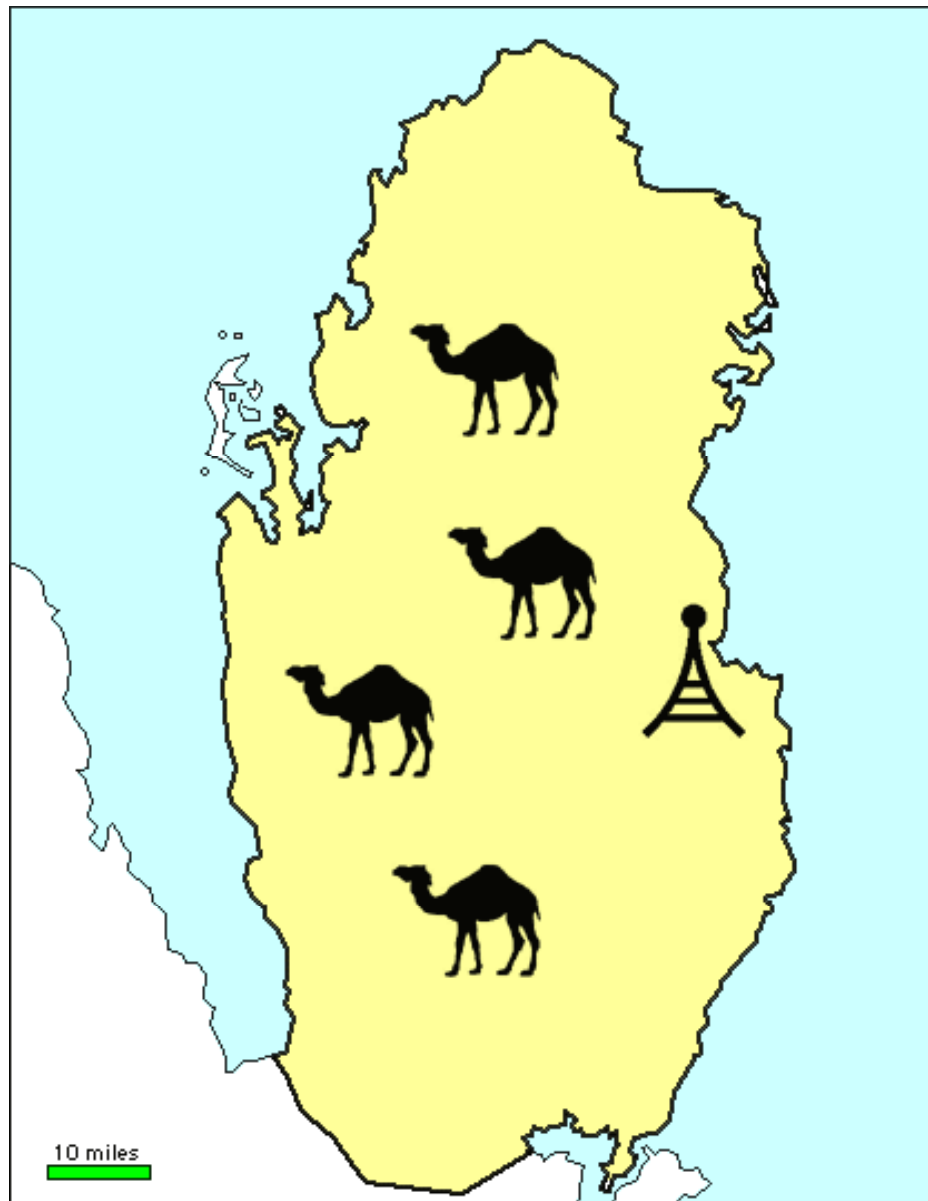


## Camel Tracking in Qatar

First, one needs a VHF transceiver with an antenna on a high rise building or on a tower.

Ideally we recommend that, the equipment is placed in the outskirts of the city.

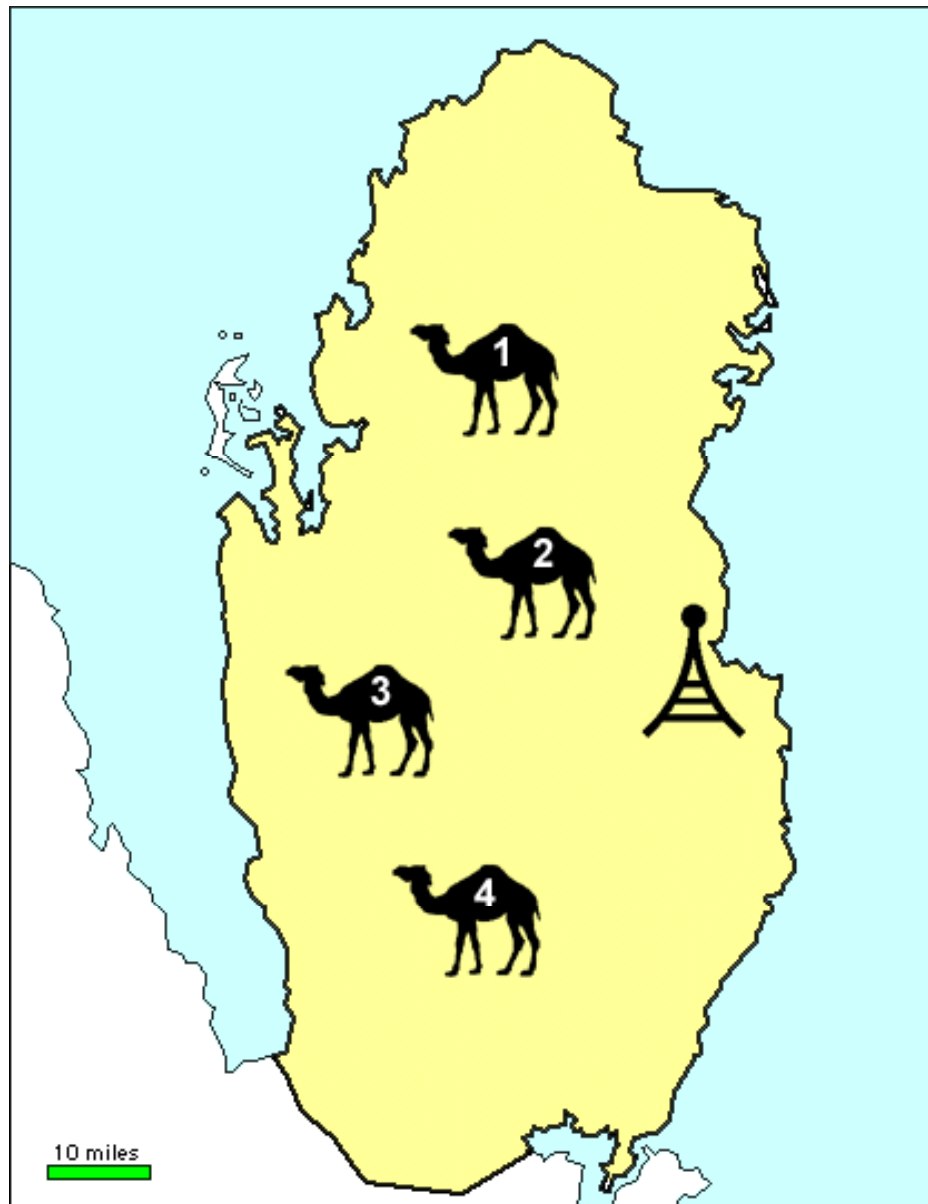
This is to avoid frequency interference from electrical appliances.



## Camel Tracking in Qatar

Assuming the camels have been fitted with their own tracking unit.

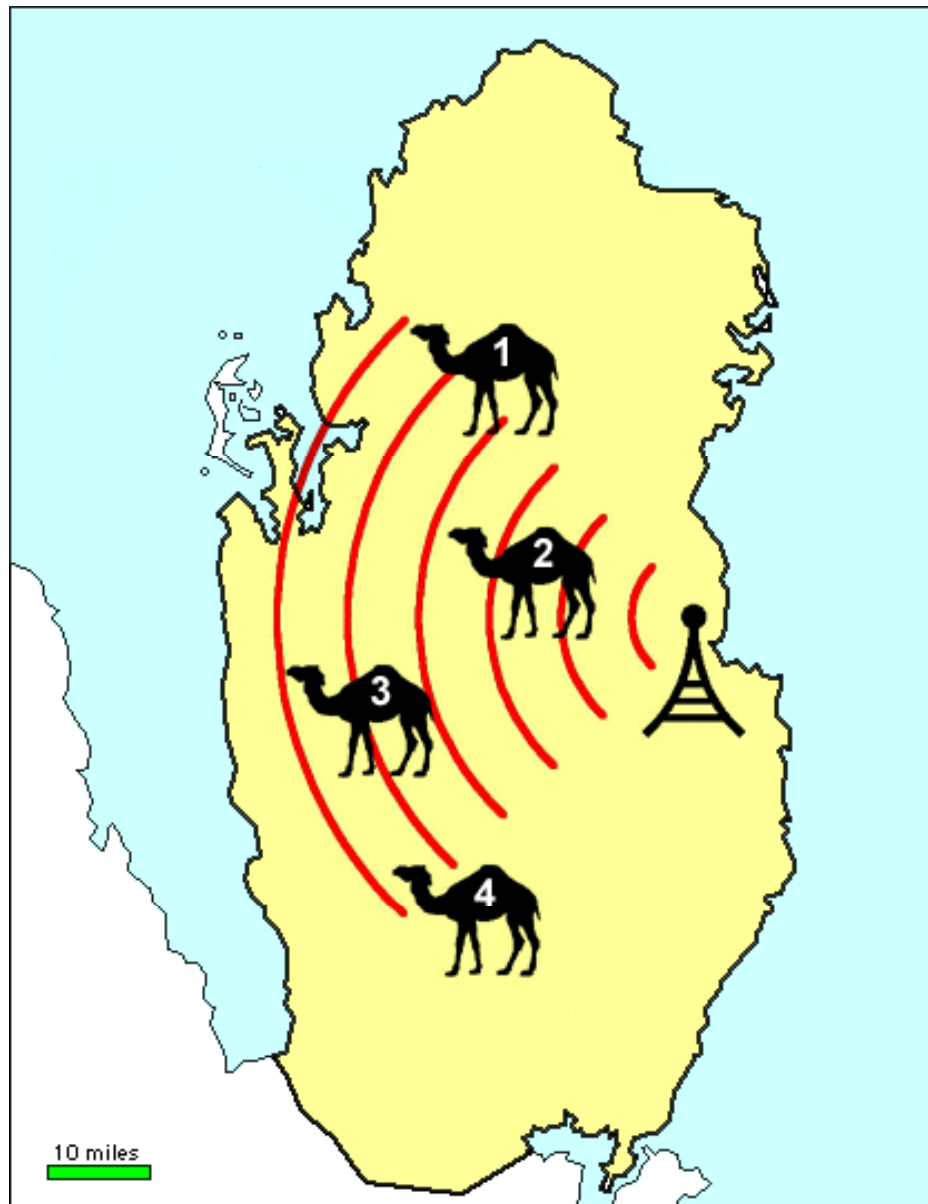
Each unit would have its own unique code to identify each camel.



## Camel Tracking in Qatar

To locate e.g. camel number 3, the code is transmitted from this unit in the desired direction.

In this way one can reach all the camels in that area.



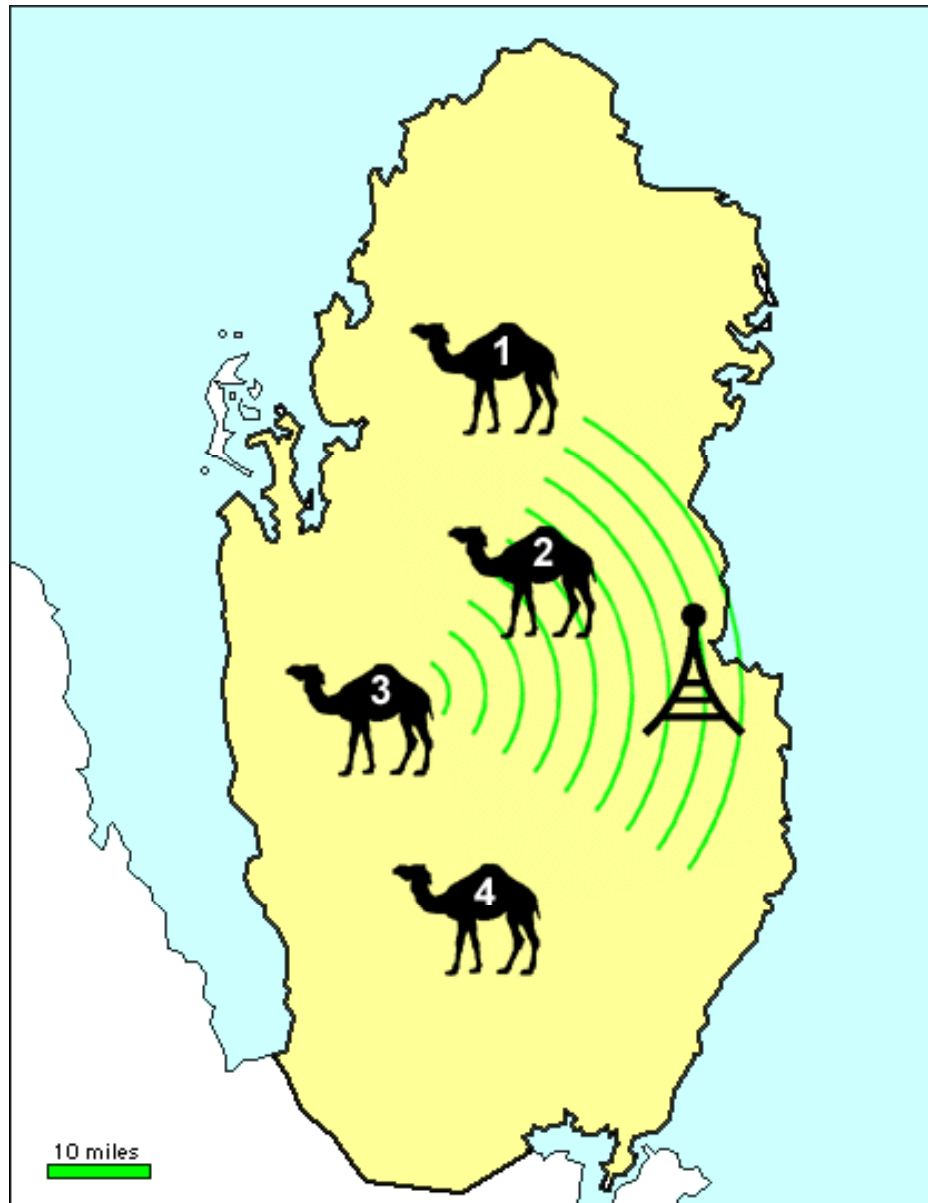
## Camel Tracking in Qatar

The transmitter from the tracking unit of camel number 3 will then respond.

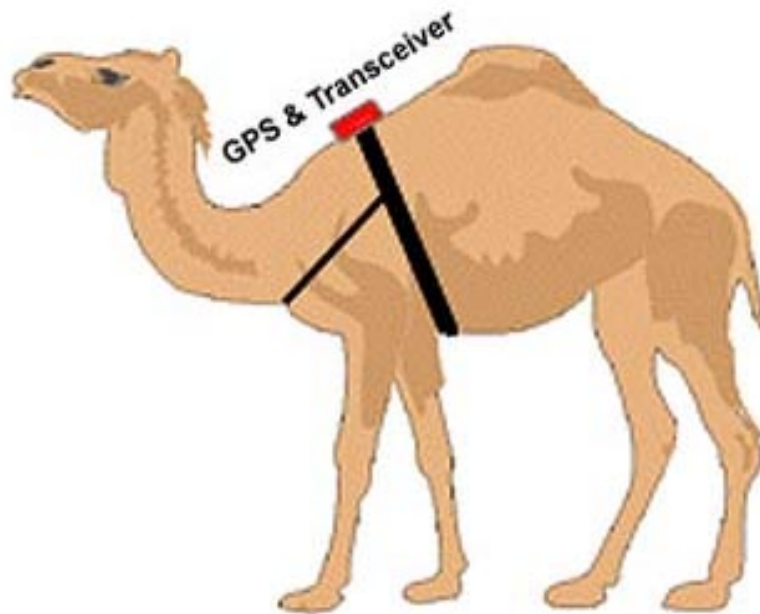
The system will immediately send the stored GPS data from the last position.

The GPS data regenerates several times a day.

The GPS receiver needs a few minutes to get the new data, then the camel transmitter will automatically send the actual position of the camel.



## Camel Tracking in Qatar



The tracking unit is fixed on the back of the camel. In the leather belt is a hidden antenna for the VHF transceiver. The metal box is weather-proof and contains all units.

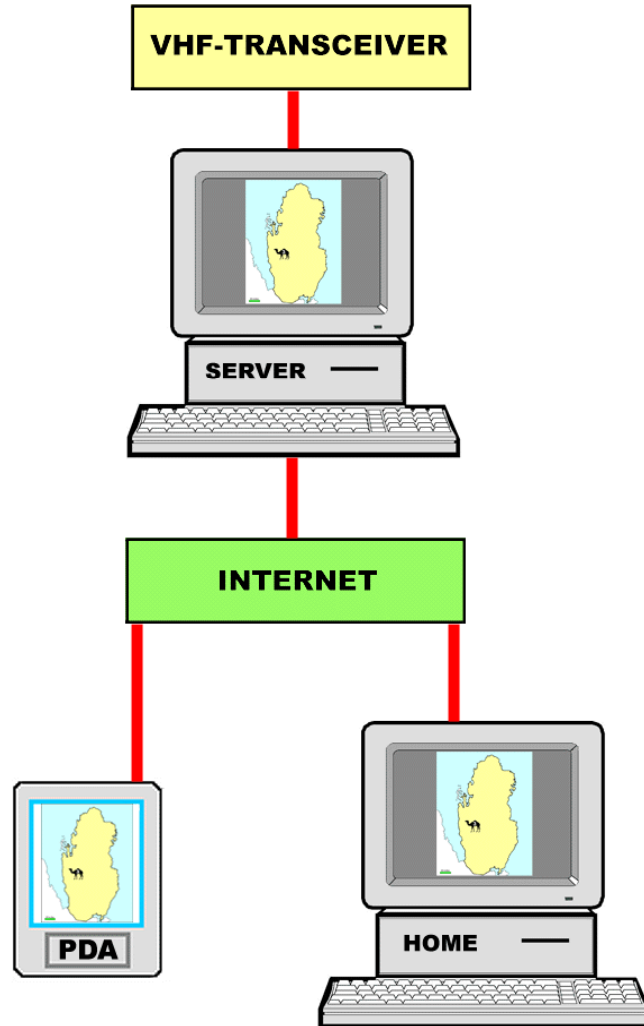
A small window at the top of the case, allows the sun to illuminate the solar panel and the satellite signal reaches the GPS receiver.

In normal circumstances, the system works over a period of several months without maintenance.

The power consumption of the units is optimized. The integrated microcontrolled unit controls all functions.



# Camel Tracking in Qatar



The VHF transceiver transfers the GPS data into a server computer. The GPS program calculates and pinpoints the position of camel number 3.

The server is connected to the Internet. This information is available on any Personal Computer or a PDA.

It is possible to activate the camel tracking unit from any place in the world.

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