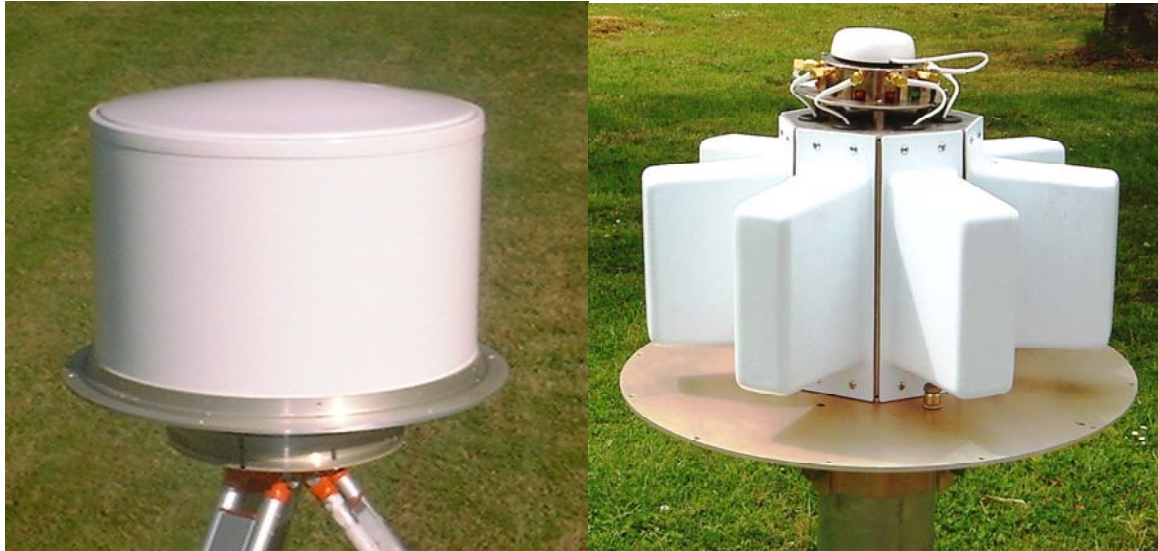


Navtech Systems video links

MicroSector - Solid State Switched Sector Antenna



The **Telenav MicroSector** is a fully automated receiving antenna for microwave signals in the GHz bands.

The **MicroSector** consists of an array of high gain, passive, antennas arranged to provide full 360° coverage in azimuth with an additional up-looking antenna for signals when transmitted from overhead.

The construction shows the seven-segment antenna array, each having approximately 55 degrees (azimuth) by 18 degrees (elevation) beam width yielding approximately 15dBi gain at 2.4 Ghz. Each sector has approximately 5 degrees overlap with control switching hysteresis

For overhead and close in over fly of the aircraft, an up looking antenna with 90 X 360 degree beam provides for a fully hemispherical directional antenna array. Internal, low noise booster amplifiers enable the rf signals to be distributed to the receiver using low loss feeder and subsequent video distribution.

By using the **Telenav** process, which combines the mobiles (GPS) position with the transmitted video, the **MicroSector** will derive the bearing (and range) to where the mobile is transmitting. By selecting the appropriate sector the microwave signals are tracked wherever and whenever there are transmissions on the dedicated frequency.

Being a solid-state system there is no operator intervention required and the **MicroSector** can thus be located at a convenient site for optimum reception of the transmissions. The received video signal may then be linked to where needed by conventional means.



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MicroSector Control Console



The **Telenav MicroSector** Control system decodes the GPS data from the video and derives the bearing from the local position. Display of the mobile's dynamic position information is provided along with other tracking parameters.

The **Telenav MicroSector** is suitable for fixed sites and for mobile applications both marine and land based. Tracking of ship to aircraft, shore to ship, ground to aircraft are all possible with the **MicroSector**.

Using the latest GPS and electronic control technology together with signal switching the **MicroSector** is also capable of dual channel operation such that two independent transmissions on differing channels may be tracked on the same antenna pedestal.

In addition the antenna elements may be configured for **diversity** receiving techniques as used in digital transmission systems.

Azimuth sector selection is derived from the relative positions of the receiving antenna and remote mobile transmitter. Using GPS techniques the accuracy of sector steering can be maintained within 1 degree. The **MicroSector** is equally compatible with traditional analogue and the latest digital video transmission systems.

Specification

Antenna array – nominal gain 15 dBi at 2.4 Ghz in linear and left or right hand circular polarisation.

Frequency range – 2.2 to 2.7Ghz – other bands to order

Power – 12Vdc or and 90 – 250 volts ac universal (standard).

Video - Standard PAL, NTSC, or Digital formats or other data as transmitted.

Acquisition time less than 30 seconds – typically 15 seconds, after system set-up

Dimensions:

Antenna array 400 mm diameter X 500 mm long

Controller – 300 mm X 200 mm X 55 mm

Weight - less than 10 Kgs

Environmental:

Temperature - Antenna array - -10 to + 60 C, Controller - 0 to + 50 C (TFT/LCD limitation)

Humidity 0 - 90% non condensing.