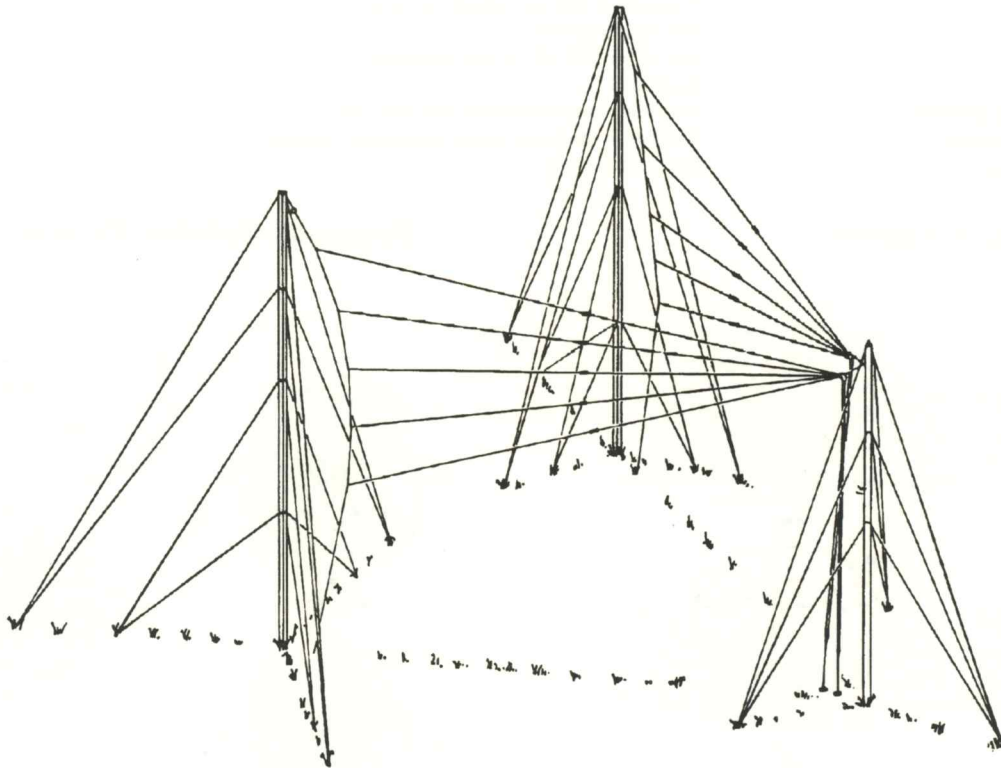


## Wideband Quadrant Antenna for H.F Broadcasting

R4200  
R4300

## Features

- Two or three adjacent broadcast bands in one antenna
- Horizontally polarised
- Compact
- Low V.S.W.R
- Highly corrosion resistant
- Near omnidirectional or directional
- Prefabricated for rapid erection

## Description

The Marconi Quadrant Antenna Types R4200 and R4300 are single antennas supported by three masts. The R4200 covers two adjacent broadcast bands and the R4300 covers three adjacent broadcast bands. They are high elevation angle radiators giving a service area coverage of up to 1500km radius.

The R4200 Quadrant Antenna is a  $90^\circ$  V dipole with each limb of the dipole in the form of a multiwire fan (approximately  $0.5\lambda$  long). The antenna is fed in anti-phase at the apex of each fan. The  $90^\circ$  V gives a near omnidirectional horizontal radiation pattern. By altering the angle to  $80^\circ$  the dipole can be made more directional. The electrical height of the dipole above ground determines the vertical radiation pattern and can be chosen to give optimum coverage of the service area throughout the frequency range of the antenna.

The R4300 Quadrant antenna is a  $90^\circ$  V dipole with each limb in the form of a centre-fed folded dipole (approximately  $0.5\lambda$  long). This approach increases the bandwidth of the antenna to enable three adjacent broadcast bands to be covered on one antenna. Each centre-fed dipole is fed in anti-phase to each other. The angle of the V and the electrical height above ground can also be chosen to give optimum coverage of the service area.

Typically an R4200 Quadrant Antenna covering 5.9-7.3 MHz is supported by two 30m and one 25m galvanised lattice steel masts. The addition of a fourth mast enables two quadrant antennas to be supported from four masts.

## Specification

**Frequency range**  
typically: R4200

**R4300**

**V.S.W.R:**

**Gain:**

**Input impedance:**

**Power handling:**

**Polarisation:**

**Horizontal radiation pattern:**

**Vertical radiation pattern:**

**Design wind velocity:**

Dual (R4200) or Triple (R4300) band.

5950-6200 kHz and 7100-7300 kHz

or 7100-7300 kHz and 9500-9775 kHz

5950-6200 kHz and 7100-7300 kHz and 9500-9775 kHz

or 9500-9775 kHz and 11700-11875 kHz and 15100-15450 kHz

Not greater than 1.4:1 within the broadcast bands at input to bay feeder.

Nominally 6 dBi see radiation patterns

300 ohm balanced

100 kW or 300 kW, 100% modulated

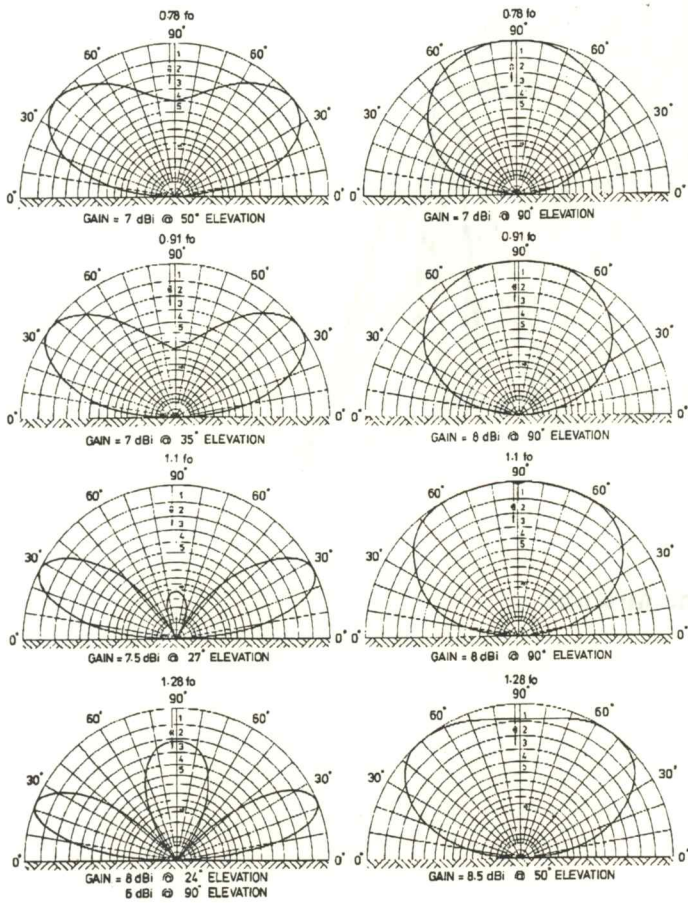
Horizontal

Nominally Omnidirectional (see patterns)

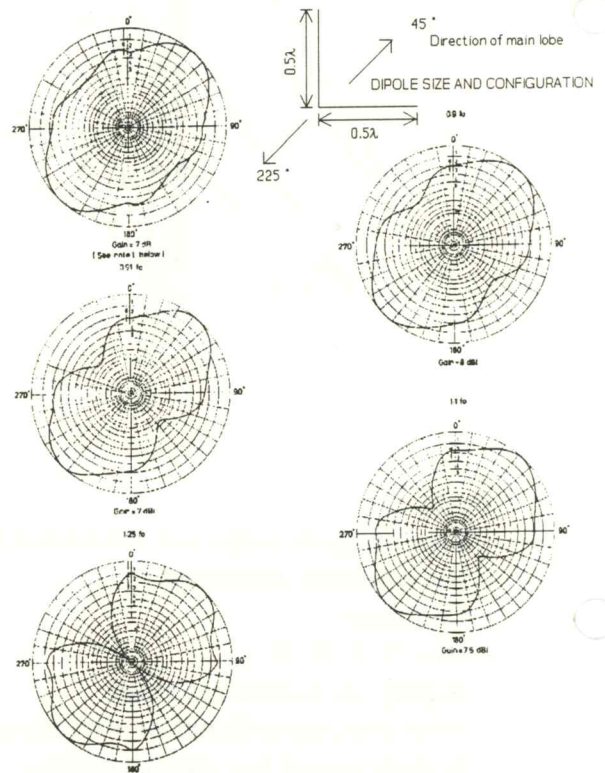
Depends in the height above ground (see patterns)

160 km/h (no ice)

### Vertical Radiation Patterns



### Horizontal Radiation Patterns



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Communications



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