



# TETRA/CDMA & GSM 450



Antennas, Filters  
and Combiners

**KATHREIN**

## Omnidirectional Antennas

### FEATURES

- Extremely small radome diameter ( $\varnothing$  20-51 mm)
- Shortest height with reference to gain
- Gain of up to 8.5 dBi
- Excellent grounding
- Fixed electrical tilts  $5^{\circ}/8.5^{\circ}$

The versions with a radome of 51 mm are made of an exceptionally stiff fibre-glass tube, which results in a max. tip deflection of  $1.5^{\circ}$  with a 3 m long tube at wind velocities up to 180 km/h. The antennas are fitted with a solid metal cap which provides excellent grounding via a  $22\text{ mm}^2$  copper cross-section.

## Train Antennas

### FEATURES

- Slim and unobtrusive design
- Integrated GPS module, additional GPS amplifier available
- DC-grounded and approved by Deutsche Bahn AG against lightning and high-tension lines



Omni Antenna



Train Antenna

## VPol Antennas

Kathrein's VPol antennas are available in broadband versions, to cover full frequency range of 380-500 MHz. The reliability of our specially designed VPol antennas has been proven for more than 20 years.

### FEATURES

- Half-power beam widths 65°/115°
- Adjustable mechanical downtilt clamps available
- Gain of up to 11.5 dBi

## XPol Antennas

Kathrein's XPol antennas for TETRA/TETRAPOL, CDMA 450 and GSM 450 are the result of the consequent continuing development based on the experience with the proven GSM technology.

### FEATURES

- Half-power beam widths 65°/88°
- With fixed or adjustable electrical downtilt (RET-system upgrade possible)
- Gain of up to 15 dBi
- Patented vector-dipole design



115° VPol



65° VPol



88° XPol



65° XPol  
0°-14° T

## Filters, Combiners, Amplifiers

### FEATURES

- Band-pass filter, band-stop filter, S-P filter, low-pass filter
- Duplexer
- Multi-band combiner, transmitter combiner
- 3-dB coupler, hybrid ring junction, circulator, loads
- Receiver multicoupler
- Customised combiner systems

### Dual Band Combiner

E.g. 50-470/790-2500 MHz  
PMR, TETRA, TETRAPOL,  
CDMA 800, GSM 900, GSM 1800,  
UMTS, WLAN

### Duplexer

E.g. 380-385/390-395 MHz  
TETRA, TETRAPOL



Combiner



Duplexer

## Indoor Antennas

Indoor antenna applications are supposed to blend in their surroundings as good as possible. Kathrein's indoor antennas meet with these requirements due to their special design which easily blends in with the environment.

### FEATURES

- Directional antennas for wall mounting
- Omnidirectional antenna for ceiling mounting with special unobtrusive design
- Splitters available as electrical accessories for power distribution



Additional antennas for e.g. GSM, UMTS, LTE or other spectrums are featured in our portfolio, but are not part of this booklet.



**Indoor Panel**



**Indoor Omni**



**Splitter**

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