

# New VHF Transmitting Antennas for Digital Radio



**KATHREIN**

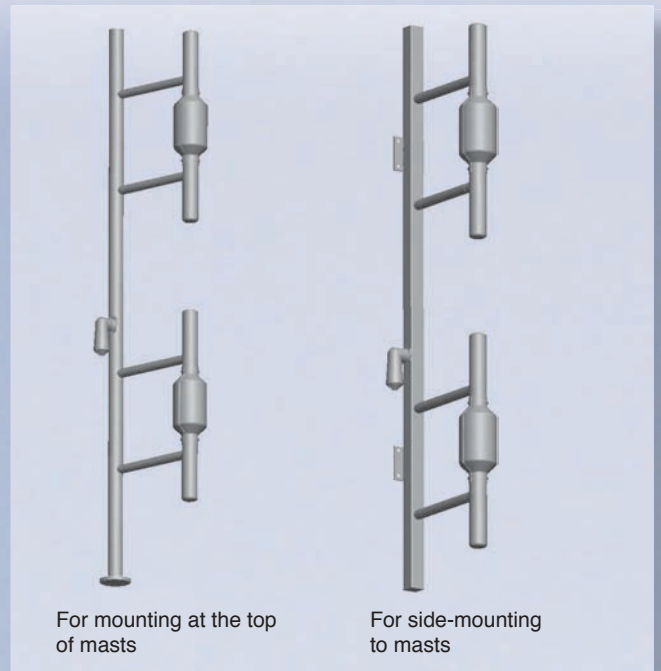
Antennen · Electronic



- Vertical polarization
- Quasi-omnidirectional HRP, dependent on mast
- High power capacity
- Material of radiator: Hot-dip galvanized steel
- Quick setup, simple installation



VHF DAB+ "Raichberg" transmitting antenna

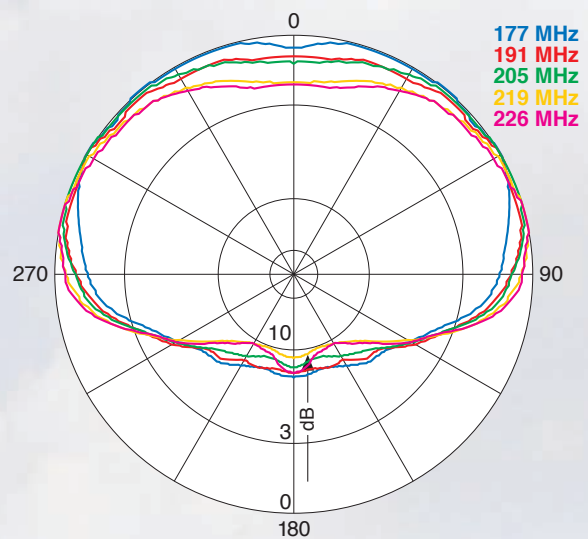
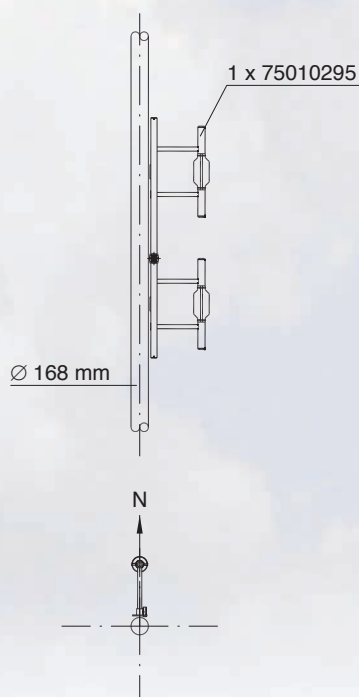


For mounting at the top of masts

For side-mounting to masts

For mounting at the top of masts	75010290	75010291	75010292
For side-mounting to masts	75010295	75010296	75010297
Input	7-16 female	7/8" EIA flange	1 5/8" EIA flange
Max. power	2 kW	3 kW	5 kW
Frequency range		174 – 240 MHz	
VSWR		< 1.2	
Gain (at mid-band)		5.0 dBd	

Antenna turned for better view

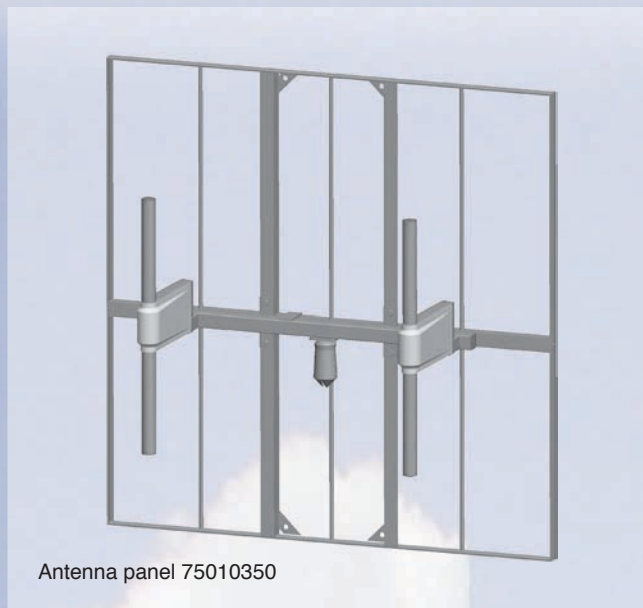


Installation example of the antenna system with 75010295 double dipole and mast with D = 168 mm

- Vertical polarization
- Excellent omnidirectional HRP (dents < 3 dB) or customized HRP
- Particularly suitable for square or round masts
- Material of radiator and reflector:  
Hot-dip galvanized steel
- Building block for classic panel antenna systems

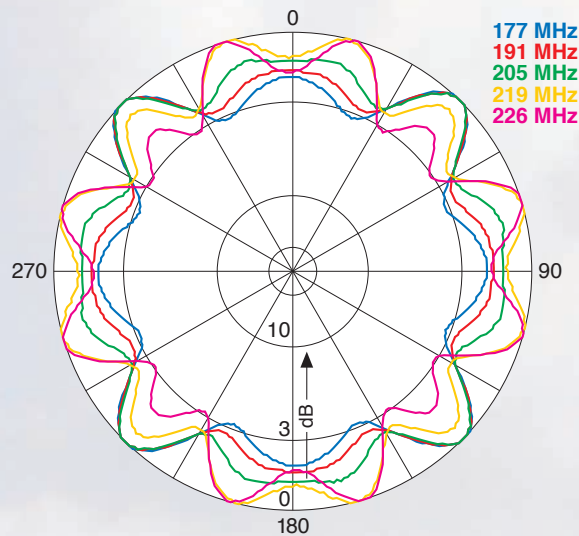
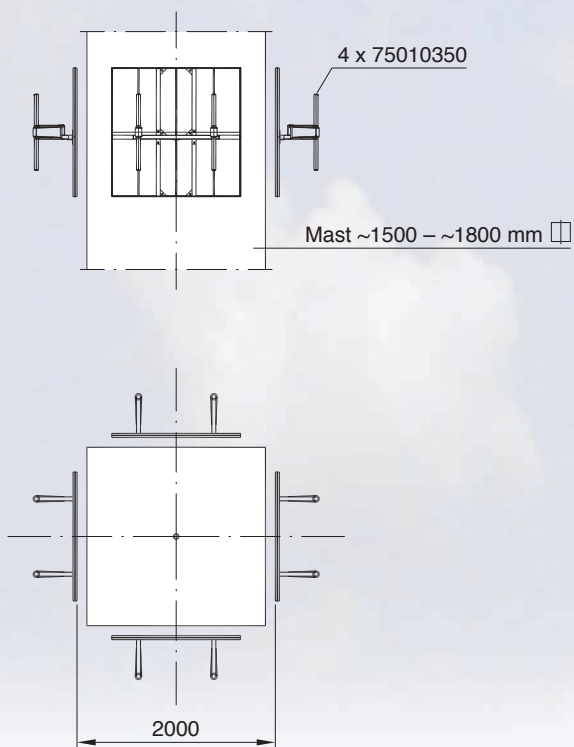


VHF DAB+ "Heidelberg" transmitting antenna



Antenna panel 75010350

Order No.	75010350	75010351	75010352
Input	7-16 female	7/8" EIA flange	13-30 female
Max. power	2 kW	3 kW	4 kW
Frequency range	174 – 240 MHz		
VSWR	174 – 230 MHz: < 1.15 230 – 240 MHz: < 1.2		
Gain	8 dBd (at mid-band)		



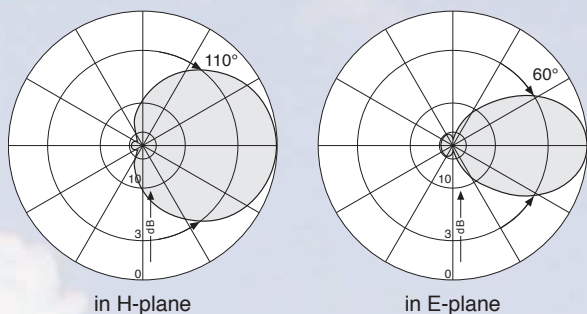
Installation example of a panel antenna system with 75010350 antenna to square mast

- Vertical or horizontal polarization
- Directional HRP
- Low wind load
- Material of radiator: Hot-dip galvanized steel
- Ideal for transmission along highways, railways or to small towns
- Suitable also as component for systems with orthogonal/mixed polarization

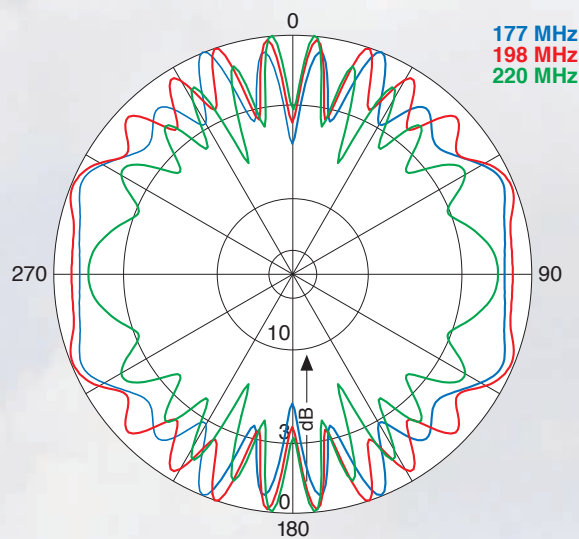
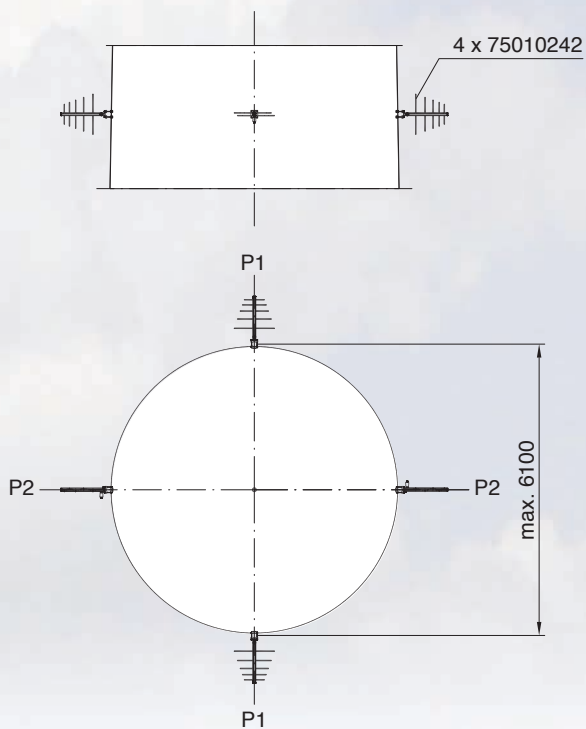


Log.-Per. Antenna 75010242

### Radiation Patterns (at mid-band)



<b>Order No.</b>	<b>75010242</b>
Input	7-16 female
Max. power	2 kW
Frequency range	174 – 240 MHz
VSWR	< 1.25
Gain (at mid-band)	5 dBd



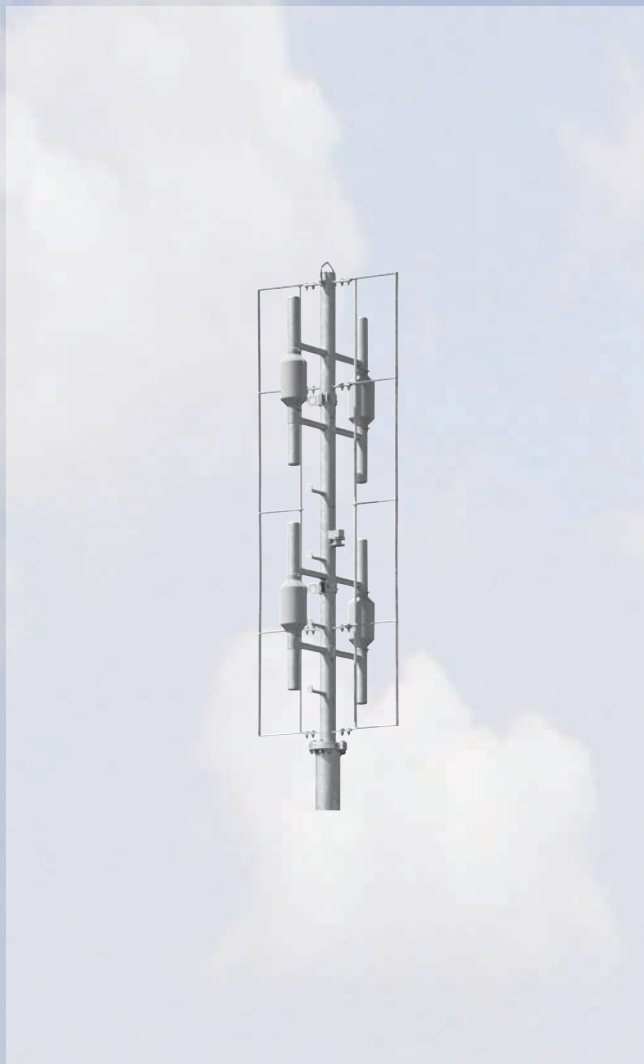
Installation example of an orthogonal polarized antenna system to an extremely large mast diameter

- Vertical polarization
- Omnidirectional Horizontal Radiation Pattern
- High power capacity
- Material of radiator, support tube and isolation grids: Hot-dip-galvanized steel

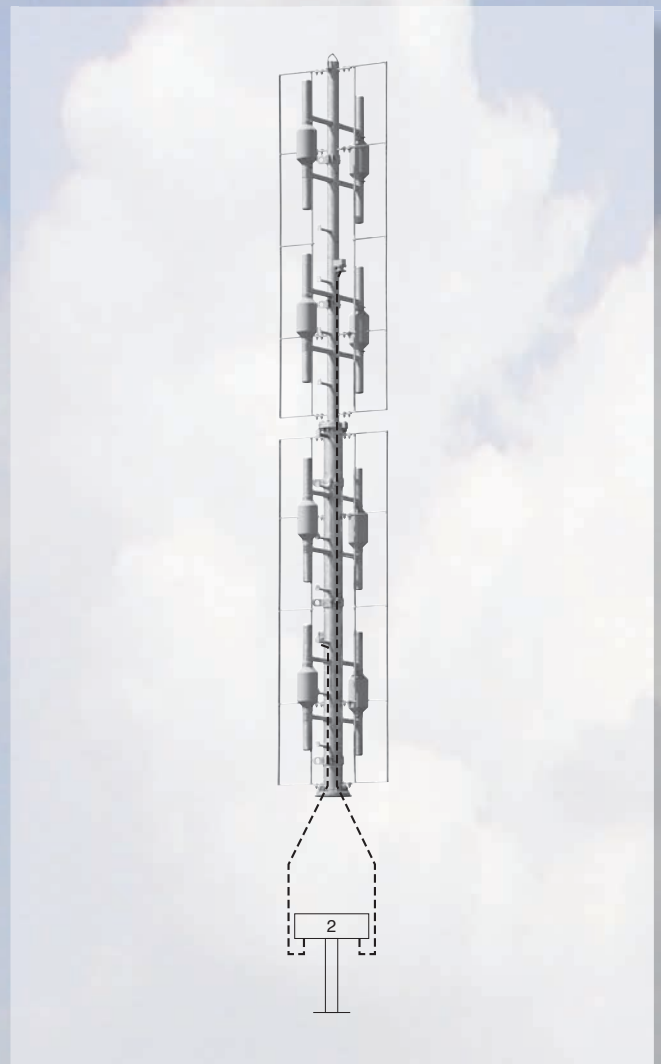
- Two elements may be stacked for higher gain:
  - Consists of types 16911184 (lower half) and 75010365...368 (upper half), power splitter and cabling.
  - Half antenna operation is possible.

Order No.	75010365	75010366	75010367	75010368
Input	7-16 f	7/8" EIA	13-30 f	1 5/8" EIA
Max. power	2 kW	3 kW	5 kW	8 kW
Frequency range	174 – 240 MHz			
VSWR	< 1.2			
Gain	4.5 dBd (at mid-band)			

Order No.	75919999	75920058	75919936
Splitter input	1 5/8" EIA	1 5/8" EIA	3 1/8" EIA
Max. power	4 kW	8 kW	16 kW
Frequency range	174 – 240 MHz		
VSWR	< 1.2		
Gain	7.5 dBd (at mid-band)		



Omnidirectional transmitting antenna for top-mount installation  
Type 75010365



Antenna system consisting of 75010368, lower section 16911184,  
internal cabling and splitter

For example: VHF broadband antennas for installation in GRP cylinders with  $D = 1.6$  m are customer-specific solutions that in individual cases have to be designed under consideration of the existing GRP cylinder, the climbing ladder, the free vertical aperture and the required radiation pattern. For the DAB+ project in Germany, Kathrein developed and supplied several antennas of this type as well as modifying existing narrow-band antennas at low cost for broadband DAB+ use.

VHF DAB+ transmitting antenna in "Saarbrücken" GRP cylinder



## Outlook

In addition to the benefits of radio distribution via digital radio as described above, DAB+ also offers further important advantages, mainly for network operators. These include less bandwidth requirements and primarily also the lower transmitting power compared to FM radio. The savings in terms of electrical energy also mean that distribution of radio programmes via DAB+ is highly attractive.

Because a large number of FM receivers are still in use, a longer time period for parallel operation of FM and DAB radio will be needed though.

Digital radio is progressing forward with confidence. Programmes transmitted via DAB/DAB+ are highly popular in Europe, predominantly in Scandinavia,

Great Britain, Switzerland and Germany. It is a pleasing fact that suitable radios can be selected from well over 300 receivers on the World DAB pages on the internet.

[http://www.worlddab.org/products\\_manufacturers](http://www.worlddab.org/products_manufacturers)

In the Asian/Oceanian regions mainly Australia, Taiwan and Hong Kong drive forward digital radio according to the DAB/DAB+ standard.

Digital radio in the coming years will thus continue to spread, and Kathrein is fully prepared for this with its newly developed antenna solutions.

# References for KATHREIN DAB / DAB+ / DMB-Antennas in following countries:

Belgium  
Canada  
China  
Denmark  
Finland  
Germany

England  
Hong Kong  
Hungary  
Ireland  
Netherlands  
Latvia

Lithuania  
Norway  
Qatar  
Singapore  
Sweden  
Switzerland

Taiwan  
Turkey  
Turkmenistan  
Zambia



In addition to the products and solutions shown in this brochure, Kathrein's portfolio includes a full range of broadcast antennas and accessories for FM, TV, DAB and DTV. Please contact us for further information or see our current broadcast catalogues:



The CD-ROM includes all printed catalogues