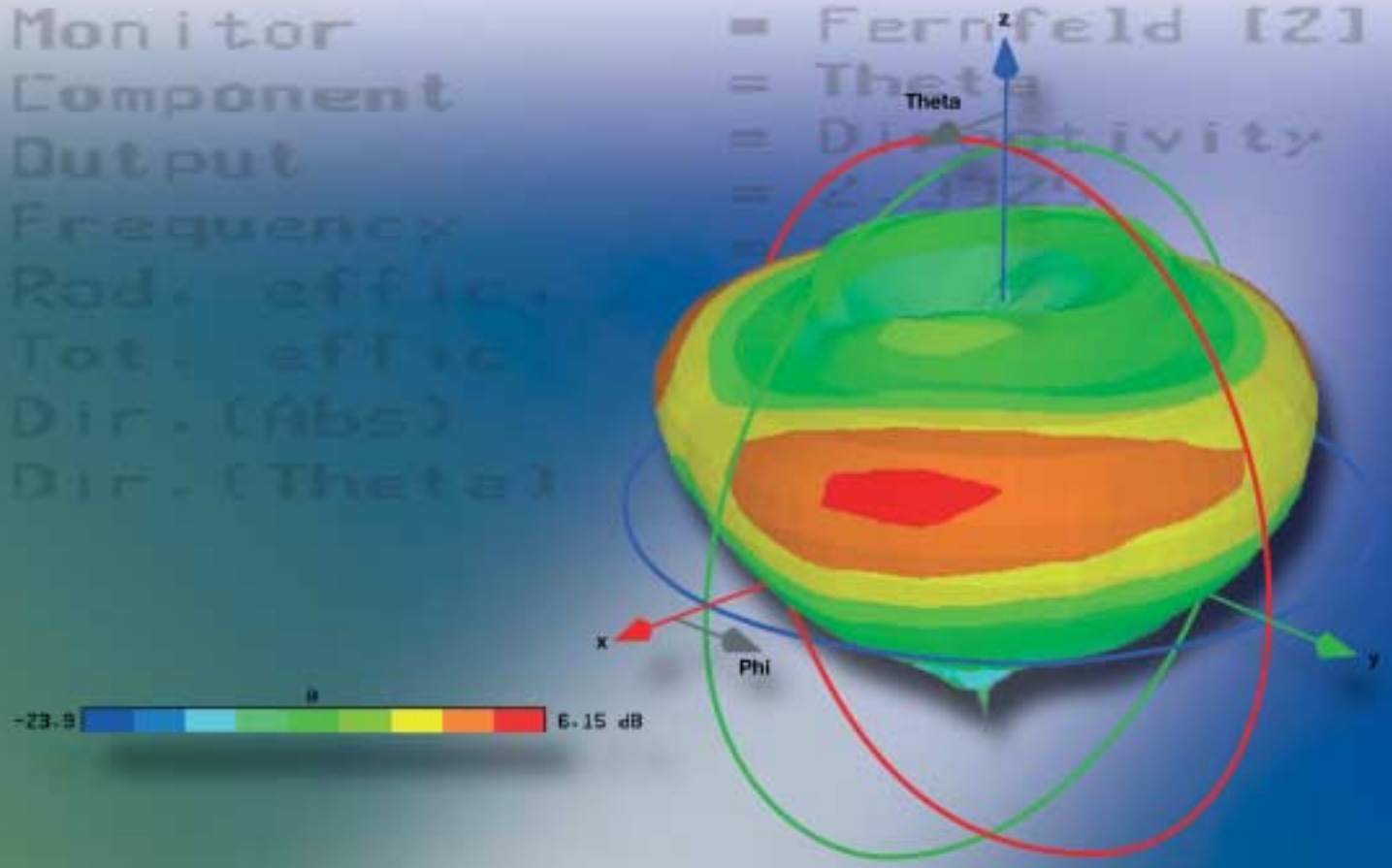
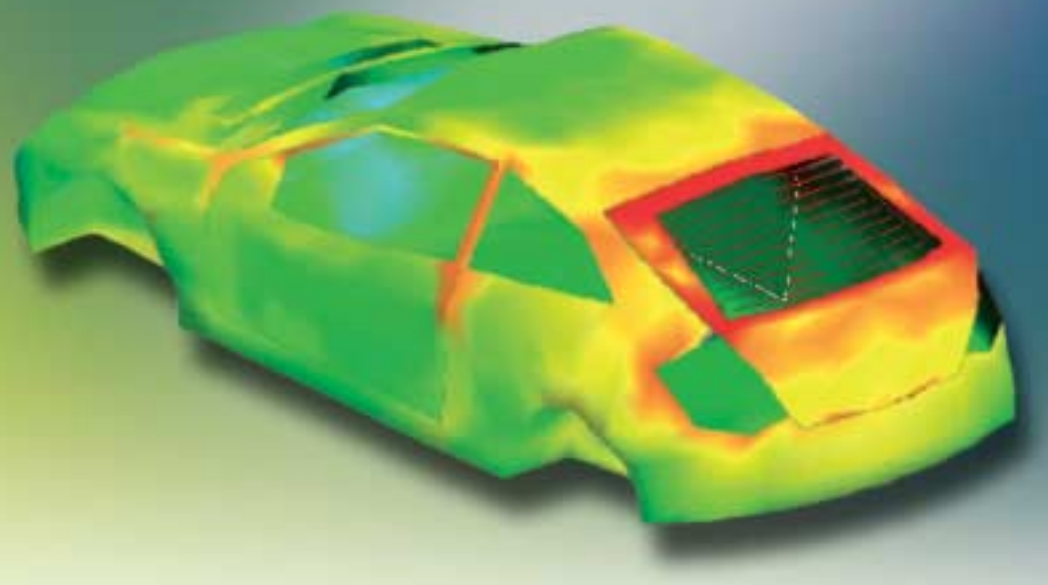
Mobile Antennas for Cars and Portables





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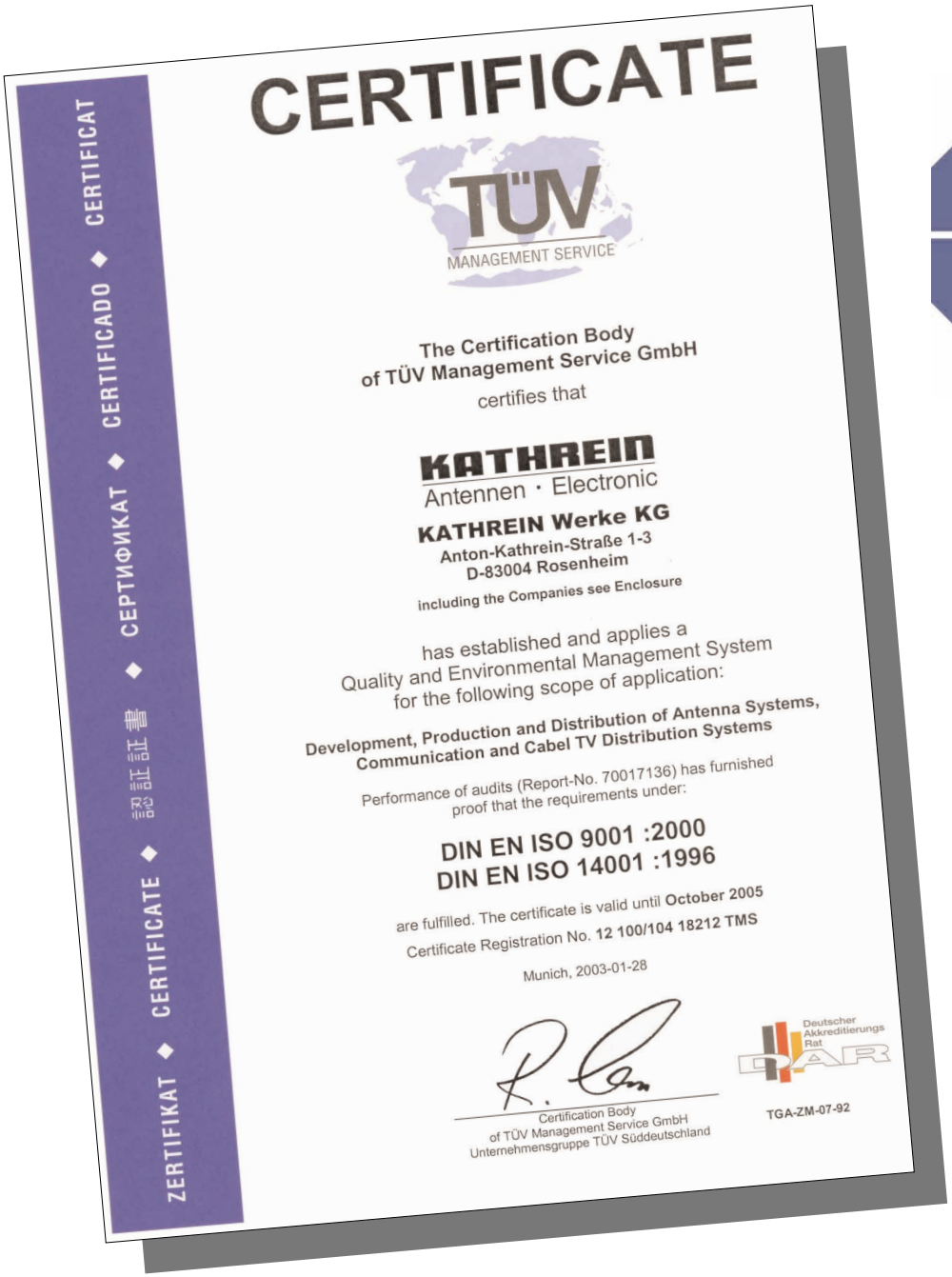

CERTIFICATE

TÜV MANAGEMENT SERVICE

The Certification Body
of TÜV Management Service GmbH
certifies that

KATHREIN
Antennen · Electronic
KATHREIN Werke KG
Anton-Kathrein-Straße 1-3
D-83004 Rosenheim
including the Companies see Enclosure

has established and applies a
Quality and Environmental Management System
for the following scope of application:

Development, Production and Distribution of Antenna Systems, Communication and Cabel TV Distribution Systems

Performance of audits (Report-No. 70017136) has furnished proof that the requirements under:

DIN EN ISO 9001 :2000
DIN EN ISO 14001 :1996

are fulfilled. The certificate is valid until **October 2005**
Certificate Registration No. **12 100/104 18212 TMS**

Munich, 2003-01-28

Certification Body
of TÜV Management Service GmbH
Unternehmensgruppe TÜV Süddeutschland

Deutscher Akkreditierungs Rat DAR
TGA-ZM-07-92

ZERTIFIKAT ◆ CERTIFICATE ◆ 認証証書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

The KATHREIN-Werke KG develops, manufactures and markets components and systems for antenna and communications technology.

Our ecological policy, followed for many years, and our product spectrum using mainly metal materials such as steel, aluminium, copper and brass and selected plastics help us reduce the pollution caused to the environment by manufacturing processes.

With much of the product range having a remarkably long service life, practical periods of use exceeding 15 years or more are possible and so our products make a significant contribution to protecting the environment.
The use of the materials mentioned above allows products no longer in use to be disposed of with high recycling rates. This also helps to reduce costs.

Realising its ethical responsibility for the environment and for further generations, the management has declared improved and systematic protection of the environment as a independent company goal.

Description for cover picture:
Typical antenna diagram for a monopole antenna visualised in coloured 3-D graphic and current distribution on a car body.

68 – 174 MHz

(4 m band, 2 m band, PMR services)

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380 – 470 MHz

(70 cm band, NMT 450, trunking systems, TETRA)

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810 – 2170 MHz

(35 cm band, GSM 900, Natel C, NMT 900, TACS, ETACS,
AMPS, DoCoMo, PCN/GSM 1800, PCS, DCS 1800/1900, UMTS)

Antennas for portable radio sets

(68 – 470 MHz)

Accessories

coupler, cable, adapter

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Frequency overview for mobile radio communication

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4 m band	68 – 87.5 MHz
Aircraft radio VHF	108 – 136 MHz
2 m band	146 – 174 MHz
Aircraft radio UHF	225 – 380 MHz
TETRA (Terrestrial Trunked Radio)	380 – 400 MHz
450 MHz frequency range	400 – 470 MHz
Trunking system	410 – 430 MHz
Chekker	410 – 430 MHz
Modacom	410 – 430 MHz
Mobitex	410 – 430 MHz
NMT 450	450 – 470 MHz
AMPS	824 – 896 MHz
DoCoMo	810 – 958 MHz
GSM 900	890 – 960 MHz
NMT 900	890 – 960 MHz
Natel C	890 – 960 MHz
TACS	890 – 950 MHz
ETACS	872 – 950 MHz
PCN / GSM 1800	1710 – 1880 MHz
DCS 1800	1710 – 1880 MHz
GPS	1575.42 ±1.023 MHz
PCS	1850 – 1990 MHz
DCS 1900 / GSM 1900	1850 – 1990 MHz
UMTS	1900 – 2170 MHz

Which Type No. for which frequency?

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Type No.	4-m band	2-m band	380 – 410 MHz	410 – 430 MHz	440 – 470 MHz	890 – 960 MHz	1710 – 1880 MHz	GPS 1575 MHz	1900 – 2170 MHz	Car radio	Page
K 50 39 21		X									24
K 50 39 22		X									24
K 50 39 41	X										23
K 50 39 42	X										23
K 50 39 43	X										23
K 50 46 4	X	X								X	33
K 50 47 40 41	X	X								X	16, 17, 18, 20, 33
K 50 48 40 31	X	X									32, 33
K 50 48 40 41	X	X								X	21, 32,
K 50 49 4	X	X								X	32
K 50 50 20 31		X								X	31
K 50 50 20 41		X								X	31
K 50 51 2		X								X	31
K 50 53 4	X	X								X	20
K 50 54 4	X	X								X	21
K 50 55 2		X								X	22
K 50 55 20 31	X	X	X		X					X	20, 21, 22, 40, 41
K 50 55 20 41		X								X	22
K 50 56 20 1		X		X	X					X	30
K 50 65 2		X									19
K 50 65 42 1	X										16
K 50 65 42 2	X										17
K 50 66 42 1	X	X									18
K 50 70 2		X								X	30
K 50 70 20 3		X								X	30
K 51 12 40 1	X	X									28, 29
K 51 16 4	X	X									29
K 51 17 2		X									28
K 51 32 26		X									77
K 51 32 29		X									77
K 51 39 21 5		X									76
K 51 39 21 6		X									76
K 51 39 21 9		X									76
K 51 39 22 5		X									76
K 51 39 22 6		X									76
K 51 39 22 9		X									76
K 51 39 23 5		X									76
K 51 39 23 6		X									76

Which Type No. for which frequency?

KATHREIN
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Type No.	4-m band	2-m band	380 – 410 MHz	410 – 430 MHz	440 – 470 MHz	890 – 960 MHz	1710 – 1880 MHz	GPS 1575 MHz	1900 – 2170 MHz	Car radio	Page
K 51 39 23 9		X									76
K 51 39 41 5	X										74
K 51 39 41 6	X										74
K 51 39 41 9	X										74
K 51 39 42 5	X										74
K 51 39 42 6	X										74
K 51 39 42 9	X										74
K 51 39 43 5	X										74
K 51 39 43 6	X										74
K 51 39 43 9	X										74
K 51 56 22	X	X									75, 78
K 51 56 26	X	X									75, 78
K 61 32 3		X									79
K 62 19 0		X					X				79
K 62 27 2		X								X	87
K 63 27 23			X	X	X	X	X			X	85
K 63 27 25				X	X	X					86
K 70 49 64						X	X				65
K 70 50 64				X		X					45, 64
K 70 52 64		X				X					26, 63
K 70 55 64						X	X		X		58
K 70 57 21 04 1			X	X						X	40
K 70 57 21 9				X						X	40
K 70 57 23 04 1					X					X	41
K 70 57 23 9					X					X	41
K 70 60 20		X				X				X	27, 62
K 70 70 20 3		X	X	X	X	X				X	25, 26, 42, 43, 44, 45, 46, 64
K 70 70 21 01				X							43
K 70 70 22 01			X								42
K 70 70 23 01					X						46
K 70 71 21 01				X						X	43
K 70 71 22 01			X							X	42
K 70 71 23 01					X					X	46
K 70 77 20 3		X	X	X	X	X				X	25, 26, 42, 43, 44, 45, 46, 63, 64
K 70 77 21				X							43

Which Type No. for which frequency?

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Type No.	4-m band	2-m band	380 – 410 MHz	410 – 430 MHz	440 – 470 MHz	890 – 960 MHz	1710 – 1880 MHz	GPS 1575 MHz	1900 – 2170 MHz	Car radio	Page
K 70 77 22			X								42
K 70 77 23					X						46
K 70 78 21				X						X	43
K 70 78 22			X							X	42
K 70 78 23					X					X	46
K 70 80 64 03					X	X				X	66, 67, 70
K 70 81 23 03		X		X	X					X	34, 37, 50, 51, 54
K 70 83 23 20 1				X	X						50
K 70 83 64						X				X	66
K 70 83 64 01						X				X	66
K 70 91 64						X	X			X	61
K 70 92 64						X	X	X			60
K 70 93 64						X	X	X			59
K 71 14 21 01			X	X							47
K 71 14 23 01					X						48
K 71 16 20 3				X	X						49
K 71 16 20 11				X	X						49
K 71 16 21				X	X						49
K 71 17 21			X	X							47
K 71 17 23					X						48
K 71 32 26				X	X						81
K 71 32 29				X	X						81
K 71 53 21 6				X							82
K 71 53 21 9				X							82
K 71 53 23 6					X						82
K 71 53 23 9					X						82
K 71 54 23 6					X						82
506 10001			X			X					45
720 895	X	X									18
724 712				X	X						34, 35, 51, 52
725 040		X		X	X					X	34, 35, 51, 52
725 080		X		X	X					X	34, 35, 51, 52
725 082		X		X	X					X	34, 35, 51, 52
725 084		X		X	X					X	34, 35,

Type No.	4-m band	2-m band	380 – 410 MHz	410 – 430 MHz	440 – 470 MHz	890 – 960 MHz	1710 – 1880 MHz	GPS 1575 MHz	1900 – 2170 MHz	Car radio	Page
											51, 52
725 086		X		X	X					X	34, 35, 51, 52
725 188		X		X	X					X	34, 35, 51, 52
726 131		X								X	25
726 436		X		X	X					X	34, 35, 51, 52
726 556					X						80
726 637		X								X	25
726 930		X		X	X					X	34, 36
728 184		X		X	X					X	34, 36, 51, 53
728 947		X		X	X					X	34, 36, 51, 53
730 896		X		X	X					X	34, 36, 51, 53
731 247				X							80
731 324		X		X	X					X	34, 36, 51, 53
731 326		X		X	X					X	34, 36, 51, 53
732 307		X		X	X					X	34, 36, 51, 53
732 409						X				X	67, 68
732 410						X				X	67, 68
732 411						X				X	67, 68
732 412						X				X	67, 68
732 701		X		X	X					X	34, 36, 51, 53
733 163						X				X	67, 68
733 164						X				X	67, 68
733 165						X				X	67, 68
733 166						X				X	67, 68
733 167						X				X	67, 69
733 168						X				X	67, 69
733 367						X				X	67, 69
733 838		X		X	X					X	34, 37, 51, 53
734 191						X				X	67, 69
734 768						X				X	67, 69

Which Type No. for which frequency?

KATHREIN
Antennen · Electronic

Type No.	4-m band	2-m band	380 – 410 MHz	410 – 430 MHz	440 – 470 MHz	890 – 960 MHz	1710 – 1880 MHz	GPS 1575 MHz	1900 – 2170 MHz	Car radio	Page
734 769						X				X	67, 69
735 882						X					71
736 213						X				X	67, 69
736 222		X		X	X					X	34, 37, 51, 54
736 374						X					71
736 785					X						56
736 786				X							55
736 835						X				X	67, 69
736 836		X		X	X					X	34, 37, 51, 54
737 477	X	X				X					84
737 539		X				X				X	26, 63
737 637				X		X					45, 64
737 692		X				X	X				27, 62
738 356		X				X				X	27, 62
738 751						X				X	67, 70

How to find your antenna?

In this catalogue, the antennas are listed according to frequency ranges and, within a range, according to product families:

- Roof mount antennas (for example “Euroline“, slanted antenna)
- Stick-on antennas (“Screenfix“)
- Magnet mount antennas
- Rear mount antennas
- Caravan antennas

Technical information

1. Tuning

- Some of the mobile antennas for cars have to be tuned to match the operating frequency. Instructions on tuning are to be found in the mounting instructions of the antenna. We recommend the usage of a measuring instrument for the fine-tuning of the matching of the antenna.
- Narrow-band antennas, are marked by three dots which specify the frequency range, for example 143 ... 174 MHz. They have to be tuned.
- Broadband antennas are marked by a hyphen which specifies the frequency range, for example 450 – 470 MHz. They do not need to be tuned.

2. Impedance

- The standardized impedance for mobile radiocommunication is 50 Ω.

3. Maximum load (if not indicated otherwise):

68 – 87.5 MHz	146 – 174 MHz	400 – 470 MHz	790 – 960 MHz	1700 – 1900 MHz	1900 – 2170 MHz
100 W	80 W	50 W	30 W	10 W	2 W

(at 50 °C ambient temperature)

4. The car antennas featured in this catalogue are designed for vehicles with metal body-work. If the electrical counterweight for the antenna is missing, then a piece of metal, metal foil or metal mesh of approx. 1 x 1 wave-length, e. g. 0.7 m x 0.7 m for the 70 cm bandwidth, can be used as a substitute. Durable and good-quality earth contact is of great importance for ensuring trouble-free operation. The antenna bases are generally designed for metal thicknesses of up to 1.5 mm. All antennas and also the special antenna bases for each type of vehicle are supplied with comprehensive installation instructions.

5. Common technical terms for connectors and adapters:
connector (m) marks a male connector type
plug (f) marks a female connector type

Warnings


Caution

For safety reasons magnet mount antennas should only be fixed onto a parked vehicle. Otherwise, the antenna could come off when your vehicle suffers a sudden impact (even at low speed)!


Caution

We recommend to remove the whip of the antenna each time before you enter a car-wash in order to avoid damages to the vehicle and to the antenna!


Caution

The tip protection of the whip always must be mounted for safety reasons. Replace any missing tip protection immediately.

Car radio AM/FM reception

In many cases the mobile car antenna can be used simultaneously as an AM/FM reception antenna. This avoids drilling a second bore hole into the car body work. In any case an additional frequency coupler is required for the connection of the two sets. Generally, we recommend a minimum length of whip of 500 mm for VHF reception and a minimum length of whip of 800 mm for the reception of long, medium, short and ultrashort waves.
Information on broadcasting reception capability is given for each antenna.

Product families

Please note that the whips of the different product families cannot be interchanged!

Euroline antennas
The Euroline family uses the antenna base K 70 77 20 3 (Ord. No. 510 006), which can be combined with whips from 144 up to 960 MHz. This enables an easy changing of the frequency range or exchanging with a combined whip without having to change the antenna base.
Low-noise whips are available for all frequencies except of the 2 m band.

Slanted roof mount antennas
The family of slanted roof mount antennas uses the antenna base 737 692 (Ord. No. 510 261). This base can be exchanged with the factory-mounted broadcasting reception antenna and can be mounted without subsequent work into the standard square hole of 15 mm x 15 mm.

Rear mount antennas
A rear mount antenna is the classic type of a built-in antenna. A wide range of special antenna bases makes it possible to exchange the original-mounted broadcasting reception antennas of the most current vehicles with Kathrein rear mount antennas without subsequent work.
Simultaneous operation of radio communication and broadcasting reception is always possible. The two sets then have to be connected to a coupler.

Screenfix® antennas

The stick-on antennas of the Screenfix® family can be applied to all vehicle screens up to a thickness of 6 mm. Please take care that the screens do not have vaporized metallic coatings and that the heating wires or broadcasting reception antennas which may be integrated in the screen do not cross the so-called coupling area. Best electrical performance is obtained if the antenna is mounted as close as possible to the upper edge of the screen. The antenna can be removed from the screen and reinstalled.

Magnet mount antennas

The magnet mount antennas are designed for the temporary operation of a radio set in a vehicle. They should not remain mounted permanently (please note the warnings!).
As the bases of K 51 16 4, K 51 17 2, K 71 17 21 and K 71 17 23 vary in electrical features, the whip of one of these antennas cannot be used together with a base of a different antenna.

Caravan antennas

The caravan antennas have been developed especially for the operation on plastic roofs, as they are common on camping vehicles. As caravan antennas do not need an electrical counterpoise (metal roof) they are suitable for all systems which do not provide an electrical counterpoise, for example on boats, vehicles with plastic roofs or on masts.

Any Questions?

For more informations please contact one of our international representatives listed on the last page.

Mobile communication antennas for cars 68 – 174 MHz

(4 m band, 2 m band, PMR services)

In the following chapter the antennas are listed according to the product families, beginning with:

- Roof mount antennas
- Magnet mount antennas
- Rear mount antennas

Roof mount antenna
74 … 87.5 MHz

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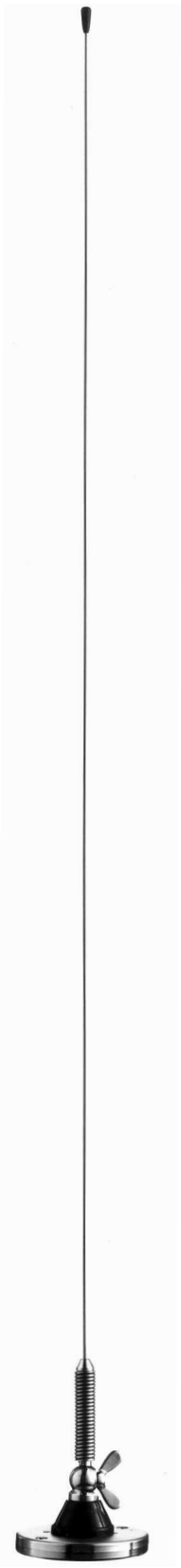

K 50 65 41
K 50 65 42 1

- **Antenna for duplex operation.**
- **Cable clamping connection.**

Type No. K 50 65 42 1 Ord. No. 510 329	74.215 – 77.655 MHz/ 84.015 – 87.455 MHz, 0 dB gain (ref. to quarter-wave whip), length 1010 mm (must not be changed), Location of mounting: Car roof (Distance to the rear end of the roof: 30 – 50 cm).
Connection	Clamping device for a cable RG 058 within the tuning case.
Maximum load	20 W (at 50 °C ambient temperature)
Tuning	By means of two trimmers the antenna can be fine-tuned to optimum voltage standing wave ratio in the given frequency range.
Mounting	In bore hole 12 mm diameter.
Built-in depth	12 mm
Max. diameter at base	38 mm
Material	Whip and spring: Stainless steel. Swivel-joint parts: Chromium-plated brass. Tuning case: Nickel-plated brass. Base: Weather resistant plastic.
Contents of delivery	Whip, base, tuning box.
Accessories	Protection cover K 66 01 7 (Ord. No. 510 401) for the tuning box with clamping device.

Components	Type No.	(Ord. No.)
Whip	K 50 47 40 41	(510 300)
Swivel-joint screw*	K 66 00 6	(510 154)
Tip protection	K 66 01 9	(510 159)

* butterfly bolt + philips screw + locking washer

Roof mount antenna
74 ... 87.5 MHz

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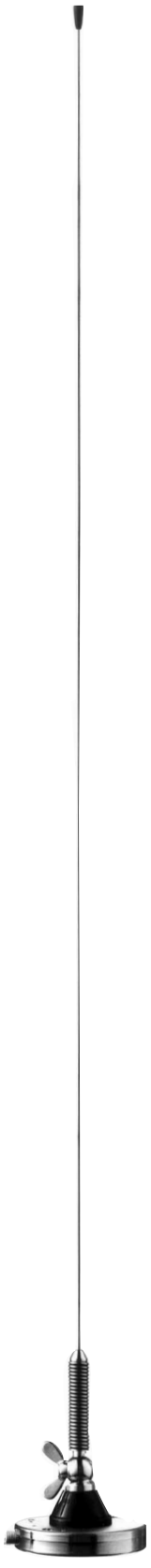
Antennen · Electronic

- **Antenna for duplex operation.**
- **Connection M11 x 1.**

Type No. K 50 65 42 2 Ord. No. 510 330	74.215 – 77.655 MHz/ 84.015 – 87.455 MHz, 0 dB gain (ref. to quarter-wave whip), length 1025 mm (must not be changed), Location of mounting: Car roof (Distance to the rear end of the roof: 30 – 50 cm).
Connection	M11 x 1
Maximum load	20 W (at 50 °C ambient temperature)
Tuning	By means of two trimmers the antenna can be fine-tuned to optimum voltage standing wave ratio in the given frequency range.
Mounting	In bore hole 12 mm diameter.
Built-in depth	16 mm
Max. diameter at base	38 mm
Material	Whip and spring: Stainless steel. Swivel-joint parts: Chromium-plated brass. Tuning case: Nickel-plated brass. Base: Weathering resistant plastic.
Contents of delivery	Whip, base, tuning box.
Accessories	Connector M11 x 1: K 62 10 0 for RG 213 K 62 05 1 for RG 058 K 62 05 5 minicrimp adapter
Components	Type No. (Ord. No.)
Whip	K 50 47 40 41 (510 300)
Swivel-joint screw*	K 66 00 6 (510 154)
Tip protection	K 66 01 9 (510 159)

* butterfly bolt + philips screw + locking washer



K 50 65 42 2

Roof mount antenna
74 – 87.5 MHz / 167.5 – 174 MHz

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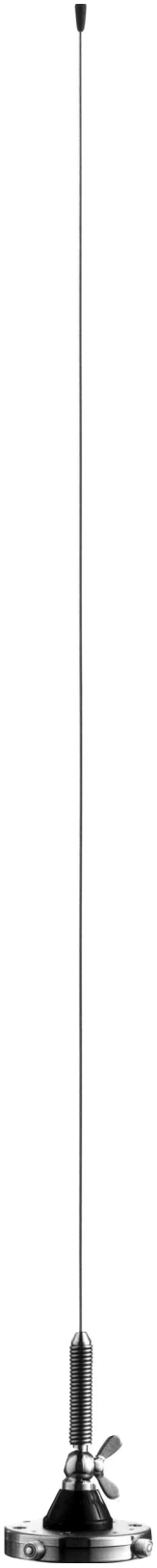
- **Antenna for duplex operation in the 2 m band and the 4 m band.**



K 50 66 42 1

Type No. 720 895 Ord. No. 510 494	2 m b.: 167.5 – 169.5 MHz / 172 – 174 MHz, transmit in low band 4 m b.: 74.215 – 77.655 MHz/ 84.015 – 87.455 MHz 0 dB gain (ref. to quarter-wave whip) in both ranges, length 915 mm (must not be changed) 2 connectors for RG 058
Type No. K 50 66 42 1 Ord. No. 510 335	2 m b.: 167.5 – 169.5 MHz / 172 – 174 MHz transmit in low band 4 m b.: 74.215 – 77.655 MHz/ 84.015 – 87.455 MHz 0 dB gain (ref. to quarter-wave whip) in both ranges, length 915 mm (must not be changed) 2 connectors for RG 213
Connection	M11 x 1
Tuning	By means of two trimmers the antenna can be fine-tuned to optimum voltage standing wave ratio in the given frequency range.
Maximum load	20 W in both ranges (at 50 °C ambient temperature)
Decoupling	> 30 dB
Mounting	In bore hole 12 mm diameter Distance to the end of the roof: 30 – 50 cm.
Built-in depth	16 mm
Max. diameter at base	38 mm
Material	Whip and spring: Stainless steel. Swivel-joint parts: Chromium-plated brass. Tuning case: Nickel-plated brass. Base: Weather resistant plastic.
Contents of delivery	Whip, base, tuning box, 2 connectors.

Components	Type No.	(Ord. No.)
Whip	K 50 47 40 41	(510 300)
Connector M11 x 1		
for RG 213	K 62 10 0	(510 133)
for RG 058	K 62 05 1	(510 132)
Swivel-joint screw*	K 66 00 6	(510 154)
Tip protection	K 66 01 9	(510 159)

* butterfly bolt+ philips screw + locking washer

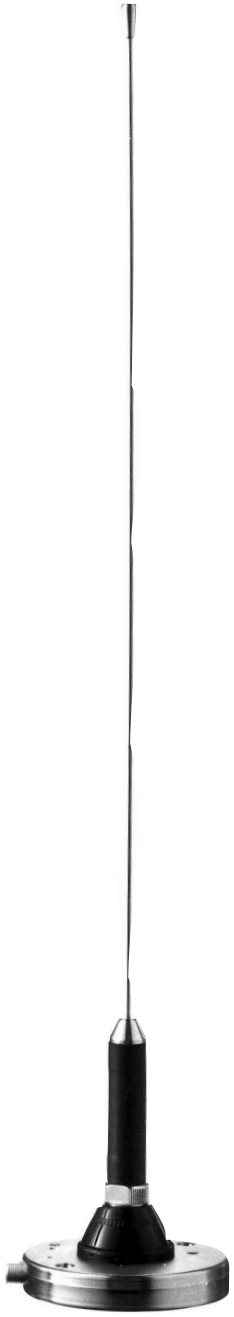
Roof mount antenna
146 – 174 MHz

KATHREIN
Antennen · Electronic

- **Broadband antenna.**

Type No. K 50 65 2 Ord. No. 510 325	146 – 174 MHz, 0 dB gain (ref. to quarter-wave whip), length 534 mm (must not be changed)
Connection	M11 x 1
Tuning	The antenna has already been tuned. Subsequent tuning is only necessary if the mounting location differs from the one specified in the mounting instructions.
Maximum load	50 W (at 50 °C ambient temperature)
Mounting	Into bore hole 12 mm diameter with a minimum distance of 50 cm to the edge of the roof. Counterpoise area: at least 2 m x 2 m.
Built-in depth	16 mm
Max. diameter at base	38 mm
Material	Whip: Stainless steel. Spring: Stainless steel, vulcanized into neoprene. Tuning case: Nickel-plated. Base: Weather resistant plastic.
Contents of delivery	Whip, base, tuning box, connector, antenna wrench.

Components	Type No.	(Ord. No.)
Whip	K 50 65 20 1	(510 326)
Connector M11 x 1	K 62 05 1	(510 132)
Antenna wrench	K 66 30 1	(510 160)



K 50 65 2

Roof mount antenna
62 ... 300 MHz / Car radio AM/FM

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K 50 53 4

Type No. K 50 53 4 Ord. No. 510 314	With spring, 62 ... 300 MHz, 0 dB gain (ref. to quarter-wave whip), supply length 1285 mm
Connection	Fixed cable RG 058-PE, 5 meters long, without radio set connector.
Maximum load	100 W (at 50 °C ambient temperature)
Tuning	By shortening the whip (please note mounting instructions).
Mounting	In bore hole (24 mm diameter) from the external side of the car body.
Built-in depth	14 mm
Max. diameter at base	38 mm
Material	Whip and spring: Stainless steel. Swivel-joint parts: Chromium-plated brass. Base: Weather resistant plastic.
Contents of delivery	Whip, base with cable, philips screw.
Accessories	For AM/FM reception (VHF) the coupler K 62 27 4 (Ord. No. 510 431) is required.

Components	Type No.	(Ord. No.)
Whip	K 50 47 40 41	(510 300)
Base	K 50 55 20 31	(510 142)
Swivel-joint screw*	K 66 00 6	(510 154)
Tip protection	K 66 01 9	(510 159)

* butterfly bolt + philips screw + locking washer

Roof mount antenna
64 ... 300 MHz / Car radio AM/FM

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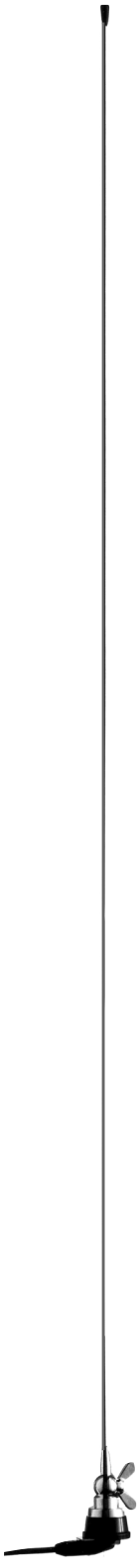
Type No. K 50 54 4 Ord. No. 510 317	Without spring, 64 ... 300 MHz, 0 dB gain (ref. to quarter-wave whip), supply length 1235 mm
Connection	Fixed cable RG 058-PE, 5 meters long, without radio set connector.
Maximum load	100 W (at 50 °C ambient temperature)
Tuning	By shortening the whip (please note mounting instructions).
Mounting	In bore hole (24 mm diameter) from the external side of the car body.
Built-in depth	14 mm
Max. diameter at base	38 mm
Material	Whip and spring: Stainless steel. Swivel-joint parts: Chromium-plated brass. Base: Weather resistant plastic.
Contents of delivery	Whip, base with cable, philips screw.
Accessories	For AM/FM reception (VHF) the coupler K 62 27 4 (Ord. No. 510 431) is required.

Components	Type No.	(Ord. No.)
Whip	K 50 48 40 41	(510 304)
Base	K 50 55 20 31	(510 142)
Swivel-joint screw*	K 66 00 6	(510 154)
Tip protection	K 66 01 9	(510 159)

* butterfly bolt + philips screw + locking washer



K 50 54 4

Roof mount antenna
143 ... 174 MHz / Car radio AM/FM

KATHREIN
Antennen · Electronic

K 50 55 2

Type No. K 50 55 2 Ord. No. 510 318	143 ... 174 MHz (as a shortened whip also from 47 ... 90 MHz) 2 dB gain (ref. to quarter-wave whip), supply length 1270 mm,
Connection	Fixed cable RG 058-PE 5 meters long, without radio set connector.
Tuning	By shortening the whip (please note mounting instructions).
Maximum load	K 50 55 2: 20 W (at 50 °C ambient temperature)
Mounting	In bore hole (24 mm diameter) from the external side of the car body.
Built-in depth	14 mm
Max. diameter at base	38 mm
Material	Whip: Fiberglass Spring: Stainless steel. Swivel-joint parts: Chromium-plated brass. Base: Weather resistant plastic.
Contents of delivery	Whip, base with cable.
Accessories	For AM/FM reception the coupler K 62 27 2 (Ord. No. 510 400) is required.

Components	Type No.	(Ord. No.)
Whip	K 50 55 20 41	(510 319)
Swivel-joint screw*	K 66 00 6	(510 154)
Tip protection	K 66 01 4	(510 158)
Base	K 50 55 20 31	(510 142)

* butterfly bolt + philips screw + locking washer

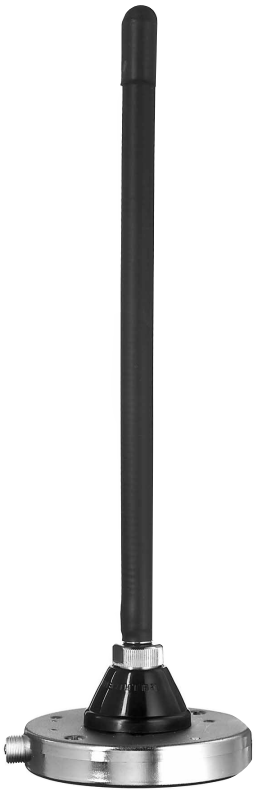
Miniflex antenna
68 ... 87.5 MHz

KATHREIN
Antennen · Electronic

- **Tunable car antenna with Miniflex whip.**

Type No. K 50 39 41 Ord. No. 510 292	68 ... 73 MHz, -3 dB gain (ref. to quarter-wave whip), length 280 mm
Type No. K 50 39 42 Ord. No. 510 294	72.5 ... 80 MHz, -3 dB gain (ref. to quarter-wave whip), length 250 mm
Type No. K 50 39 43 Ord. No. 510 296	78 ... 87.5 MHz -3 dB gain (ref. to quarter-wave whip), length 230 mm
Connection	Via supplied connector for RG 058 cable.
Maximum load	10 W (at 50 °C ambient temperature)
Tuning	The antenna can be tuned to the operating frequency using two trimmers.
Mounting	In bore hole 12 mm diameter. Distance to the end of the roof: 30 cm.
Built-in depth	16 mm
Max. diameter at base	38 mm
Material	Whip: Elastic silver-plated metal helix with a highly resistant protective cover of cross-linked plastic, black. Base: Weather resistant plastic. Tuning case: Brass, nickel-plated.
Contents of delivery	Whip, base, tuning box, connector.

Components		Type No.	(Ord. No.)
Whip	for K 50 39 41	K 50 39 41 01	(510 293)
	for K 50 39 42	K 50 39 42 01	(510 295)
	for K 50 39 43	K 50 39 43 01	(510 297)
Connector for cable RG 058		K 62 05 1	(510 132)
Antenna wrench		K 66 30 1	(510 160)

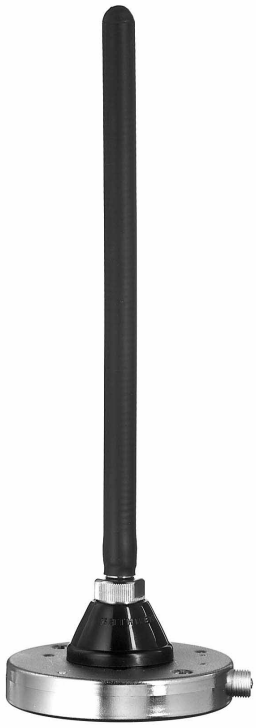


K 50 39 41

Miniflex antenna
146 ... 174 MHz

KATHREIN
Antennen · Electronic

- **Turnable car antenna with Miniflex whip.**



K 50 39 21

Type No. K 50 39 21 Ord. No. 510 288	146 ... 162 MHz, -1.5 dB gain (ref. to quarter-wave whip), length 170 mm
Type No. K 50 39 22 Ord. No. 510 290	156 ... 174 MHz, -1.5 dB gain (ref. to quarter-wave whip), length 155 mm
Connection	Via supplied connector for RG 058 cable.
Maximum load	10 W (at 50 °C ambient temperature.)
Tuning	The antenna can be tuned to the operating frequency using two trimmers.
Mounting	In bore hole 12 mm diameter, distance to the end of the roof 30 cm.
Built-in depth	16 mm
Max. diameter at base	38 mm
Material	Whip: Elastic silver-plated metal helix with a highly resistant protective cover of cross-linked plastic, black. Base: Weather resistant plastic. Tuning case: Brass, nickel-plated.
Contents of delivery	Whip, base, tuning box, connector.

Components		Type No.	(Ord. No.)
Whip	for K 50 39 21	K 50 39 21 01	(510 289)
	for K 50 39 22	K 50 39 22 01	(510 291)
Connection for cable RG 058		K 62 05 1	(510 132)
Antenna wrench		K 66 30 1	(510 160)

EuroLine antenna
144 ... 300 MHz / Car radio AM/FM

KATHREIN
Antennen · Electronic

Type No. 726 637 Ord. No. 510 280	144 ... 300 MHz 0 dB gain (ref. to quarter-wave whip), supply length 550 mm
Connection	Minicrimp (male)
Tuning	By shortening the whip (please note mounting instructions).
Maximum load	80 W (at 50 °C ambient temperature)
Mounting	Into bore hole 18^{+1} mm diameter from the external side of the car body. Into bore hole 14 – 19 mm diameter from the inner side of the car body.
Built-in depth	13 mm
Max. diameter at base	32 mm
Material	Metal parts are made of brass and stainless steel. All visible parts are black chromium-plated.
Contents of delivery	Whip, base, antenna wrench.
Accessories	For AM/FM reception (VHF) the coupler K 62 27 2 (Ord. No. 510 400) is required.

Components	Type No.	(Ord. No.)
Whip	726 131	(510 279)
Base	K 70 77 20 3	(510 006)
Base with 5 mtr. cable	K 70 70 20 3	(510 005)
Tip protection	K 66 01 9	(510 159)
Antenna wrench	K 66 30 2	(510 161)

726 637

EuroLine antenna
146 ... 174 MHz / 890 – 960 MHz

KATHREIN
Antennen · Electronic

K 70 52 64

- **Antenna for simultaneous operation of a 150 MHz radio set and a 900 MHz mobile phone.**
- **Can also be used as a combined whip for 890 – 960 MHz mobile phone and AM/FM reception.**

Type No. K 70 52 64 Ord. No. 510 775	146 ... 174 / 890 – 960 MHz 0 dB gain (ref. to quarter-wave whip) in both ranges, low-noise, supply length 520 mm
Connection	Minicrimp (male)
Maximum load	146 ... 174 MHz: 30 W 890 – 960 MHz: 10 W (at 50 °C ambient temperature)
Mounting	Into bore hole 18^{+1} mm diameter from the external side of the car body. Into bore hole 14 – 19 mm diameter from the inner side of the car body.
Built-in depth	13 mm
Max. diameter at base	32 mm
Material	Metal parts are made of brass and stainless steel. All visible parts are black chromium-plated.
Contents of delivery	Whip, base, antenna wrench.
Accessories	For the simultaneous operation of a 150 MHz and a 900 MHz radio set the coupler 737 477 (Ord. No. 510 272) is required. For the operation of a 900 MHz radio and simultaneously an AM/FM car radio the coupler K 63 27 23 (Ord. No. 510 258) is required.

Components	Type No.	(Ord. No.)
Whip	737 539	(510 271)
Base	K 70 77 20 3	(510 006)
Base with 5 mtr. cable	K 70 70 20 3	(510 005)
Tip protection	K 66 01 9	(510 159)
Antenna wrench	K 66 30 2	(510 161)

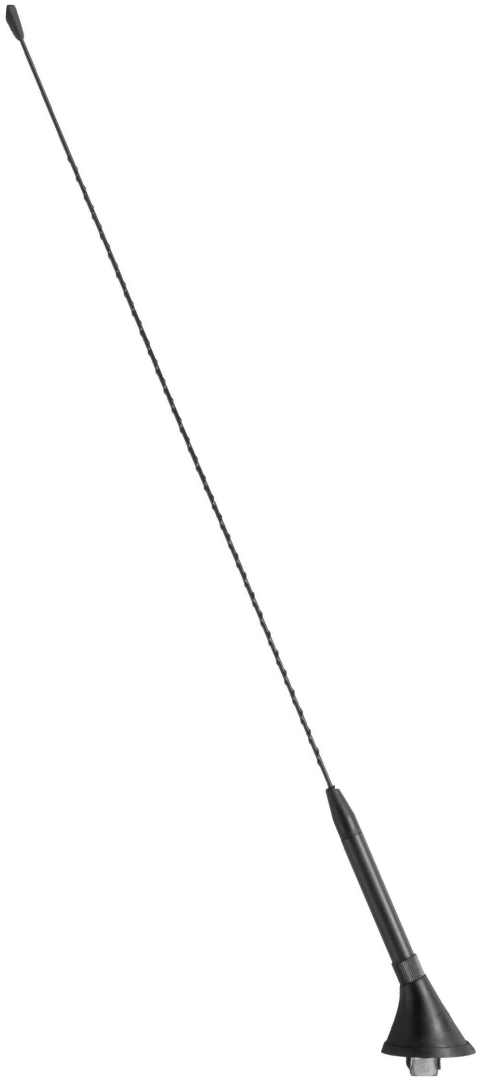
Slanted roof mount antenna
144 ... 174 MHz / 890 – 960 MHz

KATHREIN
Antennen · Electronic

- **Antenna for simultaneous operation of a 150 MHz radio set and a 900 MHz mobile phone.**
- **Can also be used as a combined whip for 890 – 960 MHz mobile phone and AM/FM reception.**

Type No. K 70 60 20 Ord. No. 510 769	144 ... 174 / 890 – 960 MHz, 0 dB gain (ref. to quarter-wave whip) in both ranges, supply length 535 mm
Connection	Minicrimp (lateral/male)
Tuning	By shortening the whip (please note mounting instructions).
Maximum load	144 ... 174 MHz: 30 W 890 – 960 MHz: 10 W (at 50 °C ambient temperature)
Mounting	Into square hole 15 mm x 15 mm.
Inclination	68°
Built-in depth	13 mm
Max. diameter at base	40 mm x 44 mm (oval)
Material	Metal parts are made of aluminum and stainless steel. Weather resistant plastic.
Contents of delivery	Whip, base.
Accessories	For the simultaneous operation of a 150 MHz and a 900 MHz radio set the coupler 737 477 (Ord. No. 510 272) is required. For the operation of a 900 MHz radio and simultaneously an AM/FM car radio the coupler K 63 27 23 (Ord. No. 510 258) is required.

Components	Type No.	(Ord. No.)
Whip	738 356	(510 402)
Base	737 692	(510 261)
Tip protection	K 66 01 9	(510 159)



K 70 60 20

Magnet mount antenna
143 ... 174 MHz

KATHREIN
Antennen · Electronic

K 51 17 2

Type No. K 51 17 2 Ord. No. 510 352	143 … 174 MHz (as shortened whip also from 47… 90 MHz) 2 dB gain (ref. to quarter-wave whip), supply length 1380 mm
Connection	Cable RG 058-PE 4 meters long
Tuning	By shortening the whip (please note mounting instructions).
Maximum load	80 W (at 50 °C ambient temperature)
Mounting	By attaching the antenna to a steel surface of at least 1 m^2 extension that should be as even as possible. Magnetic adhesive force: Approx. 200 N.
Max. diameter at base	95 mm
Material	Whip: Stainless steel. Swivel-joint parts: Chromium-plated brass. Magnetic base in shock-resistant plastic housing. Neoprene protection cover for the adhesive surface of the magnetic base.
Contents of delivery	Whip, base, cable, protection cover.

Components	Type No.	(Ord. No.)
Whip	K 51 12 40 1	(510 349)
Swivel-joint elements*	K 66 00 3	(510 153)
Protection cover	K 66 01 2	(510 156)
Cable	K 62 24 7	(510 148)
Tip protection	K 66 01 9	(510 159)

* butterfly nut + bolt + locking washer

Danger

Use of antenna on stationary vehicle:
The magnet may lift off from vehicle even at slow speed collision.

Magnet mount antenna
58 ... 300 MHz

KATHREIN
Antennen · Electronic

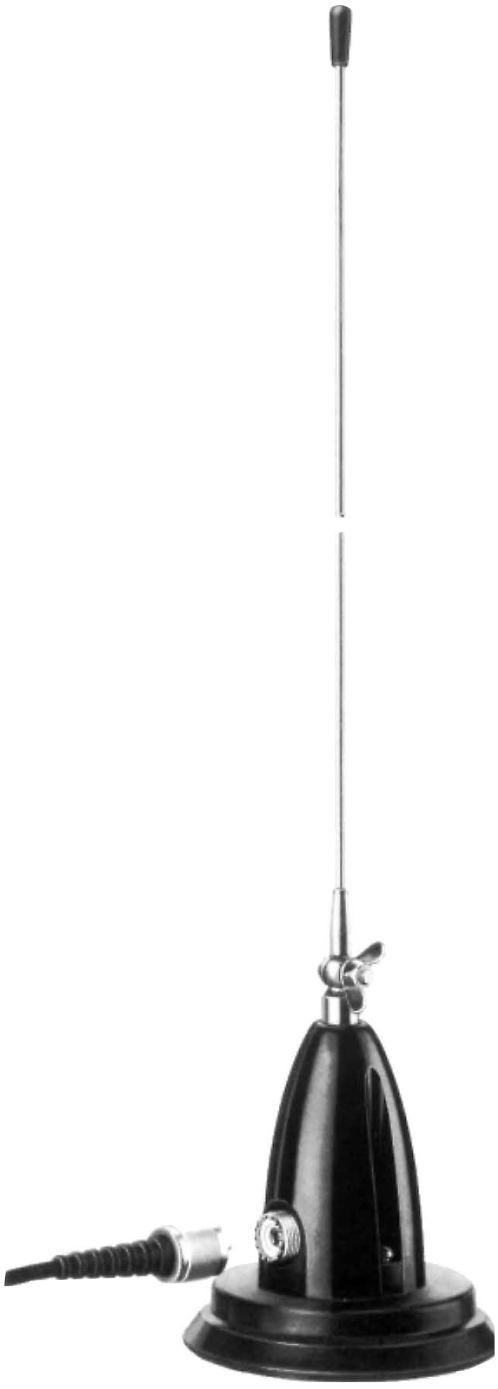
Type No. K 51 16 4 Ord. No. 510 351	58 ... 300 MHz, 0 dB gain (ref. to quarter-wave whip), supply length 1380 mm
Connection	Cable RG 058-PE 4 meters long
Tuning	By shortening the whip (please note mounting instructions).
Maximum load	80 W (at 50 °C ambient temperature)
Mounting	By attaching the antenna to a steel surface of at least 1 m^2 extension that should be as even as possible. Magnetic adhesive force: Approx. 200 N.
Max. diameter at base	95 mm
Material	Whip: Stainless steel. Swivel-joint parts: Chromium-plated brass. Magnetic base in shock-resistant plastic housing. Neoprene protection cover for the adhesive surface of the magnetic base.
Contents of delivery	Whip, base, cable, protection cover.

Components	Type No.	(Ord. No.)
Whip	K 51 12 40 1	(510 349)
Swivel-joint elements*	K 66 00 3	(510 153)
Protection cover	K 66 01 2	(510 156)
Cable	K 62 24 7	(510 148)
Tip protection	K 66 01 9	(510 159)

* butterfly nut + bolt + locking washer

Danger

Use of antenna on stationary vehicle:
The magnet may lift off from vehicle even at slow speed collision.



K 51 16 4

Rear mount antenna
144 ... 174 MHz / Car radio AM/FM

KATHREIN
Antennen · Electronic

K 50 70 2

Type No. K 50 70 2 Ord. No. 510 336	144 ... 174 MHz, 2 dB gain (ref. to quarter-wave whip), supply length 1235 mm
Connection	M11 x 1
Tuning	By shortening the whip (please note mounting instructions).
Maximum load	20 W (at 50 °C ambient temperature)
Mounting	In bore hole 12 mm diameter.
Built-in depth	32 mm (connector included)
Max. diameter at base	26 mm
Material	Whip: Fiberglass. Spring: Stainless steel. Swivel-joint parts: Chromium-plated brass. Base: Weather resistant plastic.
Contents of delivery	Whip, base, antenna wrench.
Accessories	For AM/FM reception (VHF) the coupler K 62 27 2 (Ord. No. 510 400) is required.
Exceptional features	The whip K 50 56 20 1 can be used on any special antenna base of the frequency range 400 – 470 MHz (see also page 34).

Components	Type No.	(Ord. No.)
Whip	K 50 56 20 1	(510 322)
Base	K 50 70 20 3	(510 337)
Antenna wrench	K 66 30 1	(510 160)
Tip protection	K 66 01 4	(510 158)

Rear mount antenna
143 ... 174 MHz / Car radio AM/FM

KATHREIN
Antennen · Electronic

Type No. K 50 51 2 Ord. No. 510 311	143 … 174 MHz, (as shortened whip also from 47 – 90 MHz), 2 dB gain (ref. to quarter-wave whip), supply length 1325 mm
Connection	M11 x 1
Tuning	By shortening the whip (please note mounting instructions).
Maximum load	80 W (at 50 °C ambient temperature)
Mounting	In bore hole 12 mm diameter.
Built-in depth	32 mm
Max. diameter at base	38 mm
Material	Whip and spring: Stainless steel. Swivel-joint parts: Chromium-plated brass. Base: Weather resistant plastic.
Contents of delivery	Whip, base, connector.
Accessories	For AM/FM reception the coupler K 62 27 2 (Ord. No. 510 400) is required.

Components	Type No.	(Ord. No.)
Whip	K 50 50 20 41	(510 310)
Base	K 50 50 20 31	(510 309)
Connector M11 x 1	K 62 05 1	(510 132)
Swivel-joint screw*	K 66 00 6	(510 154)
Tip protection	K 66 01 9	(510 159)

* butterfly bolt + philips screw + locking washer

K 50 51 2

Rear mount antenna
64 ... 300 MHz / Car radio AM/FM

KATHREIN
Antennen · Electronic

K 50 49 4

Type No. K 50 49 4 Ord. No. 510 307	without spring, 64 ... 300 MHz, 0 dB gain (ref. to quarter-wave whip), supply length 1225 mm
Connection	M11 x 1
Maximum load	100 W (at 50 °C ambient temperature)
Tuning	By shortening the whip (please note mounting instructions).
Mounting	In bore hole 12 mm diameter.
Built-in depth	32 mm
Max. diameter at base	38 mm
Material	Whip and spring: Stainless steel. Swivel-joint parts: Chromium-plated brass. Base: Weather resistant plastic.
Contents of delivery	Whip, base, connector.
Accessories	For AM/FM reception (VHF) the coupler K 62 27 4 (Ord. No. 510 431) is required.

Components	Type No.	(Ord. No.)
Whip	K 50 48 40 41	(510 304)
Base	K 50 48 40 31	(510 303)
Swivel-joint screw*	K 66 00 6	(510 154)
Tip protection	K 66 01 9	(510 159)
Connector	K 62 05 1	(510 132)

* butterfly bolt + philips screw + locking washer

Rear mount antenna
62 ... 300 MHz / Car radio AM/FM

KATHREIN
Antennen · Electronic

Type No. K 50 46 4 Ord. No. 510 298	with spring, 62 ... 300 MHz, 0 dB gain (ref. to quarter-wave whip), supply length 1275 mm
Connection	M11 x 1
Maximum load	100 W (at 50 °C ambient temperature)
Tuning	By shortening the whip (please note mounting instructions).
Mounting	In bore hole 12 mm diameter.
Built-in depth	32 mm
Max. diameter at base	38 mm
Material	Whip and spring: Stainless steel. Swivel-joint parts: Chromium-plated brass. Base: Weather resistant plastic.
Contents of delivery	Whip, base, connector.
Accessories	For AM/FM reception (VHF) the coupler K 62 27 4 (Ord. No. 510 431) is required.

Components	Type No.	(Ord. No.)
Whip	K 50 47 40 41	(510 300)
Base	K 50 48 40 31	(510 303)
Swivel-joint screw*	K 66 00 6	(510 154)
Tip protection	K 66 01 9	(510 159)
Connector	K 62 05 1	(510 132)

* butterfly bolt + philips screw + locking washer

K 50 46 4

Special antenna bases
146 – 174 / 400 – 470 MHz

KATHREIN
Antennen · Electronic

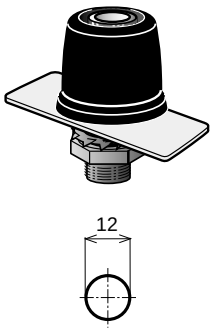
These antenna bases are suitable for the whip K 50 56 20 1 (Ord. No. 510 322).
Connector M11 x 1

Manufacturer	Model	Type No.	(Ord. No.)		
Audi 80	Sedan 8/86 – 11/94	**K 70 81 23 03**[2)]	(510 188)		
Audi 80 Avant	Station wagon 6/92 – 1/96	**728 184**[2)]	(510 025)		
Audi 80 B 4	Convertible from 3/91	**K 70 81 23 03**[2)]	(510 188)		
Audi 100	Sedan 9/82 – 12/90	**K 70 81 23 03**[2)]	(510 188)		
Audi 100 Avant	Station wagon 12/90 – 6/94	**K 70 81 23 03**[2)]	(510 188)		
Audi A 4	Sedan from 11/94	**K 70 81 23 03**[2)]	(510 188)		
Audi A 6	Sedan from 6/94	**K 70 81 23 03**[2)]	(510 188)		
BMW E 23	7 Series up to 9/86	**K 70 81 23 03**[2)]	(510 188)	or **724 712**[2)]	(510 015)
BMW E 24	6 Series	**K 70 81 23 03**[2)]	(510 188)	or **724 712**[2)]	(510 015)
BMW E 28	5 Series up to 2/88	**K 70 81 23 03**[2)]	(510 188)	or **724 712**[2)]	(510 015)
BMW E 30	3 Series Sedan 11/82 – 12/90	**K 70 81 23 03**[2)]	(510 188)	or **724 712**[2)]	(510 015)
BMW E 30/C	3 Series cabrio	**K 70 81 23 03**[2)]	(510 188)		
BMW E 31	8 Series from `90	**725 040**[2)]	(510 014)		
BMW E 32	7 Series 9/86 – 6/94	**725 040**[1)]	(510 014)		
BMW E 34	5 Series 2/88 – 11/95	**732 701**[1)]	(510 139)		
BMW E 34/2	5 Series touring 9/91 – 2/97	**733 838**[1)]	(510 222)		
BMW E 36/C	Convertible 4/93 – 3/00	**K 70 81 23 03**[2)]	(510 188)		
BWM E 36/2	3 Series coupé 1/92 – 3/99	**K 70 81 23 03**[2)]	(510 188)	or **724 712**[2)]	(510 015)
BMW E 36/3	3 Series touring 6/95 – 9/99	**733 838**[1)]	(510 222)		
BMW E 36/4	3 Series Sedan from 12/90 – 4/98	**K 70 81 23 03**[2)]	(510 188)	or **724 712**[2)]	(510 015)
BMW E 38	7 Series from 7/94	**736 222**[1)]	(510 248)		
BMW E 39	5 Series from 12/95	**736 222**[1)]	(510 248)		
Ford Mondeo	Notchback 1/93 – 8/00	**728 184**[2)]	(510 025)		
Ford Mondeo	Fastback 2/93 – 8/00	**728 184**[2)]	(510 025)		
Ford Mondeo	Station wagon from 2/93 – 8/00	**728 184**[2)]	(510 025)		
Ford Scorpio	Sedan 4/85 – 1/95	**K 70 81 23 03**[2)]	(510 188)		
Ford Scorpio	Station wagon 9/91 – 1/95	**728 184**[2)]	(510 025)		
Mercedes W 124	200 – 500 Sedan 1/85 – 6/95	**725 080**[1)]	(510 017)		
Mercedes C 124	200 – 300 Coupé 1/85 – 5/96	**725 086**[1)]	(510 018)		
Mercedes A 124	200 – 300 Convertible 1/85 – 5/96	**732 307**[1)]	(510 019)		
Mercedes S 124	200 – 300 model T 9/85 – 5/96	**725 188**[1)]	(510 020)		
Mercedes W 140	S class Sedan 5/91 – 10/98	**728 947**[1)]	(510 022)		
Mercedes C 140	S class Coupé from 10/92	**731 324**[1)]	(510 023)		
Mercedes R 129	SL Convertible from 9/89	**726 436**[1)]	(510 024)		
Mercedes W 201	Model 190 11/82 – 5/93	**725 084**[1)]	(510 016)		
Mercedes W 202	C class 6/93 – 5/00	**731 326**[1)]	(510 219)		
Mercedes W 126	S class Sedan 10/79 – 5/91	**725 082**[1)]	(510 021)		
Mercedes S 123	Model T	**725 188**[1)]	(510 020)		
Mercedes W 210	E class ab 7/95	**736 836**[1)]	(510 254)		
Opel Vectra A	Notchback 6/88 – 9/95	**728 184**[2)]	(510 025)		
Opel Vectra A	Fastback 3/89 – 9/95	**728 184**[2)]	(510 025)		
Opel Vectra B	from 9/95	**K 70 81 23 03**[2)]	(510 188)		
Opel Omega A	Sedan 9/86 – 3/94	**728 184**[2)]	(510 025)		
Opel Omega A	Station wagon 9/86 – 3/94	**728 184**[2)]	(510 025)		
Opel Calibra	from 3/90	**728 184**[1)]	(510 025)		
Opel Astra A	Fastback 9/91 – 2/98	**728 184**[1)]	(510 025)		
Opel Astra A	Notchback 9/91 – 2/98	**K 70 81 23 03**[2)]	(510 188)		
Opel Astra A	Convertible 3/93 – 2/99	**725 082**[2)]	(510 021)		
Opel Senator B	Sedan	**730 896**[2)]	(510 026)		
VW Passat III	Sedan 2/88 – 7/96	**726 930**[2)]	(510 027)		
Vehicles	with mounting surfaces that are inclined at approx. 45°	**728 184**[2)]	(510 025)		

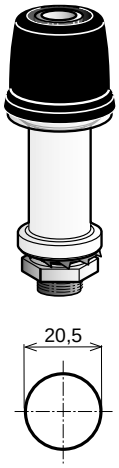
1) for mounting into the factory-produced bore hole, without subsequent work. 2) if there is no bore hole.

Connector M11 x 1

724 712 (510 015)



725 040 (510 014)



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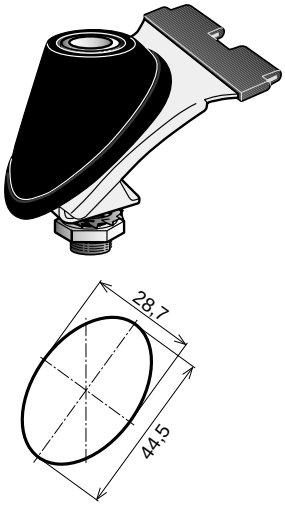

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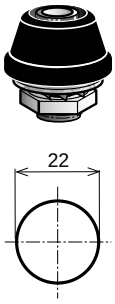

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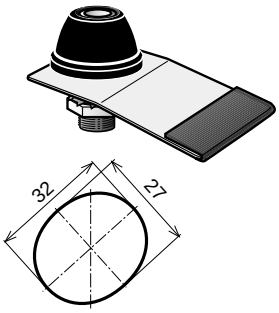

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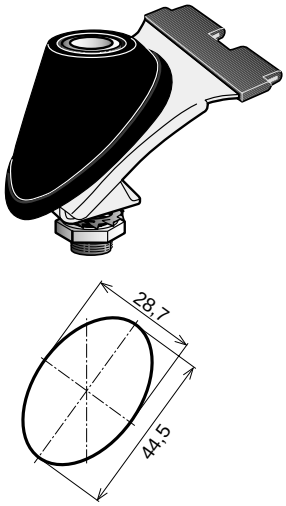
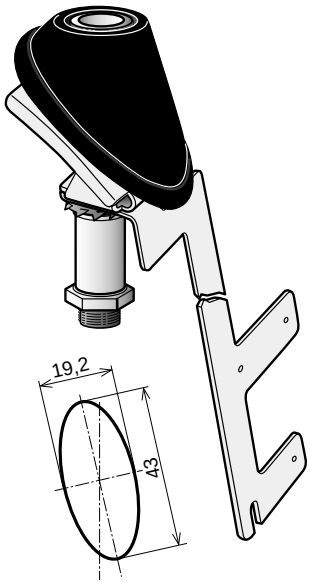
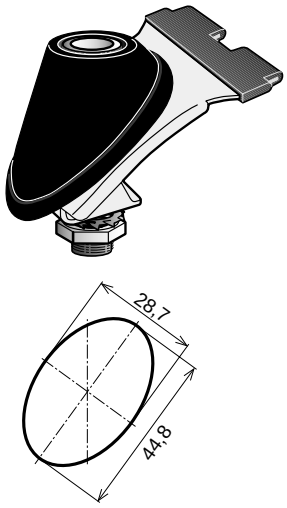


725 188 (510 020)

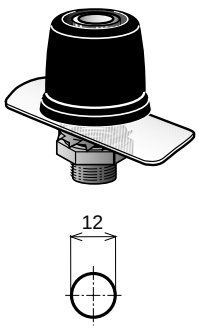


726 436 (510 024)

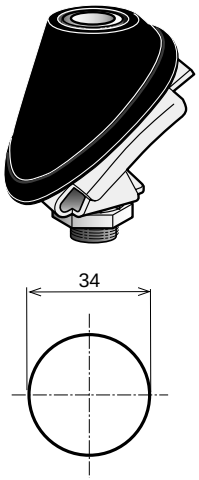


Connector M11 x 1

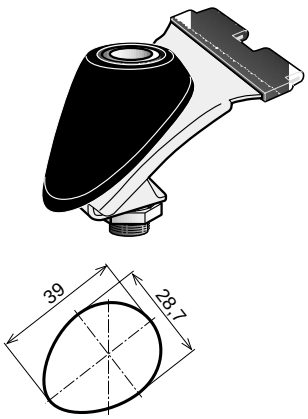
726 930 (510 027)



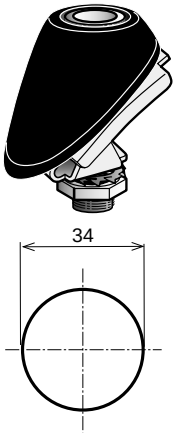
728 184 (510 025)



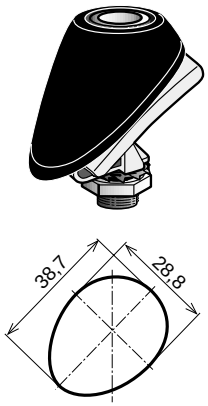
728 947 (510 022)



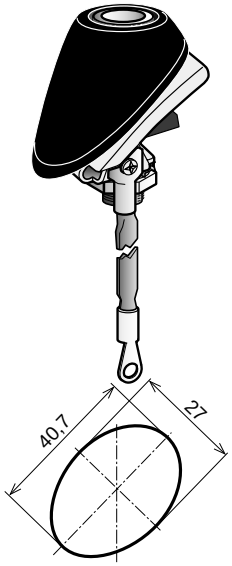
730 896 (510 026)



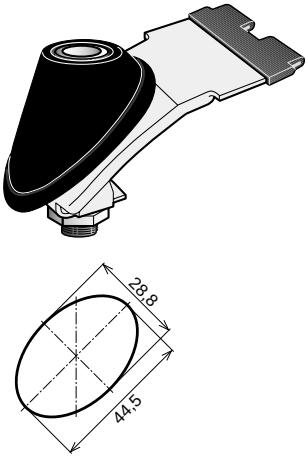
731 324 (510 023)



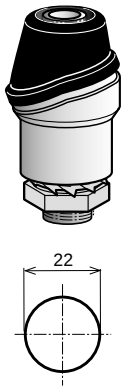
731 326 (510 219)



732 307 (510 019)

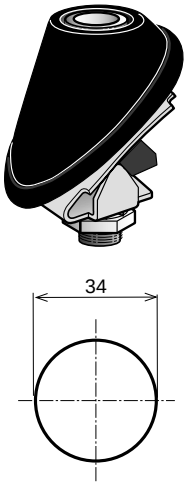


732 701 (510 139)

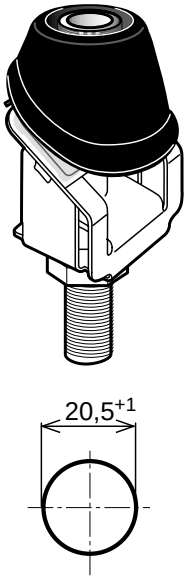


Connector M11 x 1

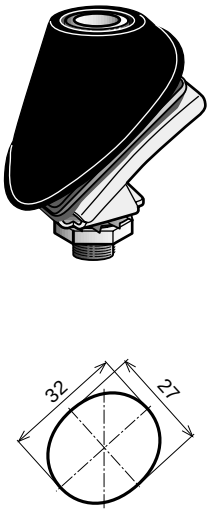
733 838 (510 222)



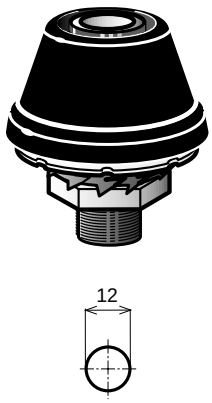
736 222 (510 248)



736 836 (510 254)



K 70 81 23 03 (510 188)



Mobile communication antennas for cars 380 – 470 MHz

(TETRA, Trunking Systems, 70 cm band, NMT 450)

In the following chapter the antennas are listed according to the product families, beginning with:

- Roof mount antennas
- Magnet mount antennas
- Rear mount antennas
- Caravan antennas

Roof mount antenna
380 ... 430 MHz / Car radio AM/FM

KATHREIN
Antennen · Electronic

K 70 57 21 9

Type No. K 70 57 21 9 Ord. No. 510 173	380 ... 400 MHz: 2 dB gain 406 ... 430 MHz: 4 dB gain (ref. to quarter-wave whip), length 600 mm, Fixed cable RG 058 5 meters long,
Maximum load	50 W (at 50 °C ambient temperature)
Tuning	By moving the tuning disk (note mounting instructions).
Mounting	In bore hole 24 mm diameter.
Built-in depth	14 mm
Max. diameter at base	38 mm
Material	Whip: Stainless steel. Parts of the swivel-joint and tuning disk: Chromium-plated brass. Base: Weather resistant plastic.
Contents of delivery	Whip, base, allen key.
Accessories	For AM/FM reception the coupler K 63 27 23 (Ord. No. 510 258) is required.

Components	Type No.	(Ord. No.)
Whip	K 70 57 21 04 1	(510 172)
Base for K 70 57 21 9	K 50 55 20 31	(510 142)
Swivel-joint screw*	K 66 00 6	(510 154)
Tip protection	K 66 01 4	(510 158)

* butterfly bolt + philips screw + locking washer

Roof mount antenna
440 ... 470 MHz / Car radio AM/FM

KATHREIN
Antennen · Electronic

Type No. K 70 57 23 9 Ord. No. 510 178	440 … 470 MHz, 4 dB gain (ref. to quarter-wave whip), Fixed cable RG 058, 5 meters long, length 540 mm
Maximum load	50 W (at 50 °C ambient temperature)
Tuning	By moving the tuning disk (note mounting instructions).
Mounting	In bore hole 24 mm diameter.
Built-in depth	14 mm
Max. diameter at base	38 mm
Material	Whip: Stainless steel. Parts of the swivel-joint and tuning disk: Chromium-plated brass. Base: Weather resistant plastic.
Contents of delivery	Whip, base, allen key.
Accessories	For AM/FM reception the coupler K 63 27 23 (Ord. No. 510 258) is required.

Components	Type No.	(Ord. No.)
Whip	K 70 57 23 04 1	(510 175)
Base for K 70 57 23 9	K 50 55 20 31	(510 142)
Swivel-joint screw*	K 66 00 6	(510 154)
Tip protection	K 66 01 4	(510 158)

* butterfly bolt + philips screw + locking washer

K 70 57 23 9

EuroLine antenna
380 – 406 MHz / Car radio AM/FM

KATHREIN
Antennen · Electronic

K 70 78 22

K 70 77 22

- **Antenna for the digital trunking system TETRA.**
- **4 dB gain antenna, also usable as combined whip for 380 – 406 MHz / AM/FM reception.**
- **4 dB gain antenna in low-noise version**.

Type No. K 70 77 22 Ord. No. 510 750	380 – 406 MHz, 0 dB gain (ref. to quarter-wave whip), length 193 mm
Type No. K 70 78 22 Ord. No. 510 753	380 – 406 MHz, 4 dB gain (ref. to quarter-wave whip), low wind-noise, length 630 mm
Connection	Minicrimp (male)
Maximum load	50 W (at 50 °C ambient temperature)
Mounting	Into bore hole 18^{+1} mm diameter from the external side of the car body. Into bore hole 14 … 19 mm diameter from the inner side of the car body.
Built-in depth	13 mm
Max. diameter at base	32 mm
Material	Metal parts are made of brass and stainless steel. All visible metal parts are black chromium-plated.
Contents of delivery	Whip, base, antenna wrench.
Accessories	For AM/FM reception the coupler K 63 27 23 (Ord. No. 510 258) is required.

Components		Type No.	(Ord. No.)
Whip	for K 70 77 22	K 70 70 22 01	(510 751)
	for K 70 78 22	K 70 71 22 01	(510 754)
Base		K 70 77 20 3	(510 006)
Base with 5 mtr cable		K 70 70 20 3	(510 005)
Tip protection		K 66 01 9	(510 159)
Antenna wrench		K 66 30 2	(510 161)

EuroLine antenna
406 – 440 MHz

KATHREIN
Antennen · Electronic

- **4 dB gain antenna, also usable as combined whip for 406 – 440 MHz / AM/FM reception.**
- **4 dB gain antenna in low-noise version.**

Type No. K 70 77 21 Ord. No. 510 184	406 – 440 MHz, 0 dB gain (ref. to quarter-wave whip), length 180 mm
Type No. K 70 78 21 Ord. No. 510 756	406 – 440 MHz, 4 dB gain (ref. to quarter-wave whip), low wind-noise, length 590 mm
Connection	Minicrimp (male)
Maximum load	50 W (at 50 °C ambient temperature)
Mounting	Into bore hole 18^{+1} mm diameter from the external side of the car body. Into bore hole 14 … 19 mm diameter from the inner side of the car body.
Built-in depth	13 mm
Max. diameter at base	32 mm
Material	Metal parts are made of brass and stainless steel. All visible metal parts are black chromium-plated.
Contents of delivery	Whip, base, antenna wrench.
Accessories	For AM/FM reception the coupler K 63 27 23 (Ord. No. 510 258) is required.
Special feature	Whip K 70 70 21 01 is marked with the letter „K“

Components	Type No.	(Ord. No.)
Whip for K 70 77 21	K 70 70 21 01	(510 181)
Whip for K 70 78 21	K 70 71 21 01	(510 236)
Base	K 70 77 20 3	(510 006)
Base with 5 mtr cable	K 70 70 20 3	(510 005)
Tip protection	K 66 01 9	(510 159)
Antenna wrench	K 66 30 2	(510 161)

K 70 77 21

K 70 78 21

EuroLine antenna
380 – 410 / 890 – 960 MHz

KATHREIN
Antennen · Electronic

- **Antenna for the simultaneous operation of a Trunking system (380 – 410 MHz) and a 900 MHz mobile phone.**

506 10001

Type No. 506 10001 Ord. No. 506 10001	380 – 410 / 890 – 960 MHz 0 dB gain (ref. to quarter-wave whip) in both ranges, length 180 mm
Connection	Minicrimp (male)
Maximum load	15 W (at 50 °C ambient temperature)
Mounting	Into bore hole 18^{+1} mm diameter from the external side of the car body. Into bore hole 14 … 19 mm diameter from the inner side of the car body.
Built-in depth	13 mm
Max. diameter at base	32 mm
Material	Metal parts are made of brass and stainless steel. All visible metal parts are black chromium-plated.
Contents of delivery	Whip, base, antenna wrench.
Accessories	For the simultaneous operation of a TETRA/trunking system and a 900 MHz radio set, the diplexer K 63 27 25 (Order-No. 510 029) is required.

Components	Type No.	(Ord. No.)
Whip	506 10002	(506 10002)
Base	K 70 77 20 3	(510 006)
Base with 5 mtr cable	K 70 70 20 3	(510 005)
Antenna wrench	K 66 30 2	(510 161)

EuroLine antenna
410 – 430 / 890 – 960 MHz

KATHREIN
Antennen · Electronic

- **Antenna for the simultaneous operation of a 400 MHz radio set and a 900 MHz mobile phone.**

Type No. K 70 50 64 Ord. No. 510 773	410 – 430 / 890 – 960 MHz 0 dB gain (ref. to quarter-wave whip) in both ranges, length 180 mm
Connection	Minicrimp (male)
Maximum load	15 W (at 50 °C ambient temperature)
Mounting	Into bore hole 18^{+1} mm diameter from the external side of the car body. Into bore hole 14 … 19 mm diameter from the inner side of the car body.
Built-in depth	13 mm
Max. diameter at base	32 mm
Material	Metal parts are made of brass and stainless steel. All visible metal parts are black chromium-plated.
Contents of delivery	Whip, base, antenna wrench.
Accessories	For the simultaneous operation of a 400 MHz and a 900 MHz radio set the coupler K 63 27 25 is required (Ord. No. 510 029).
Special feature	Whip 737 637 is marked with the letter „L“

Components	Type No.	(Ord. No.)
Whip	737 637	(510 265)
Base	K 70 77 20 3	(510 006)
Base with 5 mtr cable	K 70 70 20 3	(510 005)
Antenna wrench	K 66 30 2	(510 161)

K 70 50 64

EuroLine antenna
440 – 470 MHz / Car radio AM/FM

KATHREIN
Antennen · Electronic

K 70 77 23 K 70 78 23

- **Gain antenna, also usable as combined whip for 440 – 470 MHz / AM/FM reception.**
- **4 dB gain antenna in low-noise version.**

Type No. K 70 77 23 Ord. No. 510 003	440 – 470 MHz, 0 dB gain (ref. to quarter-wave whip), length 180 mm
Type No. K 70 78 23 Ord. No. 510 001	440 – 470 MHz, 4 dB gain (ref. to quarter-wave whip), low-noise, length 550 mm
Connection	Minicrimp (male)
Maximum load	50 W (at 50 °C ambient temperature)
Mounting	Into bore hole 18^{+1} mm diameter from the external side of the car body. Into bore hole 14 ... 19 mm diameter from the inner side of the car body.
Built-in depth	13 mm
Max. diameter at base	32 mm
Material	Metal parts are made of brass and stainless steel. All visible metal parts are black chromium-plated.
Contents of delivery	Whip, base, antenna wrench.
Accessories	For AM/FM reception the coupler K 63 27 23 (Ord. No. 510 258) is required.

Components		Type No.	(Ord. No.)
Whip	for K 70 77 23	K 70 70 23 01	(510 109)
	for K 70 78 23	K 70 71 23 01	(510 111)
Base		K 70 77 20 3	(510 006)
Base with 5 mtr cable		K 70 70 20 3	(510 005)
Tip protection		K 66 01 9	(510 159)
Antenna wrench		K 66 30 2	(510 161)

Magnet mount antenna
380 – 435 MHz

KATHREIN
Antennen · Electronic

Type No. K 71 17 21 Ord. No. 510 192	380 – 400 MHz, 2.5 dB gain (ref. to quarter-wave whip), 400 – 435 MHz, 4 dB gain (ref. to quarter-wave whip), length 670 mm
Connection	Cable RG 058-PE, 4 meters long, without radio set connector.
Maximum load	50 W (at 50 °C ambient temperature)
Mounting	By attaching the antenna to a steel surface of at least 1 m^2 extension that should be as even as possible. Magnetic adhesive force: Approx. 200 N.
Max. diameter at base	95 mm
Material	Whip: Stainless steel. Swivel-joint parts: Chromium-plated brass. Magnetic base in shock-resistant plastic housing. Neoprene protection cover for the adhesive surface of the magnetic base.
Contents of delivery	Whip, base, cable.

Components	Type No.	(Ord. No.)
Whip	K 71 14 21 01	(510 190)
Swivel-joint screw*	K 66 00 3	(510 153)
Protection cover	K 66 01 2	(510 156)
Cable	K 62 24 7	(510 148)
Tip protection	K 66 01 4	(510 158)

* butterfly nut + bolt + locking washer

Danger

Use of antenna on stationary vehicle:
The magnet may lift off from vehicle even at slow speed collision.

K 71 17 21

Magnet mount antenna
435 – 470 MHz

KATHREIN
Antennen · Electronic

K 71 17 23

Type No. K 71 17 23 Ord. No. 510 010	435 – 470 MHz, 4 dB gain (ref. to quarter-wave whip), length 610 mm
Connection	Cable RG 058-PE, 4 meters long without radio set connector.
Maximum load	50 W (at 50 °C ambient temperature)
Mounting	By attaching the antenna to a steel surface of at least 1 m^2 extension that should be as even as possible. Magnetic adhesive force: Approx. 200 N.
Max. diameter at base	95 mm
Material	Whip: Stainless steel. Swivel-joint parts: Chromium-plated brass. Magnetic base in shock-resistant plastic housing. Neoprene protection cover for the adhesive surface of the magnetic base.
Contents of delivery	Whip, base, cable.

Components	Type No.	(Ord. No.)
Whip	K 71 14 23 01	(510 115)
Swivel-joint screw*	K 66 00 3	(510 153)
Protection cover	K 66 01 2	(510 156)
Cable	K 62 24 7	(510 148)
Tip protection	K 66 01 4	(510 158)

* butterfly nut + bolt + locking washer

Danger

Use of antenna on stationary vehicle:
The magnet may lift off from vehicle even at slow speed collision.

Magnet mount antenna
410 – 470 MHz

KATHREIN
Antennen · Electronic

- **Broadband antenna.**

Type No. K 71 16 21 Ord. No. 510 009	410 – 470 MHz, 0 dB gain (ref. to quarter-wave whip), length 180 mm
Connection	Fixed cable RG 058-PE, 4 meters long with Minicrimp connector.
Maximum load	50 W (at 50 °C ambient temperature)
Mounting	By attaching it to steel surfaces of at least 0.5 m^2 extension that are as even as possible. Magnetic adhesion force: Approx. 100 N.
Max. diameter at base	73 mm
Material	Elastic, corrosion-resistant metal shaft in especially resistant plastic protective cover. Magnetic base in shock-resistant plastic housing with neoprene cover.
Contents of delivery	Whip, base, cable.

Components	Type No.	(Ord. No.)
Whip	K 71 16 20 11	(510 114)
Base	K 71 16 20 3	(510 191)
Cable, 4.0 mtr length	K 62 24 10	(510 041)
Protection cover	K 66 01 3	(510 157)

K 71 16 21

Danger

Use of antenna on stationary vehicle:
The magnet may lift off from vehicle even at slow speed collision.

Rear mount antenna
450 – 470 MHz / Car radio AM/FM

KATHREIN
Antennen · Electronic

- **Whip also fits on all special antenna bases 400 – 470 MHz.**
- **High gain.**

K 70 83 23 20 1

Type No. K 70 83 23 20 1 Ord. No. 510 118	450 – 470 MHz, 6 dB gain (ref. to quarter-wave whip), low-noise, length 880 mm
Connection	M11 x 1
Maximum load	25 W (at 50 °C ambient temperature)
Mounting	Into bore hole 12 mm diameter. A bendable section allows the levelling out of inclinations up to 20°.
Built-in depth	32 mm (connector included)
Max. diameter at base	35 mm
Material	Whip: Stainless steel and brass, black chromium-plated. Base: Weather resistant plastic.
Contents of delivery	Whip, antenna wrench.
Accessories	For AM/FM reception also the coupler K 63 27 23 (Ord. No. 510 258) is required.
Exceptional features	The whip K 70 83 23 20 1 fits on any special base of the frequency range 400 – 470 MHz (see also page 51).

Accessories	Type No.	(Ord. No.)
Whip	K 70 83 23 20 1	(510 118)
Base	K 70 81 23 03	(510 188)
Connector M11 x 1	K 62 05 1	(510 132)
Tip protection	K 66 01 9	(510 159)
Antenna wrench	K 66 30 1	(510 160)

Special antenna bases
400 – 470 MHz

KATHREIN
Antennen · Electronic

These antenna bases are suitable for the whip K 70 83 23 20 1 (Ord. No. 510 118).

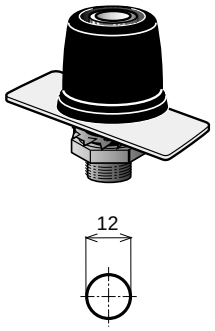
Manufacturer	Model	Type No.	(Ord. No.)		
Audi 80	Sedan 8/86 – 11/94	**K 70 81 23 03**[2)]	(510 188)		
Audi 80 Avant	Station wagon 6/92 – 1/96	**728 184**[2)]	(510 025)		
Audi 80 B 4	Convertible from 3/91	**K 70 81 23 03**[2)]	(510 188)		
Audi 100	Sedan 9/82 – 6/94	**K 70 81 23 03**[2)]	(510 188)		
Audi 100 Avant	Station wagon 12/90 – 6/94	**K 70 81 23 03**[2)]	(510 188)		
Audi A 4	Sedan from 11/94	**K 70 81 23 03**[2)]	(510 188)		
Audi A 6	Sedan from 6/94	**K 70 81 23 03**[2)]	(510 188)		
BMW E 23	7 Series up to 9/86	**K 70 81 23 03**[2)]	(510 188)	or **724 712**[2)]	(510 015)
BMW E 24	6 Series	**K 70 81 23 03**[2)]	(510 188)	or **724 712**[2)]	(510 015)
BMW E 28	5 Series up to 2/88	**K 70 81 23 03**[2)]	(510 188)	or **724 712**[2)]	(510 015)
BMW E 30	3 Series Sedan 11/82 – 12/90	**K 70 81 23 03**[2)]	(510 188)	or **724 712**[2)]	(510 015)
BMW E 30/C	3 Series cabrio	**K 70 81 23 03**[2)]	(510 188)		
BMW E 31	8 Series from `90	**725 040**[2)]	(510 014)		
BMW E 32	7 Series 9/86 – 6/94	**725 040**[1)]	(510 014)		
BMW E 34	5 Series 2/88 – 11/95	**732 701**[1)]	(510 139)		
BMW E 34/2	5 Series touring 9/91 – 2/97	**733 838**[1)]	(510 222)		
BMW E 36/C	Convertible 4/93 – 3/00	**K 70 81 23 03**[2)]	(510 188)		
BWM E 36/2	3 Series coupé 1/92 – 3/99	**K 70 81 23 03**[2)]	(510 188)	or **724 712**[2)]	(510 015)
BMW E 36/3	3 Series touring 6/95 – 9/99	**733 838**[1)]	(510 222)		
BMW E 36/4	3 Series Sedan 12/90 – 4/98	**K 70 81 23 03**[2)]	(510 188)	or **724 712**[2)]	(510 015)
BMW E 38	7 Series from 7/94	**736 222**[1)]	(510 248)		
BMW E 39	5 Series from 12/95	**736 222**[1)]	(510 248)		
Ford Mondeo	Notchback from 1/93 – 8/00	**728 184**[2)]	(510 025)		
Ford Mondeo	Fastback 2/93 – 8/00	**728 184**[2)]	(510 025)		
Ford Mondeo	Station wagon 2/93 – 8/00	**728 184**[2)]	(510 025)		
Ford Scorpio	Sedan 4/85 – 1/95	**K 70 81 23 03**[2)]	(510 188)		
Ford Scorpio	Station wagon 9/91 – 1/95	**728 184**[2)]	(510 025)		
Mercedes W 124	200 – 500 Sedan 1/85 – 6/95	**725 080**[1)]	(510 017)		
Mercedes C 124	200 – 300 Coupé 1/85 – 5/96	**725 086**[1)]	(510 018)		
Mercedes A 124	200 – 300 Convertible 1/85 – 5/96	**732 307**[1)]	(510 019)		
Mercedes S 124	200 – 300 model T 9/85 – 5/96	**725 188**[1)]	(510 020)		
Mercedes W 140	S class Sedan 5/91 – 10/98	**728 947**[1)]	(510 022)		
Mercedes C 140	S class Coupé from 10/92	**731 324**[1)]	(510 023)		
Mercedes R 129	SL Convertible from 9/89	**726 436**[1)]	(510 024)		
Mercedes W 201	Model 190 11/82 – 5/93	**725 084**[1)]	(510 016)		
Mercedes W 202	C class 6/93 – 5/00	**731 326**[1)]	(510 219)		
Mercedes W 126	S class Sedan 10/79 – 5/91	**725 082**[1)]	(510 021)		
Mercedes S 123	Model T	**725 188**[1)]	(510 020)		
Mercedes W 210	E class ab 7/95	**736 836**[1)]	(510 254)		
Opel Vectra A	Notchback 6/88 – 9/95	**728 184**[2)]	(510 025)		
Opel Vectra A	Fastback 3/89 – 9/95	**728 184**[2)]	(510 025)		
Opel Vectra B	from 9/95	**K 70 81 23 03**[2)]	(510 188)		
Opel Omega A	Sedan 9/86 – 3/94	**728 184**[2)]	(510 025)		
Opel Omega A	Station wagon 9/86 – 3/94	**728 184**[2)]	(510 025)		
Opel Calibra	from 3/90	**728 184**[1)]	(510 025)		
Opel Astra A	Fastback 9/91 – 2/98	**728 184**[1)]	(510 025)		
Opel Astra A	Notchback 9/91 – 2/98	**K 70 81 23 03**[2)]	(510 188)		
Opel Astra A	Convertible 3/93 – 2/98	**725 082**[2)]	(510 021)		
Opel Senator B	Sedan	**730 896**[2)]	(510 026)		
VW Passat III	Sedan 2/88 – 7/96	**726 930**[2)]	(510 027)		
Vehicles	with mounting surfaces that are inclined at approx. 45	**728 184**[2)]	(510 025)		

1) for mounting into the factory-produced bore hole, without subsequent work. 2) if there is no bore hole.

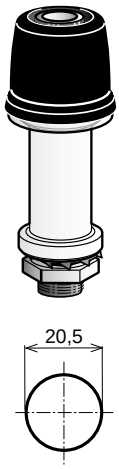
Special antenna bases
400 – 470 MHz

Connector M11 x 1

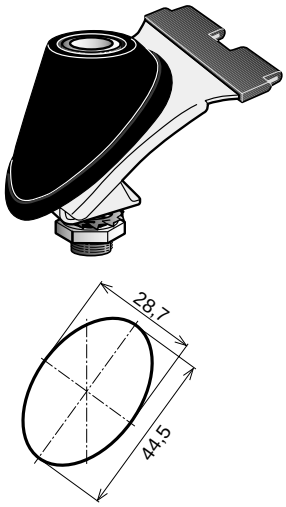
724 712 (510 015)



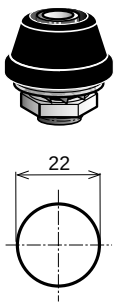
725 040 (510 014)



725 080 (510 017)



725 082 (510 021)



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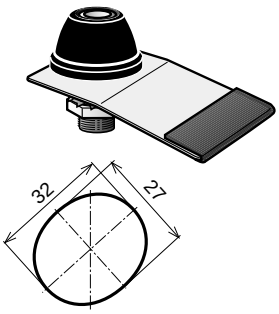

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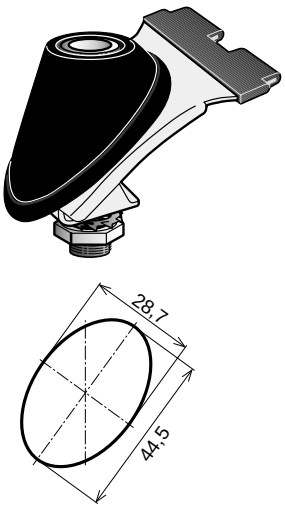

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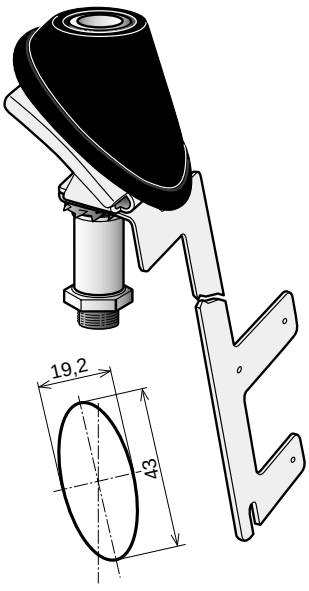
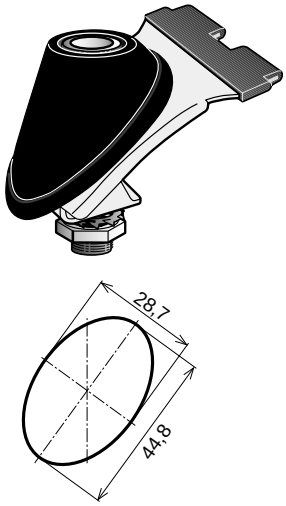


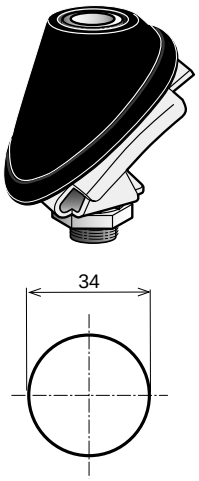
726 436 (510 024)



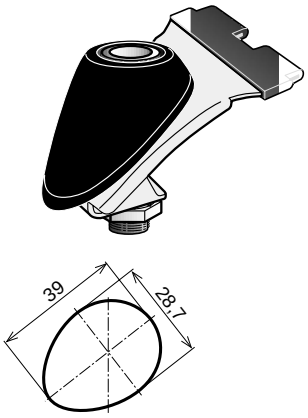
Special antenna bases
400 – 470 MHz

Connector M11 x 1

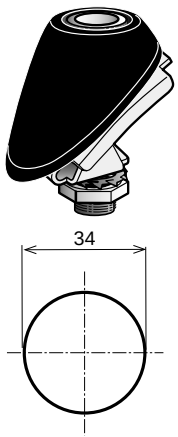
728 184 (510 025)



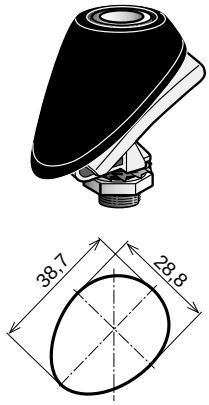
728 947 (510 022)



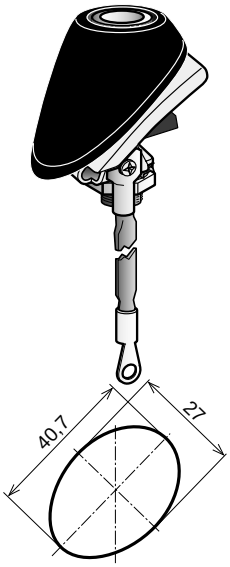
730 896 (510 026)



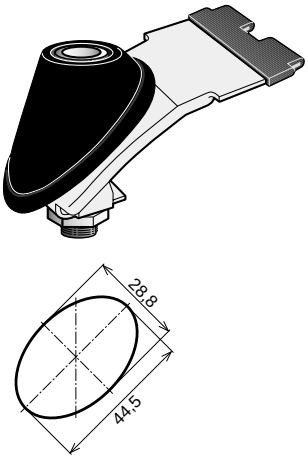
731 324 (510 023)



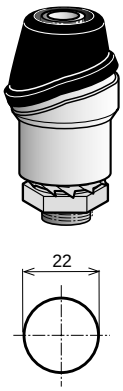
731 326 (510 219)



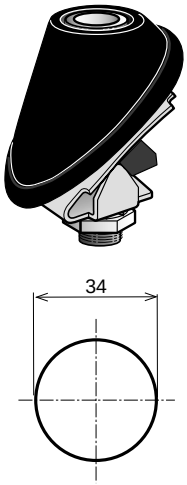
732 307 (510 019)



732 701 (510 139)



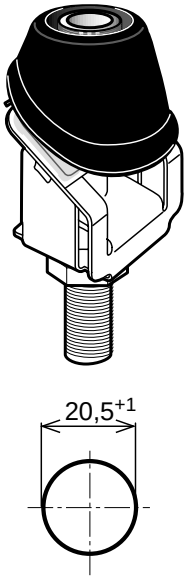
733 838 (510 222)



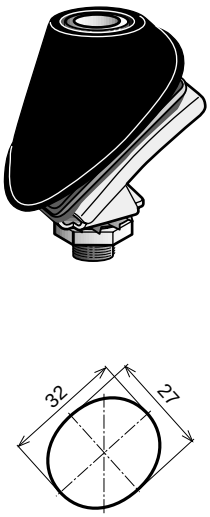
Special antenna bases
400 – 470 MHz

Connector M11 x 1

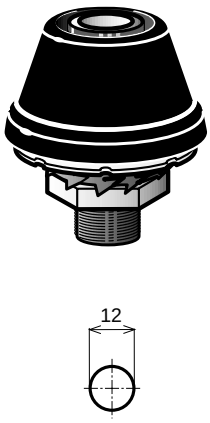
736 222 (510 248)



736 836 (510 254)



K 70 81 23 03 (510 188)



Caravan antenna
410 – 430 MHz

KATHREIN
Antennen · Electronic

- **Omnidirectional antenna for mobile operation.**
- **No electrical counterpoise required.**
- **Suitable for plastic and sandwich construction roofs.**

Type No. 736 786 Ord. No. 510 250	410 – 430 MHz, 0 dB gain (ref. to half-wave dipole), length 410 mm
Connection	Minicrimp (male)
Impedance	50 Ω
Polarization	Vertical
Weight	260 g
Mounting	Into bore hole 12 mm diameter on roofs up to 40 mm thickness or 17 mm diameter when mounting kit for roofs 40 – 60 mm is used (see accessories).
Max. diameter at base	36 mm
Material	Brass whip in a protection tube of white fiberglass laminate. Antenna base of weather resistant aluminium.
Grounding	All metal parts of the antenna and the inner conductor are grounded.
Contents of delivery	Whip including base (without grommet/without cable)
Exceptional features	The antenna can also be used on boats.
Accessories	K 66 10 0 (Ord. No. 510 821) mounting kit for roofs of 40 – 60 mm.

736 786

Caravan antenna
450 – 470 MHz

KATHREIN
Antennen · Electronic

- **Omnidirectional antenna for mobile operation.**
- **No electrical counterpoise required.**
- **Suitable for and sandwich construction roofs.**

736 785

Type No. 736 785 Ord. No. 510 249	450 – 470 MHz, 0 dB gain (ref. to half-wave dipole), length 370 mm
Connection	Minicrimp (male)
Impedance	50 Ω
Polarization	Vertical
Weight	260 g
Mounting	Into bore hole 12 mm diameter on roofs up to 40 mm thickness or 17 mm diameter when mounting kit for roofs 40 – 60 mm is used (see accessories).
Max. diameter at base	36 mm
Material	Brass whip in a protection tube of white fiberglass laminate. Antenna base of weather-resistant aluminium.
Grounding	All metal parts of the antenna and the inner conductor are grounded.
Contents of delivery	Whip including base (without grommet/without cable)
Exceptional features	The antenna can also be used on boats.
Accessories	K 66 10 0 (Ord. No. 510 821) mounting kit for roofs of 40 – 60 mm.

Mobile communication antennas for cars 810 – 2170 MHz

(35 cm band, GSM 900, Natel C, NMT 900, TACS, DoCoMo, AMPS, PCN/GSM 1800, PCS, DCS 1800/1900, UMTS)

In the following chapter the antennas are listed according to the product families, beginning with:

- Roof mount antennas
- Stick-on antennas
- Rear mount antennas
- Caravan antennas

Multi roof mount antenna
810 – 2170 MHz

KATHREIN
Antennen · Electronic

- **One antenna only for world-wide application AMPS, DoCoMo, GSM 900/1800, PCS, DCS 1800/1900, UMTS).**
- **Made for future technologies, UMTS operation included.**
- **Excellent omni-directional pattern.**
- **Ultra broadband design with no tuning necessary.**

K 70 55 64

Type No. K 70 55 64 Ord. No. 510 934	
Frequency range	
AMPS	824 – 896 MHz
DoCoMo	810 – 958MHz
GSM 900	890 – 960 MHz
GSM 1800	1710 – 1880 MHz
GSM 1900	1850 – 1990 MHz
UMTS	1900 – 2170 MHz
	typ. 0 dB gain (ref. to quarter-wave whip), length 89 mm
Connection	Minicrimp (male)
Maximum load	
AMPS	3 W
DoCoMo	0.8 W
GSM 900	8 W
GSM 1800	2 W
GSM 1900	2 W
UMTS	2 W (at 50 °C ambient temperature)
Mounting location	Car roof recommended
Mounting	Into bore hole 18^{+1} mm diameter from the external side of the car body. Into bore hole 14 … 19 mm diameter from the inner side of the car body.
Built-in depth	12 mm
Max. diameter at base	32 mm
Antenna lenght	89 mm
Material	Weather resistant plastic parts; all visible metal parts are black chromium-plated.
Contents of delivery	Whip, base, antenna wrench.
Accessories	
Spare whip	Ord. No. 510 964

Multiband roof mount antenna
890 – 960 / 1710 – 1880 MHz

KATHREIN
Antennen · Electronic

- **Excellent omnidirectional radiation pattern for GSM 900 / GSM 1800.**
- **Integrated low noise high gain GPS amplifier.**
- **Phantom powered supply voltage.**

Type No. K 70 93 64 Ord. No. 510 933	890 – 960 / 1710 – 1880 MHz 0 dB / 0 dB gain (ref. to quarter-wave whip), length 80 mm
Maximum power	GSM 900: 8 W GSM 1800: 2 W (at 50 °C ambient temperature)
GPS antenna/amplifier	
Frequency range	1575.42 ±1023 MHz
Antenna gain (90° elevation)	2 dBi
Amplifier gain (20 °C)	Typ. 27 dB
Noise figure (20 °C)	Typ. 1.4 dB
Impedance	50 Ω
Supply voltage	4.5 ±0.5 V, phantom powered via the center conductor of the GPS cable
Connection	Telephone: RAST/RAKU (male) GPS: GT5 (female)
Dimensions	
Max. diameter at base	52 mm x 99 mm (oval)
Inclination	60°
Built-in depth	14 mm
Mounting location	Roof recommended. In square hole 15 mm x 15 mm or bore hole 19 mm diameter.

K 70 93 64

Components	(Ord. No.)	
Whip	510 956	
Accessories		
Adapter cable Telephone, RAST / RAKU (f) - FME (m), 150 mm	510 972	
Cable Telephone, RAST / RAKU (f) - FME (f), 5000 mm	510 950	
Cable GPS, GT5 (m) - SMB (f), 5000 mm	510 951	
Cable GPS, GT5 (m) - GT5 (f), 5000 mm	510 952	
Cable GPS, GT5 (m) - WICLIC AK 72, 5000 mm	507 10001	

Multiband roof mount antenna
890 – 960 / 1710 – 1880 MHz / GPS
Car radio AM/FM

KATHREIN
Antennen · Electronic

- **Excellent omnidirectional radiation pattern for GSM 900 / GSM 1800.**
- **Integrated low noise highly linear amplifier for AM/FM radio and GPS.**
- **Low wind noise due to optimized whip design.**
- **Phantom powered supply voltage.**

K 70 92 64

Type No. K 70 92 64 Ord. No. 510 894	890 – 960 / 1710 – 1880 MHz 0 dB / 0 dB gain (ref. to quarter-wave whip), length 425 mm
Maximum load	GSM 900: 8 W GSM 1800: 2 W (at 50 °C ambient temperature)
Isolation to AM/FM radio	GSM 900: ≥ 35 dB GSM 1800: ≥ 30 dB
<u>GPS antenna/amplifier</u>	
Frequency range	1575.42 ±1023 MHz
Antenna gain (90° Elevation)	2 dBi
Amplifier gain (20 °C)	Typ. 27 dB
Noise figure (20 °C)	Typ. 1.4 dB
Supply voltage	4.5 ±0.5 V, phantom power via the center conductor of the GPS cable
<u>AM/FM antenna</u>	
Frequency range AM/FM	0.15 – 6.2 / 87.5 – 108 MHz
Impedance FM	150 Ω
Supply power	9 ... 15 V, phantom powered via the center conductor of the GPS cable
<u>Connection</u>	Telephone: RAST/RAKU (male) GPS: GT5 (female) Radio AM/FM: RAST/RAKU (female)
<u>Dimensions</u>	
Mounting location	Roof recommended. In square hole 15 mm x 15 mm or bore hole 19 mm diameter.
Built-in depth	14 mm
Max. diameter at base	52 mm x 99 mm (oval)
Inclination	60°

<u>Components</u>	(Ord. No.)	
Whip	510 954	
<u>Accessories</u>		
Adapter cable AM/FM		
– for VW from 07/97 and Seat from 07/99, 150 mm	510 947	
– for Opel from 07/94 and Audi from 07/94, 150 mm	510 948	
– for Audi up to 09/94 and Volvo V 40, 150 mm	510 949	
Adapter cable Telephone, RAST / RAKU (f) - FME (m), 150 mm	510 972	
Cable Telephone, RAST / RAKU (f) - FME (f), 5000 mm	510 950	
Cable AM/FM, RAST / RAKU (m) - DIN angle connector, 5000 mm	507 10002	
Cable GPS, GT5 (m) - SMB (f), 5000 mm	510 951	
Cable GPS, GT5 (m) - GT5 (f), 5000 mm	510 952	
Cable GPS, GT5 (m) - WICLIC AK72, 5000 mm	507 10001	

Active roof mount antenna 890 – 960 / 1710 – 1880 MHz / Car radio AM/FM

KATHREIN
Antennen · Electronic

- **Excellent linearity reaction and favourable noise figures in the radio frequency range.**
- **Low wind noise due to optimized whip design.**
- **Excellent omnidirectional radiation pattern for GSM.**

Type No. K 70 91 64 Ord. No. 510 919	0 dB gain (ref. to quarter-wave whip), length 420 mm
Frequency range	
telephone	890 – 960 MHz 1710 – 1880 MHz
AM	87.5 – 108 MHz
FM	0.15 – 6 MHz
Impedance	
telephone	50 Ω
AM/FM	150 Ω
Connection	
telephone	RAST/RAKU (male)
AM/FM	RAST/RAKU (female)
power supply	AMP 1-929587-1
Maximum load GSM 900	8 W (at 50 °C ambient temperature.)
Amplifier Gain (20 °C)	Typ. 6 dB
Mounting	Into square hole 15 mm x 15 mm or bore hole 19 mm diameter.
Inclination	76°
Built-in depth	12 mm
Max. diameter at base	44 mm x 62 mm (oval)
Material	Weather resistant plastic.
Contents of delivery	Whip, base.
Isolation	GSM 900: > 35 dB GSM 1800: > 30 dB
Power supply	+9 ... 15 V via separate power supply cable or phantom powered via the centre conductor of the AM/FM cable.

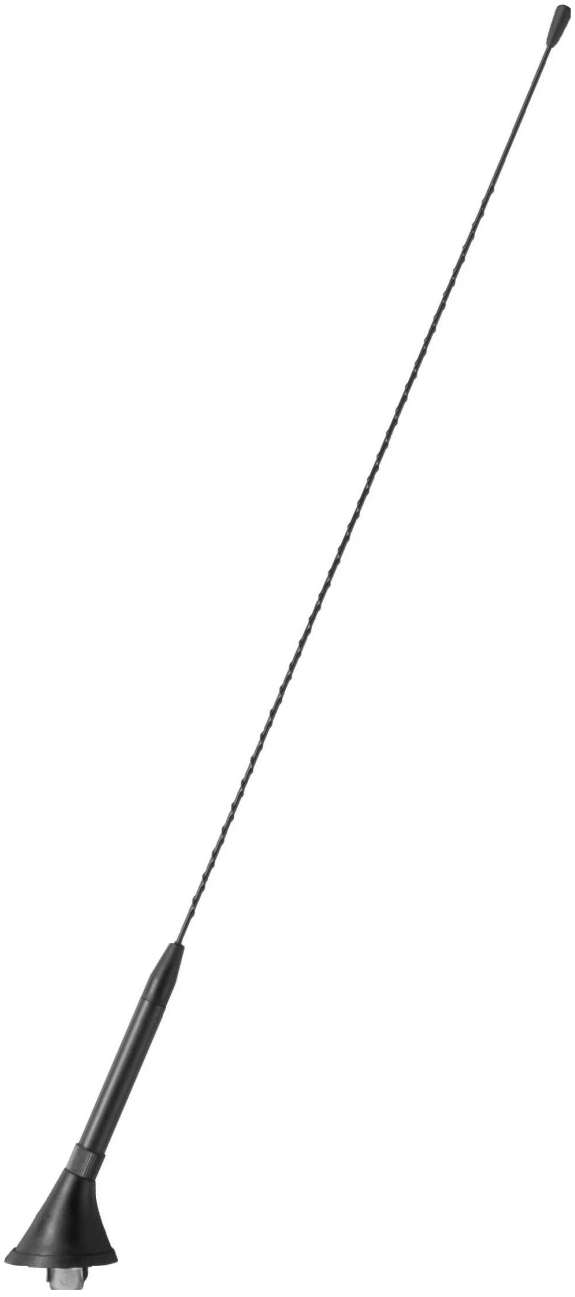
K 70 91 64

Components	(Ord. No.)	
Whip	510 954	
Accessories		
Adapter cable AM/FM		
– for VW from 07/97 and Seat from 07/99, 150 mm	510 947	
– for Opel from 07/97 and Audi from 07/94, 150 mm	510 948	
– for Audi up to 09/94 and Volvo V 40, 150 mm	510 949	
Adapter cable Telephone, RAST / RAKU (f) - FME (m), 150 mm	510 972	
Cable Telephone, RAST / RAKU (f) - FME (f), 5000 mm	510 950	
Cable Radio, RAST/RAKU 2 (m) - DIN angle connector, 5000 mm	507 10002	

Slanted roof mount antenna
144 ... 174 / 890 – 960 MHz

KATHREIN
Antennen · Electronic

- **Antenna for simultaneous operation of a 150 MHz radio set and a 900 MHz mobile phone.**
- **Can also be used as a combined whip for 890 – 960 MHz mobile phone and AM/FM reception.**



K 70 60 20

Type No. K 70 60 20 Ord. No. 510 769	144 … 174 / 890 – 960 MHz, 0 dB gain (ref. to quarter-wave whip) in both ranges, supply length 535 mm
Connection	Minicrimp (lateral/male)
Tuning	By shortening the whip (please note mounting instructions).
Maximum load	144 … 174 MHz: 30 W 890 – 960 MHz: 10 W (at 50 °C ambient temperature)
Mounting	Into square hole 15 mm x 15 mm
Inclination	68°
Built-in depth	13 mm
Max. diameter at base	40 mm x 44 mm (oval)
Material	Metal parts are made of aluminum and stainless steel. Weather resistant plastic parts.
Contents of delivery	Whip, base.
Accessories	For the simultaneous operation of a 150 MHz and a 900 MHz radio set the coupler 737 477 (Ord. No. 510 272) is required. For the operation of a 900 MHz radio and simultaneously an AM/FM car radio the coupler. K 63 27 23 (Ord. No. 510 258) is required.

Components	Type No.	(Ord. No.)
Whip	738 356	(510 402)
Base	737 692	(510 261)
Tip protection	K 66 01 9	(510 159)

EuroLine antenna
146 ... 174 / 890 – 960 MHz

KATHREIN
Antennen · Electronic

- **Antenna for simultaneous operation of a 2 m band radio set and a 900 MHz mobile phone.**
- **Can also be used as a combined whip for 890 – 960 MHz mobile phone and AM/FM reception.**

Type No. K 70 52 64 Ord. No. 510 775	146 … 174 / 890 – 960 MHz 0 dB gain (ref. to quarter-wave whip) in both ranges, low-noise, supply length 520 mm
Connection	Minicrimp (male)
Maximum load	146 ... 174 MHz: 30 W 890 – 960 MHz: 10 W (at 50 °C ambient temperature)
Mounting	Into bore hole 18^{+1} mm diameter from the external side of the car body. Into bore hole 14 … 19 mm diameter from the inner side of the car body.
Built-in depth	13 mm
Max. diameter at base	32 mm
Material	Metal parts are made of brass and stainless steel. All visible metal parts are black chromium-plated.
Contents of delivery	Whip, base, antenna wrench.
Accessories	For the simultaneous operation of a 150 MHz and a 900 MHz radio set the coupler 737 477 (Ord. No. 510 272) is required. For the operation of a 900 MHz radio and simultaneously an AM/FM car radio the coupler K 63 27 23 (Ord. No. 510 258) is required.

Components	Type No.	(Ord. No.)
Whip	737 539	(510 271)
Base	K 70 77 20 3	(510 006)
Base with 5 mtr. cable	K 70 70 20 3	(510 005)
Tip protection	K 66 01 9	(510 159)
Antenna wrench	K 66 30 2	(510 161)

K 70 52 64

EuroLine antenna
410 – 430 / 890 – 960 MHz

KATHREIN
Antennen · Electronic

- **Antenna for the simultaneous operation of a PMR-radio set and a 900 MHz mobile phone.**

K 70 50 64

Type No. K 70 50 64 Ord. No. 510 773	410 – 430 / 890 – 960 MHz 0 dB gain (ref. to quarter-wave whip) in both ranges, length 180 mm
Connection	Minicrimp (male)
Maximum load	15 W (at 50 °C ambient temperature)
Mounting	Into bore hole 18^{+1} mm diameter from the external side of the car body. Into bore hole 14 ... 19 mm diameter from the inner side of the car body.
Built-in depth	13 mm
Max. diameter at base	32 mm
Material	Metal parts are made of brass and stainless steel. All visible metal parts are black chromium-plated.
Contents of delivery	Whip, base, antenna wrench.
Accessories	For the simultaneous operation of a 400 MHz and a 900 MHz radio set the coupler K 63 27 25 is required (Ord. No. 510 029).
Special feature	Whip 737 637 is marked with the letter „L“

Components	Type No.	(Ord. No.)
Whip	737 637	(510 265)
Base	K 70 77 20 3	(510 006)
Base with 5 mtr. cable	K 70 70 20 3	(510 005)
Antenna wrench	K 66 30 2	(510 161)

Screenfix® antenna
890 – 960 / 1710 – 1880 MHz

KATHREIN
Antennen · Electronic

- **Onglass mounting avoids holes in the bodywork.**
- **Excellent electrical performance.**
- **Optimized EMI quality.**

Type No. K 70 49 64 Ord. No. 510 936	890 – 960 / 1710 – 1880 MHz typ. 0 dB gain (ref. to quarter-wave whip), length 100 mm
Connection	Cable RG 174, 1 meter long (supplied) with Minicrimp connector.
Maximum load GSM 900 GSM 1800	 8 W 2 W (at 50 °C ambient temperature)
Mounting	Fixing to wind screens of shatter-proof or laminated glass, also tinted.
Thickness of glass	3 – 5 mm. Not for screens coated by vapour deposition technique or insulated glass.
Material	Metal parts: Stainless steel, diecasting alloy and brass in black plastic.
Performance	Highest gain will be achieved by mounting the antenna as close as possible to roof edge and not at more than 10° inclination from the vertical. Inclination compensation of whip by hinged section in the outer unit.

Components	Type No.	(Ord. No.)
Whip		(510 969)
External unit		(510 971)
Adhesive pads	K 66 02 0	(510 270)

K 70 49 64

Rear mount antenna
890 – 960 MHz / Car radio AM/FM

KATHREIN
Antennen · Electronic

K 70 83 64

- **Whip also fits on any special base 900 MHz.**
- **Good omnidirectional radiation pattern.**
- **Elevated feetpoint.**
- **High antenna gain.**

Type No. K 70 83 64 Ord. No. 510 056	890 – 960 MHz, 4.5 dB gain (ref. to quarter-wave whip), low-noise, length 840 mm
Connection	Minicrimp (male)
Maximum load	20 W (at 50 °C ambient temperature)
Mounting	Into bore hole 10.5 $^{+1.5}$ mm diameter. Inclinations up to 20° can be levelled out.
Max. diameter at base	25 mm
Material	Whip of coated stainless steel. Bendable section of stainless steel. Weather resistant plastic.
Contents of delivery	Whip, base, connector.
Accessories	For AM/FM reception also the coupler K 63 27 23 (Ord. No. 510 258) is required.
Exceptional features	The whip of the antenna K 70 83 64 01 (Ord. No. 510 103) fits on any special base 900 MHz (see also page 67).

Components	Type No.	(Ord. No.)
Whip	K 70 83 64 01	(510 103)
Base	K 70 80 64 03	(510 136)
Antenna wrench	K 66 30 1	(510 160)
Tip protection	K 66 01 9	(510 159)

Special antenna bases
890 – 960 MHz

KATHREIN
Antennen · Electronic

These antenna bases are suitable for the whips K 70 83 64 01 (Ord. No. 510 103). Connector Minicrimp.

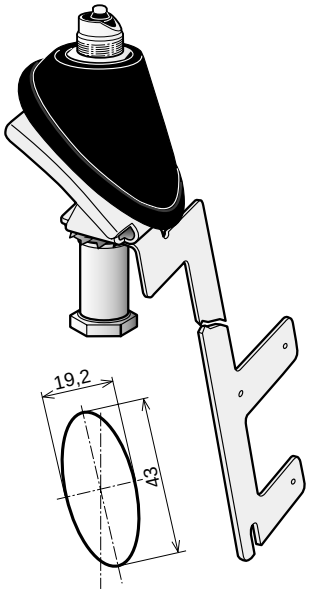
Manufacturer	Model	Type No.	(Ord. No.)
Audi 80	Sedan 8/86 – 11/94	**734 768**3)	(510 223)
Audi 80 Avant	Station wagon 6/92 – 1/96	**734 768**3)	(510 223)
Audi 80 B 4	Convertible from 3/91	**734 768**3)	(510 223)
Audi 100	Sedan 9/82 – 6/94	**734 768**3)	(510 223)
Audi 100 Avant	Station wagon 12/90 – 6/94	**734 768**3)	(510 223)
Audi A 4	Sedan from 11/94	**734 768**3)	(510 223)
Audi A 6	Sedan from 6/94	**734 768**3)	(510 223)
BMW E 23	7 Series up to 9/86	**K 70 80 64 03**3)	(510 136)
BMW E 24	6 Series	**K 70 80 64 03**3)	(510 136)
BMW E 28	5 Series up to 2/88	**K 70 80 64 03**3)	(510 136)
BMW E 30	3 Series sedan 11/82 – 12/90	**K 70 80 64 03**3)	(510 136)
BMW E 30/C	3 Series cabrio	**734 768**3)	(510 223)
BMW E 31	8 Series from `90	**732 412**2)	(510 065)
BMW E 32	7 Series 9/86 – 6/94	**732 412**3)	(510 065)
BMW E 34	5 Series 2/88 – 11/95	**733 168**1)	(510 066)
BMW E 34/2	5 Series touring 9/91 – 2/97	**734 191**1)	(510 224)
BMW E 36/C	Convertible 4/93 – 3/00	**732 412**4)	(510 065)
BWM E 36/2	3 Series coupé 1/92 – 3/99	**734 768**3)	(510 223)
BMW E 36/3	3 Series touring 6/95 – 9/99	**734 191**3)	(510 224)
BMW E 36/4	3 Series sedan 12/90 – 4/98	**734 768**3)	(510 223)
BMW E 38	7 Series from 7/94	**736 213**3)	(510 247)
BMW E 39	5 Series from 12/95	**736 213**3)	(510 247)
BMW Z 3	Roadster	**738 751**3)	(510 744)
Ford Mondeo	Notchback 1/93 – 8/00	**734 769**3)	(510 131)
Ford Mondeo	Fastback 2/93 – 8/00	**734 769**3)	(510 131)
Ford Mondeo	Station wagon 2/93 – 8/00	**734 769**3)	(510 131)
Ford Scorpio	Sedan 4/85 – 1/95	**734 769**3)	(510 131)
Ford Scorpio	Station wagon 9/91 – 1/95	**734 769**3)	(510 131)
Mercedes W 124	200 – 500 sedan 1/85 – 6/95	**732 411**1)	(510 057)
Mercedes C 124	200 – 300 Coupé 1/85 – 5/96	**733 165**1)	(510 058)
Mercedes A 124	200 – 300 Convertible 1/85 – 5/96	**733 166**1)	(510 059)
Mercedes S 124	200 – 300 model T 9/85 – 5/96	**732 409**1)	(510 060)
Mercedes W 140	S class sedan 5/91 – 10/98	**732 410**1)	(510 061)
Mercedes C 140	S class Coupé from 10/92	**733 164**1)	(510 062)
Mercedes R 129	SL Convertible from 9/89	**733 167**1)	(510 063)
Mercedes W 201	Model 190 11/82 – 5/93	**734 769**1)	(510 131)
Mercedes W 202	C class 6/93 – 5/00	**733 163**1)	(510 064)
Mercedes W 126	S class sedan 10/79 – 5/91	**734 768**1)	(510 223)
Mercedes S 123	Model T	**732 409**1)	(510 060)
Mercedes W 210	E class ab 7/95	**736 835**1)	(510 253)
Opel Vectra A	Notchback 6/88 – 9/95	**733 367**3)	(510 068)
Opel Vectra A	Fastback 3/89 – 9/95	**733 367**3)	(510 068)
Opel Vectra B	from 9/95	**734 768**3)	(510 223)
Opel Omega A	Sedan 9/86 – 3/94	**733 367**1)	(510 068)
Opel Omega A	Station wagon 9/86 – 3/94	**734 769**3)	(510 131)
Opel Calibra	from 3/90	**733 367**1)	(510 068)
Opel Astra A	Fastback 9/91 – 2/98	**733 367**1)	(510 068)
Opel Astra A	Notchback 9/91 – 2/98	**734 768**3)	(510 223)
Opel Astra A	Convertible 3/93 – 7/98	**734 768**3)	(510 223)
Vehicles	with mounting surfaces that are inclined at approx. 45	**733 367**3)	(510 068)

1) for mounting into the factory-produced bore hole, without subsequent work. 2) unless mounting hole exists at the default factory-made position.
3) if there is no bore hole. 4) remove centering ring.

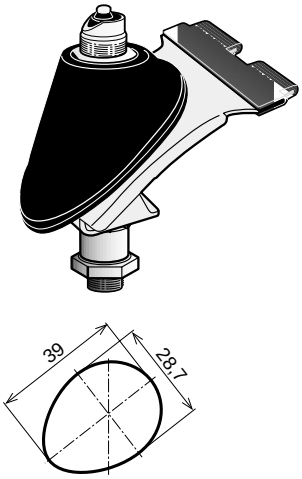
Special antenna bases
890 – 960 MHz

Connector Minicrimp

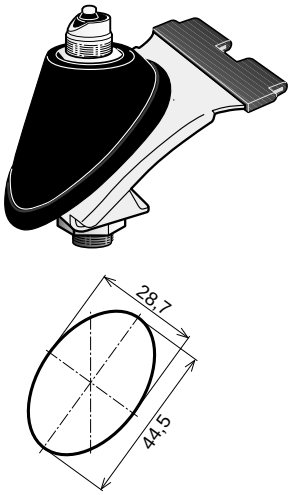
732 409 (510 060)



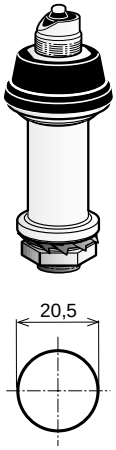
732 410 (510 061)



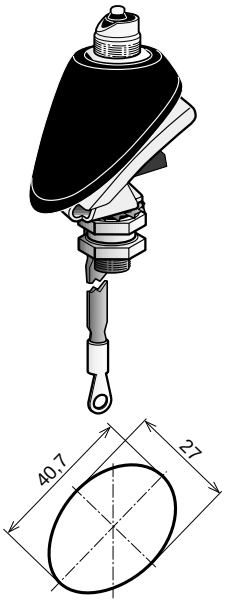
732 411 (510 057)



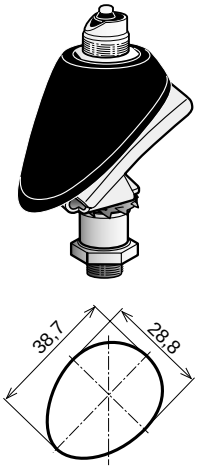
732 412 (510 065)



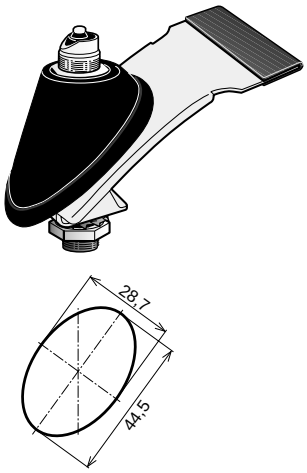
733 163 (510 064)



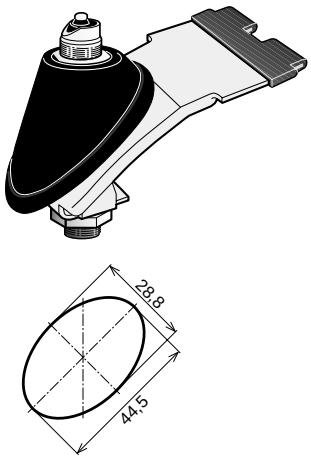
733 164 (510 062)



733 165 (510 058)



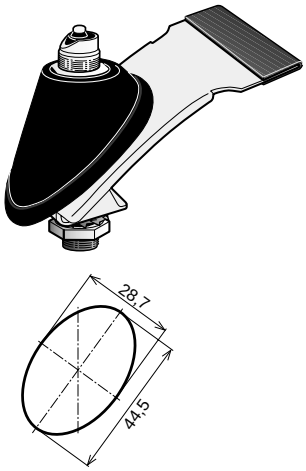
733 166 (510 059)



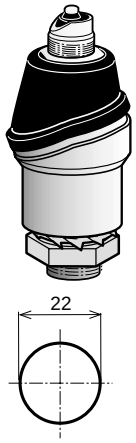
Special antenna bases
890 – 960 MHz

Connector Minicrimp

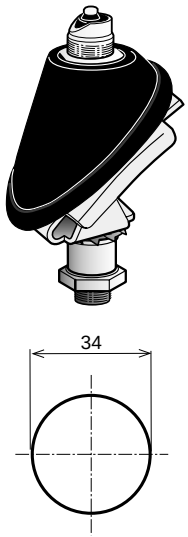
733 167 (510 063)



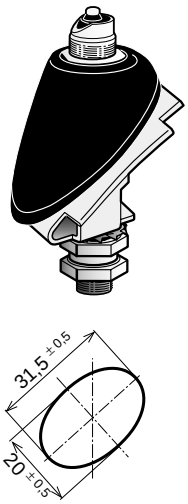
733 168 (510 066)



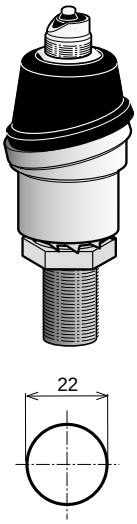
733 367 (510 068)



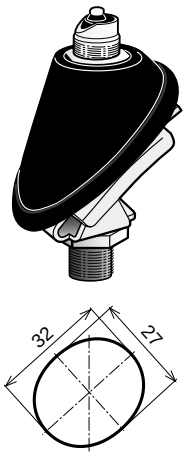
734 191 (510 224)



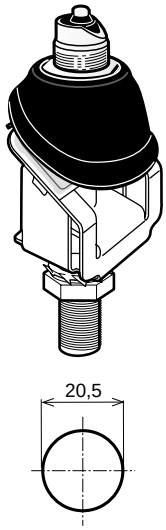
734 768 (510 223)



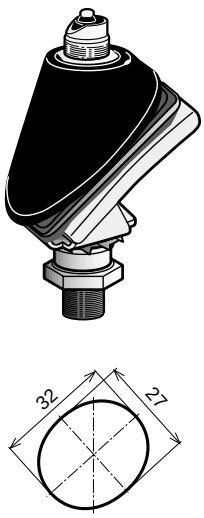
734 769 (510 131)



736 213 (510 247)

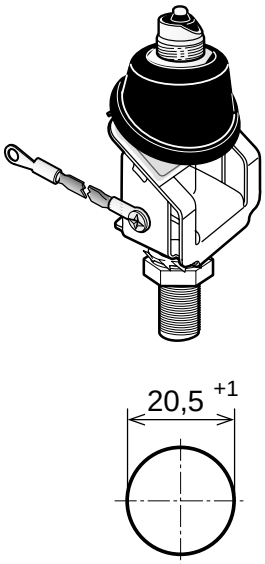


736 835 (510 253)

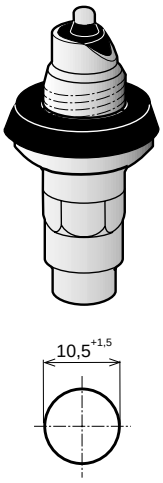


Connector Minicrimp

738 751 (510 744)



K 70 80 64 03 (510 136)



Caravan antenna
870 – 960 MHz

KATHREIN
Antennen · Electronic

- **Omnidirectional antenna for mobile operation.**
- **No electrical counterpoise required.**
- **Suitable for plastic and sandwich construction roofs.**
- **Accessories available for mounting on masts.**

Type No. 735 882 Ord. No. 510 234	870 – 960 MHz, 0 dB gain (ref. to half-wave dipole), length 195 mm
Connection	Minicrimp (male)
Impedance	50 Ω
Polarization	Vertical
Weight	170 g
Mounting	1. Into bore hole 12 mm diameter on roofs up to 40 mm thickness. 2. Laterally on masts (30 – 50 mm) with bracket, 736 374 (510 235). 3. Into holes of 17 mm diameter, when mounting kit for roofs 40 – 60 mm is used (see accessories).
Max. diameter at base	36 mm
Material	Brass whip in a protection tube of white fiberglass laminate. Antenna base of weather resistant aluminium.
Grounding	All metal parts of the antenna and the inner conductor are grounded.
Contents of delivery	Whip including base (without grommet/without cable)
Exceptional features	The antenna can also be used on boats.
Accessories	Bracket 736 374 (510 235) mounting kit K 66 10 0 (Ord. No. 510 821) for roofs of 40 – 60 mm, thickness.

Antenna 735 882
Bracket 736 374

Antennas for portable radio sets

(68 – 470 MHz)

Miniflex antenna
68 ... 87.5 MHz

KATHREIN
Antennen · Electronic

- **Particularly short and elastic antenna.**

K 51 39 41 6

Type No. K 51 39 41 5 Ord. No. 510 372	68 – 75 MHz, M connector ca. 90 g, length approx. 260 mm
Type No. K 51 39 41 6 Ord. No. 510 373	68 – 75 MHz, TNC connector, ca. 80 g, length approx. 260 mm
Type No. K 51 39 41 9 Ord. No. 510 375	68 – 75 MHz, BNC connector, ca. 70 g, length approx. 260 mm
Type No. K 51 39 42 5 Ord. No. 510 377	74 – 81 MHz, M connector ca. 90 g, length approx. 235 mm
Type No. K 51 39 42 6 Ord. No. 510 378	74 – 81 MHz, TNC connector, ca. 80 g, length approx. 235 mm
Type No. K 51 39 42 9 Ord. No. 510 380	74 – 81 MHz, BNC connector, ca. 70 g, length approx. 235 mm
Type No. K 51 39 43 5 Ord. No. 510 382	80 – 87.5 MHz, M connector ca. 90 g, length approx. 220 mm
Type No. K 51 39 43 6 Ord. No. 510 383	80 – 87.5 MHz, TNC connector, ca. 80 g, length approx. 220 mm
Type No. K 51 39 43 9 Ord. No. 510 451	80 – 87.5 MHz, BNC connector, ca. 70 g , length approx. 220 mm
Impedance	50 Ω
Maximum load	20 W (at 50 °C ambient temperature)
Polarization	Vertical
Electr. length	$\lambda/4$
Material	Whip: Elastic metal helix in particularly resistive plastic cover.
Colour	Black

Quarter-wave antenna
68 ... 87.5 MHz

KATHREIN
Antennen · Electronic

- **Very flexible, slim antenna.**

Type No. K 51 56 22 Ord. No. 510 386	UHF connector
Type No. K 51 56 26 Ord. No. 510 388	TNC connector
Frequency range	68 … 87.5 MHz
Tuning	By shortening the whip (please note mounting instructions)
Impedance	50 Ω
Gain	0 dB (ref. to quarter-wave whip)
Maximum load	20 W (at 50 °C ambient temperature)
Polarization	Vertical
Electr. length	$\lambda/4$
Weight	Approx. 50 g
Supply length	1050 mm
Material	Copper strand embedded in shock-resistant fiber glass. Connector: Black chromium-plated brass.
Exceptional features	Within the frequency range of 146 ... 174 MHz this antenna is a tuneable half-wave antenna with 5 dB gain (referring to the quarter-wave whip, decoupled from the radio set). Please see page 78.

K 51 56 22

Miniflex antenna
146 ... 174 MHz

KATHREIN
Antennen · Electronic

- **Particularly short and elastic antenna.**

K 51 39 21 6

Type No. K 51 39 21 5 Ord. No. 510 357	146 – 156 MHz, M connector
Type No. K 51 39 21 6 Ord. No. 510 358	146 – 156 MHz, TNC connector
Type No. K 51 39 21 9 Ord. No. 510 360	146 – 156 MHz, BNC connector
Type No. K 51 39 22 5 Ord. No. 510 362	154 – 165 MHz, M connector
Type No. K 51 39 22 6 Ord. No. 510 363	154 – 165 MHz, TNC connector
Type No. K 51 39 22 9 Ord. No. 510 365	154 – 165 MHz, BNC connector
Type No. K 51 39 23 5 Ord. No. 510 367	163 – 174 MHz, M connector
Type No. K 51 39 23 6 Ord. No. 510 368	163 – 174 MHz, TNC connector
Type No. K 51 39 23 9 Ord. No. 510 370	163 – 174 MHz, BNC connector

Impedance	50 Ω
Maximum load	20 W (at 50 °C ambient temperature)
Polarization	Vertical
Electr. length	$\lambda/4$
Length	Approx. 160 mm
Material	Whip: Elastic metal helix in particularly resistive plastic cover.
Colour	Black

Multiflex antenna
146 – 174 MHz

KATHREIN
Antennen · Electronic

- **Particularly short and elastic antenna.**

Type No. K 51 32 26 Ord. No. 510 354	TNC connector
Type No. K 51 32 29 Ord. No. 510 355	BNC connector
Frequency range	146 – 174 MHz
Impedance	50 Ω
Maximum load	20 W (at 50 °C ambient temperature)
Polarization	Vertical
Electr. length	$\lambda/4$
Weight	30 g
Length	420 mm
Material	Elastic whip in particularly resistive plastic cover. Connector: Black chromium-plated brass (for Ord. No. 510 354)
Colour	Black

K 51 32 25

Half-wave antenna
146 ... 174 MHz

KATHREIN
Antennen · Electronic

- **Decoupled antenna.**

K 51 56 22

Type No. K 51 56 22 Ord. No. 510 386	UHF connector
Type No. K 51 56 26 Ord. No. 510 388	TNC connector
Frequency range	146 ... 174 MHz
Tuning	By shortening the whip (please note mounting instructions).
Impedance	50 Ω
Gain	5 dB (ref. to quarterwave whip)
Maximum load	20 W (at 50 °C ambient temperature)
Polarization	Vertical
Electr. length	$\lambda/2$
Weight	Approx. 50 g
Supply length	1050 mm
Material	Copper strand embedded in shockresistant fiber glass. Connector: Black chromium-plated brass.
Accessories	Mounting device (K 62 19 0 and K 61 32 3) (see page 79)

Mounting device for half-wave antenna 146 ... 174 MHz

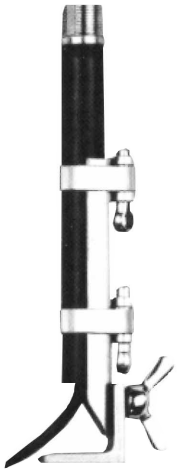
KATHREIN
Antennen · Electronic

- **For the stationary operation of the antenna K 51 56 22**

K 51 56 22

Type No. K 62 19 0 Ord. No. 510 399	Adapter with UHF socket, connection cable RG 058-PE, 5 meters long without radio set connector. Two tightening straps with turnbuckle for the mounting of the antenna onto masts with diameters of 20 to 100 mm.
Material	Fixing element: Shock-resistant plastic. Tightening strap and turnbuckle: Stainless steel.
Typ Nr. K 61 32 3 Ord. No. 510 670	Fixing device with mounting angle, slewable by ±90°. With this device and the adapter K 62 19 0 the antenna K 51 56 22 can be mounted with 2 flathead screws (max. diameter 5 mm) onto metal or nonconducting surfaces.
Material	Stainless steel.

K 62 19 0



K 61 32 3

Miniflex antenna
406 – 428 MHz
440 – 470 MHz

KATHREIN
Antennen · Electronic

- **Very robust antenna.**

731 247
726 556

Type No. 731 247 Ord. No. 510 218	406 – 428 MHz, length 64 mm, approx. 22 g
Type No. 726 556 Ord. No. 510 217	440 – 470 MHz, length 61 mm, approx. 22 g
Connector	TNC
Impedance	50 Ω
Electr. length	$\lambda/4$
Maximum load	20 W (at 50 °C ambient temperature)
Material	Metal helix extrusion-coated. Connector: Black chromium-plated.

Multiflex antenna
400 – 470 MHz

KATHREIN
Antennen · Electronic

- **Slim and highly elastic antenna.**

Type No. K 71 32 26 Ord. No. 510 194	TNC connector
Type No. K 71 32 29 Ord. No. 510 195	BNC connector
Frequency range	400 – 470 MHz
Impedance	50 Ω
Maximum load	20 W (at 50 °C ambient temperature)
Polarization	Vertical
Electr. length	$\lambda/4$
Weight	35 g
Maximum length	165 mm
Material	Elastic whip in particularly resistive plastic cover. Connector: Black chromium-plated brass (for Ord. No. 510 194)
Colour	Black

K 71 32 25

Gainflex antenna
406 – 430 MHz
440 – 470 MHz

KATHREIN
Antennen · Electronic

- **Shortened half-wave antenna.**
- **Decoupled from the radio set.**
- **4 dB Gain.**

Type No. K 71 53 21 6 Ord. No. 510 076	406 – 430 MHz, TNC connector, length 330 mm, approx. 55 g, without joint,
Type No. K 71 53 21 9 Ord. No. 510 078	406 – 430 MHz, BNC connector, length 330 mm, approx. 55 g, without joint,
Type No. K 71 53 23 6 Ord. No. 510 079	440 – 470 MHz, TNC connector, length 300 mm, approx. 50 g, without joint,
Type No. K 71 53 23 9 Ord. No. 510 081	440 – 470 MHz, BNC connector, length 300 mm, approx. 50 g, without joint,
Type No. K 71 54 23 6 Ord. No. 510 085	440 – 470 MHz, TNC connector, length 295 mm, approx. 50 g, with joint,
Impedance	50 Ω
Gain	4 dB (ref. to quarter-wave whip)
Maximum load	20 W (at 50 °C ambient temperature)
Swivelling range of the joint	Continuous ±125°
Material	Highly elastic, corrosion-proof metal shaft in particularly resistive black plastic cover. Connector: Black chromium-plated brass. Insulant: Polycarbonate.

K 71 53 23 6

K 71 54 23 6

Accessories

(coupler, cable, adapter)

Antenna coupler
68 – 174 / 890 – 960 MHz

KATHREIN
Antennen · Electronic

- **Coupler for the simultaneous operation of a 2 m band radio set and a 900 MHz radio set.**

737 477

Type No. 737 477 Ord. No. 510 272	68 – 174 / 890 – 960 MHz
Connection	Minicrimp (male)
VSWR	< 1.25 in both ranges
Transmission loss	< 0.3 dB in both ranges
Maximum load	68 – 174 MHz: 50 W 900 MHz: 10 W (at 50 °C ambient temperature)
Dimensions	29 mm / 87 mm / 58 mm

Antenna coupler
0.15 – 240 MHz / 380 – 2000 MHz

KATHREIN
Antennen · Electronic

- **Versatile coupler for the simultaneous operation of a radio set and a broadcasting receiver with a single antenna.**
- **Particularly flat housing.**

Type No. K 63 27 23
Ord. No. 510 258

Frequency range:	
radio	380 – 2000 MHz
broadcasting	0.15 – 240 MHz (incl. DAB K5 – K12)
Connections:	
car radio	M10 x 0.75 (male)
radio	Minicrimp (male)
antenna	Minicrimp (male)
Impedance:	
car radio (VHF)	150 Ω
radio	50 Ω
VSWR radio	1.5 (typ.)
Transmission loss	
radio	< 1 dB
Stop band attenuation	> 45 dB
Maximum load:	
380 – 400 MHz	15 W
400 – 470 MHz	20 W
470 – 2000 MHz	15 W (at 50 °C ambient temperature)
Weight	70 g
Dimensions	13.4 mm / 60 mm / 41 mm

K 63 27 23

Antenna coupler
380 – 470 / 890 – 960 MHz

KATHREIN
Antennen · Electronic

- **Coupler for the operation of a 450 MHz and a 900 MHz radio set.**

K 63 27 25

Type No. K 63 27 25
Ord. No. 510 029

Frequency range:	380 – 470 / 890 – 960 MHz
Connection	Minicrimp (male)
VSWR	< 1.25 in both ranges
Transmission loss	< 0.3 dB in both ranges
Stop band attenuation	> 30 dB
Maximum load:	
410 – 470 MHz	15 W
890 – 960 MHz	10 W
	(at 50 °C ambient temperature)
Dimensions	29 mm / 87 mm / 58 mm

Antenna coupler
146 – 174 MHz / Broadcasting reception

KATHREIN
Antennen · Electronic

- **Coupler for the operation of a radio set and a broadcasting receiver with a single antenna.**

Type No. K 62 27 2
Ord. No. 510 400

Frequency range:	
radio	146 – 174 MHz
car radio	Long, medium, short waves and VHF
Connection:	
car radio	Clamping device for broadcasting connecting cable (see accessories)
radio	Clamping device for cable RG 058 or RG 213
antenna	Clamping device for cable RG 058 or RG 213
VSWR radio	< 1.25
Transmission loss	< 0.3 dB
Stop band attenuation	> 40 dB (between radio branch and broadcasting reception branch)
Maximum load	85 W (at 50 °C ambient temperature)
Dimensions	41 mm / 97 mm / 86 mm

K 62 27 2

Minicrimp adapter
HF connectors M11 x 1
Minicrimp connecting cable

KATHREIN
Antennen · Electronic

MInicrimp adapter

Type No. K 62 18 0 / Ord. No. 510 042 — N (m) / Minicrimp (m)

Type No. K 62 18 1 / Ord. No. 510 043 — TNC (m) / Minicrimp (m)

Type No. K 62 18 2 / Ord. No. 510 044 — BNC (m) / Minicrimp (m)

Type No. K 62 18 6 / Ord. No. 510 045 — Mini-UHF (m) / Minicrimp (m)

Type No. K 62 18 8 / Ord. No. 510 047 — BNC (m) / Minicrimp (m)

Type No. K 62 05 5 / Ord. No. 510 241 — M11 x 1 / Minicrimp (m)

Type No. K 62 18 9 / Ord. No. 510 141 — Mini-UHF (m) / Minicrimp (m)

Type No. K 62 18 4 / Ord. No. 510 048 — Minicrimp (m) / Minicrimp (m)

Type No. K 62 18 5 / Ord. No. 510 049 — Minicrimp connector (f) for cable RG 058-PE

Type No. K 62 19 5 / Ord. No. 510 244 — Minicrimp connector (f) for cable RG 174

Connector with thread M11 x 1 for coaxial cable

Type No. K 62 05 1 / Ord. No. 510 132 — Angle connector M11 x 1 with clamp for cable RG 058

Type No. K 62 10 0 / Ord. No. 510 133 — Angle connector M11 x 1 for cable RG 213

Minicrimp connecting cable

RG 058-PE

Attenuation per meter 900 MHz: 0.55 dB, 1800 MHz: 0.85 dB, 2050 MHz: 1.20 dB
(both cable ends with Minicrimp (f))

Length / mm	510 mm	930 mm	1470 mm	2420 mm	3380 mm	4280 mm	5000 mm
Type No.	**K 62 24 11**	**731 811**	**K 62 24 12**	**K 62 24 13**	**K 62 24 14**	**K 62 24 15**	**K 62 24 17**
Ord. No.	510 030	510 036	510 031	510 032	510 033	510 034	510 035

„Low-loss“ Cable

Attenuation per meter 900 MHz: 0.3 dB, 1800 MHz: 0.45 dB, 2050 MHz: 0.65 dB
(both cable ends with Minicrimp (f))

Length/ mm	2500 mm	3500 mm	5000 mm
Type No.	**K 62 24 22**	**K 62 24 18**	**K 62 24 19**
Ord. No.	510 747	510 259	510 260

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