



SAT

Camping & Caravan 2020

At Home on the Road



KATHREIN

Digital Systems GmbH

KATHREIN | Digital Systems GmbH

Who we are and **what** we stand for

We ensure the best possible radio and TV reception

KATHREIN Digital Systems is the market leader for digital satellite, terrestrial, cable or IP reception and signal distribution in buildings and caravans. Our high-quality and reliable product portfolio for modern TV and radio reception is constantly being expanded to include innovative solutions in the field of building technology.

Thanks to extensive know-how in development and unsurpassed quality standards in production, our solutions and systems are among the best in their class. High-quality satellite reception systems in conjunction

with sophisticated solutions for signal distribution, whether in single-family homes or in large building complexes, bring the signals to the receiving equipment in best HD quality.

New technologies such as SAT>IP, optical SAT distribution or modular headend technology for hotel TV close the gap between traditional signal distribution and modern optical fibre and network technology.

KATHREIN Digital System's advanced solutions are also the best choice for mobile TV reception in caravans and mobile homes.

Find out more about us at www.kathrein-ds.com

Our awards in 2019:



>	Our Benefits at a Glance	6
>	Fully-automatic Satellite Antennas	8
	▪ Our solutions for perfect satellite reception	8
	▪ The large version	9
	▪ The light version	10
	▪ The compact version	12
	▪ Kathrein and alphasatronics One-Cable-Solution	14
	▪ Caravan TV systems at a glance	15
>	“Semi-automatic” Satellite Antennas	16
	▪ Antenna set HDS 166 plus	16
	▪ All-in-one solution with HDM 140/HDM 141 jointed mast	17
	▪ Extension set for existing jointed mast systems	18
>	Manual Satellite Antennas	19
	▪ Antenna set HDS 166	19
	▪ Planar antenna	20
	▪ Offset parabolic antennas	21
	▪ Universal LNBs	21
>	Our Unique Selling Propositions	22
	▪ Antenna control and live streaming to a smartphone/tablet	22
	▪ CAPcontrol app	23
	▪ Software update via satellite	24
	▪ Central control of the fully-automatic antenna via CI-BUS	25
	▪ Satellite reception in camper vans	26
>	Accessories and DVB-T2 Antennas	27
>	Technical Data	32
>	Advice and Service	34





At Home on the Road with Kathrein

If you travel a lot, you certainly don't want to miss your usual TV and radio programmes. Kathrein has always been striving to fulfil their customers' wishes and has therefore developed mobile satellite reception systems especially for use in motor homes and caravans. These systems have been designed with simplicity and convenience in mind and comply with the highest Kathrein quality standards. We offer fully-automatic self-aligning satellite systems, as well as lower-priced "semi-automatic" and manual systems.

Satellite jointed masts, tripod mast stands and planar antennas make this type of satellite reception very simple. Kathrein has incorporated a sat finder into the caravan receivers to simplify rapid alignment with any satellite, especially in non-automatic systems. An optical inclinometer also supports rapid alignment with a satellite by determining the absolute elevation of the planar antenna (including the vehicle inclination).

Our Benefits at a Glance

> There are many good reasons for choosing a fully-automatic Kathrein antenna

1

GPS in all fully-automatic antennas

Due to the integrated GPS system, the search time is reduced to approx. 1 minute.



2

3 years warranty

We optimise our products continuously and are so confident in their quality that we give a three-year warranty on all turntables.



3

Quality made in Germany

All Kathrein turntables are developed and made in Germany. The use of high-quality materials ensures a long service life.



4

Aerodynamic design

The aerodynamic design of our fully-automatic antennas reduces noise emission inside the vehicle to an absolute minimum.



5

CAPcontrol app

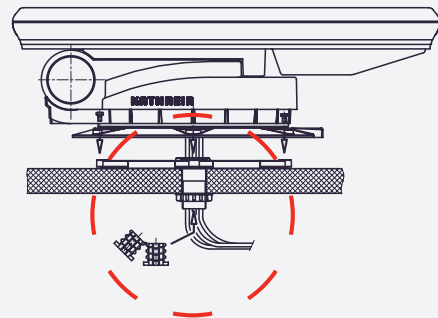
App for controlling the automatic antennas, streaming live TV to a mobile device (in conjunction with the UFZ 131), detecting the HDZ 60/66 inclinometer, integrated sat finder and voice assistant for aligning the antennas (e.g. the HDS 166 plus antenna set) – all conveniently via smartphone/tablet.



6

Cable feedthrough

The automatic Kathrein antennas provide two options for running the cables into the vehicle interior: from the side of the antenna or directly from underneath the antenna.



7

Automatic update

Every month, Kathrein engineers check whether the search transponders are still up to date and provide a download via satellite. The automatic antennas regularly check, whether a new update is available and install it automatically, if necessary.



8

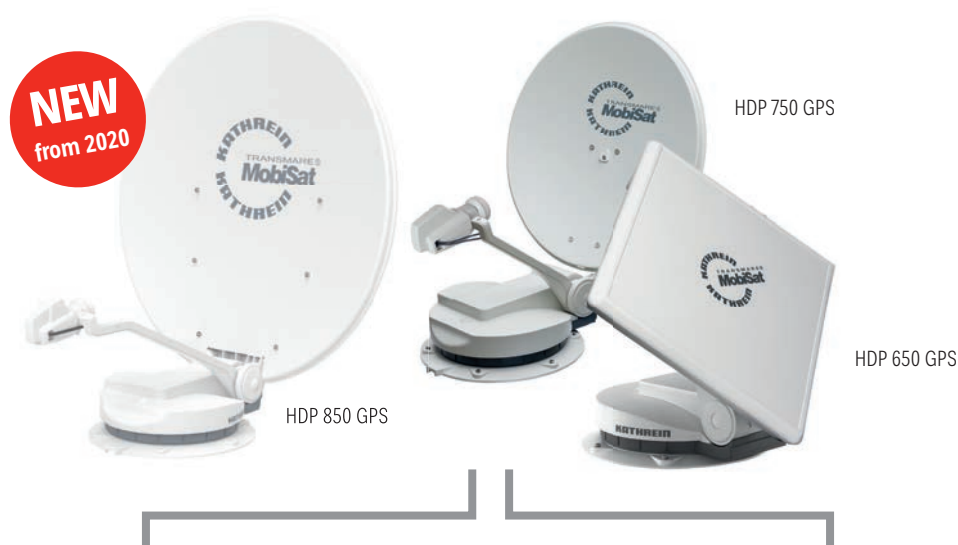
CI-BUS

By using an additional adapter, the fully-automatic CAP x50 GPS antennas become CI-BUS compatible and can be easily integrated into CI-BUS systems.



Fully-automatic Satellite Antennas

> Our solutions for perfect satellite reception



Solution 1: CTS All-in-one package

Recommended for a completely new installation

Includes: Fully-automatic antenna, alphantronics TV set



CTS (Caravan TV systems) – the One-Cable-Solution from Kathrein and alphantronics

- Control of the antenna directly via the TV set
- Only one coax cable between the TV set and the antenna
- Minimal installation effort
- Live streaming of TV channels to mobile devices (smartphones, tablets) with the UFZ 131 (available as an option)
- LED panels are 100% free of defective pixels
- Made in Germany

Solution 2: CAP All-in-one package

Recommended if a TV set with satellite tuner is already available.

Includes: Fully-automatic antenna, CAP converter



CAP 650 GPS/750 GPS/950

- Receiver-independent antenna
- Compatible with any TV set or receiver with satellite tuner
- Live streaming of TV channels to mobile devices (smartphones, tablets) with the UFZ 131 (available as an option)

> The large version HDP 850 GPS

The HDP 850 GPS is based on the HDP 750 GPS, but has a newly designed support arm and an 85 cm parabolic reflector. By increasing the size of the parabolic reflector, the reception reserve and the system's operating radius have been increased. The use of GPS permits quick alignment (approx. 1 minute) of the HDP 850 at any new location. Due to the reworked mechanics, the unit now has a height of only 18 cm. Its aerodynamic design allows a vehicle speed of up to 130 km/h (with the antenna lowered). When used with the CAPcontrol app and the UFZ 131 USB/Wi-Fi adapter, the HDP 850 also enables the streaming of live TV to a mobile device (smartphone/tablet).

Main features

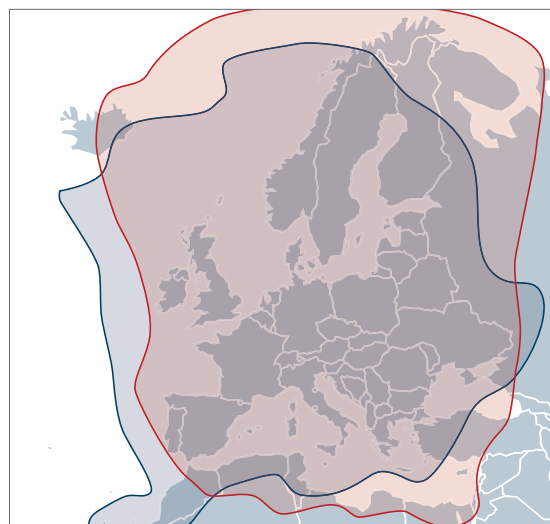
- All-in-one package for fully-automatic satellite reception, including control unit
- Optimised installation height: 18 cm
- Streaming of live TV using USB/Wi-Fi adapter UFZ 131 and free CAPcontrol app
- Software update via satellite
- Large reception area due to 85 cm parabolic reflector with high gain
- Twin LNB for connecting a second receiver or TV set
- Automatic alignment to other satellites when changing channels

Recommended accessories

- **HDS 50 (only for Solution 2)**
External control unit for the CAP x50 GPS series
- **UFZ 131**
USB/Wi-Fi adapter
- **HDZ 100**
Roof gland
- **HDS 42**
Master/slave switch



Footprint



■ ASTRA 19.2° East ■ Hotbird 13° East

> The light version HDP 750 GPS

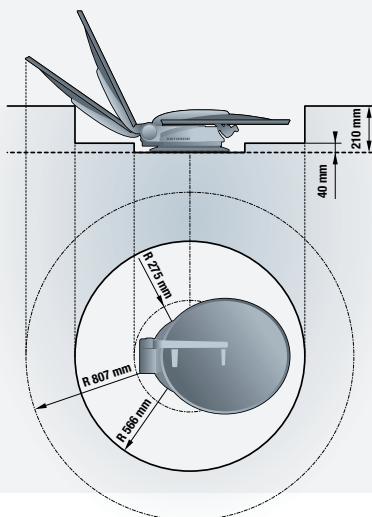
The use of a parabolic antenna increases the reception range compared to a planar antenna. What is more, it reduces the weight of the system considerably: A total weight of under 10 kg makes this antenna one of the lightest on the market. The built-in twin LNB allows the connection of two receivers at the same time. The use of GPS permits quick alignment (approx. 1 minute) of the HDP 750 GPS at any new location. The turntable and the antenna have a height of only about 21 cm. Their aerodynamic design allows a vehicle speed of up to 130 km/h (with the antenna lowered).

Main features

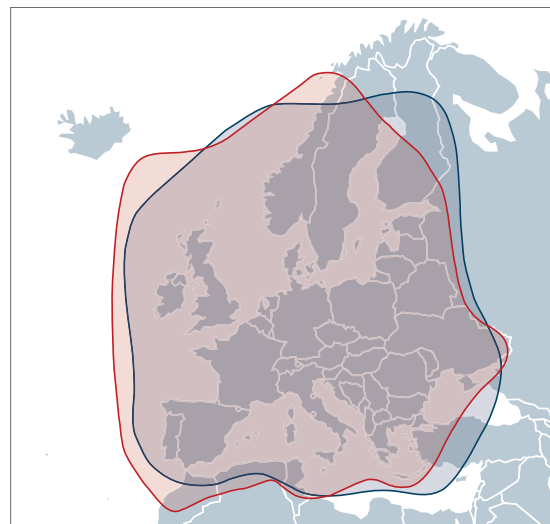
- Optimised weight: < 10 kg
- One of the lightest fully-automatic turntables
- Optimum aerodynamics:
 - Low wind resistance
 - Low noise emission
- Connection of a second receiver or TV set
- ASTRA 19.2° East, Hotbird 13° East



Space required



Footprint



■ ASTRA 19.2° East ■ Hotbird 13° East

HDP 750 GPS all-in-one packages

Solution 1

**HDP 750 GPS
fully-automatic antenna
incl. alphantronics TV set**



- Control of the antenna directly via the TV set
- Only one coax cable between TV set and antenna
- Only one remote control
- No additional control unit required
- Live streaming of TV channels to mobile devices (smartphones, tablets) with the UFZ 131 (available as an option)

Item	Contents	Order No.
CTS 750-19 GPS	HDP 750 GPS and SL-19 DSB+K	20310060
CTS 750-22 GPS	HDP 750 GPS and SL-22 DSB+K	20310061
CTS 750-24 GPS	HDP 750 GPS and SL-24 DSB+K	20310062

Solution 2

**HDP 750 GPS
fully-automatic antenna
incl. CAP converter**



- Receiver-independent antenna
- Compatible with any TV set or receiver with satellite tuner
- Live streaming of TV channels to mobile devices (smartphones, tablets) with the UFZ 131 (available as an option)

Item	Contents	Order No.
CAP 750 GPS	HDP 750 GPS and CAP converter	20310056

Recommended accessories

▪ **HDS 50 (only for Solution 2)**

External control unit for the CAP x50 GPS series
Order no. 20410070
More details on page 27

▪ **UFZ 131**

USB/Wi-Fi adapter
Order no. 20410061
More details on page 28

▪ **HDZ 100**

Roof gland
Order no. 20410032
More details on page 27

▪ **HDS 42**

Master/slave switch
Order no. 204000006
More details on page 30

> The compact version

HDP 650 GPS

The fully-automatic HDP 650 GPS is equipped with a planar antenna, which makes this solution very compact and minimises the required space. In addition to a twin LNB it features GPS for quick alignment of the antenna (approx. 1 minute).

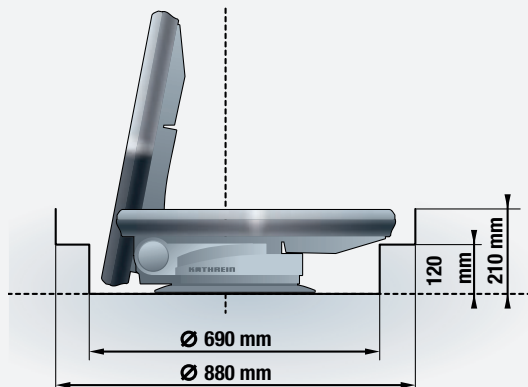
The turntable and the antenna have a height of only about 21 cm. The aerodynamic design allows a vehicle speed of up to 130 km/h (with the antenna lowered).

Main features

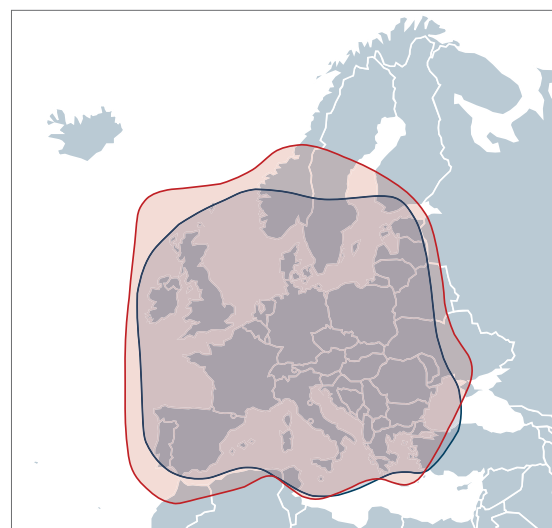
- Compact design
- Easy installation – only one cable for control and transmission of the satellite signals
- Connection of a second receiver or TV set



Space required



Footprint



■ ASTRA 19.2° East ■ Hotbird 13° East

HDP 650 GPS all-in-one packages

Solution 1

**HDP 650 GPS
fully-automatic antenna
incl. alphantronics TV set**



- Control of the antenna directly via the TV set
- Only one coax cable between TV set and antenna
- Only one remote control
- No additional control unit required
- Live streaming of TV channels to mobile devices (smartphones, tablets) with the UFZ 131 (available as an option)

Item	Contents	Order No.
CTS 650-19 GPS	HDP 650 GPS and SL-19 DSB+K	20310057
CTS 650-22 GPS	HDP 650 GPS and SL-22 DSB+K	20310058
CTS 650-24 GPS	HDP 650 GPS and SL-24 DSB+K	20310059

Solution 2

**HDP 650 GPS
fully-automatic antenna
inkl. CAP converter**



- Receiver-independent antenna
- Compatible with any TV set or receiver with satellite tuner
- Live streaming of TV channels to mobile devices (smartphones, tablets) with the UFZ 131 (available as an option)

Item	Contents	Order-No.
CAP 650 GPS	HDP 650 GPS and CAP converter	20310055

Recommended accessories

▪ **HDS 50 (only for Solution 2)**

External control unit for the CAP x50 GPS series
Order no. 20410070
More details on page 27

▪ **UFZ 131**

USB/Wi-Fi adapter
Order no. 20410061
More details on page 28

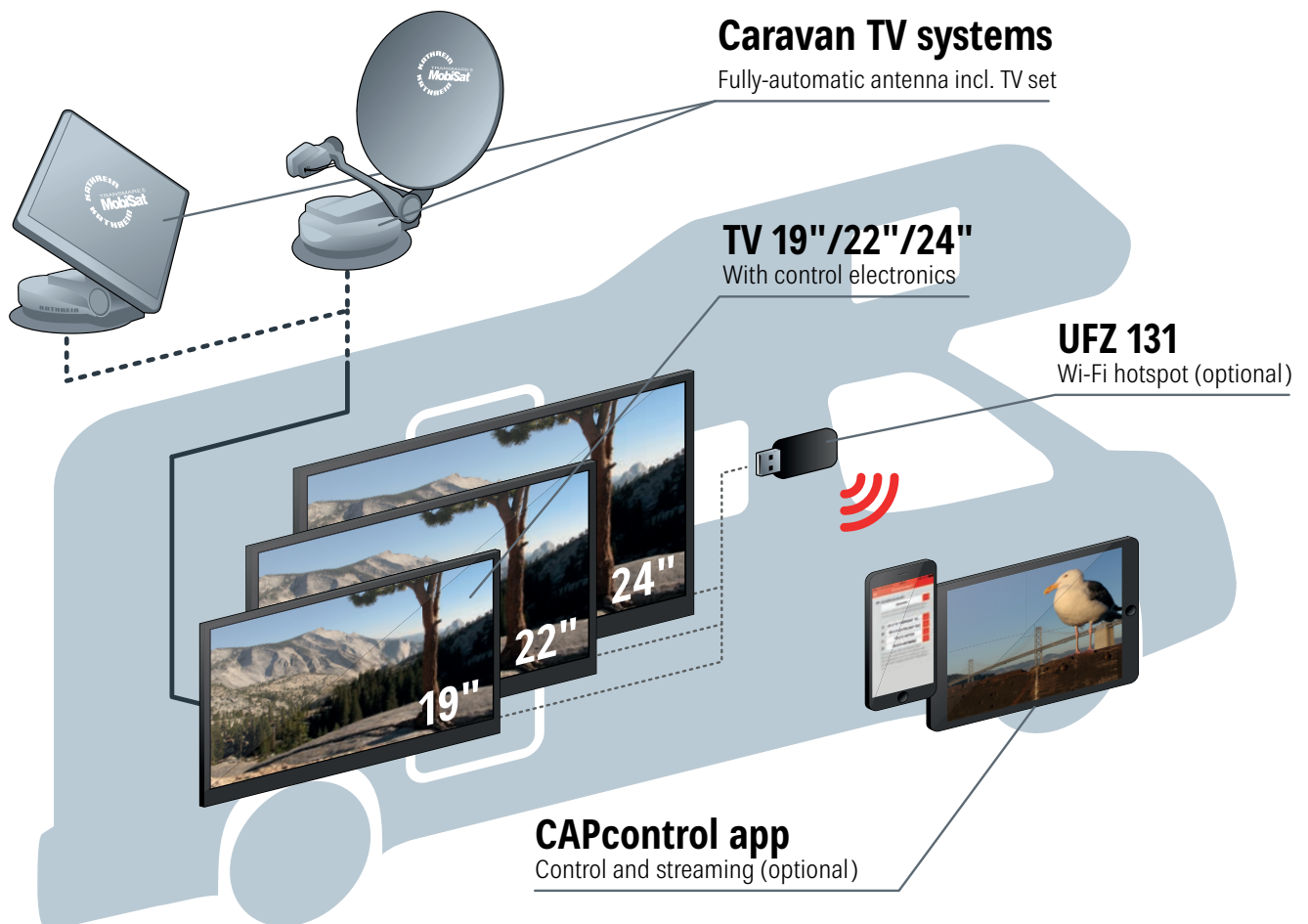
▪ **HDZ 100**

Roof gland
Order no. 20410032
More details on page 27

▪ **HDS 42**

Master/slave switch
Order no. 2040000006
More details on page 30

> Kathrein and alphatronics One-Cable-Solution
CTS All-in-one packages



The caravan TV systems consist of a fully-automatic Kathrein satellite antenna and an alphatronics TV set. They combine the know-how from both companies in one intelligent reception concept.

The fully-automatic satellite antennas are controlled via the alphatronics TV set. A separate control unit or receiver is not required. This means that only two units (turntable

and TV set) are required for TV and radio reception in a caravan or motor home. When developing the system, Kathrein and alphatronics attached particular importance to ensuring an easy connection between the antenna and the TV set requiring as little cabling as possible. Control of the antenna and transfer of the satellite signals to the TV set are both carried out over one and the same coaxial cable.

> Caravan TV systems at a glance

Caravan TV systems with a 19" alphasatronics TV set

Item	Contents	Order No.
CTS 650-19 GPS	HDP 650 GPS and SL-19 DSB+K	20310057
CTS 750-19 GPS	HDP 750 GPS and SL-19 DSB+K	20310060

Caravan TV systems with a 22" alphasatronics TV set

Item	Contents	Order No.
CTS 650-22 GPS	HDP 650 GPS and SL-22 DSB+K	20310058
CTS 750-22 GPS	HDP 750 GPS and SL-22 DSB+K	20310061

Caravan TV systems with a 24" alphasatronics TV set

Item	Contents	Order No.
CTS 650-24 GPS	HDP 650 GPS and SL-24 DSB+K	20310059
CTS 750-24 GPS	HDP 750 GPS and SL-24 DSB+K	20310062

Recommended accessories for caravan TV systems

- **UFZ 131**
USB/Wi-Fi adapter
Order no. 20410061
More details on page 28
- **HDZ 100**
Roof gland
Order no. 20410032
More details on page 27



TV sets from alphasatronics are available in the following versions:

- 19" SL-19 DSB+K
- 22" SL-22 DSB+K
- 24" SL-24 DSB+K



Dimensions TV sets (W × H × D in mm; without stand):

- 19": 438 × 275 × 50
- 22": 503 × 312 × 52
- 24": 552 × 340 × 52

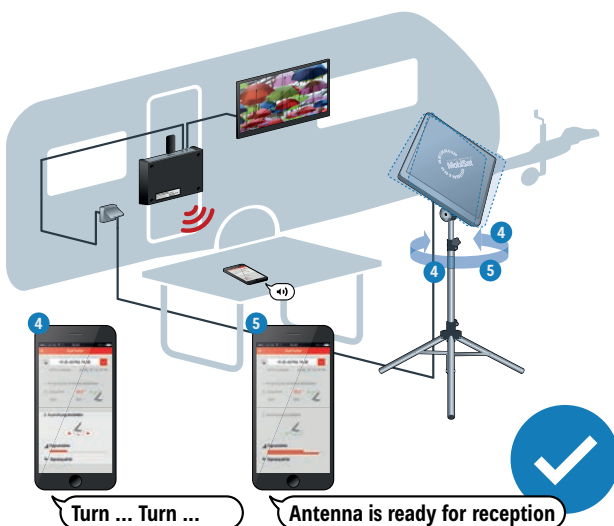
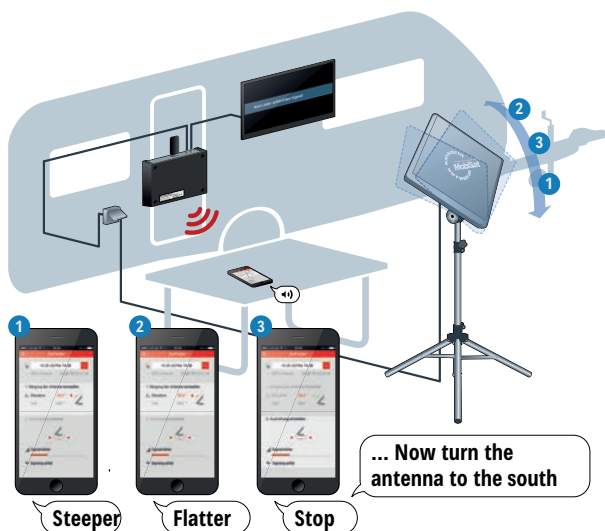
"Semi-automatic" Satellite Antennas

> Antenna set HDS 166 plus



The new antenna set is a smart alternative to the fully-automatic satellite antenna. It is inexpensive and takes up little space. Perfect if you don't have satellite reception directly at the vehicle, e.g. if the line of sight is blocked by trees, and you want to set up the system at some distance from the vehicle. The interaction between the supplied

components and the revised CAPControl app (Android and iOS) is optimally coordinated. Once all components are set up and connected, the antenna is aligned in **only 60 seconds!** The HDS 166 plus antenna set is your ideal companion – whether you are travelling in a motor home, caravan or camper van.



HOW IT WORKS

The CAP converter is the heart of the new antenna set. It is connected between the BAS 66 and the TV set. Together with the UFZ 131 USB/Wi-Fi adapter, these two components activate unprecedented functions. Fast and easy: Once you have installed the new CAPControl app on your smartphone/tablet, you can start aligning the antenna.

- The voice assistant helps with the alignment
- Streaming of TV and radio channels to mobile devices
- 11 satellites pre-set
- GPS-enabled smartphone/tablet required for installation

Scope of supply

- BAS 66 planar antenna (with twin LNB)
- HDZ 66 elevation indicator
- Tripod, adapter joint, incl. carry bags for tripod and antenna
- CAP converter
- UFZ 131 USB/Wi-Fi adapter
- 15 m coaxial cable

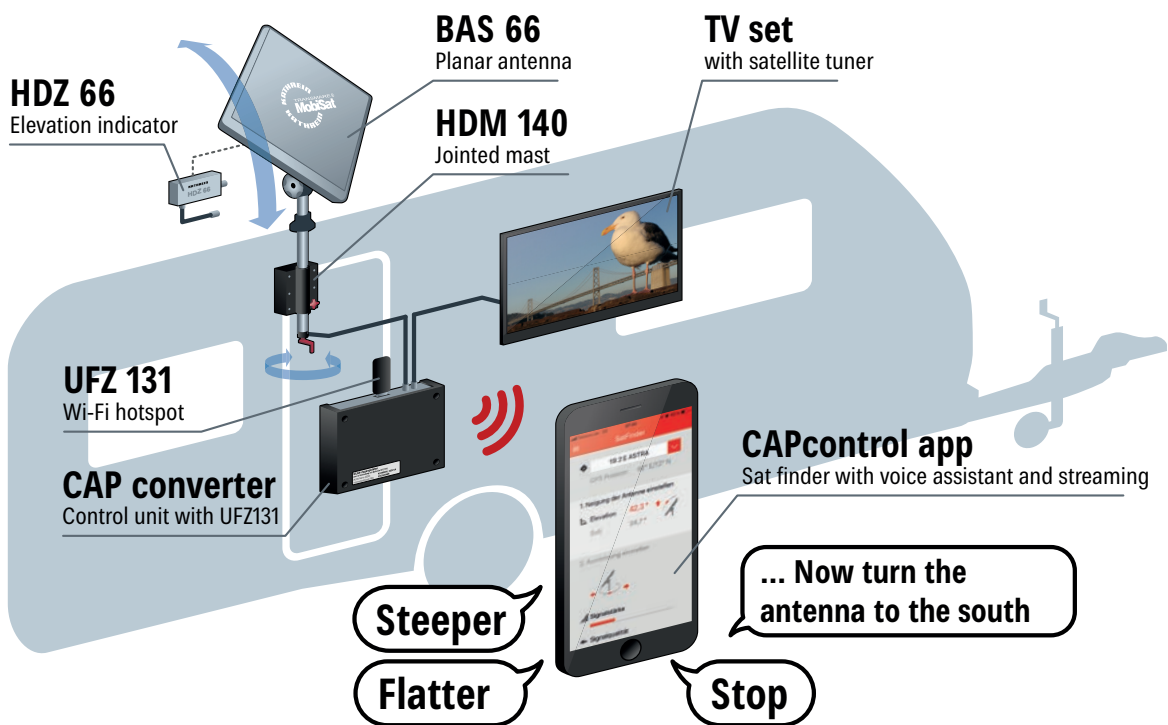
Recommended accessories

- EV 06 outdoor outlet | 218464
 - 112 V power supply unit for 230 V connection | 1683660
- Available from our service and repair centre (CSS, Caravan-Sat-Service GmbH)

Never before
has manual
antenna align-
ment been so
easy

> **All-in-one solution with HDM 140/HDM 141 jointed mast**

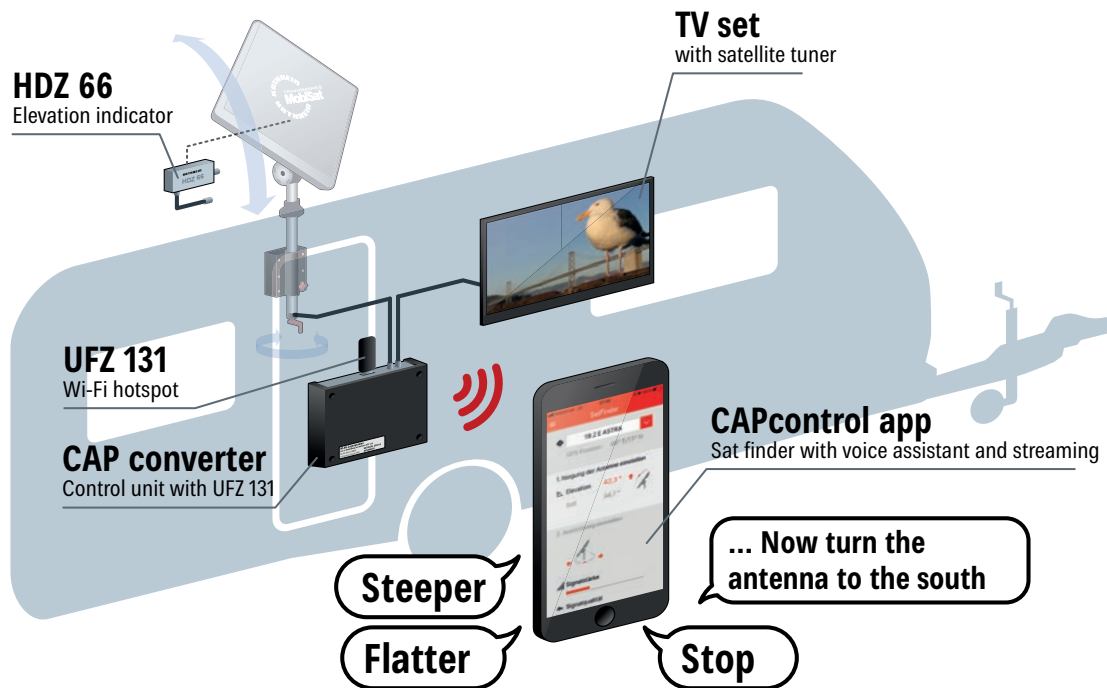
The jointed masts allow optimal mounting and rapid alignment of the BAS 66 planar antenna from inside the vehicle.



The complete HDM set includes:

Order No.	Product	Description
2000000001	BAS 66 Skew	Planar antenna with twin LNB and skew adapter plate; reception area: 10.7–12.75 GHz, suitable for HDM jointed mast
218456 or 218457	HDM 140 or HDM 141	HDM 140: twin jointed mast for BAS 66/BAS 66 Skew for caravan installation, 103 cm long
		HDM 141: twin jointed mast for BAS 66/BAS 66 Skew for caravan installation, 76.5 cm long (shorter version)
20410057	HDZ 66	Elevation indicator: required for easy alignment via app
20410077	CAP converter	Control unit: required for easy alignment via app
20410061	UFZ 131	USB/Wi-Fi adapter: for wireless integration of suitable network-compatible Kathrein receivers, IEEE 802.11n, Wi-Fi hotspot

> Extension set for existing jointed mast systems



The extension set allows the extension of a planar antenna already installed in the caravan (e.g. BAS 66 with HDM 140 jointed mast) in such a way that it can be aligned using the app.

The extension set includes:

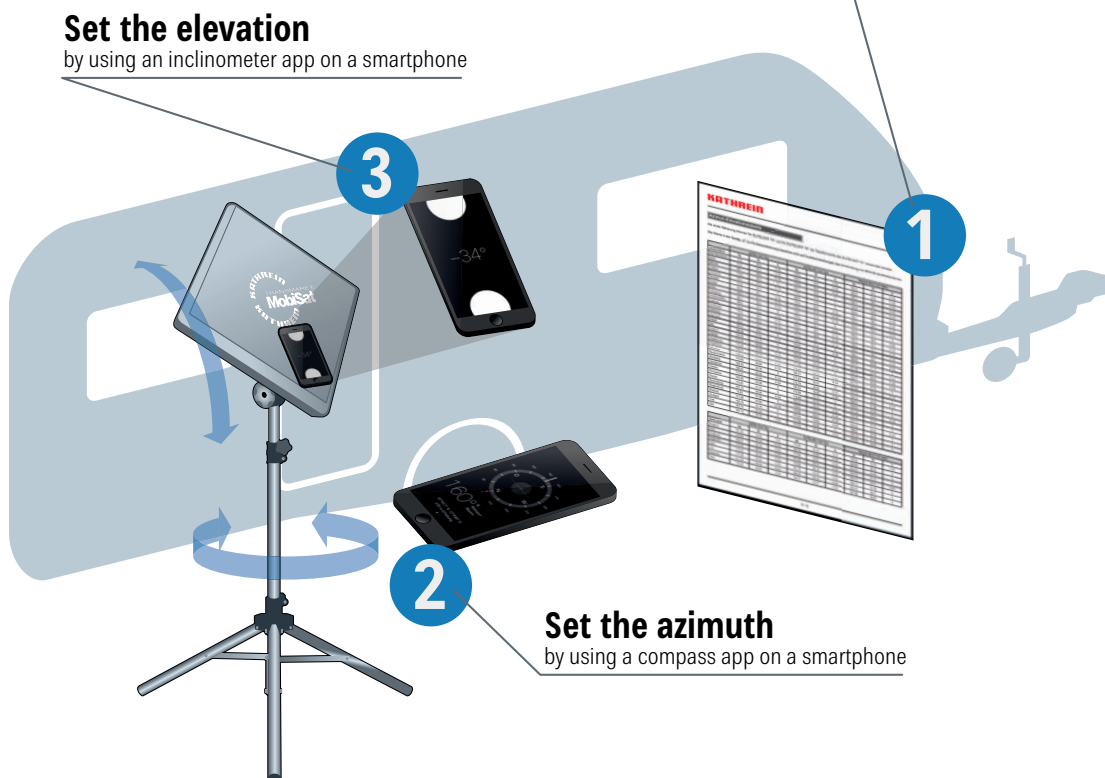
Order No.	Product	Description
20410057	HDZ 66	Elevation indicator: installation set for BAS 66/BAS 66 Skew
20410077	CAP converter	Control unit: required for easy alignment via app
20410061	UFZ 131	USB/Wi-Fi adapter: for wireless integration of suitable network-compatible Kathrein receivers, IEEE 802.11n, Wi-Fi hotspot

Manual Satellite Antennas

> Antenna set HDS 166

Setting values for location

from azimuth/elevation table in the instruction manual



The HDS 166 antenna set for manually adjustable satellite reception consists of a planar antenna, satellite tripod, adapter joint, 15 m coax cable and carry bag. It is the perfect alternative to a fully-automatic, permanently mounted turntable. The BAS 66 planar antenna can easily be adjusted and aligned with a satellite using a smartphone with a compass app (depending on the smartphone and the operating system, such an app might be pre-installed). It only takes three easy steps to align the antenna:

- 1 Look up the setting values in the enclosed azimuth/elevation table
- 2 Start the compass app, place the smartphone on the planar antenna and set the elevation of the antenna
- 3 Determine the satellite position (e.g. Astra 19.2° E in the Munich area = 169.80°) using a spirit level app and turn the antenna to that direction



> **Planar antenna**
BAS 66 Skew

NEW

Despite its small size, the BAS 66 Skew planar antenna offers optimal satellite reception. This is due to the specific honeycombed dipole structure of the reception surface.

- For use on stationary motorhomes, caravans or HGVs
- For mounting on the HDM 14x jointed masts (details on page 29)
- With integrated twin LNB (two outputs)
- With skew adapter plate for optimised reception at the fringe area of the satellite footprint

Recommended accessories

- **HDM jointed masts**
(more details on page 29)
- **HDZ 66 elevation indicator**



> **Planar antenna for stationary use**
BAS 65

- For mounting on walls, masts, brackets and on flat surfaces
- Including mounting support for easy antenna alignment
- For the reception of digital satellite TV and radio channels
- Frequency range: 10.70–12.75 GHz
- Power supply via the coaxial drop leads
- With integrated twin LNB (two outputs)



Mounting examples



> Offset parabolic antennas

KEA 650

- Foldable aluminium LNB arm
- Aluminium reflector, powder-coated
- Rear support, mast and closing brackets of galvanised sheet steel (fully-assembled)
- Nuts and bolts in stainless steel
- Reflector colours: white, graphite



> Universal LNBS

KEL 411, KEL 422

The Kathrein EuroLine universal feed systems are suitable for satellite reception systems with a 40 mm LNB fixing plate. They are intended for the reception of satellites in the Ku band, e.g. ASTRA, EUTELSAT, Türksat, Hispasat etc. All LNBS are HDTV/DVB-S2 compatible.



KEL 411
(Single LNB)



KEL 422
(Twin LNB)

Our Unique Selling Propositions

> **Antenna control and live streaming to a smartphone/tablet**

By setting up a Wi-Fi hotspot, TV and radio broadcasts can be streamed to mobile devices (smartphones, tablets, etc.) without an additional Internet router.

> **USB/Wi-Fi adapter**

UFZ 131

Main features

- Supports the wireless standards IEEE 802.11a/b/g/n with a data rate of up to 300 Mbps
- Plug & Play, no installation required
- Supports 2.4 and 5 GHz ISM bands (dual band)
- Supports 64-bit/128-bit WET, WPA, WPA2 and WAPI encryption
- Connection is indicated by LED
- Power supply via the receiver's USB port
- Suitable for CAP converter and alphantronics TV set



UFZ 131 Wi-Fi hotspot



CAPcontrol app

Antenna control and live TV streaming



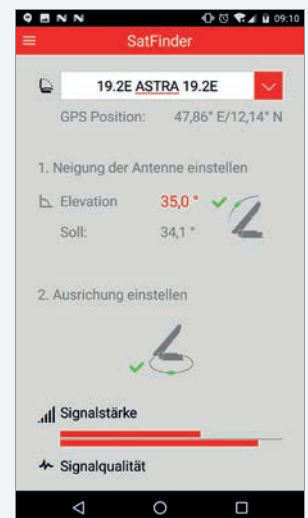
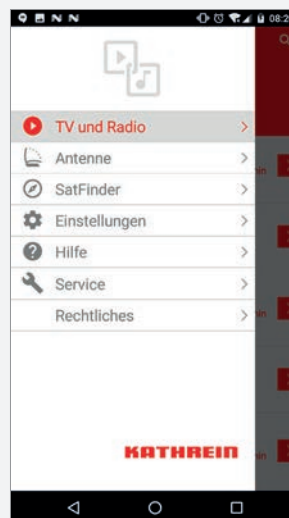
CAPcontrol app

Convenient and versatile features

The Kathrein CAPcontrol app has been extensively revised and now offers several new functions. In addition to the previously known features of controlling the fully-automatic antennas and live TV streaming (in connection with the optional UFZ 131), the app now includes a satellite finder which was especially designed for the BAS 66 manual planar antenna and the HDZ 66 inclinometer. In conjunction with the CAP converter and an alphasatronics TV set with Kathrein control, this antenna can now be aligned conveniently via smartphone or tablet.

CAPcontrol features

- Control of the automatic antennas
- Live TV streaming to mobile devices (smartphone/tablet)
- Display of software version and update of the fully-automatic antennas
- Detection of the HDZ 60/66 inclinometer
- Integrated sat finder
- Voice assistant for aligning the HDS 166 plus antenna set



➤ Software update via satellite

You probably know this from your own experience: You are looking forward to a good film, switch on your automatic antenna to watch TV, but the system can't find a satellite signal and keeps on searching for minutes. This often happens when the search transponder has changed frequency. The only remedy is to get a control unit update from the manufacturer.

We have solved this problem by means of a special download transponder via Astra 19.2° East. Every month, Kathrein engineers check whether the search transponder is still up to date and provide a download via satellite. The Kathrein turntable software checks regularly whether a new update is available and, if this is the case, installs it automatically – it couldn't be simpler.

Good reception, wherever you are and whenever you need it – automatic overnight update



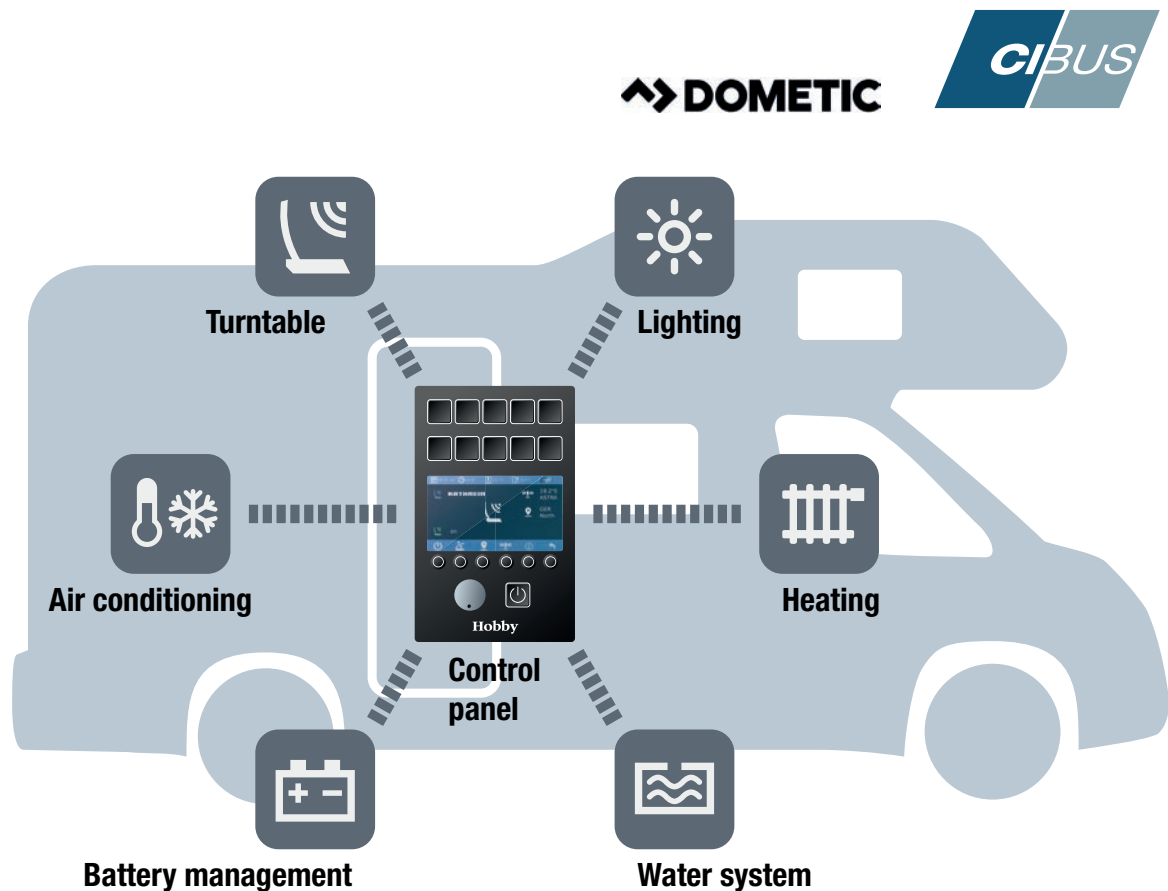
> Central control of the fully-automatic antenna via CI-BUS

The digital lifestyle has long since found its way into caravans and motor homes. The CI-BUS interface (Caravaning Industry-BUS) enables the convenient operation of all electrical devices that conform with this standard via a central control unit.

Kathrein makes sure that campers will now be able to optimise broadcast reception in their caravan or motor home just as conveniently. With an additional adapter, our receiver-independent antennas CAP x50 GPS can be

upgraded to be CI-BUS compatible, enabling easy integration into CI-BUS systems. The Hobby company is the first to offer a CI-BUS compatible fully-automatic antenna – the CAP 650 GPS – as an exclusive extra for their motor homes and caravans.

Of course, we strive to connect our products with other central control units via the CI-BUS. Thanks to the collaboration with DOMETIC, our fully-automatic antennas can now be controlled via a central DOMETIC control unit.



> **Satellite reception in camper vans**

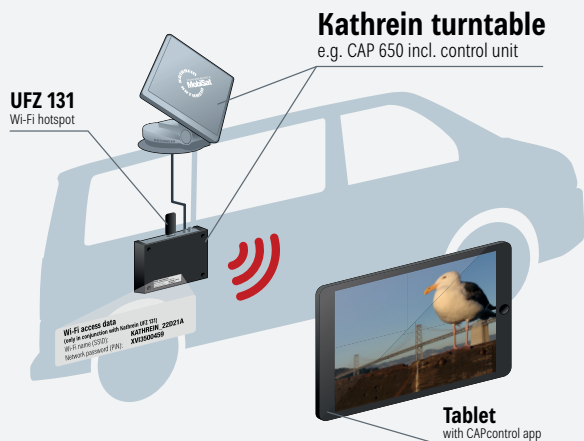
Camper vans – small, compact and nippy – are becoming more and more popular among camping enthusiasts. Satellite reception in such a confined space requires compact solutions. Our fully-automatic CAP 650 GPS antenna and the HDS 166 or HDS 166 plus antenna set fulfil these specific demands.

> **Option 1**

TV reception with the CAP 650 GPS

The compact CAP 650 GPS requires very little space on the vehicle and can also be operated without a TV set.

In this case, the system is controlled via a mobile device (tablet, smartphone). Live streaming enables the reception and display of TV programmes directly on the mobile device.



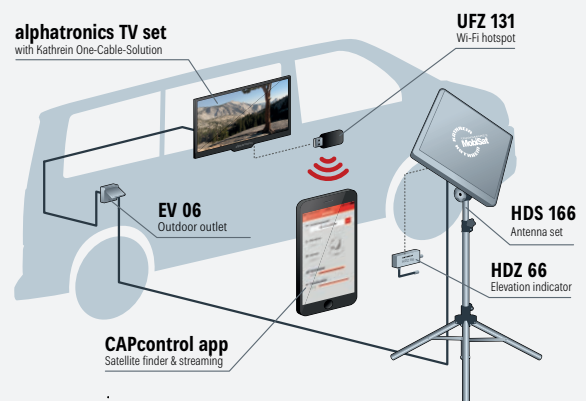
> **Option 2**

TV reception with the HDS 166 or HDS 166 plus

The HDS 166 antenna set is the ideal solution for campers who don't want to mount an antenna on their vehicle. The special features of this set are its very small packing size and its quick alignment via smartphone.

The perfect addition: alphatronics SL line TV set (with Kathrein control)

The alignment via smartphone is even quicker when combined with an alphatronics TV set and the UFZ 131. The revised CAPcontrol app now detects the inclinometer (included with the HDS 166). Thanks to the integrated satellite finder, the antenna can be aligned optimally even without direct view of the TV set.



Accessories and DVB-T2 Antennas

> External control unit for the CAP x50 GPS series HDS 50

With the HDS 50 external control unit, you can operate the CAP 650 GPS, 750 GPS, 850 GPS and 950 easily and conveniently without having to switch on a receiver or TV set. Selecting a satellite, lowering the antenna to the park position and other functions are available and can be called up via an intuitively structured menu. An LC display provides the necessary overview.

- Compatible with the CAP x50 GPS series
- No external power supply required
- Easy wall mounting
- Including 3 m connection cable
- Dimensions (in mm): 125 × 25 × 68 (L × W × H)



> Control unit CAP converter

The CAP converter is included with the fully-automatic antennas and the new HDS 166 plus antenna set and serves as the central control unit. It is also available individually and is recommended if you want to convert a receiver-based CAP antenna into a receiver-independent solution. In connection with the UFZ 131 USB/Wi-Fi adapter, the CAP converter extends the features of the HDS 166 antenna set to include live TV on smartphones/tablets and alignment via voice assistant.



> Note: Upgrading your CAP system (6xx, 7xx or 9xx) to the CAP converter requires updating the turntable firmware. Please contact our service centres to request an update.

> Roof gland HDZ 100

- Protective casing for cable interfaces
- Also suitable for cable routing on the roof
- For a maximum of two RF cables and one DC cable
- Optimised for CAP systems
- Easy installation
- Unused cable glands can be closed with integrated blind plugs
- Cable interface size: up to 29 x 17 mm



> **USB/Wi-Fi adapter**

UFZ 131

- Supports the wireless standards IEEE 802.11a/b/g/n with a data rate of up to 300 Mbps
- Plug & Play, no installation required
- Supports 2.4 and 5 GHz ISM bands (dual band)
- Supports 64-bit/128-bit WET, WPA, WPA2 and WAPI encryption
- Connection is indicated by LED
- Power supply via USB port
- Suitable for CAP converter and alphantronics TV set



> **Outdoor outlet**

EV 06

Outdoor outlet with 5-metre long coax cable; F-type connector



> **Active DVB-T2 antennas**

BZD 30/32/40



Active DVB-T/-T2 indoor antenna BZD 30

- Remote feeding (5 V/30 mA) via the coax cable from the connected DVB-T2 receiver
- 2 m connection cable included
- Integrated trap filter for GSM and LTE interference



Active DVB-T/-T2 indoor antenna BZD 32

- Remote feeding (5 V/30 mA) via the 3 m USB remote feed cable, e.g. from the TV set
- Integrated trap filter for GSM and LTE interference



Active DVB-T/-T2 outdoor antenna BZD 40

- Remote feeding (5 V/30 mA) via the coax cable from the connected DVB-T2 receiver
- Accessories: fixing material for wall/mast mounting, 10 m connection cable, F-type and IEC connector

> Satellite jointed masts and tripod mast stand

HDM 140, 141, 143, 135, HDS 100

The satellite jointed masts allow optimal mounting and rapid alignment of the BAS 66 planar antenna from inside the vehicle. The jointed masts are made of rust-proof and seawater-resistant Duralium. The swivel heads are made of

die-cast aluminium. In conjunction with the BAS 66, this is the manual alternative to the automatic system. The maximum permissible vehicle speed is 130 km/h.



Mast HDM 140

For mounting the BAS 66 planar antenna on caravans or motor homes, length 103 cm



Mast HDM 141

Shorter version of HDM 140, length 76.5 cm



Mast HDM 143

For upgrading a terrestrial to a satellite reception system with the BAS 66 planar antenna



Duralium mast HDM 135

Length 2 m, diameter 35 mm, incl. mounting brackets and roof seal



Tripod mast stand HDS 100

Ideal for flexibly setting up the BAS 65 or KEA 650 satellite antenna. The telescopic, rotatable extension allows easy alignment of a mounted antenna. Alu tripod with 2 mm wall thickness (light and very stable), pegs for securing it to the ground, incl. carry bag



Spare parts for many products from our "Camping and Caravan" range are available from the Kathrein factory repair centre (CSS Caravan-Sat-Service GmbH, see address on page 34).

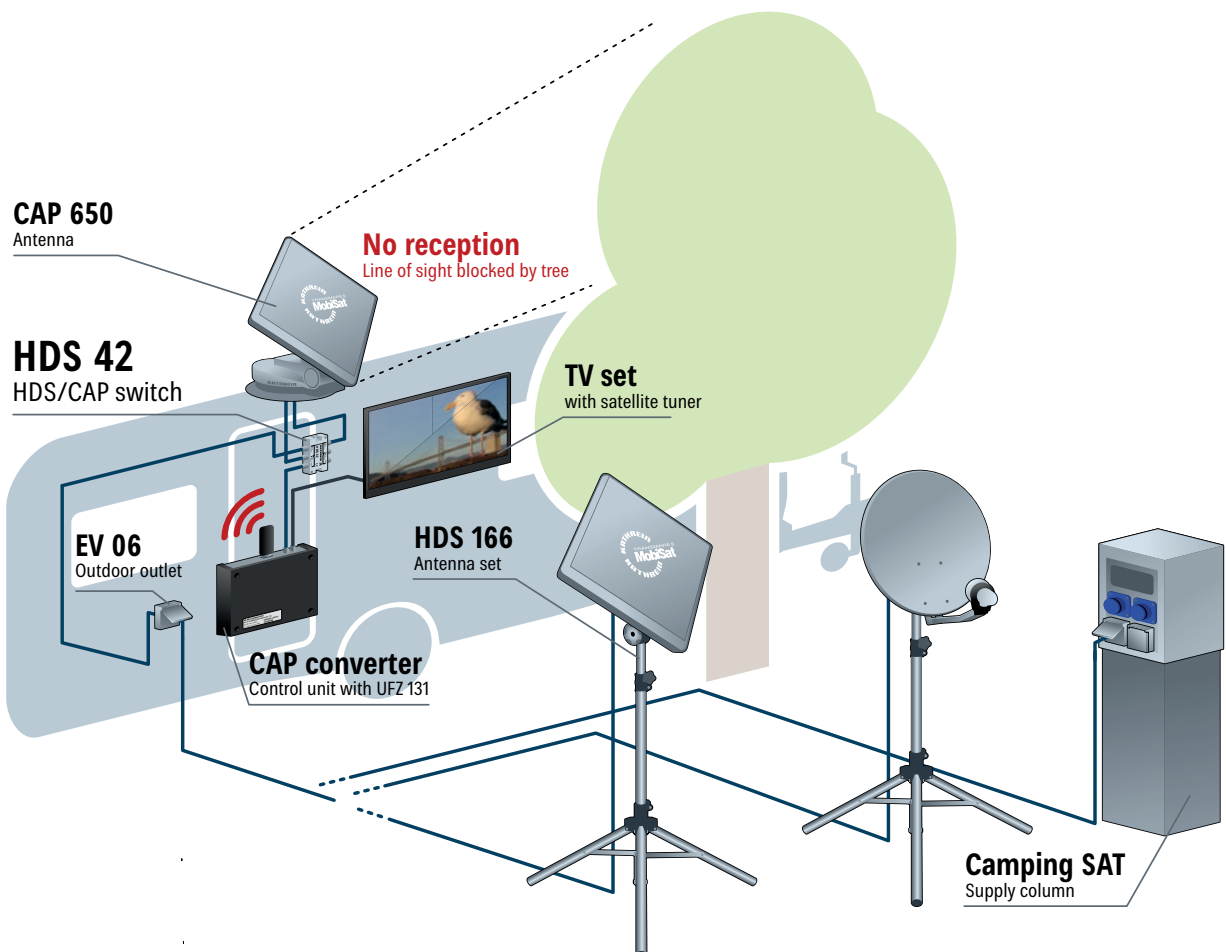
> Master/slave switch

HDS 42

The HDS 42 master/slave switch has been developed for customers who use the HDS 166 manual antenna set in addition to a fully-automatic antenna.

The HDS 42 connects both systems and automatically detects which system is currently receiving a signal. The highlight of this solution: There is no need to reconnect the cables!

Since the CAP converter also serves as the central unit here, the free CAPcontrol app can be used via both receive paths. You can also use the app to watch free-to-air stations on your smartphone/tablet.

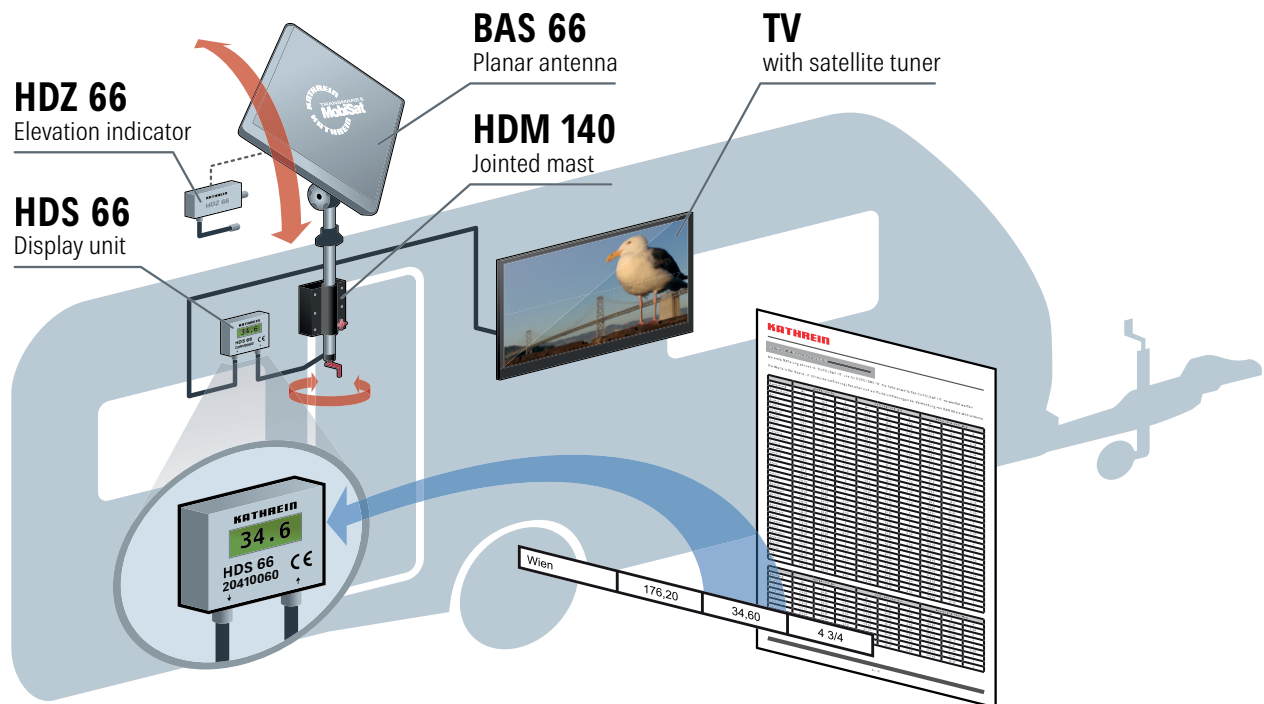


> Display unit HDS 66

- Shows the actual elevation of the HDZ 60 or HDZ 66 inclinometer
- The display backlight switches off automatically if the elevation remains unchanged (energy saving mode)
- The display back lighting switches on automatically if the elevation changes
- Easy wall mounting



Aligning the planar antenna using the HDS 66



Technical Data

Type	UFZ 131
Order no.	20410061
Standard	IEEE 802.11a, -802.11b, -802.11g, -802.11n
Connection	USB 2.0 Type A
Data rates [MBit/s]	11b: 1/2/5.5/11
	11g: 6/9/12/24/36/48/54
	11n : up to 300
Operating temperature [°C]	+0 to +50
Dimensions [mm]	19 × 40

Type	BAS 66 Skew	BAS 65
Order no.	2000000001	20010032
Application	Mobile use	Stationary use
For mounting onto	HDM 140, 141, 143	Walls, masts, brackets, flat surfaces
Reception range [GHz]	Switchable: 10.70–11.70 (0 kHz) 11.70–12.75 (22 kHz)	
Polarisation	Switchable: vertical (14 V), horizontal (18 V)	
Gain [dB]	> 55	
Half width range [°] ¹⁾	Typically < 3	
LNB	2 switchable outputs	
Output frequency [MHz]	950–1950/1100–2150	
Oscillator frequency (L.O.) [GHz]	9.75/10.6	
Supply voltage LNB [V]	Vertical: 11.5–14.0/horizontal: 16.0–19.0	
Max. power consumption [mA]	220	
Wind load [N] ²⁾	240	
Mast clamp range [mm]	–	38–50
Setting range, elevation [°]	0–90 (HDM 14×)	0–50
Setting range, azimuth [°]	360	± 65 (wall mounting), 360 (mast mounting)
Dimensions [mm]	500 × 500 × 109 (without support)	500 × 500 × 121 (without support)
Packing unit/weight [pc./kg]	1/6.5	1/8.2

¹⁾ At mid-band ²⁾ At a dynamic pressure of 800 N/m² acc. to EN 60728-11

Type	CAP 750 GPS	CAP 650 GPS
Order no.	20310056	20310055
Diameter parabolic reflector approx. [cm]	60	–
LNB	2 switchable outputs: V/H (14/18 V) Low/high (0/22 kHz)	
Supply voltage LNB [V]	Vertical: 11.5–14/horizontal: 16–19	
Input frequency [GHz]	10.70–12.75	
Output frequency [MHz]	950–1950/1100–2150	
Oscillator frequency (L.O.) [GHz]	9.75/10.60	
Figure of merit (G/T) at 11.3/12.5 GHz [dB/K]	13.4/13.7	13.3/13.7
Supply voltage (vehicle battery) [V]	10.5–15.5	
Current drain from the 12 V supply [A]	Typically 3	
Current drain from the receiver [mA]	Typically 160	
Setting range: Elevation/azimuth/skew [°]	0–75/370/± 45	0–80/370/± 15
Weight of the turntable with parabolic reflector/planar antenna [kg]	9.7/–	–/14.5
Packing unit/weight [pc./kg.]	1/19.5	1/23.4

Included with the CAP all-in-one packages:

Pre-mounted antenna, mounting plate and mounting material with roof gland, complete set of cables, installation and operating instructions, CAP converter

Type	BZD 30	BZD 32	BZD 40
Order no.	20710002	20710013	20710005
Reception range [MHz]	174–230/470–790	174–230/470–790	174–230/470–862
Figure of merit [dB/K] ¹⁾	Typ. -28.5	Typ. -28.4	Typ. -32
Gain [dB]	B III: 18, B IV/V: 15	B III: 18, B IV/V: 15	B III: 18, B IV/V: 15
Max. output level [dBµV] ²⁾	Typically 95	Typically 95	Typically 95
Permissible remote feed voltage [V]	5	5	5–25
Dimensions [mm]	140 × 195	140 × 195	204 × 196 × 71 ³⁾
Packing unit/weight [pc./kg]	1 (10)/0.5	1 (10)/0.5	1 (10)/1.1
Single pack dimensions [mm]	250 × 160 × 70	250 × 160 × 70	210 × 250 × 75

¹⁾ Bandwidth 8 MHz, Tu 290 K, connection cable a = 3.5 dB, receiver NF = 7 dB @ 560 MHz

²⁾ Measured at the antenna output, in compliance with EN 60728-5 for 60 dB intermodulation distance (2 transmitters – 3rd order)

³⁾ With support

Advice and Service

> Caravan service centres

Germany

**1 CSS Caravan-Sat-Service-GmbH
Werksreparaturstelle**

Bahnhofstr. 110
83224 Grassau
Phone: +49 8641 69984-27

2 RAPP GmbH Fachhandel

Auer Straße 7
89287 Bellenberg
Phone: +49 7306 92752-11

3 Wohnwagen Vogt GmbH

Koblenzer Str. 53
66115 Saarbrücken
Phone: +49 681 99288-0

4 GÜMA Caravan Motorcaravaning KG

Steinzeugstr. 21
68229 Mannheim-Friedrichsfeld
Phone: +49 621 48254970

5 Schaffer Mobil GmbH

Kötzschenbroder Str. 125
01139 Dresden
Phone: +49 351 837480

6 Knocks Motors GmbH & Co.KG

Schulland 1
34474 Diemelstadt-Ammenhausen
Phone: +49 5694 990990

7 Williges Elektronik Service GmbH

Solinger Strasse 13
28199 Bremen
Phone: +49 421 504021

8 Wohnmobile & Caravans Linke

Grevenberg 1
23970 Kritzow/Wismar-Ost
Phone: +49 3841 283758

**9 M. Michalk GmbH & Co
Automobile KG**

Am Juliusturm 21
13599 Berlin
Phone: +49 30 33 89 02 0

10 P. Minke

Hauptstraße 75
21266 Jesteburg
Phone: 49 418 32 222

**11 Reisemobil und Wohnwagen
Service Zivkovic**

Kölner Straße 59
45481 Mülheim-Ruhr
Phone: +49 208 62 68 350

12 Günther Reizner

Breinloher Weg 11
91166 Georgensgmünd
Phone: +49 917 270 022 60

Austria

1 Auto Heiss

Schießstand 3a
6401 Inzing
Phone: +43 5238 54055

2 KATHREIN Digital Systems Vertriebs GmbH

Gnigler Straße 56
5020 Salzburg
Phone: +43 662 87 553 132

3 Wohnwagen Pusch GmbH

Linzerstraße 138
4810 Gmunden
Phone: +43 7612 67600

4 Sulzbacher GmbH – Hymer Reisemobile

Goldenberg 1
4070 Eferding
Phone: +43 7272 2542

5 MOBOS e.U. – Herbert Schmid

Sarobagasse 25
2103 Langenzersdorf
Phone: +43 664 5 245 262

6 Kleido Reisemobile

Gradnerstraße 66
5055 Graz
Phone: +43 316 272 715

7 Falle GmbH

Maria Galler Straße 59
9500 Villach
Phone: +43 4242 32540

Switzerland

1 KHC Service GmbH

Grenzstrasse 20,
5525 Fischbach-Göslikon
Phone: +41 76 589 57 79

2 Farelec Fischer

Mirchelgässli 6,
3532 Zäziwil
Phone: +41 31 711 48 38

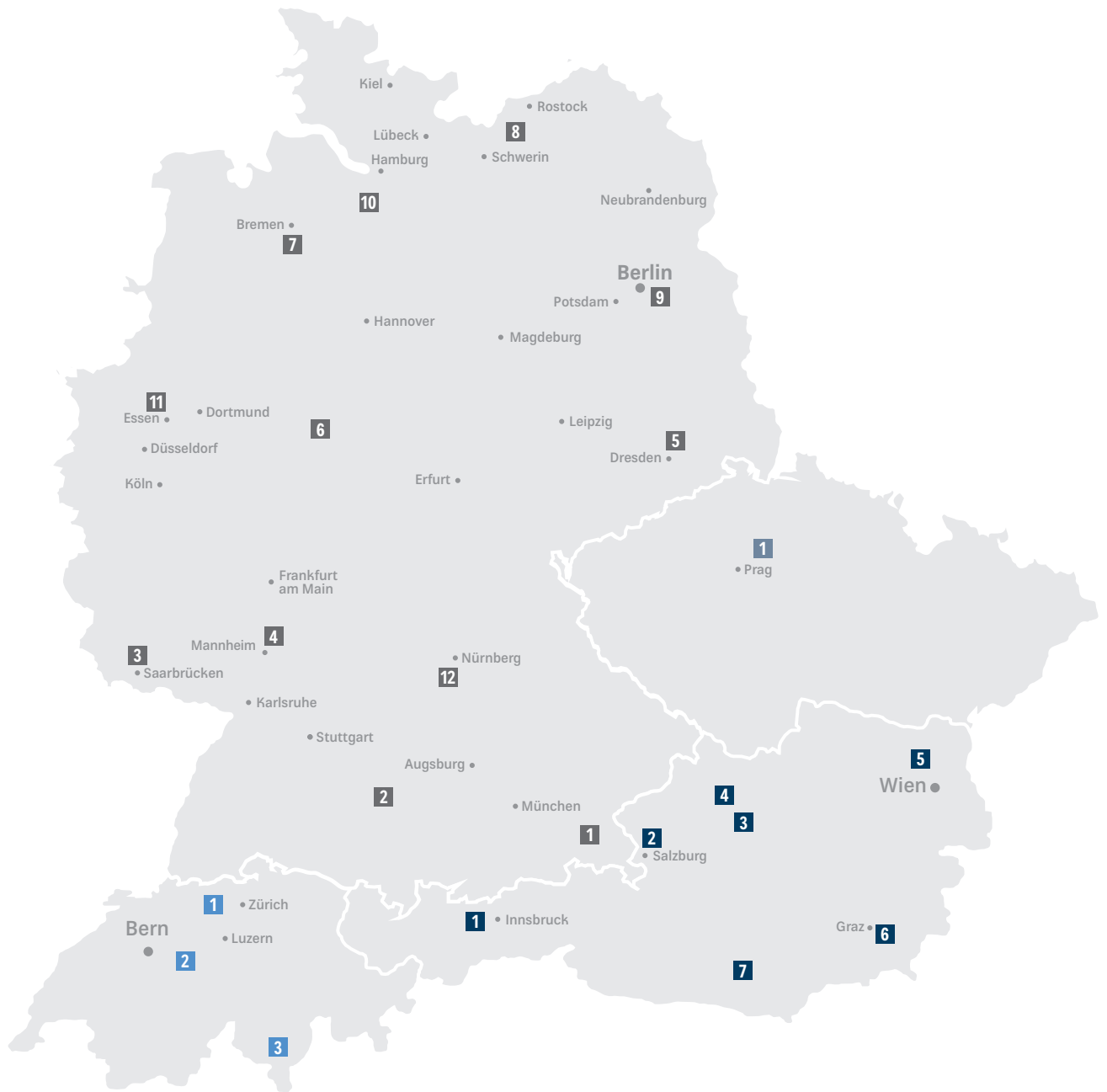
3 Vulkus Valentin Caravan Service

A Ramél 23
6593 Cadenazzo
Phone: +41 798 983 033

Czech Republic / Slovakia

1 KARAVANYPRO s.r.o.

Průmyslová 2584
250 01 Brandýs nad Labem
Phone: +420 720 705 139



> **Advice and information**

Germany

KATHREIN Digital Systems GmbH
 Eiselauer Weg 13
 89081 Ulm
 Phone: +49 731 27090970

Austria

Kathrein Digital Systems Vertriebs GmbH
 Gnigler Straße 56
 5020 Salzburg
 Phone: +43 662 875531

Further information about service and support is available at www.kathrein-ds.com/support/kundenberatung



Your specialist supplier:

Sales Germany

KATHREIN Digital Systems GmbH
Vertriebsregion Süd/Nord
Eiselauer Weg 13
89081 Ulm, Germany
order@kathrein-ds.com

Technical advice for specialist suppliers

KATHREIN Digital Systems GmbH
Eiselauer Weg 13
89081 Ulm, Germany
Phone +49 731 270 909 70
Fax +49 731 92767-22
support@kathrein-ds.com

KATHREIN Digital Systems GmbH
Anton-Kathrein-Straße 1–3
83022 Rosenheim, Germany
www.kathrein-ds.com | info@kathrein-ds.com

KATHREIN
Digital Systems GmbH