



# Camping & Caravan 2016/17

At Home on the Road



SAT

**KATHREIN**

# KATHREIN

## Who we are and what we stand for

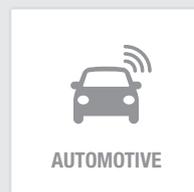
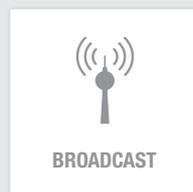
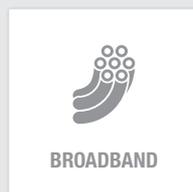
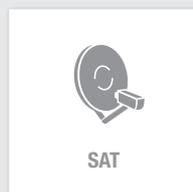
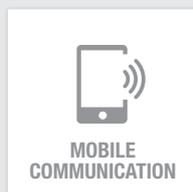
**Kathrein is a leading international specialist for reliable, high-quality communication technologies.**

We are an innovation and technology leader in today's connected world. Our ability to provide solutions and systems enables people all over the world to communicate, access information and use media, whether at home, at the office or on the road. We cover a broad spectrum:

from outdoor and indoor mobile communication solutions, to satellite reception, broadband and broadcast technology, to transmission and reception systems in vehicles.

As a hidden champion and family-owned enterprise, we have been working on the technologies of tomorrow since 1919. We take pride in our dedicated employees and our passion for customers and quality.

### Our Solutions



Find out more about us at [www.kathrein.com](http://www.kathrein.com)

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## At Home on the Road with Kathrein

If you travel a lot, you don't want to miss your usual TV and radio channels or programmes. Kathrein has been responding to customers' desires for many years and has developed mobile satellite reception systems especially for use in motor homes and caravans. These are designed for maximum convenience and simplicity of control, at the best of Kathrein quality. Kathrein does not only offer automatic satellite alignment systems, we also include lower-priced manually aligned systems in our range.

Sat jointed masts, mast tripod stands and planar antennas make this type of satellite reception very simple. Kathrein has incorporated a satellite 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 displaying the absolute elevation of a planar antenna (considering any vehicle inclination).



## Our Benefits at a Glance

### > Three good reasons to opt for a Kathrein turntable

1



**Quality made in Germany** 

**Quality made in Germany**

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

2



LNB CAP 950

**Twin LNB in all Kathrein turntables**

All Kathrein turntables are equipped with a twin LNB. This enables the connection of a second receiver.

3

**Aerodynamic design**

The aerodynamic design of Kathrein turntables reduces noise emission inside the vehicle to an absolute minimum.

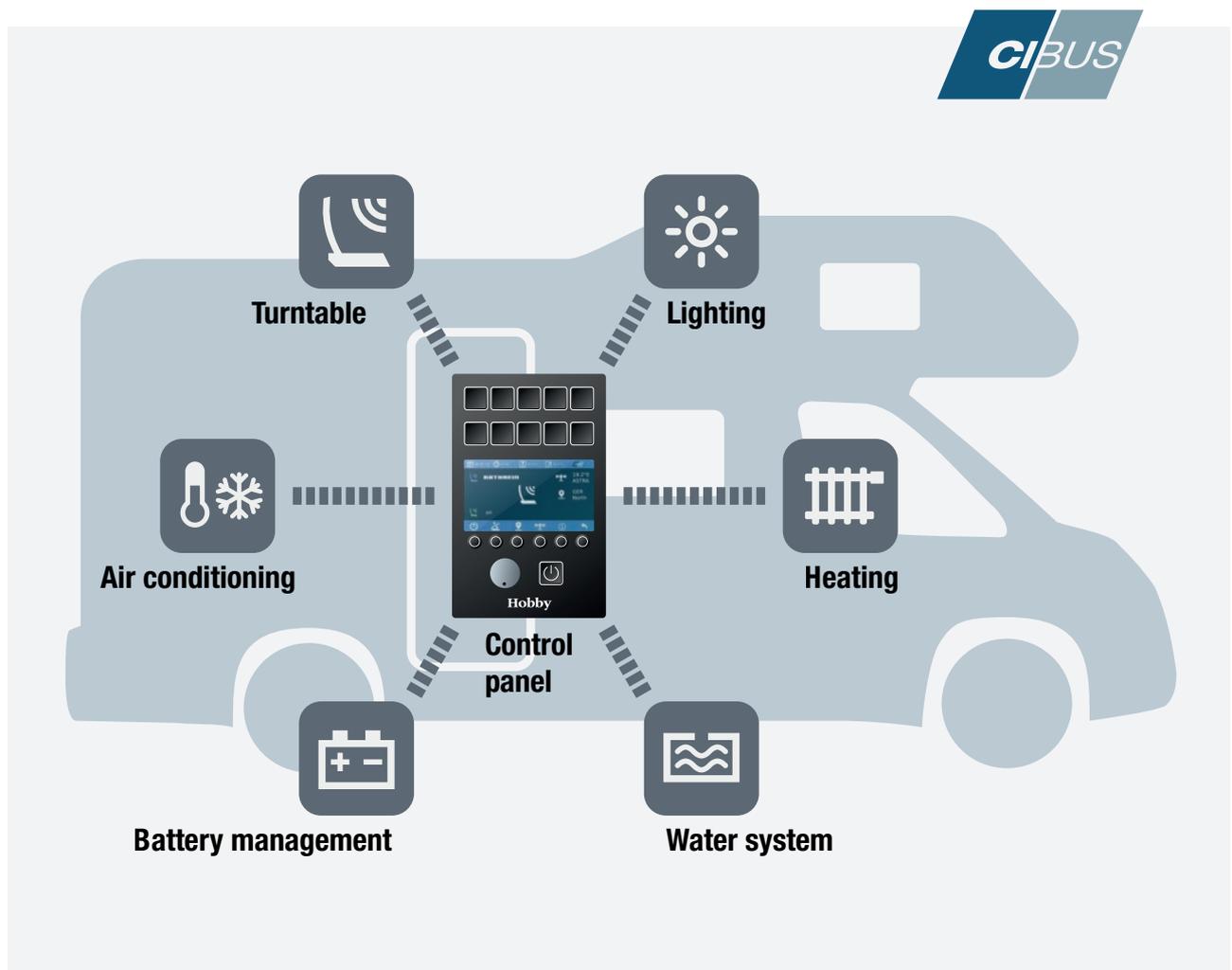


## CI-BUS

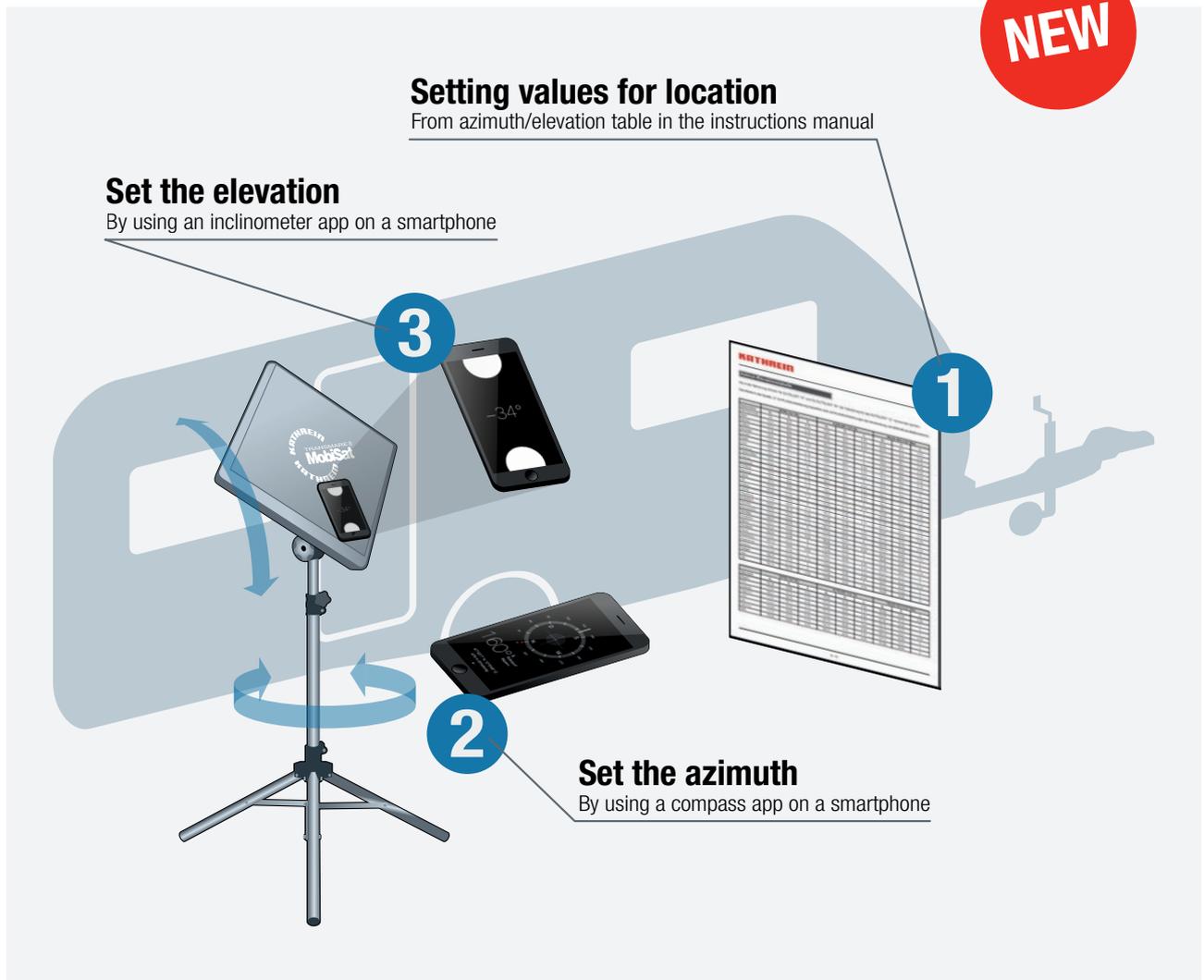
### > Central control of the CAP turntables via the CI-BUS

The digital lifestyle has found its way into caravans and motor homes quite a while ago. The CI-BUS interface (Caravanning Industry-BUS) enables the convenient operation of all electrical devices that conform with this standard via a central control unit. The heating or air conditioning, for example, can easily be controlled via a laptop, tablet or smartphone.

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 turntables CAP 650, 750 and 950 can be upgraded to be CI-BUS compatible, enabling easy integration into the system. The Hobby company is the first to offer the CAP 650 as an exclusive special accessory for its caravans.



> **Antenna set**  
HDS 166



**Setting values for location**

From azimuth/elevation table in the instructions manual

**Set the elevation**

By using an inclinometer app on a smartphone

**Set the azimuth**

By using a compass app on a smartphone

The antenna set HDS 166 is a perfect alternative to a fully automatic permanently installed turntable system. This manually adjustable satellite reception system consists of a planar antenna, and a special tripod stand fitted with an articulated head. The HDS 166 is delivered with 15 m of cable and packed in a carry bag.

The planar antenna BAS 66 can easily be adjusted and aligned on a satellite using a smartphone and a compass app (depending on the smartphone and the operating system, such an app might be pre-installed).

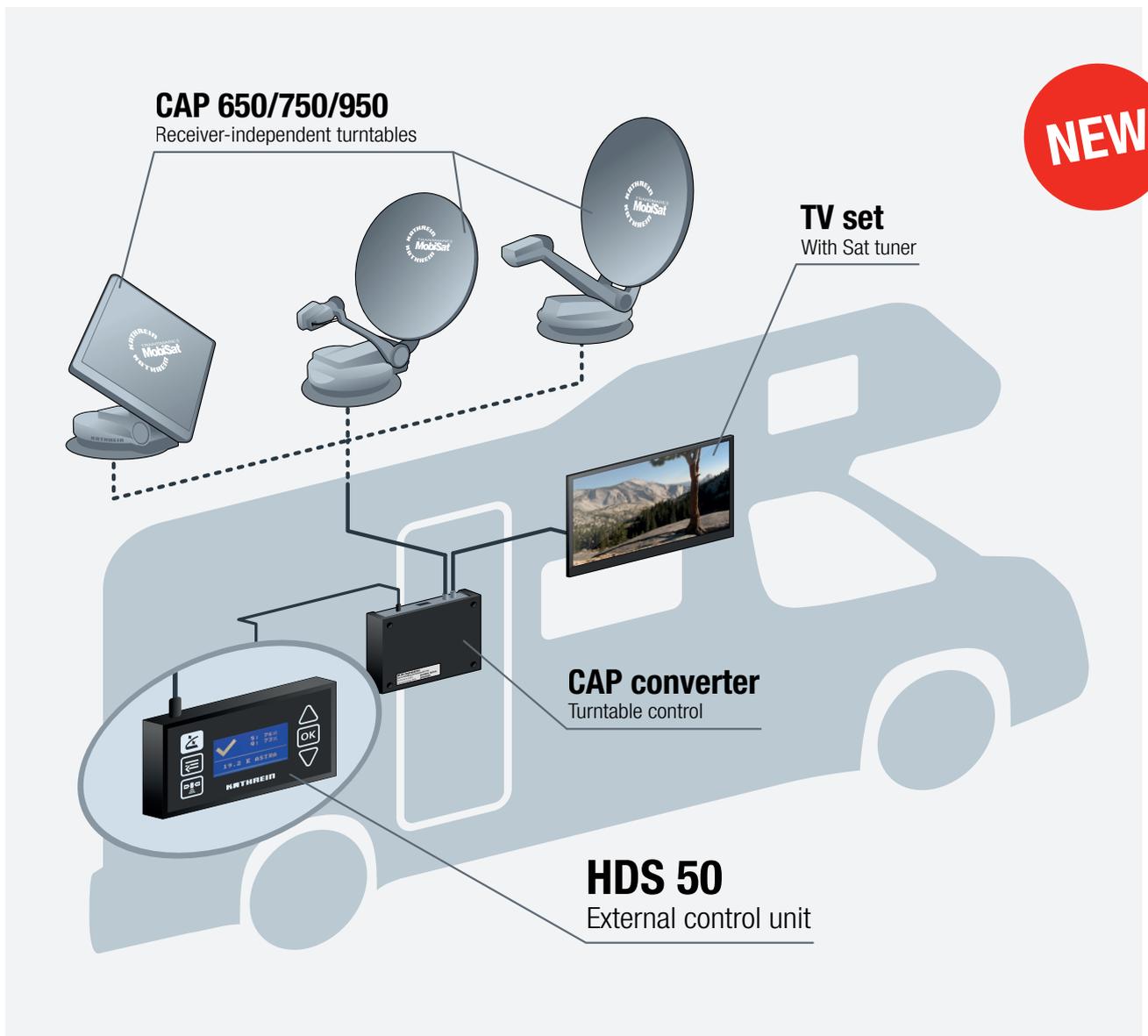
It only takes three easy steps to align the antenna:

- 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 an inclinometer app and turn the antenna to that direction

> **External control unit for CAP 650/750/950**  
HDS 50

With the external control unit HDS 50, you can operate the turntable easily and conveniently without having to switch on the receiver or TV set. Choice of satellites, lowering to park position and other functions are available in an intuitively

structured menu. An LC display gives the necessary overview of the status information. The push-buttons allow you to quickly enter any required settings.



## Solutions

### > **Three ways to perfect satellite reception**

#### **Which is the best solution for you?**

With our three different combinations for mobile satellite reception you can find the best solution for your individual demands.

If you are planning to install a completely new system, we recommend one of our new caravan TV systems (solution 1). These systems consist of a Kathrein turntable and an alphatronics TV set which controls the turntable via a clearly structured menu - ensuring optimum reception. Everything is operated and controlled with a single remote unit.

If you already have a TV set with an integrated satellite tuner, a receiver-independent turntable is the perfect choice for you (solution 2: CAP 650/750/950). You can use your TV set both for adjusting the turntable and for satellite reception.

Solution 3 (CAP 620/730/920) distinguishes itself through the UFS 946/CI+ HDTV receiver with its very convenient features. In addition to the good image and sound quality you are used to, the UFS 946/CI+ is particularly easy to operate.

#### **Solution 1** Turntable including alphatronics TV set



#### **Caravan TV systems – the “One-Cable-Solution” from Kathrein and alphatronics**

- Control of the turntable directly via the TV set
- Only one coax cable between the TV set and the turntable
- Minimal installation effort
- Low weight
- Live streaming of TV and radio channels to mobile devices (smartphones, tablets) with the UFZ 131
- LED panels are 100% free of defective pixels
- Integrated over-voltage protection
- Voltage stability from 10.8 to 26 V
- Low power consumption
- alphatronicsview – wide-angle displays
- Triple tuner (DVB-S2, DVB-T/T2, DVB-C)
- Integrated Bluetooth module
- Made in Germany



### Solution 2

Turntable including  
CAP converter



#### CAP 650/750/950

- Receiver-independent turntable
- Compatible with any TV set or receiver with satellite tuner
- Streaming to mobile devices (smartphones, tablets) with the UFZ 131

### Solution 3

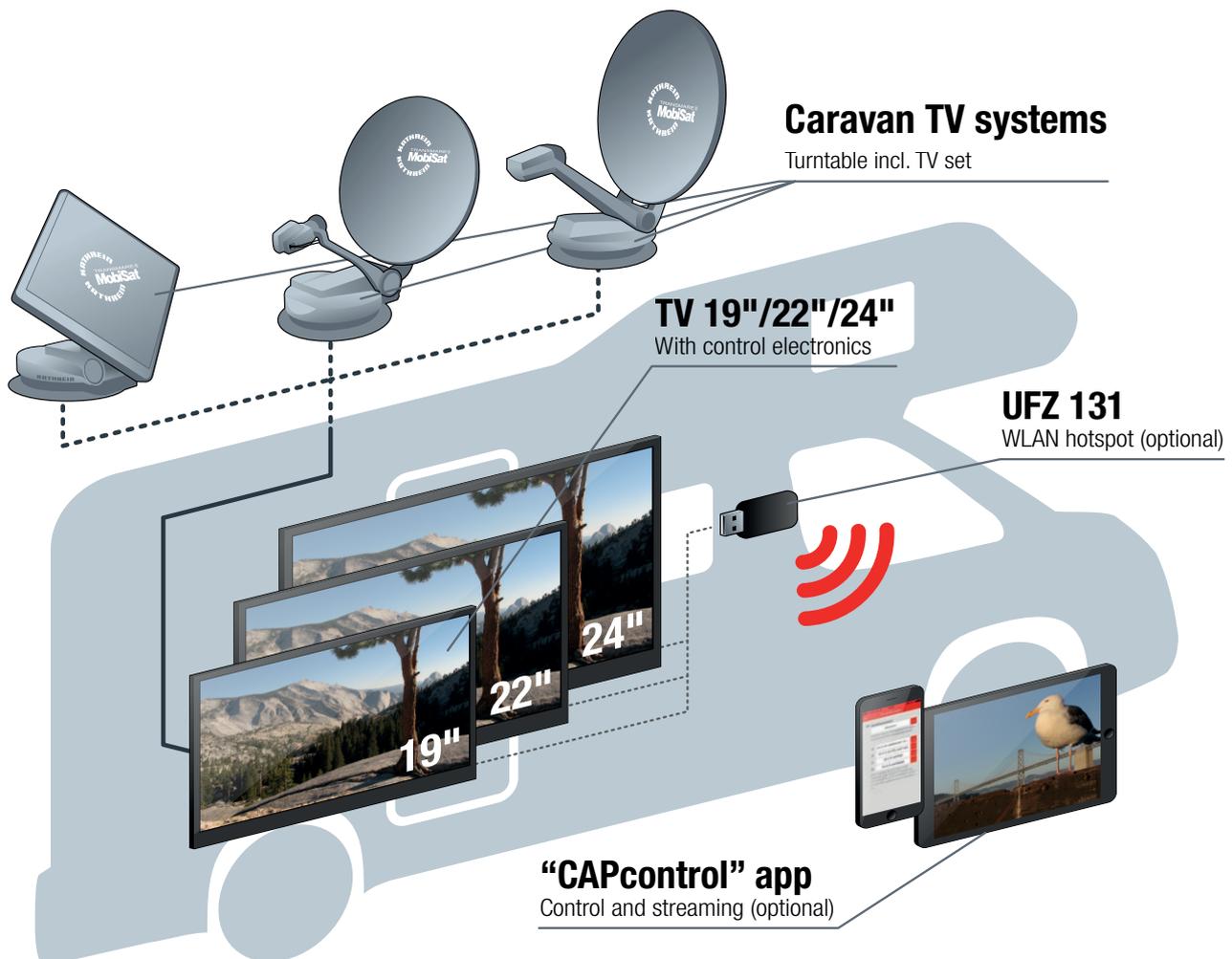
Turntable including  
HDTV Sat receiver UFS 946/CI+



#### CAP 620/730/920

- Easy installation supported by a clearly structured menu
- Remote unit sensor for concealed installation of the UFS 946/CI+
- Sky/HD+ ready due to CI+ interface

> The “One-Cable-Solution” from Kathrein and alphasatronics



The caravan TV system consists of a Kathrein CAP turntable and an alphasatronics TV set. This system combines the know-how from both companies in one intelligent reception concept.

The fully automatic turntable CAP is controlled directly via the alphasatronics TV set – no need for extra control units or receivers. This means that only two units are required for TV

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



### The caravan TV systems at a glance

Item	Contents	Order No.
<b>HDP 650 + 19" TV</b>		
Caravan TV system 1	HDP 650 and SL-19DSB-K	20310034
Caravan TV system 16	HDP 650 and SL-19DSB-IK SMART-TV	20310049
<b>HDP 650 + 22" TV</b>		
Caravan TV system 2	HDP 650 and SL-22DSB-K	20310035
Caravan TV system 3	HDP 650 and SL-22DSB-IK SMART-TV	20310036
<b>HDP 650 + 24" TV</b>		
Caravan TV system 4	HDP 650 and SL-24DSB-K	20310037
Caravan TV system 5	HDP 650 and SL-24DSB-IK SMART-TV	20310038
<b>HDP 750 + 19" TV</b>		
Caravan TV system 6	HDP 750 and SL-19DSB-K	20310039
Caravan TV system 17	HDP 750 and SL-19DSB-IK SMART-TV	20310050
<b>HDP 750 + 22" TV</b>		
Caravan TV system 7	HDP 750 and SL-22DSB-K	20310040
Caravan TV system 8	HDP 750 and SL-22DSB-IK SMART-TV	20310041
<b>HDP 750 + 24" TV</b>		
Caravan TV system 9	HDP 750 and SL-24DSB-K	20310042
Caravan TV system 10	HDP 750 and SL-24DSB-IK SMART-TV	20310043
<b>HDP 950 + 19" TV</b>		
Caravan TV system 11	HDP 950 and SL-19DSB-K	20310044
Caravan TV system 18	HDP 950 and SL-19DSB-IK SMART-TV	20310051
<b>HDP 950 + 22" TV</b>		
Caravan TV system 12	HDP 950 and SL-22DSB-K	20310045
Caravan TV system 13	HDP 950 and SL-22DSB-IK SMART-TV	20310046
<b>HDP 950 + 24" TV</b>		
Caravan TV system 14	HDP 950 and SL-24DSB-K	20310047
Caravan TV system 15	HDP 950 and SL-24DSB-IK SMART-TV	20310048

**The TV sets from alphonics are available in the following versions:**

- 19" SL-19 DSB-K, SL-19 DSB-IK
- 22" SL-22 DSB-K, SL-22 DSB-IK
- 24" SL-24 DSB-K, SL-24 DSB-IK

Legend TVs:

D = DVD player, S = Triple tuner,  
B = Bluetooth, K = Kathrein control  
I = Smart TV

For more information on alphonics TV sets go to [www.alphonics.de](http://www.alphonics.de)



**Dimensions TV sets (WxHxD in mm; without stand):**

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

**> CAP turntable control and live streaming with a smartphone/tablet**

**WLAN/USB adapter**

**UFZ 131**

The UFZ 131 WLAN/USB adapter permits cable-free connection of the UFS 946 and UFSconnect 906 to the home network.

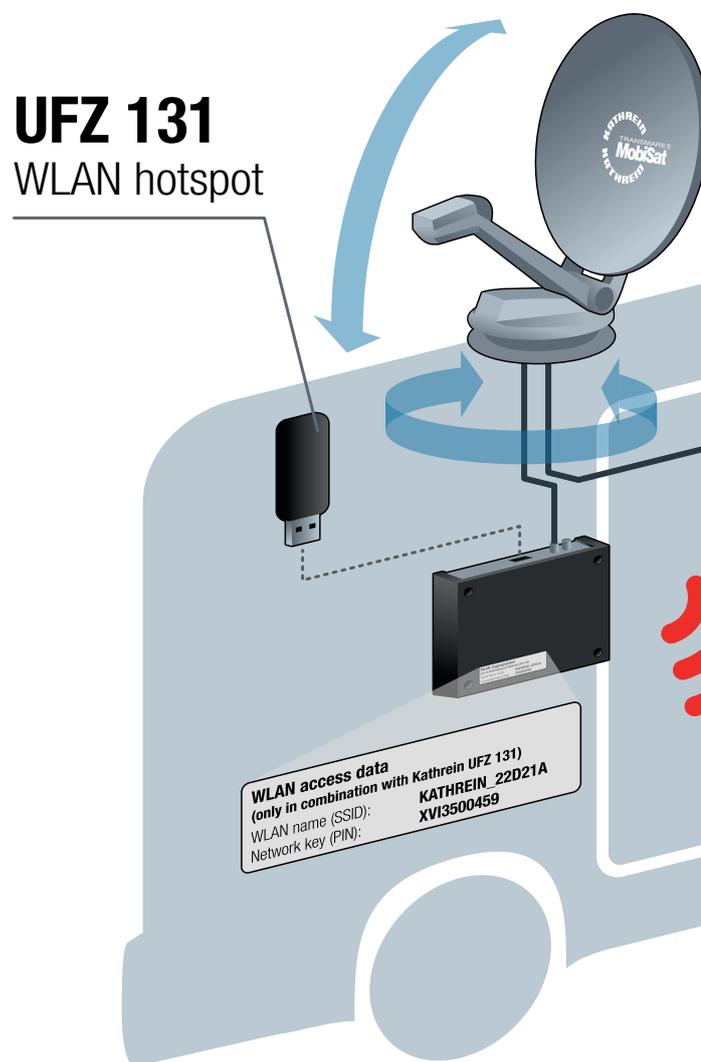
**Additional function with the UFS 946 and CAP 650/750/950:**

The ability to create one's own WLAN hotspot allows one to stream TV and radio programmes to mobile terminals (smartphones, tablets, etc.) without any additional router.

- Supports the Wireless Standards IEEE 802.11a/b/g/n with a data rate of up to 300 Mbps
- Easy installation via the receiver menu, no additional software required
- Supports 2.4 and 5 GHz ISM bands (dual band)
- Supports 64-bit/128-bit WET, WPA, WPA2 and WAPI encryption
- LED indicator confirming the connection
- Power supply via the receiver's USB port
- Suitable for UFS 946, UFSconnect 906 and also for CAP 650/750/950



**UFZ 131  
WLAN hotspot**





## “CAPcontrol” app

Control and streaming



## “CAPcontrol” app

Convenience and versatility as standard

The new Kathrein “CAPcontrol” app offers you a wealth of useful functions which until now were obtainable only from system controlling receivers in the caravan or motor home. With just a few clicks you can configure and operate the receiver-independent turntables CAP 950, 750 and 650 in conjunction with the WLAN/USB adapter UFZ 131.

This allows you to search for satellites from the park position, choose location-specific setting options and conveniently sort the channel lists it contains. A further highlight is the streaming of TV and radio content to mobile terminals such as smartphones or tablets for even greater independence and versatility.



## Products

### > Receiver-independent turntables

CAP 650 MobiSet 2 TWIN



#### Scope of supply

- Turntable complete with control electronics, BAS 66 planar antenna, mounting plate and fixings with roof gland, complete set of cables with 8 m coax cable and 10 m power supply cable, installation and operating instructions
- Control unit: CAP converter



CAP converter

#### MAIN FEATURES

- Compact design
- Easy installation - only one cable for control and carriage of the satellite signals
- Allows connection of a second receiver or a TV set



### Planar antenna and turntable

The CAP 650 planar antenna is equipped with a twin LNB. This ensures even greater flexibility and permits the connection of a second receiver or TV set at any time. The fully automatic turntable enables the planar antenna to be aligned quickly with the respective satellite so that you can receive your selected programme.

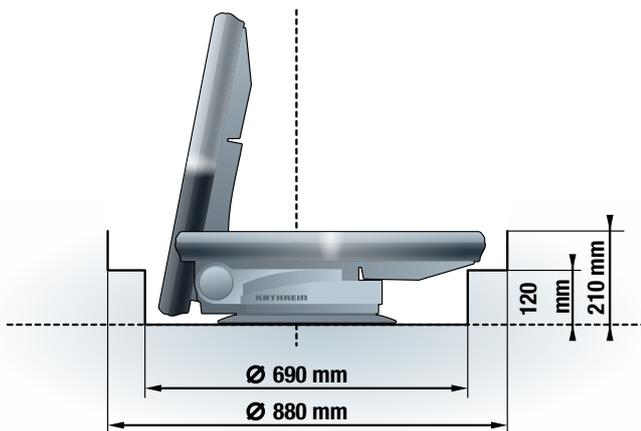
Satellite selection is designated by programme selection and an analysis of the SI data contained in the digital data stream. The turntable can be controlled via the receiver or the TV remote

control. Automatic fine tuning optimises the picture to the best quality. Connecting the turntable to the vehicle's ignition system ensures that the antenna is automatically lowered (to the park position) when the engine is started.

The aerodynamic structure of the turntable and the planar antenna is only about 21 cm high, permitting vehicle speeds of up to 130 km/h (with the antenna lowered).

The compact design minimises the space required during a satellite search. The low number of cables (two coax cables and one power supply cable) simplifies the installation of the turntable.

### Space required



Also available as version CAP 620 with HDTV Sat receiver UFS 946/CI+ (more information on this receiver on page 22)



> **Receiver-independent turntable**

CAP 750 MobiSet 3 TWIN



**Scope of supply**

- Turntable complete with control electronics, parabolic reflector, twin LNB, mounting plate and fixings with roof gland, complete set of cables with 8 m coax cable and 10 m power supply cable, installation and operating instructions
- Control unit: CAP converter



CAP converter

**MAIN FEATURES**

- Optimised weight < 10 kg
- One of the lightest fully automatic turntables
- Optimal aerodynamics:
  - Low wind resistance
  - Low noise emission
- Connection of a second receiver or a TV set



### Parabolic antenna and LNB

The use of a parabolic antenna increases the range of reception compared to a planar antenna. The built-in twin LNB allows one to connect two receivers or TV sets at the same time. The LNB can be mechanically adjusted for optimal skew setting. This allows reception to be optimised on the fringes of any particular satellite footprint.

### Turntable

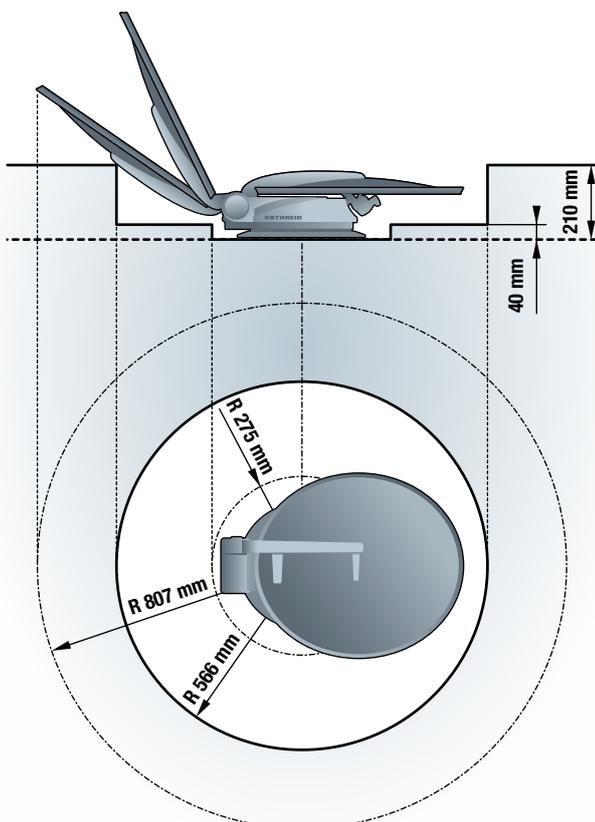
With the fully automatic turntable, the antenna can be quickly aligned with the desired satellite allowing reception of the wanted programme. Alignment with a satellite is performed automatically when a programme is selected. Automatic fine tuning optimises

the picture to the best quality. You can control the entire turntable via the receiver or TV set connected to the CAP converter. Connecting the turntable to the vehicle's ignition signal ensures that the antenna is automatically lowered to the park position when the engine is started. The aerodynamic structure of the turntable and the antenna is only about 21 cm high, permitting vehicle speeds of up to 130 km/h (with the antenna lowered).

### Installation

The turntable's light weight makes it simple to install. The low number of cables (two coax cables and one power supply cable) also simplifies installation.

### Space required



Also available as version CAP 730 with HDTV Sat receiver UFS 946/CI+ (more information on this receiver on page 22)



## > Receiver-independent turntable

CAP 950 MobiSet 4 TWIN



### Scope of supply

- Turntable complete with control electronics, parabolic reflector, twin LNB, mounting plate, fixings with roof gland, complete set of cables, length 8 m (2 x coax plus power supply cable), installation and operating instructions
- Control unit: CAP converter



CAP converter

### MAIN FEATURES

- Large reception range due to parabolic reflector (approx. 75 cm diameter) with high gain
- GPS receiver for quick alignment of the antenna
- Fully automatic polarisation adjustment (skew) of the LNB
- Connection of a second receiver or a TV set



LNB CAP 950

**Parabolic antenna and LNB**

The use of a larger parabolic antenna extends the area of operation and reception extensively.

**Twin**

With the twin LNB in the CAP 950 you can now operate not just one but two receivers or TV sets.

**GPS**

The use of a GPS receiver in the turntable, which records and evaluates the GPS data during the journey, permits quick alignment of the turntable at any new location.

**Turntable**

The aerodynamic structure of the turntable and the antenna is only about 23 cm high, permitting vehicle speeds of up to 130 km/h (with the antenna lowered).

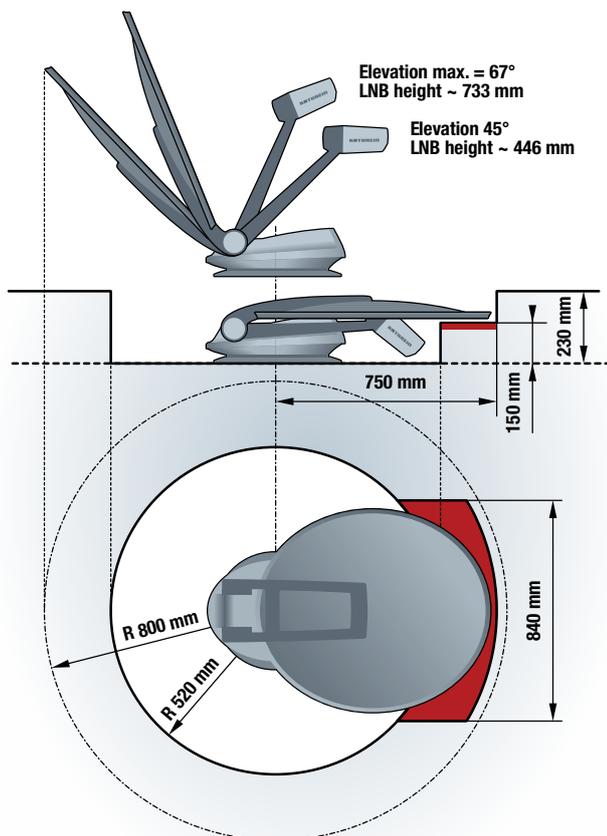
**Installation**

The low number of cables (two coax cables and one power supply cable) also simplifies installation.

**Skew**

The fully automatic polarisation adjustment (skew) of the LNB ( $\pm 45^\circ$ ) allows additional optimisation of reception on the fringes of the footprint of any particular satellite.

**Space required**



Also available as version CAP 920 with HDTV Sat receiver UFS 946/CI+ (more information on this receiver on page 22)



> **HDTV satellite receiver**  
UFS 946/CI+



**MAIN FEATURES**

- CI+-interface for the reception of pay TV
- TV on/off via receiver
- With integral SAT finder

**CI+** Slot

**12V** Caravan

**WLAN** prepared

**SAT** Update

**Flexibility in the caravan**

The UFS 946/CI+ has been specifically developed for mobile use in a motor home or caravan. In conjunction with the inclinometer HDZ 60/66, the UFS 946/CI+ offers an on-screen menu on the TV that enables the simple and rapid manual alignment of Kathrein's satellite camping antenna BAS 60/66. The receiver is also designed to control the fully-automatic turntables CAP 9xx, CAP 7xx and CAP 6xx.

ready for



Back panel

**Scope of supply**

- Infra-red remote control
- Batteries
- IR sensor
- HDMI cable
- 12V connection cable with fused universal plug (cigarette lighter and standard 12 V plug-in socket)
- Power supply unit 230 V/12 V
- Operating instructions
- Safety instructions

## Camping Antennas and Accessories

### > Planar antennas

#### BAS 66 and BAS 65

Despite their small size, the BAS 66 and BAS 65 planar antennas offer optimal satellite reception. This is due to the specific honeycombed dipole structure of the reception surface.

##### BAS 66

- For use on stationary motor homes, caravans or HGVs
- For mounting on HDM 14x sat jointed masts
- Elevation indicator HDZ 66 included



##### BAS 65

- For stationary use
- For mounting on walls, masts, brackets and on flat surfaces
- Including mounting support for simple antenna alignment



Installation examples



#### MAIN FEATURES

- For reception of analogue and digital TV and radio channels and other satellite signals
- Frequency range: 10.70-12.75 GHz
- Power supply via the coaxial downloads
- With integrated twin LNB (two outputs)
- Maximum permissible vehicle speed: 130 km/h
- Independent selection of horizontal/vertical polarities, low/high band for each receiver

## > Elevation indicator HDZ 66



### For easy alignment of the BAS 66 planar antenna

To allow the easiest possible alignment of the antenna with the desired satellite for both digital and HDTV satellite reception, Kathrein offers the HDZ 66 elevation indicator as an installation kit for the BAS 66 planar antenna. Together with the UFS 946sw/CI+ HDTV receiver, this provides the ideal combination to allow easy and convenient alignment of the BAS 66. The elevation indicator is fitted to the LNB housing at the rear of the BAS 66 in just a few steps. Information on the actual elevation setting is passed to the receiver via the antenna cable. There is no need to install any additional cables.

- The actual site is determined by inputting GPS data into the receiver
- Alternative determination of the location by selecting a town in the receiver menu
- No additional cabling necessary between the antenna and receiver



### MAIN FEATURES

- Installation kit for the BAS 66 planar antenna
- Easy alignment of the antenna in conjunction with the UFS 940sw or UFS 946/CI+ HDTV receiver
- Simple installation on the BAS 66 LNB housing
- Required and actual elevation data is displayed in the receiver menu

- 1 Display of the required elevation and actual elevation
- 2 Display of the signal strength and quality, no additional measuring equipment required
- 3 Absolute determination of the location by inputting GPS data or location data

## > Display and control unit for HDZ 60/66

HDS 66

- Shows the actual elevation of the elevation indicator HDZ 60 or HDZ 66
- The display backlight switches off automatically if the elevation remains unchanged (energy-saving mode)
- The display backlight switches on automatically if the elevation changes
- Simple to mount on a wall



### MAIN FEATURES

- Compatible with all receivers and TV sets with an integrated tuner
- Suitable only for use with the HDZ 60 or HDZ 66 elevation indicator
- Power supply via the receiver
- No external power supply required
- Two F sockets (IEC 169-24) as interface

## > Roof gland

HDZ 100

- Protective housing for cable interfaces
- Suitable for cable extension on the roof
- For a maximum of two RF cables and one DC cable
- Optimised for CAP systems
- Easy installation
- Unused inserts can be closed off with integrated blind caps
- Cable interface size: up to 29 x 17 mm



## > Outdoor outlet

EV 06

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



> Spare parts for many products in the "Camping and Caravan" range are available from the Kathrein factory repair centre CSS Caravan-Sat-Service GmbH (see address on page 36).

## > **Sat jointed masts and tripod stand**

The sat jointed masts allow optimal and rapid alignment of the BAS 66 planar antenna from inside the vehicle. The jointed masts are made of rust-proof and sea-water 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.



**Jointed tripod mast**  
HDM 140

- To mount the BAS 66 on caravans or motor homes
- With two looped-through connection cables, four F plugs
- With mounting brackets and roof seal
- 103 cm long



**Jointed tripod mast**  
HDM 141

- Shorter version to mount the BAS 66 on caravans or motor homes
- 76.5 cm long
- Otherwise as the HDM 140



**Jointed tripod conversion mast**  
HDM 143

- To upgrade an HD 35 mast to mount a BAS 66 planar antenna
- The original through-roof gland can still be used
- With two looped-through connection cables and four F plugs
- 103 cm long



### Duralium mast

HDM 135

- Duralium mast to mount the HD 35
- 2 m long
- With mounting brackets and roof seal



### Satellite tripod mast

HDS 100

- Ideal to freely set up a BAS 65 or KEA 650 sat antenna
- Extendable, rotatable extension allowing simple alignment of a mounted antenna
- Alu tripod stand with 2 mm wall thickness (lightweight and very stable)
- Securing pegs for stabilisation on the ground
- Including carry bag

## > **Offset parabolic antenna**

KEA 650

- Folding LNB arm made of aluminium
- Aluminium reflector, powder-coated
- Rear support of galvanised sheet steel
- Mast of galvanised sheet steel (completely pre-mounted)
- Nuts and bolts in stainless steel
- Reflector colours: white, graphite



**Foldable**

## > **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, Turksat, Hispasat etc.

All LNBS are HDTV/DVB-S2 compatible

- KEL 411: Universal single LNB, connection for one satellite receiver
- KEL 422: Universal twin LNB, connection for two satellite receivers or one twin receiver



KEL 411

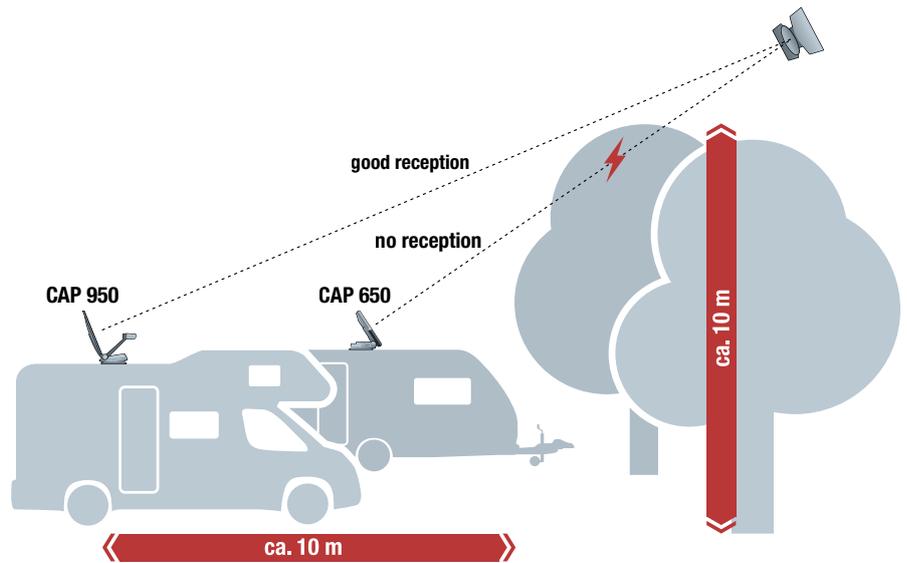


KEL 422

# Reception Site Selection and Footprints for Mobile Systems

## > Reception site selection

When choosing the location, make sure that there is a clear line of sight between the antenna and the satellite. Trees, bushes or buildings can partially or completely obstruct alignment, rendering reception poor or non-existent. Heavy rain or snow can also affect the picture quality, as can snow or ice on the antenna. Depending on your location, there are of course many other satellites that can be received, such as: ASTRA 28.2, ASTRA 23.5, TurkSat 42E, EutelSat 10E, EutelSat 16E and Telecom 5W.



## > Footprints

### ASTRA satellite systems

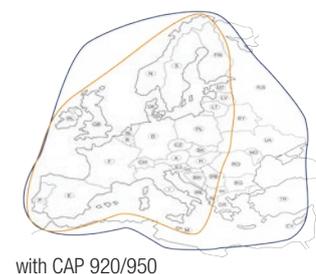
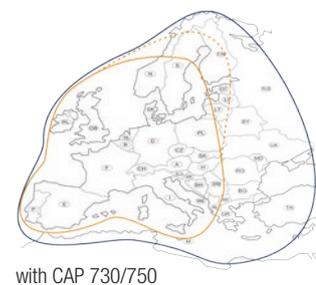
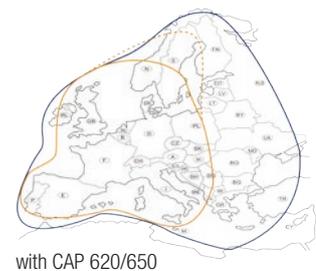
ASTRA 1 satellites are positioned at 19.2° East. All these satellites can be received using one single antenna.

### ASTRA footprint for digital reception

The inner line of the footprints shows the main area provided with digital signals by the ASTRA satellites. The outer dashed line of the footprints shows the area provided with digital signals by only individual transponders on the ASTRA satellites. Therefore not all channels are available within this footprint.

### EUTELSAT satellite systems and footprints

With the HOTBIRD satellite at 13° East, the EUTELSAT satellite system also offers caravanners a system transmitting a wide range of interesting TV and radio programmes. EUTELSAT is a very attractive proposition, especially for foreign-language channels and for cases where ARD and ZDF lie outside the footprint for ASTRA reception.



■ EUTELSAT Hotbird    ■ ASTRA

## DVB-T/T2 Products

### > DVB-T2 HD receiver

UFT 930sw

freenet TV



With the UFT 930sw, TV channels can be received in HD via digital terrestrial transmission. The integrated IRDETO encryption system allows the reception of both free (public service) and private channels in HD quality. In addition, the receiver is able to use additional content via the Internet (HbbTV).



#### Scope of supply

- Infra-red remote control
- Batteries
- HDMI cable
- 12 V power supply
- Operating instructions

#### MAIN FEATURES

- Reception of free and IRDETO encrypted DVB-T2 channels in HD
- Highly efficient signal processing thanks to the HEVC video processor
- HbbTV (additional information and services from the Internet)
- Remote feeding of an active DVB-T2 antenna (e.g. BZD 30, 32, 40) via RF input possible

### > DVB-T/T2 indoor antenna, active

BZD 32

**Active VHF/UHF antenna for the reception of digital terrestrial TV and radio programmes (DVB-T/T2).**

- DVB-T/T2 indoor antenna for horizontal and vertical polarisation
- Active antenna with an integrated amplifier
- Attractive, space-saving design
- High quality
- No specific alignment required as almost omni-directional characteristics (vertical)
- Remote feeding (5 V/30 mA) over the USB remote feed cable, e.g. from the TV set
- Connection: IEC connector (female)
- Integrated trap filter for GSM and LTE interference
- Accessories supplied: support foot for easy installation, wall bracket with fixings, USB remote feed cable



Quality made in Germany



## > DVB-T/T2 outdoor antenna

BZD 40

**Active VHF/UHF antenna for outdoor use for the reception of digital terrestrial TV and radio channels (DVB-T/T2).**

- Reception range: VHF: 174-230 MHz, UHF: 470-862 MHz
- For horizontal and vertical polarisation
- Attractive, space-saving design (dimensions: 204 x 196 mm)
- Easy to mount on walls, masts or balconies
- Connection: F socket with weather shield cap
- Gain: B III: 18 dB; B IV/V: 15 dB
- Remote feeding (5 V/30 mA) via the coax cable through the connected DVB-T/T2 receiver or through external power supply unit (5-25 V)
- Very low noise figure
- Accessories supplied:
  - Fixing material for wall or balcony mounting
  - 10 m connection cable, F plug and IEC plug



## > DVB-T/T2 indoor antenna

BZD 30

**Active VHF/UHF indoor antenna for the reception of digital terrestrial TV and radio channels (DVB-T/T2).**

- Reception range: VHF: 174-230 MHz, UHF: 470-862 MHz
- No specific alignment required as almost omni-directional characteristics
- For horizontal and vertical polarisation
- Attractive, space-saving design (dimensions: 140 x 195 mm)
- Remote feeding (5 V/30 mA) via the coax cable through the connected DVB-T/T2 receiver
- Very low noise figure
- Gain B III: 18 dB; UHF: 15 dB
- Integrated trap filter for GSM and LTE interference
- Accessories supplied:
  - Support foot for easy installation
  - Wall bracket with fixing material
  - 2 m connection cable with one straight and one angled IEC plug



## 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 [Mbps]	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 (W x H) [mm]	19 x 40

Type	BAS 66	BAS 65
Order no.	20410045	20010032
Application	Mobile use	Stationary use
To be mounted onto	HDM 140, 141, 143	Walls, masts, booms and on 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 [°] <sup>1)</sup>	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] <sup>2)</sup>	240	
Mast clamp range [mm]	-	38-50
Setting range elevation [°]	0-90 (HDM 14x)	0-50
Setting range azimuth [°]	360	± 65 (wall mounting)/360 (mast mounting)
Dimensions [mm]	500 x 500 x 109 (without support)	500 x 500 x 121 (without support)
Packing unit/weight [pc./kg]	1/6.5	1/8.2

<sup>1)</sup> At mid-band

<sup>2)</sup> At a dynamic pressure of 800 N/m<sup>2</sup> acc. to EN 60728-11

Type	CAP 920/CAP 950	CAP 730/CAP 750	CAP 620/CAP 650
Order no.	20310029/20310032	20310028/20310031	20310027/20310030
Diameter parabolic reflector approx. [cm]	75	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]	16.9/17.9	13.4/13.7	13.3/13.7
Supply voltage (vehicle battery) [V]	11.5-13.8		
Current drain from the 12 V supply [A]: Inrush current/satellite search/TV reception/stand-by	Typically 10/max. 12/typically 3/typically 1.2/typically 0.024		
Power consumption from the receiver [mA]	Typically 200	Typically 160	
Setting range: elevation/azimuth/skew [°]	3-67/390/± 45	0-75/370/± 45	0-80/370/± 15
Weight of the turntable with parabolic reflector/planar antenna [kg]	18.9/-	9.7/-	-/14.5
Packing unit/weight [pc./kg]	1/32.5	1/19.5	1/23.4

Type	BZD 32
Order no.	20710013
Reception range, [MHz]	174-230/470-790
Figure of merit [dB/K] <sup>1)</sup>	Typically 28.4
Gain dB	B III: 18, B IV/V: 15
Max. output level [dBμV] <sup>2)</sup>	Typically 95
Permissible remote feed voltage [V]	5
Dimensions (mm):	140 x 195
Packaging unit/weight [pc./kg]	1(10)/0.5
Single pack dimensions (mm):	250 x 160 x 70

<sup>1)</sup> Band width 8 MHz, Tu 290 K, connection cable a = 3.5 dB, receiver NF = 7 dB @ 560 MHz

<sup>2)</sup> Measured at the antenna output in accordance with EN 60728-5 for 60 dB intermodulation distance (2 transmitters– 3rd order)

Type	UFS 946/CI+
Order no.	20210222
Colour	Black
<b>RF range</b>	
Input band [MHz]	950-2150
Input level range [dBμV]	44-78
Modulation, FEC, demultiplexer	DVB-S/DVB-S2 standard
Video resolution	CCIR 601 (720 x 576 lines), 576p, 720p, 1080i, 1080p
Video decoding	MPEG-2, MPEG-4/H.264, Xvid
Input data rate [MSymb/s]	2-45 (30 for DVB-S2/8PSK)
<b>TV system, audio</b>	
Decoding	AC 3/MPEG-1, layer 1, 2 and 3 (mp3)/HE-AAC
Sampling rate [kHz]	32/44.1/48
<b>Power supply</b>	
Mains voltage [V/Hz]	230 (± 10 %)/50-60
DC [V]	12
Power consumption (max./typical operation/stand-by) [W]	< 34/typically 16/< 0.5
LNB supply (horiz./vert.) [V/mA]	14/18; max. 400
Control signal [kHz]	22; DiSEqC™1.0/1.1/1.2, USALS, SCR single cable (EN 50494)
<b>Connections</b>	
Sat IF input/output	1 x F socket/ -
<b>TV connection</b>	
Video output (analogue)	1 x Cinch socket
Video/audio output (digital)	1 x HDMI
Audio output (analogue)	2 x Cinch socket
Audio output digital (optical/electrical)	Standard fibre-optic (S/PDIF)/1 x Cinch socket
Common interface/encryption system	For 1 CI+/CI module
<b>Data interfaces</b>	
USB	1 x 2.0
Ethernet	1
IR sensor	-
<b>General information</b>	
Ambient temperature [°C]	Max. +5 to +40
Dimensions (W x H x D) [mm]	270 x 34 x 167
Weight [kg]	< 2

Type	UFT 930sw
Order no.	20210241
Colour	Black
<b>RF characteristics</b>	
Input frequency range [MHz]	174-230 and 470-862
Loop-through range [MHz]	174-862
Channel bandwidth [MHz]	7/8, automatic switching
Modulation type	COFDM 2k, 8k
Mapping	QPSK, 16 QAM, 64 QAM
Guard interval	1/4, 1/8, 1/16, 1/32
FEC	1/2, 2/3, 3/4, 5/6, 7/8
Input level range [dBμV]	28-86 (with 16 QAM)
<b>TV system, video</b>	
Modulation, FEC, demultiplexer	DVB-T2 standard (HEVC/H.265)
Video resolution	CCIR 601 (720 x 576 lines), 576p, 720p, 1080i, 1080p
Input data range [MSymbols/s]	5-32
Video decoding	MPEG-1/2/4 and H.265 compatible
Bit rate [MBit/s]	1.5-15
Frequency range [MHz]	0.02-5
Output voltage [Vpp]	1
S/N [dB]	> 53
<b>TV system, audio</b>	
Audio decoding	MPEG-1 and 2, layer 1 and 2
Sampling rate [kHz]	32/44.1/48
Frequency range [kHz]	0.04-20
Output voltage [mVpp]	Typically 770 (TV-Scart)
S/N [dB]	> 65
<b>Power supply</b>	
Mains voltage [V/Hz]	230/50 ± 10 %
Power consumption (max./typical operation /stand-by) [W]	< 10/7/0.5
Remote feeding [V/mA]	5/50
<b>Connections</b>	
RF input/output (loop through)	IEC socket/plug
Video/audio output (analogue)	3.5 mm jack
Video/audio output (analogue)	1 x HDMI
Audio digital output (electrical)	SPDIF
Data interface	USB 2.0
<b>General information</b>	
Permissible ambient temperature [°C]	+5 to +40
Dimensions (W x H x D) [mm]	155 x 36 x 110
Weight [kg]	1.0

## Advice and Service

### > **Caravan service centres**

#### Germany

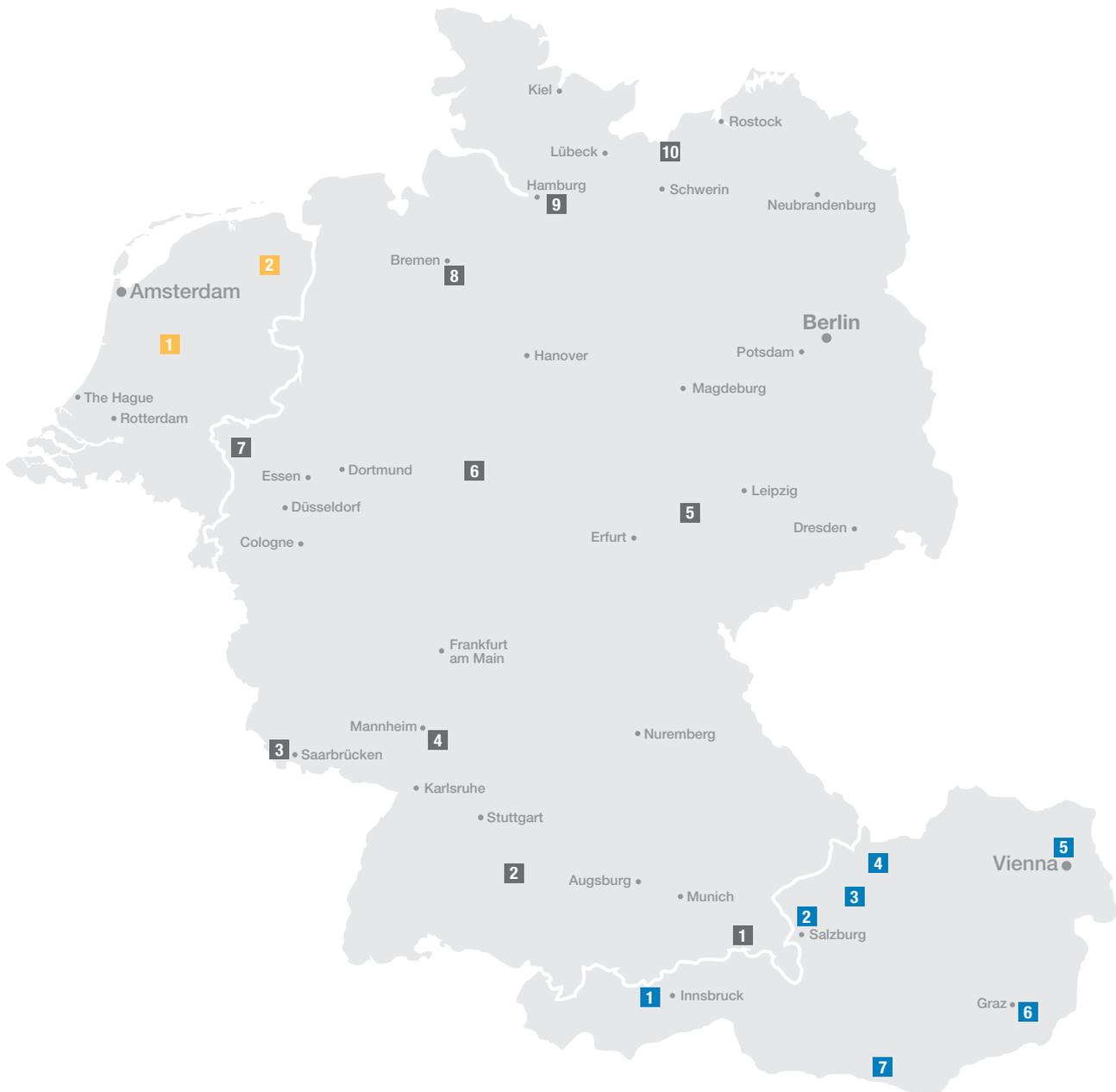
- |  |   |   |
|--|---|---|
| <p><b>1 CSS Caravan-Sat-Service GmbH</b><br/>Bahnhofstr. 110<br/>D-83224 Grassau<br/>Phone: +49 8641 69984 -27</p>                   | <p><b>5 Caravan Rossol GmbH</b><br/>Kroppentalstraße 1<br/>D-06618 Naumburg<br/>Phone: +49 3445 703055</p>                    | <p><b>9 Holm GmbH</b><br/>Hermann-Wüsthof-Ring 12<br/>D-21035 Hamburg<br/>Phone: +49 40 23 909 780</p>                      |
| <p><b>2 RAPP GmbH Fachhandel</b><br/>Auer Straße 7<br/>D-89287 Bellenberg<br/>Phone: +49 7306 92752 -11</p>                          | <p><b>6 Knocks Motors GmbH &amp; Co.KG</b><br/>Schulland 1<br/>D-34474 Diemelstadt-Ammenhausen<br/>Phone: +49 5694 990990</p> | <p><b>10 Wohnmobile &amp; Caravans Linke</b><br/>Grevenberg 1<br/>D-23970 Kritzow/Wismar-Ost<br/>Phone: +49 3841 283758</p> |
| <p><b>3 Wohnwagen Vogt GmbH</b><br/>Koblenzer Str. 53<br/>D-66115 Saarbrücken<br/>Phone: +49 681 99288 -0</p>                        | <p><b>7 WCS Wohnmobil-Caravan-Service</b><br/>Siemensstraße 41<br/>D-47574 Goch<br/>Phone: +49 2823 975 2410</p>              |   |
| <p><b>4 GÜMA Caravan Motorcaravaning KG</b><br/>Steinzeugstr. 21<br/>D-68229 Mannheim-Friedrichsfeld<br/>Phone: +49 621 48254970</p> | <p><b>8 Williges Elektronik Service GmbH</b><br/>Solinger Strasse 13<br/>D-28199 Bremen<br/>Phone: +49 421 504021</p>         |   |

#### Austria

- |  |   |  |
|--|---|--|
| <p><b>1 Auto Heiss</b><br/>Schießstand 3a<br/>A-6401 Inzing<br/>Phone: +43 5238 54055</p>                                    | <p><b>4 Sulzbacher GmbH - Hymer Reisemobile</b><br/>Goldenberg 1<br/>A-4070 Eferding<br/>Phone: +43 7272 2542</p>     | <p><b>7 Falle GmbH</b><br/>Maria Galler Straße 59<br/>A-9500 Villach<br/>Phone: +43 4242 32540</p> |
| <p><b>2 Kathrein Vertriebsgesellschaft m.b.H</b><br/>Gnigler Straße 56<br/>A-5020 Salzburg<br/>Phone: +43 662 87 553 132</p> | <p><b>5 MOBOS e.U. - Herbert Schmid</b><br/>Sarobagasse 25<br/>A-2103 Langenzersdorf<br/>Phone: +43 664 5 245 262</p> |  |
| <p><b>3 Wohnwagen Pusch GmbH</b><br/>Linzerstraße 138<br/>A-4810 Gmunden<br/>Phone: +43 7612 67600</p>                       | <p><b>6 Kledo Reisemobile</b><br/>Gradnerstraße 66<br/>A-5055 Graz<br/>Phone: +43 316 272 715</p>                     |  |

#### Netherlands

- |   |   |
|---|---|
| <p><b>1 KATHREIN-SAT.NL B.V.</b><br/>Johan von Oldenbarneveltlaan 44<br/>NL-3705 HH Zeist<br/>Phone: +31 30 2 202 528</p> | <p><b>2 Venema Communicatie</b><br/>Bloemakkers 34<br/>NL-9461 GX Gieten<br/>Phone: +31 592 262 200<br/>+31 592 262 300</p> |
|---|---|



## > Advice and information

### **Kathrein Sales Region South**

Eiselauer Weg 13  
 D-89081 Ulm  
 Phone: +49 731 92767-0

### **Kathrein Vertriebs Ges.m.b.H.**

Gnigler Straße 56  
 A-5020 Salzburg  
 Phone: +43 662 875531

For an overview of our caravan service centres and for further information, please visit us at [www.kathrein.de/service/caravan-service/caravan-kundendienst/](http://www.kathrein.de/service/caravan-service/caravan-kundendienst/)

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**KATHREIN**