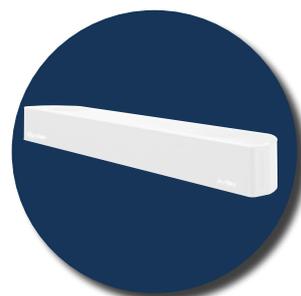
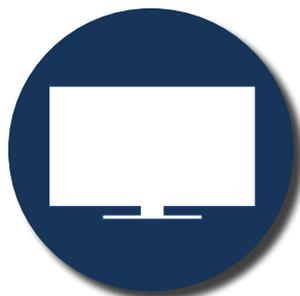




# CATALOG 24

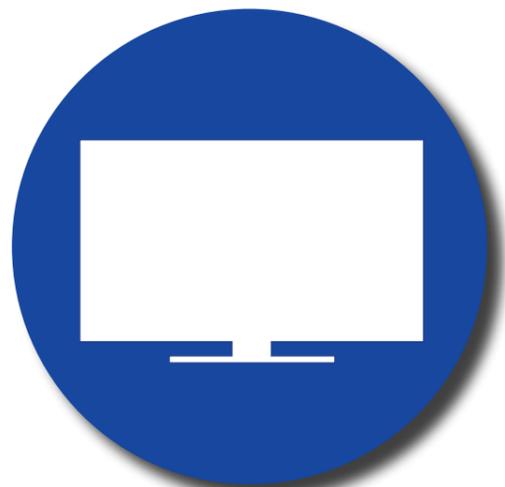
# Oyster<sup>®</sup>

FIRST-CLASS CONVENIENCE





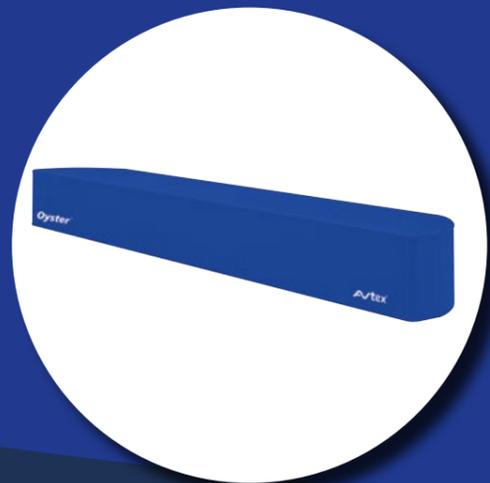
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## TRAVELLING THE WORLD – FEELING AT HOME WHEREVER YOU ARE

If you wish to stay up-to-date with all the news from home, watch your favourite TV series or cheer for your football club when travelling, you can do so with the same comfort you enjoy at home. With a ten Haaft satellite or internet system, you can listen to your usual radio stations, watch your favourite programmes and even surf the internet while on tour.

Our fully automatic satellite systems are reliable, durable and easy to use. Multiple options tailored to your needs make mobile reception even more convenient.

Designed for outdoor use, our systems are UV-resistant and withstand the elements thanks to high-quality materials, tried-and-tested components and built-in ruggedness.

All innovations made by ten Haaft are based on a holistic engineering and design concept that blends into its environment and makes your travels even more comfortable. Of course, safety is another key development priority: all of our fully automated satellite systems are connected to the vehicle's electric system in such a way that the antenna retracts automatically when you turn on the ignition. An upright antenna holding up against the slipstream of the vehicle travelling down the motorway is a thing of the past.

Tune in and enjoy our exciting and innovative products!



## TEN HAAFT – A SUCCESS STORY MADE IN GERMANY

The ten Haaft name stands for quality consciousness, reliability and pan-European expert service. Our company has been certified to ISO 9001 since 2008 – independent proof of above-average customer orientation and an effective quality management that is consistently driven forward.

Over the past 30 years, we have featured numerous new and further developments and have become the foremost manufacturer of premium mobile satellite technology systems. A success story that not only makes us proud of our achievements but also constantly motivates us to strive for new targets.

With the development of the first Oyster® in 1992 – still a popular mainstay of the ten Haaft product range – we laid the cornerstone for our advancement into the premier league of manufacturers. Significant innovations include the so-called rotary-head technology of the Oyster®, where the antenna body remains stationary while the LNB rotates instead, and the flat-panel antennas - CARO®+ and Cytrac® DX, believed to be the lowest profile antennas ever with patented-technology. These engineering solutions ensure reliable TV reception and impressive ranges – even in remote areas such as North Africa or the Middle East.

Internet in motorhomes is becoming increasingly important, whether for mobile working while on the road or to connect a Smart TV with the Internet.

ten Haaft is also excellently positioned in this area and with the new Oyster® EasyNet, the equally new Oyster® Access and the tried and tested Oyster® Connect, offers three universal Internet antennas.

All three antennas offer the convenience of a "mobile home network" in which all the devices you carry can be connected to the Internet\*. ten Haaft is also at the forefront when it comes to Smart TV; with screens from a handy 19" to an impressive 39", the range of state-of-the-art, ultra-modern Smart TV sets in a super-slim design is impressive.

Enjoy easy-to-use television via satellite and the convenience of all popular streaming providers and media libraries, simply using the TV remote control.

\*LTE operation requires a SIM card not included in the scope of supply. Connection charges and internet parameters (download/upload, international roaming) depend on the individual internet provider and must be checked by the customer.

Made in Germany



3-year warranty!

Made and engineered in Germany – for over 30 years



## CHOOSE BETWEEN TWO CONTROL VARIANTS



The Vision variant and the Premium variant.

### VISION

**APP**

The Vision variant is the right choice for customers who already own a receiver or TV set with integrated receiver. All functions of the satellite system are controlled via the connected control panel.

### PREMIUM

**APP**

If you prefer a fully integrated setup, the Premium variant is the one to opt for. This top-of-the-line system allows you to easily control all devices via a single remote control.

## CONTROL VIA APP

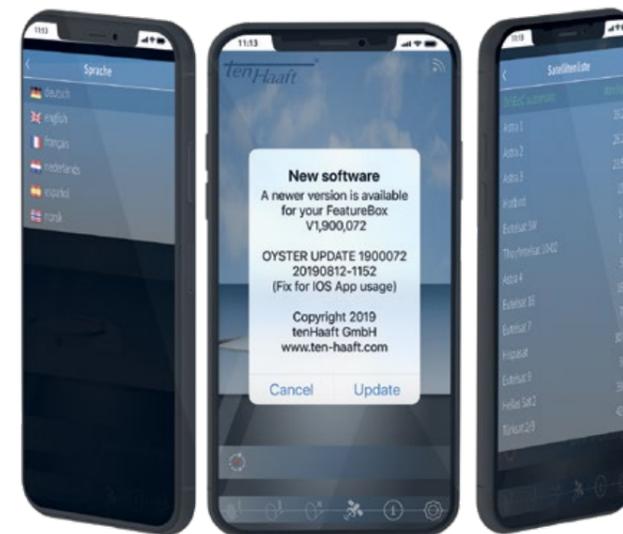
All ten Haaft mobile satellite systems can be easily controlled via the dedicated app. This app gives you access to all functions, allowing you to retract/unfold the antenna, or adjust the numerous settings, call up information or read out error codes using your smartphone.

The ten Haaft® app has a significant benefit: it facilitates automatic updates of the system software. If any technical changes are made to the systems, you will be notified automatically on your smartphone that an update is ready for you to install in the control unit of your satellite system via WLAN. So, you can enjoy fault-free and uninterrupted TV entertainment while en route.

In addition to many further menu options, two areas are particularly helpful: Option "Info" allows you to read out important data such as the onboard voltage supplying the FeatureBox or Command Unit. If the voltage is too low, the system will not work, and the root cause is easily identified.

If this option does not provide any information relating to the cause of the fault, check option "Error messages" for further information. You can forward the data readout to the technical service department of ten Haaft for assistance. By means of the error codes, your competent contact partners will usually find a solution quickly so you can continue watching your favourite shows without delay.

A satellite system from ten Haaft keeps you up to date at all times!



Available on the App Store



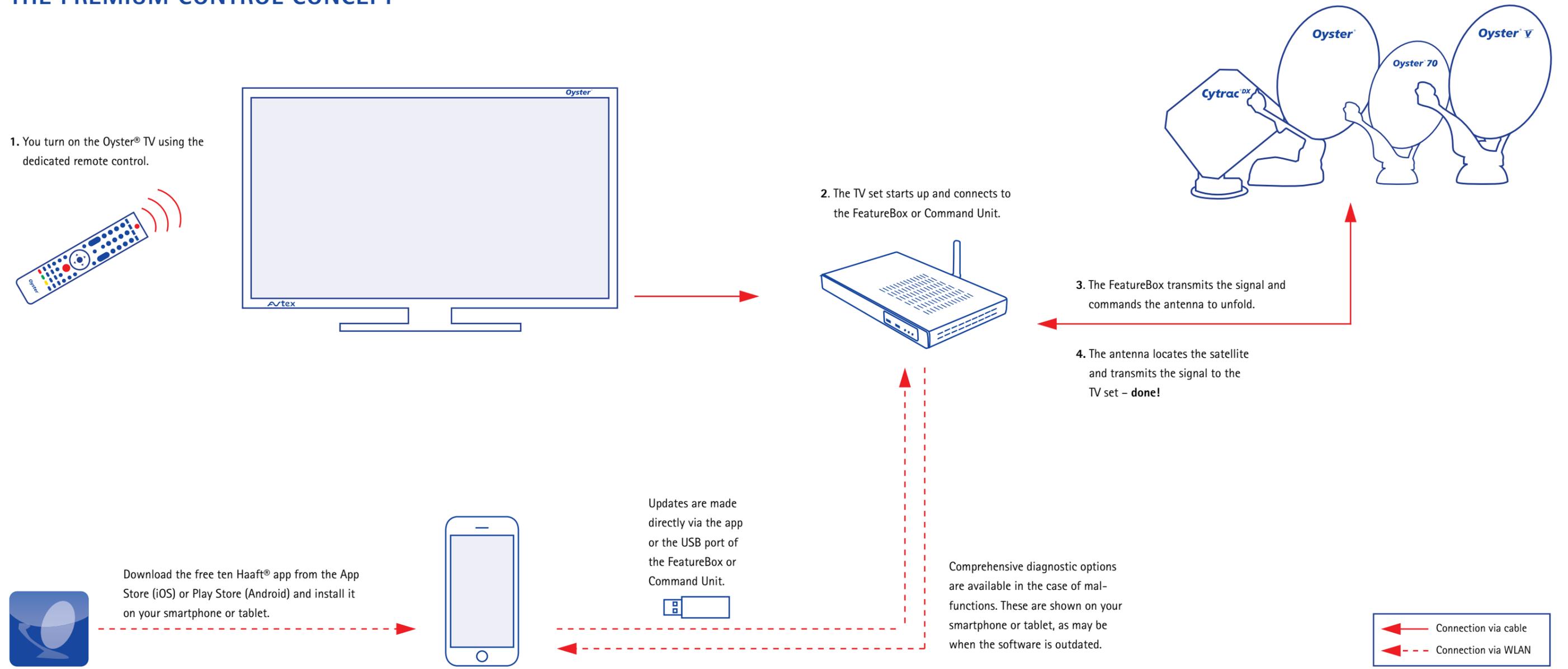
ANDROID APP ON Google play



Made in Germany



## THE PREMIUM CONTROL CONCEPT





## OYSTER® V – THE NEW GENERATION

### Excellence is not enough

With the Oyster® V, ten Haaft blazes a new trail in mobile antenna technology: less weight, an even more compact design, and enhanced engineering features compared to predecessor systems. The only thing we did not change, our extraordinary quality standards! Find out yourself and tune into the Oyster® V!

### A giant leap forward

Being only 17 cm high, the Oyster® V generation is extremely compact: Thanks to the curved shape of the feed arm, the antenna body needs very little space when in its rest position. The same low height is also retained by Oyster® V systems fitted with the TWIN LNB and SKEW option.

### Options

**TWIN LNB for more customised use:** The satellite system is available with an optional TWIN LNB. This option provides two satellite connections, feeding separate programmes to a second receiver or a second TV set with integrated receiver.

**SKEW for more range:** For optimal reception at the fringe of a satellite's footprint in south-western and south-eastern regions, the LNB (Low Noise Block) may have to be rotated. This is necessary as the earth's curvature causes the receiver to tilt away from the orientation of the satellite signal, known as the skew angle. To compensate for this skew angle, the LNB must be turned so that the satellite signals fall onto the antenna at exactly the right angle to ensure a maximum reception range. The optional SKEW feature includes a small electric motor that automatically adjusts the LNB.



Made in Germany

3-year warranty!



Height: only approx. 17 cm  
Weight of external unit: approx. 11 kg  
Mounting material and accessories: approx. 3 kg



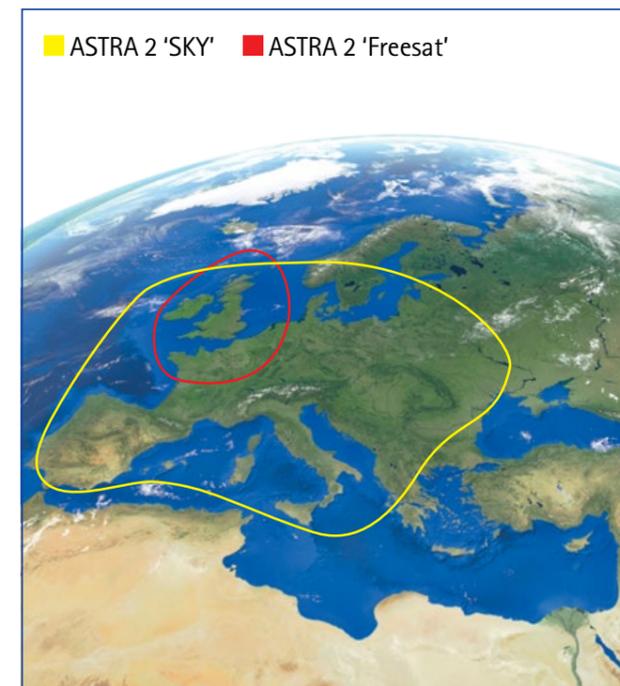
## OYSTER® V – PERFORMANCE FEATURES

### No matter where you are

Europe, North Africa, Middle East – the new Oyster® V owes its stunning reception range to its antenna diameter of 85 cm.

### Specific features

- Single-cable wiring
- App control
- Automatic updates via app
- GPS, 3D compass, inclination sensor for automatic aiming and satellite search
- 85-cm antenna dish for ultimate range
- High-quality rugged materials
- Solid, safe and weather-resistant design
- Rotary-head technology
- Automatic satellite switchover when changing programmes
- Automatic antenna retraction at engine start (terminal 15 must be connected)
- 3-year warranty and reliable customer service



Reception range Oyster® V



Available on the App Store



ANDROID APP ON Google play





## OYSTER® V – THE NEW GENERATION

### Don't search. Find!

The antenna "knows" the positions of the satellites at all times and aims itself at them directly – long and tedious scan cycles are a thing of the past. What's the secret behind this technical advancement? The interaction between GPS, 3D compass and inclination sensor.

The global positioning system (GPS) unit identifies your vehicle's location, the 3D compass identifies its heading (and that of the antenna, accordingly), and the inclination sensor exactly determines the vehicle's inclination. The effect of sloping ground is often underestimated – only a few degrees may be enough to cause significant signal distortion. This effect is stronger than that of the vehicle altitude as it moves between valleys and mountains. To eliminate such faults, the sensor adjusts the antenna position if required.



### One cable is enough

Another strong argument for this piece of innovative engineering – You can take our "single-cable solution" at its word. In the new Oyster® V system, control commands, power supply and signal transmission to the external unit are all handled by one single cable. Installation is a minimally invasive operation – all you need is a small passage in the vehicle body. The TWIN option requires a second antenna cable (included in scope of supply of TWIN systems).



### Proven technology for ultimate quality expectations

In tens of thousands of Oyster® systems, the rotary-head technology has proved its worth; only the head rotates while the rest of the antenna body remains stationary. This means less weight to move, less power consumption and mechanical load, and also less space. Thanks to the slightly elevated pivot point, the antenna remains free to move, even when the roof is covered with snow. This engineering feature has been refined even further for the new generation Oyster® V.



### Solid as a rock!

The Oyster® external unit weighs only about 11 kg. Despite the weight reduction, it is even more solid than its predecessors. Here, stability makes the difference. Not only in terms of the proverbial "longevity of the Oyster®", but especially when it comes to uninterrupted reception. Manufacturers trying to cut corners run the risk of producing an unstable antenna system that is susceptible to the wind. Image interferences are then inevitable.

The stability of the Oyster® is the result of cleverly applied engineering skills and state-of-the-art, high-quality materials like the ones used in motor sports. The single-piece dish arm is made of ultra-lightweight magnesium. And yet, it is extremely rugged and torsionally rigid.

The feed arm is made from glass-fibre-reinforced plastic, with carefully calculated internal webs providing ultimate torsional stiffness. In plain words, It won't flex – ever. In addition, this meticulously crafted component provides the space needed for wiring, inclination sensor and compass. If fitted with the SKEW option, this part is also integrated in the feed arm for protection against the elements.



## OYSTER® – FIRST-CLASS CONVENIENCE

The Oyster® – our all-time classic! This antenna lets you enjoy TV and radio programmes throughout continental Europe. Wide reception range and brilliant image definition combined with digital satellite aim to ensure the reception of your favourite programmes in remote locations such as the Canary Islands or Greece.

Thanks to its size, the Oyster® has enough reception capacity even in adverse weather conditions. After all, the dish size determines how many programmes you can receive and at what quality. The antenna dish of each Oyster® system is manufactured with zero tolerances and ultimate dimensional accuracy, ensuring optimal signal reception across its entire surface.

### Options

**TWIN LNB for more customised use:** The satellite system is available with a TWIN-LNB as an option. This LNB provides two satellite connections, feeding a separate programme to a second receiver or a second TV set with integrated receiver.

**SKEW for more range:** For optimal reception at the fringe of a satellite's footprint in south-western and south-eastern regions, the LNB (Low Noise Block) may have to be rotated. This is necessary as the earth's curvature causes the receiver to tilt away from the orientation of the satellite signal, known as the skew angle. To compensate for this skew angle, the LNB must be turned so that the satellite signals fall onto the antenna at exactly the right angle to ensure a maximum reception range. The optional SKEW feature includes a small electric motor that automatically adjusts the LNB.

Height: only approx. 22 cm  
 Weight of external unit: approx. 12 kg  
 Mounting material and accessories: approx. 3 kg



Made in Germany

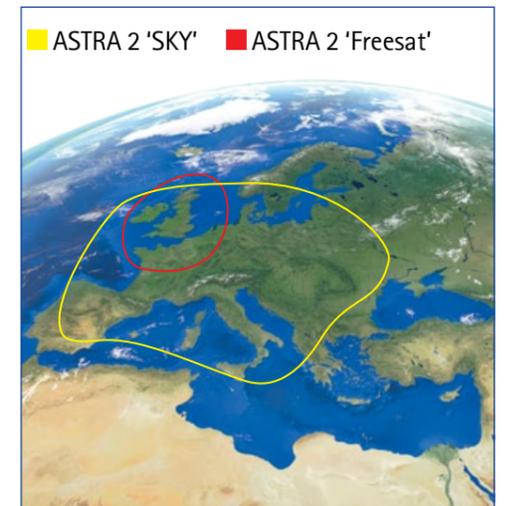
3-year warranty!



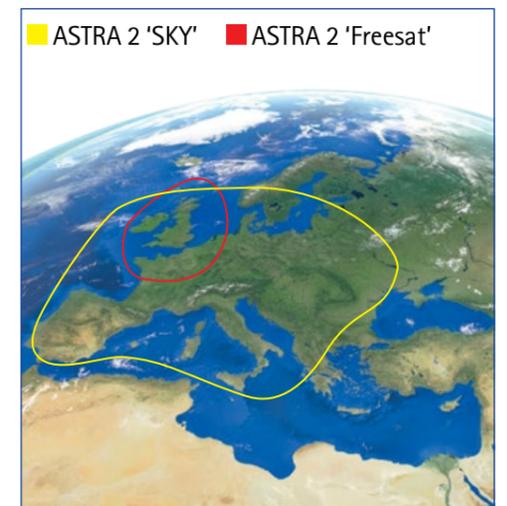
## OYSTER® – PERFORMANCE FEATURES

### Specific features

- App control
- Automatic updates via app
- 65 or 85 cm antenna dish for ultimate range
- Automatic aiming and satellite search
- High-quality rugged materials
- Solid, safe and weather-resistant design
- Rotary-head technology
- LEM technology: The antenna system searches along the elevation angle last set (reducing search time)
- Automatic satellite switchover when changing programmes
- Antenna retracts automatically when engine is started (terminal 15 must be connected)
- 3-year warranty and reliable customer service



Reception range - Oyster® 65



Reception range - Oyster® 85



Available on the App Store



ANDROID APP ON Google play





## OYSTER® 70 – OUR ANNIVERSARY ANTENNA

Chic in design - modern in anthracite - functional with APP control - these are the features of the anniversary antenna from ten Haaft.

As always, convincing with unique features, proven quality and first-class service!

### ANNIVERSARY ANTENNA

## Oyster® 70



Made in Germany

3-year warranty!

Thanks to its size, the Oyster® 70 has enough reception capacity even in adverse weather conditions. After all, the dish size determines how many programmes you can receive and at what quality. The antenna dish of each Oyster® 70 system is manufactured with zero tolerances and ultimate dimensional accuracy, ensuring optimal signal reception across its entire surface.

Being only 17,5 cm high, the Oyster® 70 is extremely compact: Thanks to the curved shape of the feed arm, the antenna body needs very little space when in its rest position. The same low height is also retained by Oyster® 70 systems fitted with the TWIN LNB option.

### Option

**TWIN LNB for more customised use:** The satellite system is available with a TWIN-LNB as an option. This LNB provides two satellite connections, feeding a separate programme to a second receiver or a second TV set with integrated receiver.

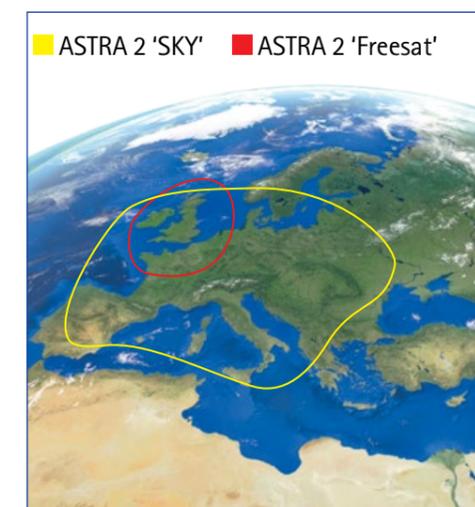


Height: only approx. 17,5 cm  
Weight of external unit: approx. 11,7 kg  
Mounting material and accessories: approx. 3 kg

## OYSTER® 70 – PERFORMANCE FEATURES

### Specific features

- Single-cable wiring
- App control
- Automatic updates via app
- Automatic aiming and satellite search
- High-quality rugged materials
- Solid, safe and weather-resistant design
- Rotary-head technology
- LEM technology: The antenna system searches along the elevation angle last set (reducing search time)
- Automatic satellite switchover when changing programmes
- Antenna retracts automatically when engine is started (terminal 15 must be connected)
- 3-year warranty and reliable customer service



Reception range - Oyster® 70

**Manual SKEW for more range:** For optimal reception at the fringe of a satellite's footprint in south-western and south-eastern regions, the LNB (Low Noise Block) may have to be rotated. This is necessary as the earth's curvature causes the receiver to tilt away from the orientation of the satellite signal, known as the skew angle. To compensate for this skew angle, the antenna dish with the LNB in place must be adjusted so that the satellite signals fall onto the antenna at exactly the right angle to ensure a maximum reception range. The manual SKEW adjustment is a standard feature of all Oyster® 70 systems.



Available on the App Store



ANDROID APP ON Google play





## CYTRAC® DX – PATENTED FOR MAXIMUM RANGE

The core of the Cytrac® DX system consists of 1,016 interlinked single antennas arranged in a honeycomb array. Signal accumulation uses the latest mathematical calculation methods to achieve an unmatched reception range. This results in a reception range that is several hundred kilometres larger than that of an equally sized flat dish. Furthermore, this patented antenna technology produces a previously unknown signal purity that has an especially positive effect on high-definition (HD) programmes.

Despite being packed with powerful technology, the Cytrac® DX system is only 14 cm high. Its light weight and compact form factor make it a perfect fit for almost any vehicle roof. Its robust exterior unit is made of cast aluminium to protect the sophisticated technology inside. To save space, it has been engineered to only rotate when unfolded. Thanks to a specifically designed mechanical reinforcement, it can withstand even the strongest gusts of wind.

### Optional

**TWIN LNB for more customised use:** The satellite system is available with an optional TWIN LNB. This LNB provides two satellite connections, feeding a separate programme to a second receiver or a second TV set with integrated receiver.

**Manual SKEW for more range:** For optimal reception at the fringe of a satellite's footprint in south-western and south-eastern regions, the LNB (Low Noise Block) may have to be rotated. This is necessary as the earth's curvature causes the receiver to tilt away from the orientation of the satellite signal, known as the skew angle. To compensate for this skew angle, the antenna dish with the LNB in place must be adjusted so that the satellite signals fall onto the antenna at exactly the right angle to ensure a maximum reception range. The manual SKEW adjustment is a standard feature of all Cytrac® DX systems.



Made in Germany

3-year warranty!

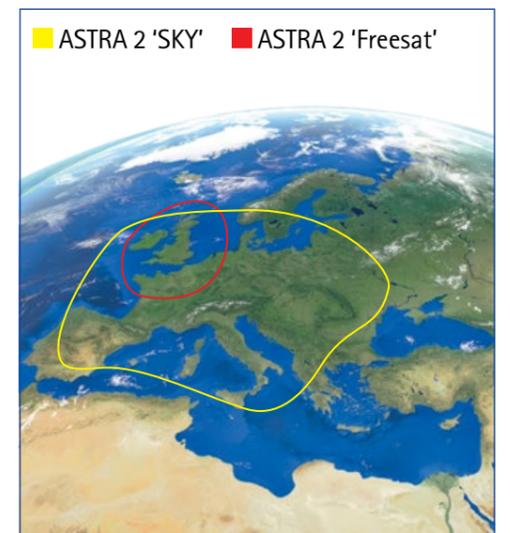
Height: only approx. 14 cm  
Weight of external unit: approx. 16 kg  
Mounting material and accessories: approx. 2 kg



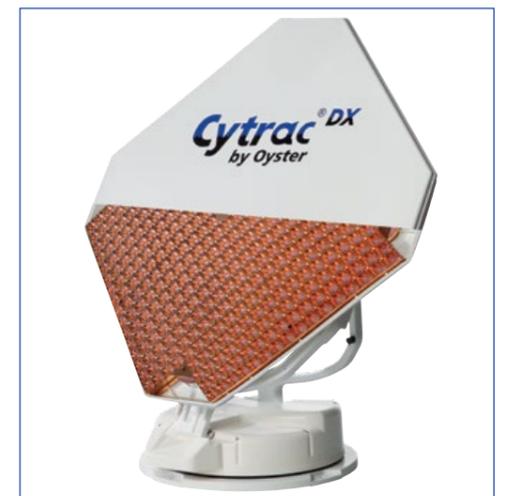
## CYTRAC® DX – PERFORMANCE FEATURES

### Specific features

- Single-cable wiring
- App control
- Automatic updates via app
- Patented reception technology for extraordinary reception range
- Minimal mounting space requirements on the vehicle roof
- Extremely low profile
- Automatic aiming and satellite search
- High-quality rugged materials
- Solid, safe and weather-resistant design
- LEM technology: The antenna system searches along the elevation angle last set (reducing search time)
- Automatic satellite switchover when changing programmes
- Antenna retracts automatically when engine is started (terminal 15 must be connected)
- 3-year warranty and reliable customer service



Reception range – Cytrac® DX



Patent number: EP 2359434



Available on the App Store



ANDROID APP ON Google play





## OYSTER® SMART TV

### Oyster® Smart TV: Watching television and streaming with one device

The new Oyster® Smart TV series offers you premium class technology. Classic linear TV and online functions merge in one device, bringing inexhaustible entertainment to your screen.

The new Oyster® Smart TVs come with an all-round package. Their excellent connectivity via WLAN, LAN, Bluetooth and the integrated receivers (for digital TV via satellite or antenna) plus further digital and analogue inputs and outputs, leave nothing to be desired. With pre-installed apps for all major streaming providers, access to the world of streaming turns into a convenient and easy affair! The integrated app store is continuously extended by further country-specific apps. Thanks to HbbTV, access to the media centre of the television channels is also just a touch of a button away.

The new system remote control is of very compact design and equipped with the Oyster specific special antenna control buttons. In addition, it offers direct hotkey access to top streaming services and an electronic program guide (EPG). Another system advantage are the extended remote control options that are made available through the free VIDAA app.

The VIDAA app turns your smartphone or tablet into the ultimate control centre for your Smart TV. Start apps directly from the touchscreen, make convenient use of the familiar screen keypad to enter text or turn your smart device into a touchpad to navigate websites in the TV's integrated web browser.

The television sets are specifically developed for the electrically challenging operation in vehicles and are suitable for direct operation with

12 V or 24 V on-board power supplies. An Oyster® TV is equipped with integrated protection from excess voltage (high and low), and has an onboard voltage display directly on the TV screen – both are points of note. On request, a special mains adapter is available as an optional accessory to connect the TV to the normal 230 Volt mains supply.

Another highlight: You can easily deactivate the TV display with the touch of a button at any time so that only the sound continues to be heard. This allows you, for example, to enjoy listening to radio via satellite reception or even permits web radio streaming in a highly energy-efficient manner, all without the nuisance of a glaring screen.

Deactivating the screen during radio operation can achieve energy savings of up to 70%!

Whether camper van, caravan or mobile home – with Oyster® Smart TV you can look forward to pure entertainment delight!

### Special performance features

- High-end device of ultra-slim design
- Integrated 2.4 GHz and 5 GHz WLAN
- WLAN set-up with WPS (provided a compatible WLAN source is available, e.g. Oyster Connect, Oyster Access and Oyster EasyNet)
- Bluetooth5.1
- Integrated tuner for DVB-S2, DVB-T2 tuner HD/H.265
- VIDAA operating system
- HbbTV ("hybrid broadcast broadband television")
- Multiple favourite channel lists (e.g. for Germany, Austria, Switzerland, etc.)
- Webbrowser
- OTA (Over-The-Air-Update – software update via the Internet)
- Connection via USB 2.0 and HDMI

- Freely nameable signal inputs
- Universal installation thanks to standard VESA bracket
- System remote control: only one remote control for the satellite system and the TV set Oyster® Smart TV
- EPG electronic program guide with 7-day preview
- ON-SCREEN display for supply voltage
- "Audio only" function
- Barrier-free use
- Module slot CI / CI+
- Sturdy design for mobile use in motor home and caravan
- Pre-programmed station lists for D/AT/CH/FR and update support by ten Haaft
- On/Off power switch
- Type approval mark acc. to the German Federal Motor Transport Authority (KBA)

### Available in the following sizes

19" (50 cm), 21.5" (55 cm), 24" (61 cm), 27" (69 cm), 32" (81 cm)  
Soon also available as 39" (99 cm)



Base not included in the scope of delivery.

3-year warranty!

POWERED BY **avtex**



## THE OYSTER® CONNECT SYSTEM: COMFORTABLE ON THE GO IN THE „MOBILE HOME NETWORK“

### Stable internet connection?

When at home and logged in to your network, whether using a smartphone, tablet, laptop or smart TV, all devices remain connected to the Internet with nothing standing in the way of safe, fast surfing.

When travelling, however, campers often have to back off when it comes to the Internet. Unstable reception or overloaded LAN / LTE networks on campsites are not uncommon. ten Haaft provides the solution, especially for travellers who are 'on the go' and dependent upon a reliable reception for work, or not wanting to live without functioning Internet during their holiday.

### Mobile internet just like at home – even while driving

The engineers of the premium manufacturer of mobile satellite technology from South Germany have developed an Oyster® Connect special antenna system for high demands: the mobile hotspot ensures a stable signal – **even while driving.**

You can relax in your motorhome, camper or caravan, surfing 'the net' – and use all the advantages of a 'mobile home network'!

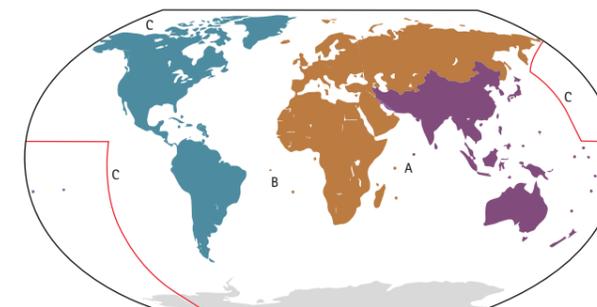
The connection remains independent of location, regardless of the location that the external signal network comes from – all registered devices automatically connect to their own Oyster® Connect hotspot.

### Right at the top – Oyster® Connect

One of the main advantages of this special antenna system (with its direct HF-technical connection to the transmitter and receiver modules) is the installation of the outdoor unit on the vehicle roof so that maximum transmit and receive power is possible.

The Oyster® Connect is therefore far superior to the classic smartphone reception and to products currently available on the market since the attenuation of the signals by the vehicle body (thermal insulation glazing / Metal body) and the length of the antenna cable do not matter.

### Oyster® Connect Coverage area



3-year warranty!





## OUTDOOR UNIT...

### The Oyster® Connect - Outdoor Unit

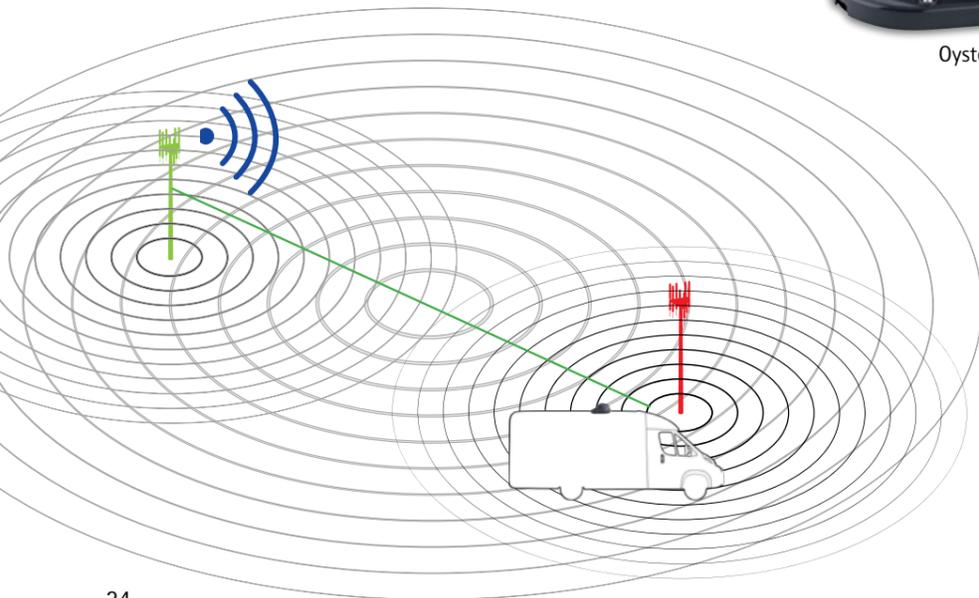
The highlight is that the outdoor unit has both an LTE and a dual band WLAN module installed.

Each of these modules contains a directly connected antenna system, especially adjusted for this application that allows a greater range and, if the LTE network is overloaded by too many users, it can reach not only the next but also the radio mast after the next.

In the WLAN area, the MIMO system with 4 antennas ensures the stable data throughput, both in the 2.4 GHz band and in the 5 GHz band. MIMO is based on the ability to use intelligent data processing to send and receive a data stream over several antennas (Multiple Input Multiple Output).

The LTE function is based on an ALL-band antenna in diversity technology. It supports all LTE bands / providers and offers maximum transmit and receive performance without aligning the antenna.

The information received in front of the outdoor unit is transmitted using a data cable to the indoor unit without loss.



## ... INDOOR UNIT IN PERFECT HARMONY

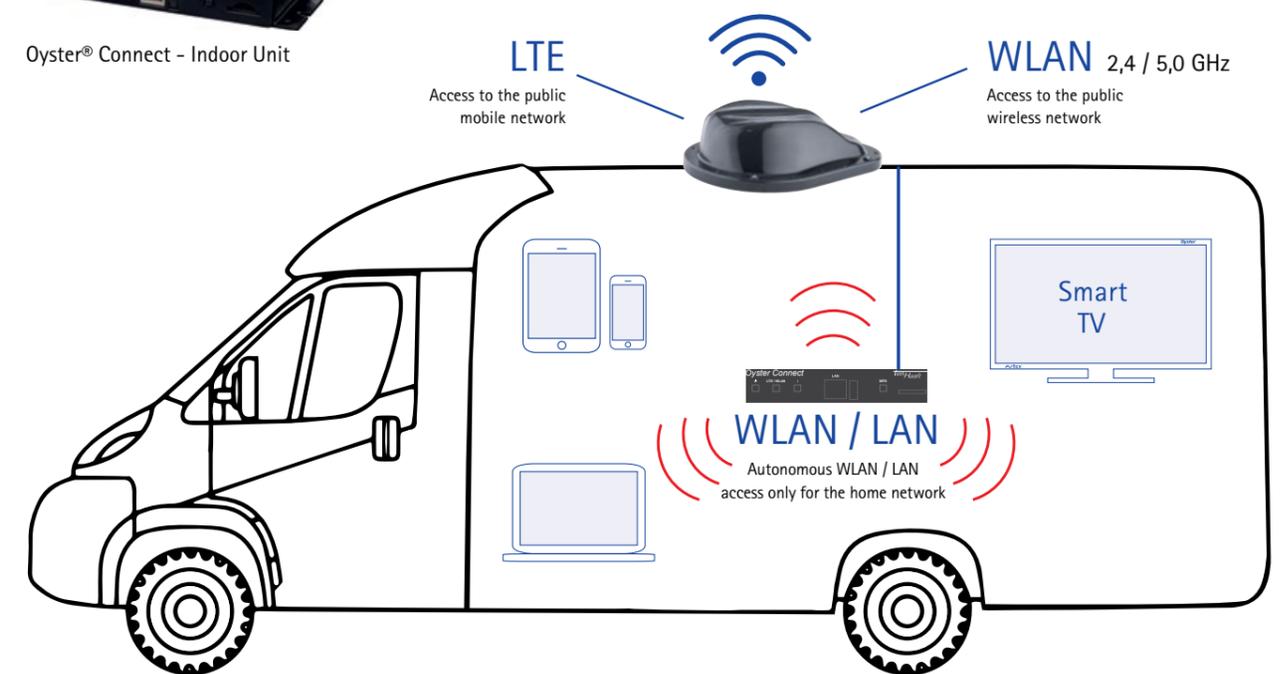
### The Oyster® Connect - Indoor Unit

The second component of the Oyster® Connect system, the indoor unit, is located in the vehicle interior and serves as a WLAN access point like your router at home. In the indoor unit there is a full, private access point with integrated 2.4 and 5 GHz WLAN antennas installed (2x2 MIMO technology). Both bands are operating in parallel - you can connect several mobile devices at the same time, on different bands, with the highest possible data transfer.

With the indoor unit, the desired end devices, such as smartphones, tablet, laptop or smart TV only have to be connected once. It also contains a LAN connection and therefore can also establish a private wired LAN network.



Oyster® Connect - Indoor Unit



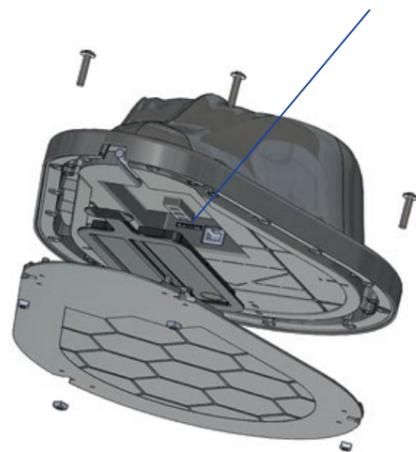


### Simple assembly, convenient operation

The outdoor unit is constructed aerodynamically: with a height of only twelve centimeters and a length of about 40 centimeters it fits on every recreational vehicle and at only 1.5kg is extremely lightweight.

When it comes to assembly, the ten Haft engineers have remained loyal to their proven system: a mounting plate is glued to the roof and the antenna housing is mounted with four screws. The plugged in SIM card can be exchanged at any time, for example for a country-specific SIM card. A roof duct and the four meter long data cable enable a flexible installation on any vehicle.

### SIM card / Multi SIM card



### SIM card / Multi SIM card

The usage of a Data Sharing SIM card, which can be inserted into the card reader during installation, is advantageous meaning one mobile phone contract can be used for both smartphone and Oyster Connect (up to 4 SIM cards on the same contract). In 2017, roaming charges were abolished in Europe, so there are generally no additional charges for using mobile phones in other European countries. UK providers have said that they will continue this after Brexit, but this cannot be guaranteed.

The concept of the Oyster Connect is that all transmitter and receiver units, including SIM card reader, are located in the outdoor unit, which is mounted on top of the vehicle roof. This is the optimal installation location, because this is the only way to ensure that no deterioration (= attenuation) of the signal from the vehicle body and thermal insulation glazing can occur.

This also enables the use of a data cable instead of a coaxial cable for loss-free data transmission from the outdoor unit into the indoor unit. Coaxial cables would entail attenuation losses. Depending on the quality and frequency of the cable, there is a signal loss of 0.5 dB - 1.5 dB per metre. With a 4 metre long coaxial cable you would have to accept a signal loss of approx. 50% - 75%.

**SIM card note:**  
A SIM card, which is not included in the scope of delivery, is required for LTE operation. The connection costs that arise here and internet parameters (download / upload, int. Roaming) depend on the respective network operator and have to be checked by the customer.

### Web interface <http://oyster.connect>

The password-protected web interface <http://oyster.connect> permits a user-friendly system configuration.

Settings of the Oyster® Connect outdoor unit:

- Selection and configuration of the WLAN hotspot
- Supports 2.4 and 5 GHz WLAN networks
- Change between LTE and WLAN
- Selection of the desired WLAN network
- Input of WLAN access data
- Setting of LTE access data (APN)
- Saving or deactivating the SIM pin

Settings of the Oyster® Connect indoor unit:

- Configuration of the private "home network"
- Offers 2.4 and 5 GHz WLAN access points
- System updates
- Offers an RJ - 45 connection for private, wired LAN

### Overview of the benefits

- Installation of the transmission and reception unit on top of the vehicle roof prevents loss of attenuation
- High-performance WLAN antennas (2x2 MIMO)
- LTE diversity antennas ITU region 1-3 for world-wide reception
- One-time, easy set-up of the "mobile home network"
- Free choice of 2.4 GHz / 5 GHz in the WLAN network both for the indoor unit and for the outdoor unit
- For LTE bands from 698 MHz to 3.8 GHz
- Private LAN network permits WLAN network relief, not every Smart TV is WLAN-capable
- Aerodynamic structure
- Easy installation and space-saving design
- Weather-resistant
- Convenient operation
- 3 year warranty





## THE NEW OYSTER® ACCESS AND OYSTER® EASYNET

Based on the success of the well-proven Oyster® Connect, ten Haaft now introduces two additional antenna systems: Oyster® Access and Oyster® EasyNet

The unique and highly efficient concept of three separate WLAN modules and one LTE module has been adopted from the Oyster® Connect. This continues to ensure the best possible wireless connectivity, both inside and outside the vehicle!

### Tailored to the camper's needs

Like all ten Haaft products, the new Internet systems Oyster® Access and Oyster® EasyNet too have been developed with the actual needs of campers in mind.

The benefit such a system offers, is that all devices inside the vehicle can make use of a joint Internet connection. This is made possible by providing a private dual band WLAN and a wired LAN in the vehicle.

A connection between the Oyster® Access / Oyster® EasyNet and the Internet can be established in two different ways:

- By means of an LTE connection via the mobile radio network established through a SIM card the customer inserts into the control device (router)
- Through the use of a locally available, publicly accessible WLAN (e.g. at a camp site / caravan site or other public WLAN hotspots)

Oyster® Access - outdoor unit



Oyster® EasyNet V1- outdoor unit



LTE  
Access to the public mobile radio network

WLAN 2.4 / 5.0 GHz  
Access to the public WLAN network

3-year warranty!

## OYSTER® ACCESS OR OYSTER® EASYNET – THE CHOICE IS YOURS

Well-proven elements were retained and yet everything is new

The systems of both the new Oyster® Access and the new Oyster® EasyNet consists of a control device (router) installed inside the vehicle and an external antenna mounted on the vehicle roof. Both Oyster® Access and Oyster® EasyNet establish the connection between electronic unit and external antenna in a very classical manner by means of four high-grade coaxial antenna cables each.

Unlike the Oyster® Connect however, the entire electronic system is condensed into a joint compact housing in the vehicle cabin. This has also made it possible to accommodate the SIM card readers in a conveniently accessible space at the front face of the Oyster® Access and Oyster® EasyNet device.

A new, active thermal management system ensures undisturbed operation, even in particularly warm environments.

The outdoor unit is equipped with the following:  
2 x 2 MIMO WLAN and 2 x 2 LTE DIVERSITY



Indoor unit: Separate WLAN 2.4 / 5.0 GHz





### Oyster® Access / Oyster EasyNet control device (router)

- 2.4 GHz + 5 GHz dual band WLAN for the private network
- LAN connection for the private network
- 2.4 / 5 GHz WLAN module to connect with an external WLAN via external antenna
- LTE module for use in the EMEA region and beyond
- EasyNet: Optionally one or two SIM card readers
- Access: Two SIM card readers
- Dynamic temperature control

### Recommendation:

The Oyster® Access is in particular recommended for somewhat larger vehicles with smooth roof, such as semi-integrated and fully integrated motor homes and liners. With the Oyster® Access, the focus is on the best possible reception and flexible mounting options.

The Oyster® EasyNet is especially recommended for smaller vehicles, such as vans and busses offering little space and / or where the vehicle roof is equipped with the typical reinforcement profiles. With the Oyster® EasyNet, the focus is on a design that requires as little space and effort to install as possible.

The choice is yours!



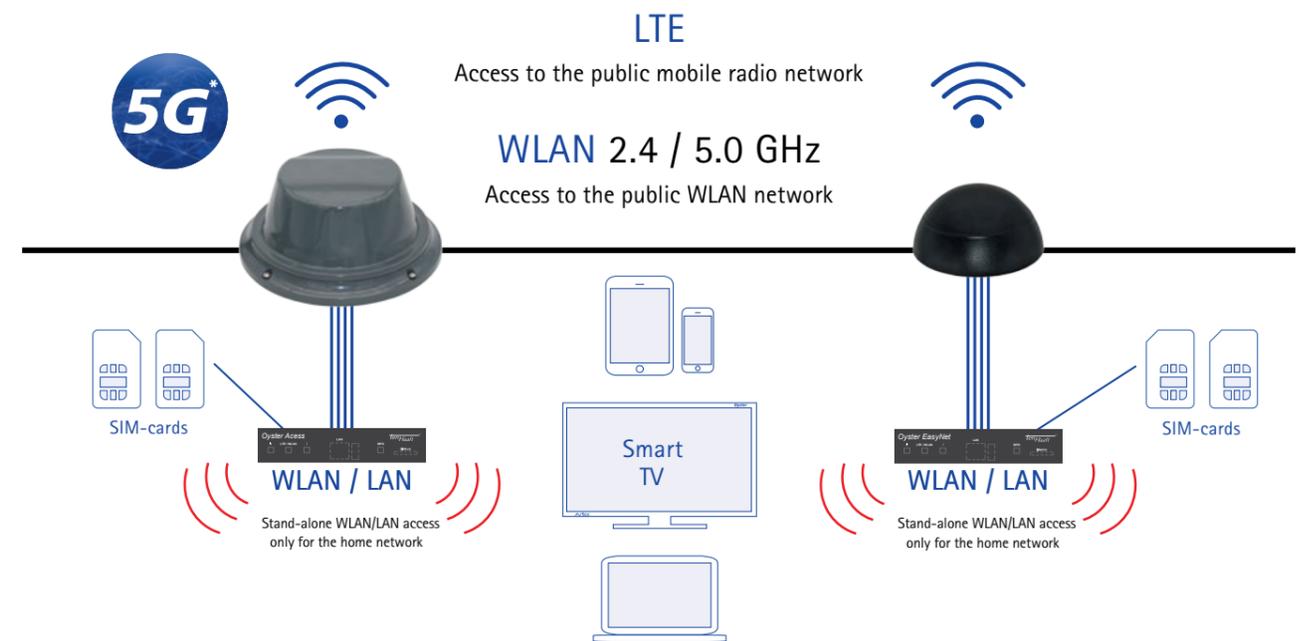
## OYSTER® ACCESS OR OYSTER® EASYNET

### Oyster® Access external antenna

- Full size antenna with separate roof duct for the antenna cables
- 2x LTE all-band antenna with diversity technology
- 4x WLAN antenna for 2.4 GHz and 5 GHz MIMO
- 4x high quality antenna cables in protective tube, both sides detachable, 2 metres

### Oyster® EasyNet external antenna

- Space-saving hemispherical external antenna with integrated cable gland
- Compact antenna with 2x LTE Diversity and 2x WLAN MIMO
- 4x low-loss antenna cable, firmly connected to the antenna, 1.5 metres



# SOUND

## OYSTER® SOUNDBAR

Impressive sound, elegant styling, comprehensive connectivity – the Oyster® soundbar with its 2-way speaker system is the ideal accessory for Oyster® TV or other compatible TV sets. Brilliant images are accompanied by excellent sound.

An HDMI ARC port ensures optimal signal transmission, and AUX and COAXIAL channels are provided as well. You can also playback your favourite music directly from the playlists of your smartphone via Bluetooth or USB. A display shows the signal source currently used, which can be selected directly at the touch of a button at the soundbar or the remote control.



### Features

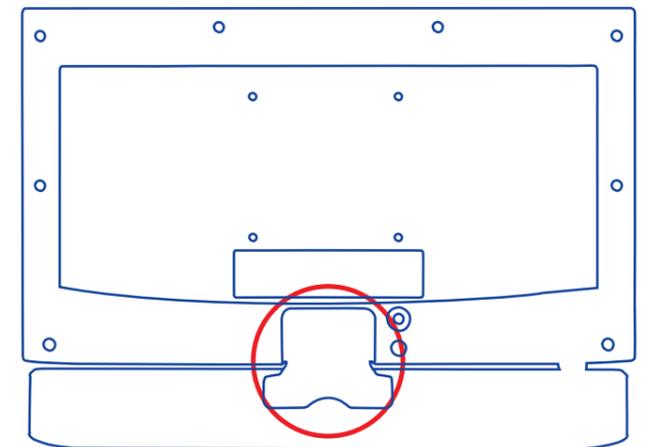
- Clear, crisp sound combined with elegant styling
- Ideal accompaniment to the Oyster® TV
- Simple, easy to handle installation
- Display of the signal source in use
- 3 sound effects to choose from (EQ): News, Standard, Music
- Compatible with most TV sets
- 2-way speaker system
- Inputs/outputs: COAXIAL, AUX, USB and HDMI ARC
- Bluetooth
- Sine-wave power 2 x 10 W
- Current draw: 12 V 0.75 A / 24 V 0.42 A
- Operating voltage: 12 V, 24 V, 240 V (with mains power supply only)
- Dimensions: 436 x 46 x 68 mm (W x H x D)
- Weight: 1.2 kg

### Scope of supply

- Soundbar
- Remote control
- Mounting bracket for direct attachment to Oyster® TV
- AUX cable
- COAXIAL cable
- HDMI ARC cable
- Mains power supply 110 – 240 V AC with EURO mains plug
- Power cable 12 V / 24 V

### Easy to install: Oyster® Soundbar meets Oyster® TV

Using the mounting bracket, the Oyster® soundbar is easily attached to the Oyster® TV. Just connect the mounting bracket to the pedestal of the Oyster® TV set.



If the soundbar is connected via HDMI ARC, the TV set's control signals (On/Off, volume) are adopted, and all basic functions can be controlled using the Oyster® TV dedicated remote control.



## OYSTER® ACCESSORIES SATELLITE SYSTEMS / INTERNET ANTENNA

### Control unit

This fully automated central control unit inside the vehicle contains the entire control electronics of the satellite system. Thanks to its low profile, it can be mounted out of sight and inside a cabinet.

FeatureBox: Control unit for Oyster® V, Oyster® 70 and Cytrac®:  
Dimensions of the FeatureBox (W x H x D): 19.5 x 2 x 11.6 cm



Command Unit: Control unit for Oyster®:  
Dimensions of the Command Unit (W x H x D): 21.6 x 4 x 12.2 cm



Vision Control Center: Control unit Oyster and CARO  
Dimensions of the Vision Control Center  
(B x H x T): 21,6 x 4 x 12,2 cm



### Control panel:

Dimensions of the control panel without mounting frame:  
(W x H x D) 11.8 x 7.1 x 0.8 cm



Dimensions of the control panel with mounting frame:  
(W x H x D) 12 x 7.3 x 1.9 cm

The handy control panel has only a few, easy-to-use buttons and is mounted somewhere within easy reach. The fully automatic search starts at the touch of a button. All functions are shown on the backlit display.

### Mounting plate

ten Haaft antennas are mounted on a high-quality anodised aluminium plate. This plate is bonded to the vehicle roof using special adhesive – additional holes for bolts through the vehicle skin are not needed. The mounting plate features four studs to which the system is secured with four cap nuts. If necessary, e.g. in the case of a repair or if headroom inside the garage is tight, the antenna can easily be removed from the vehicle roof.



50 x 37 cm for Oyster® V, Oyster® and Oyster® 70



36 x 36 cm for Cytrac®

## OYSTER® CONNECT

### ten Haaft devices

### Oyster® Connect

|   |   |
|---|---|
| Type  | WLAN / LTE Antenna with router and private access point |
| Dual Band   | 2,4 and 5 GHz bands                                     |
| 2x2 LTE Diversity Antennen ITU Region 1-3 for worldwide reception | For LTE bands from 698 MHz to 3.8 GHz                   |
| Weather-resistant design  | ✓   |
| Max. permissible vehicle speed                                    | ~ 180 km/h  |
| Dimensions Outdoor unit (W x H x D) cm                            | 40,5x12x29,2  |
| Dimensions Indoor unit (W x H x D) cm                             | 17,5x3x10,6   |
| Weight Outdoor unit with mounting plate                           | ~ 1,5 kg  |
| Weight Indoor unit  | ~ 0,19 kg   |
| Weight accessories  | ~ 0,5 kg  |
| 230 V operation (only with mains adapter)                         | ✓   |
| Supply voltage (on-board voltage)                                 | 9 V - 32 V (12 V / 24 V)                                |
| Typical power consumption   | 4 - 5 W in normal operation                             |
| Standby consumption   | < 0.015 W (with 12 V on-board power supply)             |
| Type approval mark (valid worldwide)                              | CE 10R - 069244   |

### Ports

### Oyster® Connect - Outdoor unit

|                                   |        |
|-----------------------------------|--------|
| SIM card slot                     | ✓      |
| Data link connection Indoor       | ✓      |
| Data link connection Outdoor      | ✓      |
| RJ - 45 LAN                       | ✓      |
| Power connection barrel connector | 2,1 mm |

### Oyster® Connect - Indoor unit

### Scope of supply

|   |   |
|---|---|
| Oyster® Connect - Outdoor unit                      | ✓ |
| Oyster® Connect - Indoor unit                       | ✓ |
| Roof duct and data cable 4 m                        | ✓ |
| Power connection cable Oyster® Connect -Indoor unit | ✓ |
| Mounting plate                                      | ✓ |

# OYSTER® ACCESS

## Technical specification

| Outdoor unit   |   |
|--|---|
| Type   | LTE / WLAN Full-size antenna with diversity reception and MIMO capability |
| Dual band: 2x2 MIMO WLAN antennas                                  | for 2.4GHz and 5GHz band  |
| Antenna gain WLAN  | up to + 6 dBi   |
| 2x2 LTE Diversity antennas ITU region 1-3 for world-wide reception | For LTE bands from 698 MHz to 3.8 GHz incl. 5G channels 2.7 - 3.8 GHz     |
| Antenna gain LTE   | up to + 4 dBi   |
| Dimensions outdoor unit (ø x height) cm                            | ø 30.5 cm x 13.0 cm   |
| Weight outdoor unit with mounting plate                            | ~ 1.7 kg  |
| Cable gland  | Separate  |
| Cable through-hole   | ø 18 - 20 mm  |
| Connecting cable outdoor unit to indoor unit                       | 4x low loss HQ coaxial cables 5 mm SMA, length 2 m, detachable            |

| Indoor unit (control device & router)   |  |
|---|--|
| Router                                  | with private WLAN access point   |
| Supported LTE bands                     | B1/3/7/8/20/28/38/40/41  |
| Dual band WLAN                          | for 2.4 GHz and 5 GHz  |
| Dual SIM card reader in the indoor unit | 2 at the front face  |
| Dimensions indoor unit (W x H x D) cm   | ~17.5 cm x 4 cm x 9.3 cm   |
| Weight indoor unit incl. accessories    | ~ 0.4 kg   |
| Supply voltage (on-board voltage)       | 9 V - 32 V (12 V / 24 V)   |
| Typical power consumption               | 4 - 5 W in normal operation  |
| Standby consumption                     | < 0.01 W   |
| Type approval mark (valid worldwide)    |  10R - 069244 |



# OYSTER® EASYNET - 27/45

## Technical specification

| Outdoor unit   |   |
|--|---|
| Type   | LTE / WLAN compact antenna with diversity reception and MIMO capability |
| Dual band: 2x2 MIMO WLAN antennas                                  | for 2.4GHz and 5GHz band  |
| Antenna gain WLAN  | up to + 2 dBi   |
| 2x2 LTE Diversity antennas ITU region 1-3 for world-wide reception | for LTE bands from 698 MHz to 2700 MHz                                  |
| Antenna gain LTE   | up to + 1 dBi   |
| Dimensions outdoor unit (ø x height) cm                            | ø 11 cm x 5.5 cm  |
| Weight outdoor unit  | ~ 0.4 kg  |
| Cable gland  | directly below antenna  |
| Thread length  | 27 mm or 45 mm  |
| Mounting hole  | ø 28 mm   |
| Connecting cable outdoor unit to indoor unit                       | 4x coaxial cable 3 mm SMA, length 1.5 m, firmly mounted on the antenna  |

| Indoor unit (control device & router)   |  |
|---|--|
| Router                                  | with private WLAN access point   |
| Supported LTE bands                     | B1/3/7/8/20/28/38/40/41  |
| Dual band WLAN                          | for 2.4 GHz and 5 GHz  |
| Dual SIM card reader in the indoor unit | 1 at the front face  |
| Dimensions indoor unit (W x H x D) cm   | ~17.5 cm x 4 cm x 9.3 cm   |
| Weight indoor unit incl. accessories    | ~ 0.4 kg   |
| Supply voltage (on-board voltage)       | 9 V - 32 V (12 V / 24 V)   |
| Typical power consumption               | 4 - 5 W in normal operation  |
| Standby consumption                     | < 0.01 W   |
| Type approval mark (valid worldwide)    |  10R - 069244 |



# AUTOMATIC SATELLITE SYSTEMS

## Product group

Automatic satellite system

## Manual / automatic aiming

Automatic satellite aiming

Manual aiming

Automatic satellite finding and identification

Automatic satellite switchover when changing programmes

## Dimensions

Dish diameter / dimensions

Height

Weight of external unit

Weight of mounting material and accessories

## LNB and SKEW equipment

Single LNB

TWIN LNB

SKEW, electromechanical

TWIN SKEW, electromechanical

SKEW, mechanical

## Special features

Highly rugged rotary-head technology

Automatic retraction at engine start (terminal 15 must be connected)

Rotary axis lock with antenna retracted

Weather-resistant construction

Max. permissible vehicle speed

Control via app and smartphone/tablet

## Power supply

Connected voltage (on-board voltage)

Max. current draw during satellite search

Current draw (reception mode)

Current draw at standby on 12-V on-board system in standard/power-saving mode

Type approval (KBA)

## Scope of supply

External Unit

Dish

Mounting plate

Cable set to the external unit

Control unit

Control panel: (for Vision variant)

Mounting bag

## Reception ranges

The reception ranges indicated represent the approximate core ranges. Individual programmes may be receivable even beyond these ranges. The range can be improved in south-western and south-eastern regions by automatic or manual SKEW adjustment. However, ten Haaft has no influence on the actual broadcasting range of the individual programmes. These are the sole responsibility of the individual satellite operators. We cannot therefore assume any liability for the future existence of the reception ranges shown.

■ ASTRA 2 'SKY'

■ ASTRA 2 'Freesat'

Specified weights apply to the basic variant without receiver and TV set

## Oyster® V

✓

✓

possible

✓

✓

~ Ø 85 cm

~ 17 cm

~ 11 kg

~ 3 kg

✓

optional

optional

optional

✓

✓

✓

✓

✓

~ 150 km/h

✓

12 V / 24 V

7 A

<sup>1)</sup>

30 mA / 10 mA <sup>2)</sup>

 10R - 068566

✓

✓

✓

✓

FeatureBox

✓

✓

## Oyster® 65 / 85

✓

✓

possible

✓

✓

~ Ø 65 / 85 cm

~ 22 cm

~ 11 kg / ~ 12 kg

~ 3 kg / ~ 3 kg

✓

optional

optional

optional

✓

✓

✓

✓

✓

~ 130 km/h

✓

12 V / 24 V

7 A

<sup>1)</sup>

30 mA / 10 mA <sup>2)</sup>

 10R - 068881

✓

✓

✓

✓

Command Unit

✓

✓

## Oyster® 70

✓

✓

possible

✓

✓

~ Ø 70 cm

~ 17,5 cm

~ 11,7 kg

~ 3 kg

✓

optional

-

-

-

✓

✓

✓

✓

~ 150 km/h

✓

10,5 V / 32 V

7 A

<sup>1)</sup>

30 mA / 10 mA <sup>2)</sup>

 10R - 068566

✓

✓

✓

✓

FeatureBox

✓

✓

## Cytrac® DX

✓

✓

possible

✓

✓

~ 56 cm x 56 cm

~ 14 cm

~ 16 kg

~ 2 kg

✓

optional

-

-

✓

-

✓

✓

✓

~ 130 km/h

✓

12 V / 24 V

7 A

<sup>1)</sup>

30 mA / 10 mA <sup>2)</sup>

 10R - 068566

✓

-

✓

✓

FeatureBox

✓

✓

All specifications for Premium and Vision without TV/receiver

<sup>1)</sup> Depends on TV set used

<sup>2)</sup> WLAN enabled/WLAN disabled

### LUCID Packaging Register

Throughout Europe, the producer of a product also takes producer responsibility for the packaging – in terms of preventing packaging waste in the first place, but also in terms of optimising reuse and recovery.

Registration number: DE3596724290588



# OYSTER® SMART TV

| ten Haaft TV Devices                      | 19" (50 cm)       | 21,5" (55 cm)  | 24" (61 cm)   |
|---|-------------------|--|---|
| EU energy efficiency class                | E                 | E  | E   |
| Screen size                               | 18,5" / 50 cm     | 21,5" / 55 cm  | 24" / 61 cm   |
| Annual energy consumption in kWh / 1000h* | TBA               | 15   | 17  |
| Power consumption standby / off mode W    | < 0,5             | < 0,5  | < 0,5   |
| Resolution (pixels) 1920 x 1080           | 1366 x 768        | ✓  | ✓   |
| Full HD                                   | HD READY          | ✓  | ✓   |
| Viewing angle H / V                       | 178° / 178°       | 176° / 176°  | 176° / 176°   |
| Brightness (cd/ m²)                       | 220               | 250  | 250   |
| Contrast                                  | 1000:1            | 3000:1   | 1000:1  |
| DVB-S2 Tuner                              | ✓                 | ✓  | ✓   |
| DVB-T2 HD/H.265**                         | ✓                 | ✓  | ✓   |
| WLAN                                      | 2,4 GHz + 5 GHz   | 2,4 GHz + 5 GHz  | 2,4 GHz + 5 GHz   |
| Speakers Music output 2 x 2 W             | ✓                 | ✓  | ✓   |
| Bluetooth 5.1 transmitter and receiver    | ✓                 | ✓  | ✓   |
| VIDAA APP for IOS and Android             | ✓                 | ✓  | ✓   |
| Dimensions without stand (W x H x D) cm   | 43,0 x 25,3 x 4,5 | 48,8 x 29,4 x 4,9  | 54,0 x 32,3 x 4,6   |
| Weight without stand kg                   | ~ 2,08            | ~ 2,4  | ~ 2,8   |
| VESA-standard 100 x 100 mm                | ✓                 | ✓  | ✓   |
| VESA-standard 200 x 100 mm                | -                 | -  | -   |
| 12 V operation                            | ✓                 | ✓  | ✓   |
| 24 V operation                            | ✓                 | ✓  | ✓   |
| 230 V operation (only with mains adapter) |                   | possible, mains adapter not included   | Included in delivery  |
| Type approval mark***                     | TBA               |  |  |

\* Energy consumption in on-mode in kWh per 1,000 h when playing SDR content, rounded to the nearest whole number.  
 \*\* Terrestrial antenna not included in the scope of delivery.  
 \*\*\* Type approval marks stand for safe and environmentally friendly technology on the roads.

## Connections

|                                     |              |              |              |
|-------------------------------------|--------------|--------------|--------------|
| 2 x HDMI                            | ✓            | ✓            | ✓            |
| 1 x HDMI ARC (Audio Return Channel) | ✓            | ✓            | ✓            |
| 2.0 USB                             | 2            | 2            | 2            |
| Jack socket 3.5 mm AV in            | ✓            | ✓            | ✓            |
| Headphone jack 3.5 mm stereo        | ✓            | ✓            | ✓            |
| Digital audio output                | Optical      | Optical      | Optical      |
| Power switch On / Off               | ✓            | ✓            | ✓            |
| CI / CI+ module slot                | ✓            | ✓            | ✓            |
| Network socket                      | 100 MBit LAN | 100 MBit LAN | 100 MBit LAN |

## Delivery scope

|   |   |   |   |
|---|---|---|---|
| TV device   | ✓ | ✓ | ✓ |
| System remote control                                       | ✓ | ✓ | ✓ |
| Power supply cable 12 V / 24 V (with on-board voltage plug) | ✓ | ✓ | ✓ |

## Optionally to order

|  |   |   |   |
|--|---|---|---|
| Stand for TV set                                       | ✓ | ✓ | ✓ |
| Mains adapter 110 V ... 240 V AC with EURO Schuko plug | ✓ | ✓ | ✓ |
| AV in adapter cable                                    | ✓ | ✓ | ✓ |

| ten Haaft TV Devices                      | 27" (69 cm)  | 32" (81 cm)  |
|---|--|--|
| EU energy efficiency class                | E  | E  |
| Screen size                               | 27" / 69 cm  | 32" / 81 cm  |
| Annual energy consumption in kWh / 1000h* | 21   | 25   |
| Power consumption standby / off mode W    | < 0,5  | < 0,5  |
| Resolution (pixels) 1920 x 1080           | ✓  | ✓  |
| Full HD                                   | ✓  | ✓  |
| Viewing angle H / V                       | 176° / 176°  | 176° / 176°  |
| Brightness (cd/ m²)                       | 220  | 220  |
| Contrast                                  | 1000:1   | 4000:1   |
| DVB-S2 Tuner                              | ✓  | ✓  |
| DVB-T2 HD/H.265**                         | ✓  | ✓  |
| WLAN                                      | 2,4 GHz + 5 GHz  | 2,4 GHz + 5 GHz  |
| Speakers Music output 2 x 2 W             | ✓  | ✓  |
| Bluetooth 5.1 transmitter and receiver    | ✓  | ✓  |
| VIDAA APP for IOS and Android             | ✓  | ✓  |
| Dimensions without stand (W x H x D) cm   | 61,9 x 37,0 x 4,9  | 72,2 x 42,8 x 4,4  |
| Weight without stand kg                   | ~ 4,2  | ~ 5,2  |
| VESA-standard 100 x 100 mm                | ✓  | ✓  |
| VESA-standard 200 x 100 mm                | -  | -  |
| 12 V operation                            | ✓  | ✓  |
| 24 V operation                            | ✓  | ✓  |
| 230 V operation (only with mains adapter) | possible, mains adapter not included   | Included in delivery   |
| Type approval mark***                     |  |  |

\* Energy consumption in on-mode in kWh per 1,000 h when playing SDR content, rounded to the nearest whole number.  
 \*\* Terrestrial antenna not included in the scope of delivery.  
 \*\*\* Type approval marks stand for safe and environmentally friendly technology on the roads.

## Connections

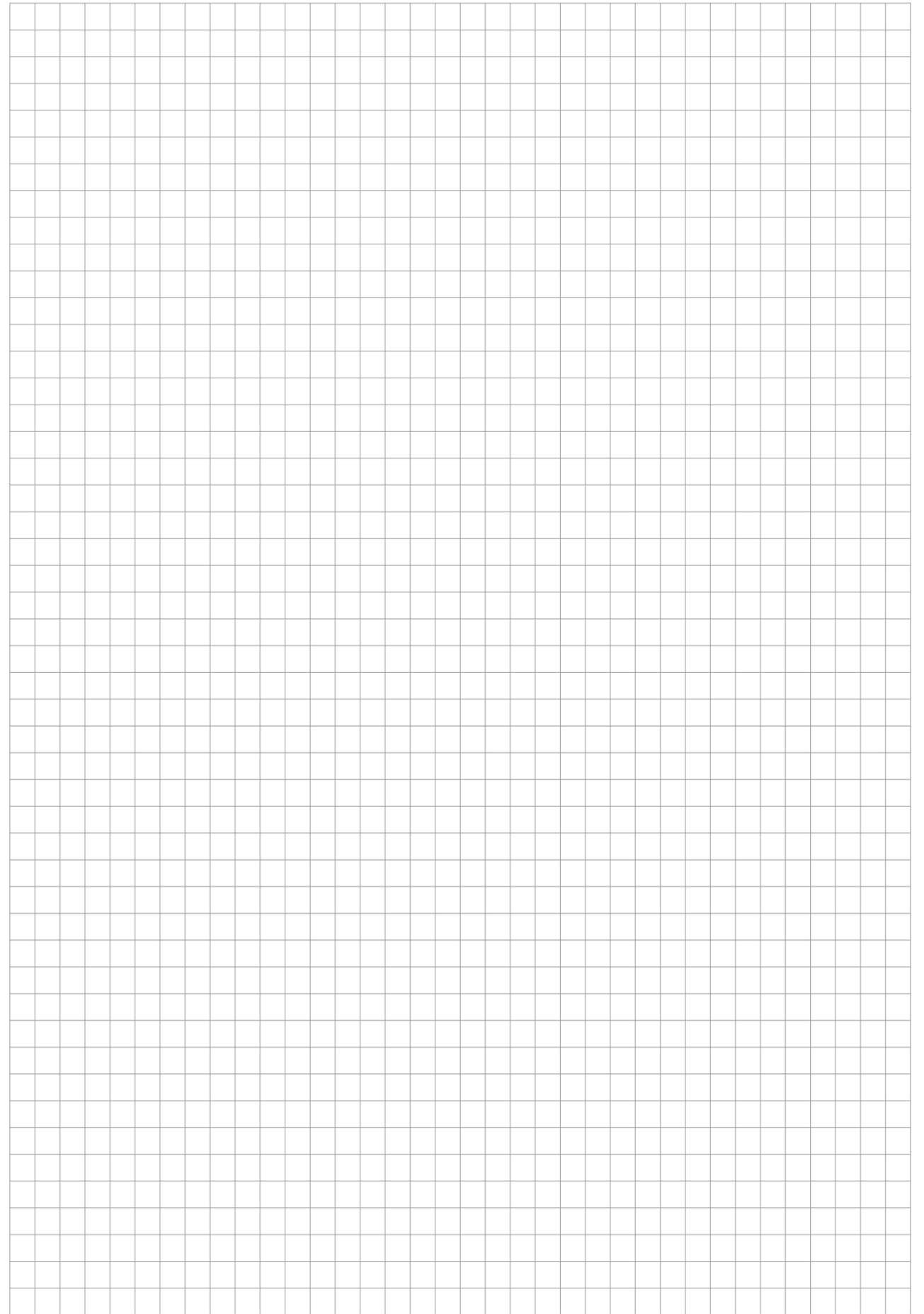
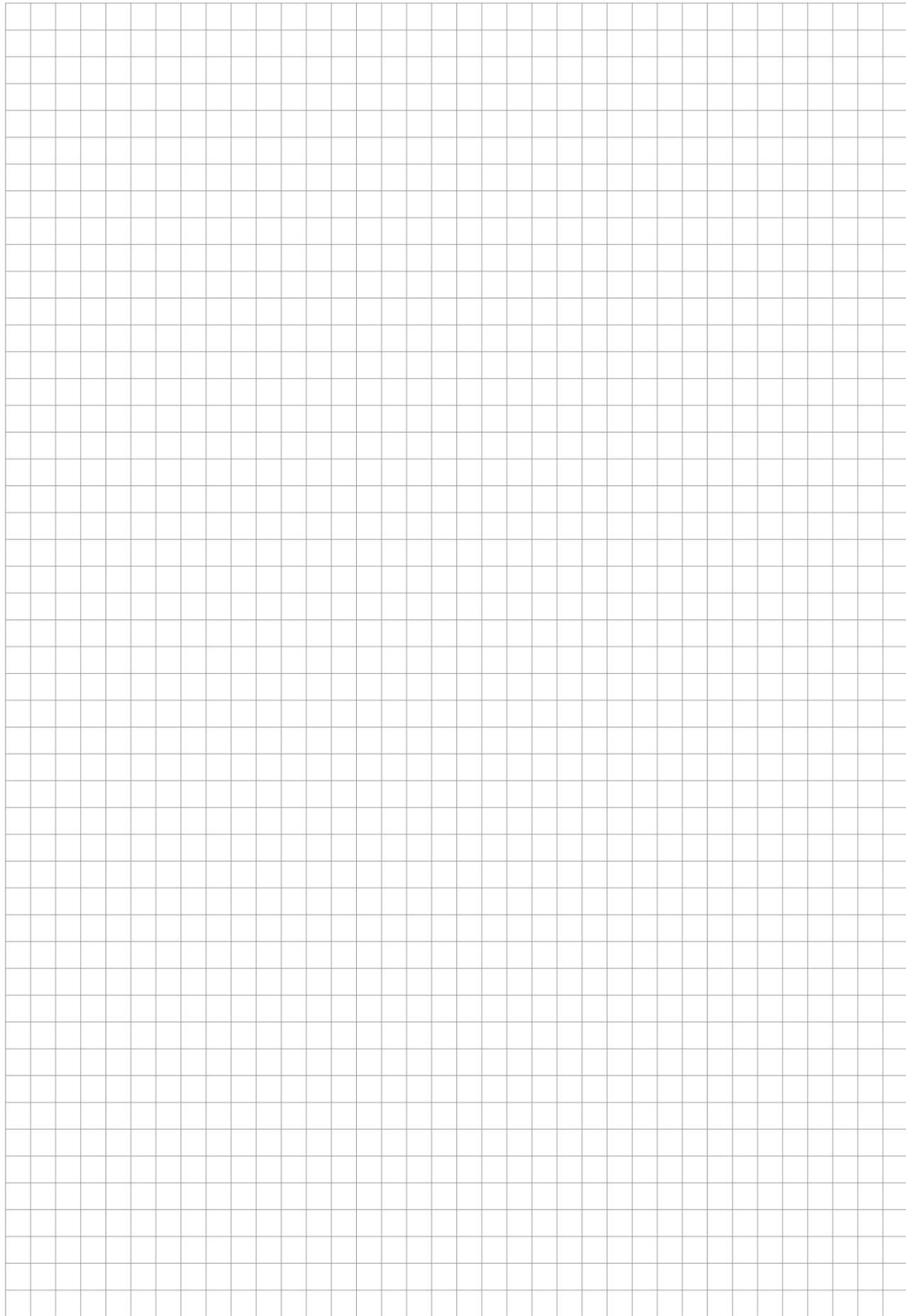
|                                     |              |              |
|-------------------------------------|--------------|--------------|
| 2 x HDMI                            | ✓            | ✓            |
| 1 x HDMI ARC (Audio Return Channel) | ✓            | ✓            |
| 2.0 USB                             | 2            | 2            |
| Jack socket 3.5 mm AV in            | ✓            | ✓            |
| Headphone jack 3.5 mm stereo        | ✓            | ✓            |
| Digital audio output                | Optical      | Optical      |
| Power switch On / Off               | ✓            | ✓            |
| CI / CI+ module slot                | ✓            | ✓            |
| Network socket                      | 100 MBit LAN | 100 MBit LAN |

## Delivery scope

|   |   |   |
|---|---|---|
| TV device   | ✓ | ✓ |
| System remote control                                       | ✓ | ✓ |
| Power supply cable 12 V / 24 V (with on-board voltage plug) | ✓ | ✓ |

## Optionally to order

|  |   |   |
|--|---|---|
| Stand for TV set                                       | ✓ | ✓ |
| Mains adapter 110 V ... 240 V AC with EURO Schuko plug | ✓ | ✓ |
| AV in adapter cable                                    | ✓ | ✓ |





We are happy to help you find the right solution:

**Oyster Sat-Tech Ltd.**  
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