Operating Instructions

CARO VISION II
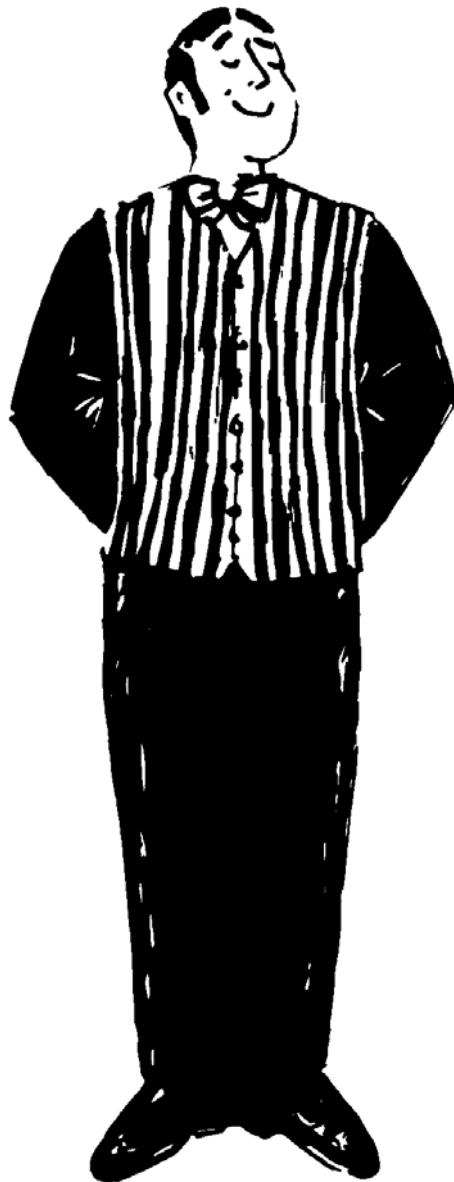
also valid for Samy VISION

Operating Instructions

CARO VISION II

Proper use and operation

This product has been designed for use in a fixed installation on mobile homes or trailers with a maximum speed of no more than 130 km/h. It is designed to automatically aim a parabolic antenna mounted on a stationary vehicle at geostationary television satellites transmitting directly to Europe. The power to the system is supplied by a standard vehicle electric system with a rated voltage of 12/24 Volt.

Use of the equipment for any other purpose than the one specified is not permitted.

Please also note the following instructions from the manufacturer:

- It is not permitted to change the overall device by removing or adding individual components.

- It is not permitted to use other parabolic antennas or LNBs than those installed originally at the equipment.

- The installation must only be performed by a qualified technician.

- All of the relevant and approved guidelines of the automotive industry must be observed and complied with.

- The equipment must only be installed on hard vehicle roofs which are sufficiently strong and inherently stable.

- No regular maintenance is required for the product. All housings and enclosures must not be opened. Always ask a qualified professional to carry out any maintenance work.

- In the event of any problems, or if you are unsure about anything, please contact the manufacturer directly or a specialist workshop which is approved by the manufacturer.

Table of contents

Introduction

These instructions describe the functions and operation of the CARO VISION II automatic satellite system. Installation instructions can be found in the supplied Installation Instructions. Correct and safe operation of the system can only be ensured by following the two sets of instructions, both for installation and operation.

Your CARO VISION II equipment is an intelligent satellite-TV reception system which can align itself towards a preset satellite automatically as long as the system is located within the footprint of this satellite.

Please ensure that the system always has a clear view to the south. In Europe, all satellites are in an approximate position to the south. If the satellite's signal beam is interrupted by obstacles such as mountains, buildings or trees, the automatic aiming will not function and no TV signal will be received.

The first few pages of these instructions contain information about using the general functions of your CARO, followed by an explanation of all the adjustment options. The last pages of the instructions cover various technical aspects of the CARO.

The first steps

We have produced a separate manual – the "Installation Instructions" – which covers the installation, wiring and initial taking into operation of your CARO. All of the steps from unpacking and installing the system to switching it on for the first time are explained there, together with various default settings that need to be performed. If you have worked through all of the points in the Installation Instructions then you should now have a fully functional CARO at your disposal.

All controls are handled via the control panel.
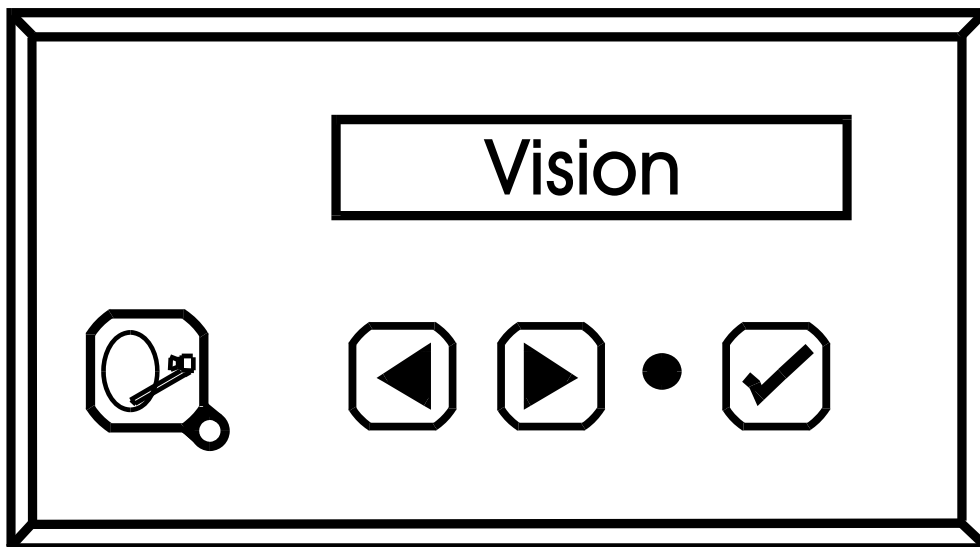
You may choose any location you like to install the control panel, but please bear in mind that it is not waterproof. You may still need to remove the protective film from the system.

The display of the control panel will show the various current operating modes of the system. We recommend that the control panel is positioned in an accessible location where it is easy to see this information. The display is lit up, so it is not a problem if it is installed in a very dark location.

To ensure safe and reliable operation of the system, please make sure the CARO is in rest mode before disconnecting the control panel. Check that no text is displayed on the panel – this is an indication that it is in rest mode.

Switching ON / switching OFF

Your CARO system is very straightforward to use. Simply press the ⬭ button and your CARO will immediately start to work.

Please remember to switch on your satellite receiver and your TV set or flat-screen display. The CARO system functions independently of your TV set or receiver, but if these devices are switched off, no TV or radio channel can be received.

After switching on the system, the antenna unfolds and returns to the last position in which a satellite was received. If the vehicle position has changed since, the system will not receive any signals and the automatic search is started.

Please refer to section "Settings" (see page 12) for the selection (default setting) of the desired satellite.

If no image appears after the antenna has unfolded, and if the system does not commence the search automatically, then the system was being operated in manual mode when it was last switched off. Please refer to the section entitled "Automatic search" and "Manual search" on page 8 and 9.

To switch the system off, press the ⬭ button again to retract the CARO system and send it into rest mode.

If you would like to stop the movement of the antenna while it is being searching, simply press ⬭ to instantly stop the antenna.

General menu

Whenever your CARO system is active and not performing any special functions such as retracting or opening or automatically searching or changing to a different satellite, you have direct access to the general menu from which you can start all functions or select submenus.

Use the keys ◀ and ▶ to navigate in this general menu, then use √ to activate the individual functions.

Sat mode	The system is in normal operating mode. Press ◀ or ▶ to scroll through the different menu options.
Automat. search	Automatic satellite search (see page 8)
Manual search	Manual satellite search (see page 9)
Swap satellite	Satellite swap (see page 10)
Settings	The key √ starts the main menu "Settings" (see page 12).

Automatic satellite search

After switching on the system by pressing ⌕, the antenna opens and moves into the position in which a satellite was last received. If not satellite is found, the system starts the fully automated search for the preset satellite (default setting: Astra 1). If you wish to change the preset search satellite, please refer to section "Settings" on page 12.

When the search satellite is found, the search function stops and the TV signal is looped through. If no TV picture appears after an extended search (several minutes), you are most likely located in an area in which the preset satellite cannot be received or the signal beam is obstructed. In this case, the message "not found?" appears in the display of the control panel. Then another search satellite should be selected or the obstacle be removed or the vehicle position be changed, if required.

The automatic search function always assumes that your vehicle is perfectly level. If this is not the case the search time may be extended.

If the antenna is already open, the automatic search function is started as follows:

- Press ▶ until the message "Automat. search" appears in the display.
- Press √ .

If the receiver is not switched on at the end of the automatic search, a message will appear in the display.

Manual satellite search

The manual search is usually used to fine-tune the antenna to a found satellite under adverse reception conditions. If you wish to receive signals from a new satellite that is not yet stored as a search satellite in the control unit, the manual search function can be used to tune the system to this satellite.

Firstly, switch your receiver to a pre-programmed station that is transmitted by the desired satellite.

At the control panel, press ▶ until the message "Manual search" appears in the display. After pressing √ , use the arrow keys to change the position of the antenna in increments. First, the pivot angle needs to be adjusted. To change between the pivot angle and the elevation angle, press and hold √ and **at the same time** press one of the arrow keys.

Using the arrow keys, adjust the system around both axes to the strongest receivable signal.

After having set the antenna to an optimal reception, you can store this position for the current location by pressing √ again.

The stored position will then be resumed the next time the system is switched back on. Even if no satellite signal is received in this position, the automatic search will **not** be started if you have stored a manually set position before. If you wish, start the automatic search via the menu (see page 8).

If the "Manual search" is cancelled by pressing , the current position is not stored. The system returns to the default position.

Satellite swap

Generally, satellites can be swapped by entering a different satellite in the menu option "Search satellite" and selecting the automatic search. To facilitate a quick and convenient swap to a different satellite, the so-called "quick satellite-swap" function has been added to the DISEqC system. This function allows the antenna to be aimed at four preset satellites in a very short time. However, this function only works correctly if the preset satellites are actually receivable at your current location.

Presetting the positions:
Call up the menu item "SAT position" and assign the four positions to the respective satellites (see page 17). If you do not assign all four positions, the remaining positions will retain the satellites preset by the manufacturer. The presets are now complete, you may now exit the settings menu.

It is quite easy to change to a different satellite: Press ▶ to scroll forward in the general menu until the message "SAT swap" appears in the display.
Now, press √ to show the currently received satellite in the display. Press ▶ or ◀ to scroll between the four preset satellites.

Note: If you decide not to assign all four positions and find that you would rather not use one of the factory-preset satellites, you can also assign the same satellite to more than one position. If for example you wish to swap between Astra and Hotbird only, then set Astra to position 1, Hotbird to position 2, Astra again to position 3 and Hotbird again to Position 4. When scrolling with the keys ▶ or ◀ , the system will then only alternate between Astra and Hotbird.

When the desired satellite is shown in the display, press √ to directly move the antenna into the corresponding position.
The display will then revert to "Sat mode".

This SAT swap procedure takes a few seconds when performed after an automatic search. If the antenna has already been aimed at a satellite, no

automatic search has been started and the vehicle has not moved since, aiming will be much quicker.

However, after retracting and re-opening the system, the antenna will be moved into the position of the preset "search satellite" (see page 14).

Menu "Settings"

This menu allows the change of system settings and provides access to the various system functions. You will always need to go through the main menu first to reach the various adjustment options.

In the general menu, scroll to item Settings and press √ to activate it.

The menu cannot be accessed when the system is switched off. Therefore you need to switch the CARO system on before you can use the menu.

Menu controls

The arrow keys ◀ and ▶ are used to navigate through all levels of the menu. With the aid of these keys you can select a desired submenu, function or adjustment setting. Press √ to activate the displayed menu item.

Within the adjustment settings, you can change the displayed values within set limits by pressing the arrow keys ◀ and ▶. Then press √ to accept the adjusted value and return to the higher-level menu.

By clicking on the menu option Return and pressing √ you can go back up a level in the menu layout.

Menu structure

```
┌──────────────┐      ┌──────────────┐      ┌──────────────┐
│              │      │  Automatic   │      │              │
│ Swap satellite│◄────►│    search    │◄────►│Manual search │◄──┐
│              │      │              │      │              │   │
└──────┬───────┘      └──────────────┘      └──────────────┘   │
   ▲   │                                                        │
   │   │          ┌──────────────┐      ┌──────────────┐        │
   │   └─────────►│              │◄────►│              │◄───────┘
   │              │   Sat mode   │      │   Settings   │
   │              └──────────────┘      └──────┬───────┘
   │                                           │
```

return ✓ (to Settings)	Language
Mechanical adjustment	Search satellite
Min. elevation ↔ Service Info ↔	Diseqc/Sat-Pos.

return ✓ (to Diseqc/Sat-Pos)	DiseqC: monitor
Sat position 4	DiseqC: On/Off
Sat position 3 ↔ Sat position 2 ↔	Sat position 1
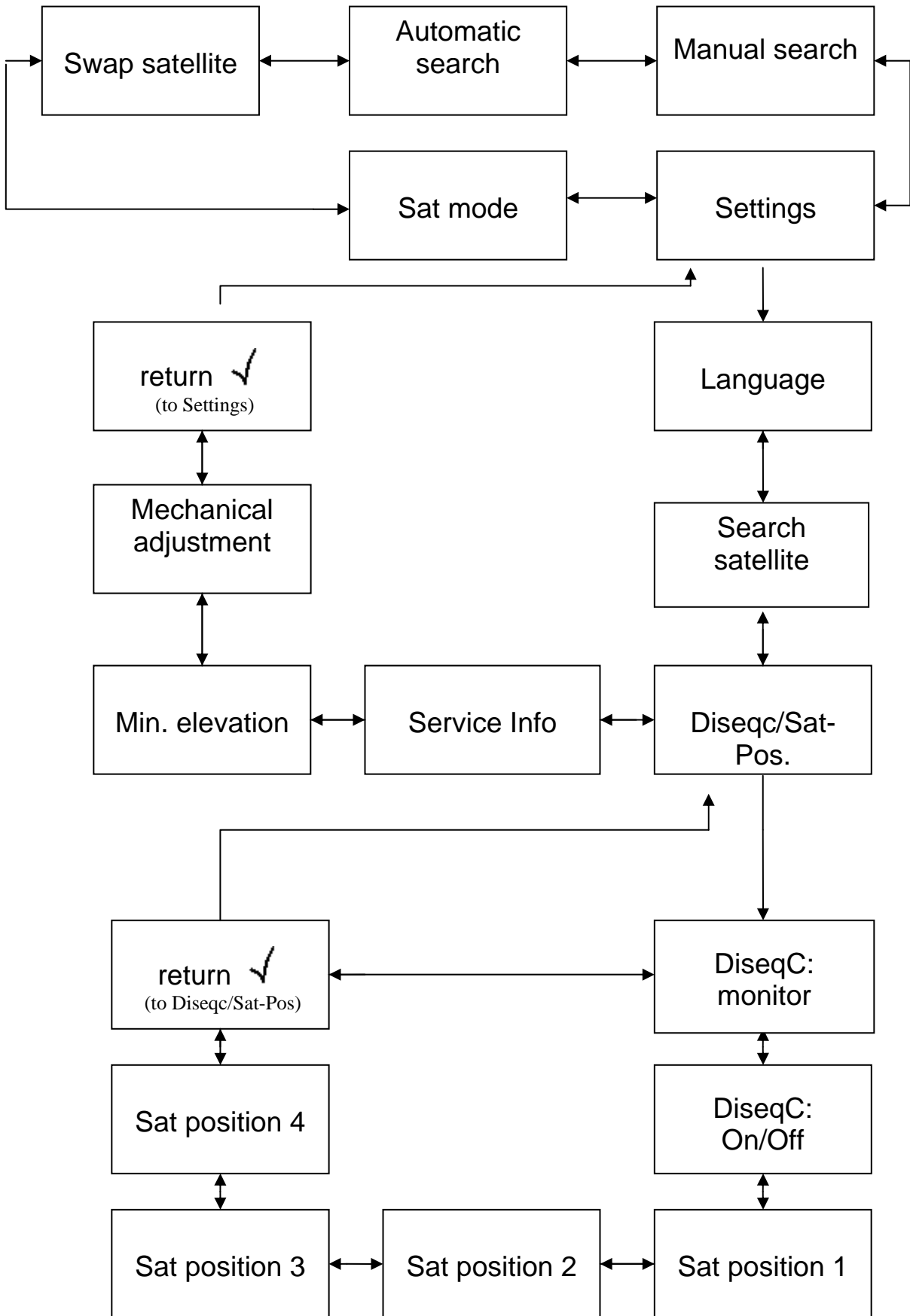
Language

Selection of the language for the texts displayed on the control panel.

Search satellite

Select "Astra 1", "Hotbird" or any other satellite (see Search satellite on page 26).

Select the satellite transmitting your preferred channel which is receivable at your current location.

To receive English-language channels in Europe, "Astra II" is recommended in most cases.

DiseqC/Sat-Pos

In this menu item, press √ to open the DiseqC sub-menu, where you can change the settings for the satellite-swap function and the DiseqC system (for more information see page 10 and 18).

Service info

Different types of information which are of interest for servicing purposes can be called up here.

Min. elevation

Selection range: 8 – 30.

Here you can enter the minimum elevation that the antenna may be adjusted to during the satellite search. This function is intended to prevent the collision of the moving antenna with vehicle parts such as roof rails, pop-up overhead windows or exhaust stacks.

The lower the elevation of the satellite in the sky, the lower the receiver head (LNB) will move over the roof during the satellite search. If any vehicle parts are within the pivoting space, collisions may occur which may result in a damage of your CARO or the respective vehicle part. Often, the satellite system needs to be installed in restricted spaces. The minimum elevation setting will then prevent the LNB from moving into positions below the set value. The higher the number, the higher the lower limit of the LNB will be. If you change this value, the LNB will immediately move into the corresponding position, allowing you to verify the setting.

Throughout the entire reception range of the CARO, the elevation angle of Astra 1 will not drop below approx. 14°. However, this value may be lower for other satellites.

Caution: If your set value is too high, your preferred satellite may not be received, especially in the northern regions of Europe.

Mechanical adjustment

This item is used during servicing to make basic mechanical adjustments to the system.

DISEqC sub-menu:

DISEqC: Monitor

This function can be used to monitor whether your receiver generates any standard commands and which type of commands are output when the channel is changed. Use this function to correctly configure your receiver as well as your CARO system.

One line with numbers and letters is displayed. At first, only the first number at the very left is important. The other information to the right represents the transmitted data bytes, but this is only useful for a qualified technician when investigating settings-related problems. As the user you can safely ignore this information.

The number at the very left indicates the position (satellite) number last sent by your receiver. This position number will be used to position the antenna when the CARO system performs an automatic satellite change.

DISEqC: On/Off

Default setting: Off

The DISEqC function enables an automatic satellite swap if a different satellite is selected as a result of a corresponding change in channel at the DISEqC-compatible receiver. Please observe the section on swapping satellites on page 10.

Only activate the DISEqC function if you wish to frequently change between individual satellites and if your receiver is DISEqC-compatible.

Even when activated, the DISEqC function (DISEqC: ON) is only operational when your CARO system is in "rest mode". This is indicated by the messages `Hauptmenü √` (Main menu) or `Sat-Betrieb` (sat-mode) in the control panel. While navigating in the menu or while special functions are active, DISEqC commands are ignored.

Please note: Your CARO system as well as your receiver must be correctly programmed and matched to each other to ensure that the DISEqC features work.
Please refer to the manual of your receiver for further information on programming the receiver.

SAT position

With this function you can allocate satellites to position 1 to position 4.

You can select up to 4 positions (satellites) to be used for the normal satellite swap or a DISEqC satellite change.

To each of the 4 positions one satellite from the search-satellite list can be allocated.

First, select "Position 1" and press ✓ . Now use the arrow keys to select a satellite for this position. Press ✓ to confirm your selection.

Repeat the process for positions 2 to 4.

For English-language regions, we recommend assigning Astra II to position 1 and Hotbird to position 2. As a default setting for the German market, Astra 1 and Hotbird are preset.

Please refer to the separate section entitled "DISEqC system" on page 18).

DISEqC system[1]

What is DISEqC?

As the number of TV satellites increases, the desire to receive channels from different satellites also increases. To facilitate the switching between different satellites, the DISEqC system has been developed. This system is incorporated in the receiver and generates a switching signal that allows the user to view the channels of several satellites by simply changing the TV channel. The system was initially designed for fixed-installation home systems. With these systems, the individual satellite antennas are connected to a so-called DISEqC multiswitch (usually installed under the roof for practical reasons), to which the satellite receiver is connected. When the receiver sends a DISEqC signal to the multi-switch, the switch connects the receiver to the satellite aimed at the respective satellite. The DISEqC signals are standardized and are generated by almost all state-of-the-art satellite receivers (DVB-S receivers).

The CARO system uses this DISEqC signal to automatically move the antenna into up to four preset satellite positions. The initial configuration of a DISEqC system is relatively complex and can be a challenge even to the experienced user. When in doubt, have the system configured by a qualified technician. The system will of course only function properly if the preset satellites are actually receivable at your current location. If this is not the case, the satellite can be aimed at via the setting "Search satellite" (see page 14) and the automatic search (see page 8).

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[1] DISEqC (**Di**gital **S**atellite **E**quipment **C**ontrol) is a registered trademark of the satellite operator **EUTELSAT.**

Programming:

A requirement for successful configuration is that channels of the desired receivable satellites are already stored in your receiver. If this is not the case, you will need to store the channels first. To do this, search for the relevant satellite with your CARO by selecting the relevant search satellite (see page 14) and using the automatic search.

Once the satellite has been found, start the channel scan function on your satellite receiver. Please refer to the manual of your receiver for further information. Next, you need to assign a so-called DISEqC position to this satellite in your receiver. For this procedure, please also refer to the manual of your receiver.

Example: The user wishes to be able to select two satellites via the DISEqC system. The first satellite is to be Astra 1, the second Eutelsat-Hotbird. . If the channels of these two satellites are not stored in your receiver, a channel scan must be performed after the antenna has automatically moved into the positions of the respective satellites. After having stored the channels of the satellites in the receiver, each satellite is assigned a position.
In the settings menu of most standard receivers, this would appear as follows:

Satellite 1   **ASTRA1**   **DISEqC: A**
Satellite 2   **ASTRA2**   **DISEqC: B**

After storing the positions, exit the settings menu of the receiver and select a stored channel.

Next, verify the correct function of your system by selecting the menu option "DISEqC Monitor" in the control panel of the CARO system (see "Menu structure" on page 13).

The display now shows a sequence of numbers and letters, of which only the left-hand character, i.e. the satellite position, is currently of interest

Information displayed at the CARO control panel:

```
01 E0 10 38 F3                    02 E0 10 38 F4
```

Satellite position "1"   Satellite position "2"

After having selected a channel at the receiver, the position number of the satellite assigned to this channel in the receiver must be displayed. **This is essential for ensuring that the system functions correctly.** If this is not the case, do not continue the configuration process, as the DISEqC function will definitely not work. For corrective measures in case of display errors please refer to the fault table on page 24.

In our example, the figure 01 should be displayed when an Astra channel is selected, as Astra has been assigned to position A (1). When switching to a Hotbird channel, the figure 02 should be displayed, as this satellite has been assigned to position B (2).

If the position display functions correctly, the satellite position is assigned to the corresponding satellite in the CARO control panel. To do this, select the menu option "SAT position" (see page 17).

In our example, we now assign position 1 to the Astra 1 satellite, and position 2 to the Eutelsat-Hotbird satellite.

After performing this setting, select the function "DISEqC On/Off" at the control panel (see page 15) and then select `DISEqC: EIN` (DISEqC:ON) by pressing √ .

The configuration is now complete. You may now exit the settings menu.

Next, one of the programmed satellites must be searched with the automatic search (see page 8). When the satellite has been found, the system must readjust the antenna to a different satellite if a channel transmitted by this other satellite is selected at the receiver. In case of an automatic search, this may take several seconds. If the antenna has already been aimed at a satellite, no automatic search has been started in the mean time and the vehicle has not moved since, the aiming process will be much quicker.

Please note that the DISEqC signals can only be processed when your CARO is in "rest mode". This is indicated by the message `Hauptmenü √` **(Main menu) or** `Sat-Betrieb` **(Sat-mode) in the display. If any other menu option is selected at the control panel display, all DISEqC signals are ignored!**

Restarting the system

As with any other computer-controlled device, it is possible for the software in your CARO system to "crash". This may be caused by external influences, for example strong electromagnetic interference, or previously undetected software errors.

If you think that your CARO system is responding incorrectly or it is not responding at all, then we recommend restarting the microprocessor. There are different ways to do this:

- If the fuse in the wiring harness is easily accessible, remove the fuse and then re-insert it into its holder after a few seconds.

- If the fuse is not accessible, disconnect the Western connector on the right-hand side of the control panel. To do this, press the plastic clips from behind against the body of the connector and then pull the connector out from the unit. Next, press the two buttons ◀ and ▶ on the control panel, keep them pressed and plug the Western connector back in again. Now you can let go of the two buttons.

In both of the cases described above your CARO system will perform an internal restart. If the system is unfolded, it is retracted straight away. After the restart the system is in rest mode and can be started in the usual way using the ⌀ key.

Troubleshooting table

Malfunctions of the automatic antenna unit may occur e. g. when the antenna's motion is obstructed by branches or snow.

Such malfunctions are automatically detected and will be indicated in the display of the control unit.

Malfunction	Remedial action
The search did not yield the reception of a satellite.	Do you have a clear view to the South? Are you inside the search satellite's footprint? Does your position require the LNB's skew angle to be adjusted (page 29)?
Display shows "Y-motor fault" or "X-motor fault".	Is the motion obstructed by obstacles? Is the supply voltage insufficient (weak battery)?
Antenna does not react after activation or does not react to commands.	Is the fuse in order? Are all wires connected correctly?

DISEqC troubleshooting table

Malfunction	Cause and remedial action
In menu option "DISEqC monitor", **the display does not change when the channel is changed,** or `00 00 00 00 00` is displayed	The DISEqC function is not activated at the receiver. Activate the DISEqC function at the receiver. (Refer to the manual of your receiver.)
Within the menu option "DISEqC monitor", the display shows incorrect satellite position numbers when the channel is changed at the receiver.	In addition to standard DISEqC functions, some receivers facilitate extended special functions. These must not be activated. In such cases it must be checked whether your receiver is set to DISEqC 1.0, 1.1 or 1.2. Also, there are DISEqC 2.xx signals that may be misinterpreted by the CARO system. Check the settings at the satellite receiver. Activate the **simplest** DISEqC function. (Refer to the manual of your satellite receiver.)
In the menu option "DISEqC monitor", the values are shown correctly, but the system does not respond to channel changes at the satellite receiver.	Is the DISEqC function activated at the CARO system? (DISEqC: On) Does the control panel display show "Main menu" or "Sat mode"? If another menu option is active, the DISEqC signals are ignored!
	The system aims the antenna at

In the menu option "DISEqC monitor", the values are shown correctly, and the antenna moves when changing the channel, but the TV screen remains blank.	the wrong satellite. 1) Following the DISEqC configuration, an automatic search must be performed. 2) Are the positions in the menu option "SAT position" correctly set? The assignment in the CARO system must be the same as in the receiver. 3) Are you located in an area in which the satellite selected by the DISEqC function is not receivable?

Safety instructions

In order to ensure that your CARO system works properly, you must ensure that it is correctly connected to the ignition of your vehicle (see <u>Installation Instructions</u>).

When it is correctly installed, the antenna automatically assumes the rest position when the ignition is switched on and locks itself there. If the system cannot fully retract or cannot retract at all due to a fault, then it is your responsibility as the driver of the vehicle to check that the antenna is safely and properly stowed.

The driver of the vehicle must inspect the antenna unit before driving off to ensure that the antenna is fully retracted.

Please note also that different legal requirements apply to the operation of electrical and electronic equipment in different countries. As the user of this type of equipment, you yourself are responsible for ensuring compliance with the relevant laws and regulations.

Your CARO system has only been approved by the manufacturer for connection to standard commercially available rechargeable lead-acid batteries with a rated voltage of 12/24 V and a rated capacity of at least 50 Ah. The manufacturer accepts no liability for direct or indirect damage or for consequential damage to the system itself, to battery systems, motor vehicles or other equipment or goods resulting from the connection of unsuitable battery systems or installation/wiring errors.

Appendix - Search satellites

These satellites are pre-set in your CARO system for direct searching. To select, navigate to **Main menu ➔ SAT settings ➔ Search satellite** (see page 14).

ASTRA 1

Astra 1 primarily serves the German-speaking regions of Europe. It transmits all German-language television channels, private and public channels and all regional public TV and radio channels.

Reception in Turkey, the Eastern Mediterranean and Eastern Europe is however poor or unavailable. With an 85-cm antenna, reception is however usually available even on the Canary Islands, in Morocco and in Greece. In comparison to the old analogue channels, the digital footprint is much wider.

ASTRA 2

Astra 2 primarily covers the English-speaking regions of Europe. It transmits the popular English-language news channels. The footprint is even larger than that of Astra 1, but the reception area is split into a northern and a southern zone. The full range of channels is only available in Central Europe. Free-to-air channels of the BBC can only be reliably received in Great Britain and Ireland, France, Benelux and the western areas of Germany.

HOTBIRD ("Eutelsat Hotbird")

Like Astra, Hotbird is not a single satellite, but a system comprising several satellites. Hotbird fully covers all of Europe, but at sometimes lower signal levels than Astra. Hotbird is the easiest way to receive German channels in Turkey, the Eastern Mediterranean and Northern Africa.

THOR

The channels and the footprint of Thor cover northern Europe. Almost all channels of Thor are encrypted, though.

SIRIUS

Like Thor, Sirius servers the Scandinavian region. A small range of its channels can however be received almost all over Europe.

ATLANTIC BIRD 3

Atlantic Bird 3 mainly covers France and Benelux, but can also be received all over Europe, depending on the transponder. It transmits several digital free-to-air French channels.

ATLANTIC BIRD 2

Atlantic Bird 2 is mainly used for internet services, but also transmits some TV channels.

ATLANTIC BIRD 1

Atlantic Bird 1 transmits several theme channels and digital services.

HISPASAT

Hispasat serves the Iberian Peninsula and the Canary Islands. The range of programs is focused on the Spanish region.

EUTELSAT W3A

This satellite has the largest footprint of all. It covers the whole of Europe and the Middle East region. However, its signals are significantly weaker than those of the other satellites, and the use of an 85-cm antenna is hence recommended.

HELLAS SAT 2

Hellas Sat 2 serves Europe and the Eastern Mediterranean. The channels are mostly in Greek, but some English-language programs are also transmitted.

ASTRA 3

Astra 3 was formerly known as DFS-Kopernikus. It is mostly used to supply the German cable-TV network, but also transmits one Czech and one Slovak channel.

Reception in remote areas

State-of-the art digital technology can considerably enlarge the area in which a satellite can be received.

Most satellites broadcasting channels of interest to Central European viewers are aimed at Central Europe. In locations outside this area, the antenna has a lateral "view" on the satellite. This effect is known as the "skew angle" or "polarization angle" and occurs particularly in southern regions such as Portugal, Spain, Morocco, Greece, Turkey, and most extremely on the Canary Islands.
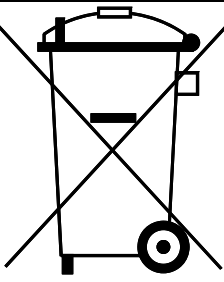
This effect is mostly compensated by the receiver's electronics, but sometimes requires some manual fine-tuning by pivoting the LNB (reception head) by some degrees.

Skew angle compensation in different regions (approx. values)

The values stated are for reference only!	Astra I 19.2° east	Hotbird 13° east	Astra II 28.2° east
Germany and neighbouring countries	0°	0°	+8°
Southern Spain, Gibraltar	+16°	+10°	+25°
Portugal	+23°	+16°	+30°
Morocco	+20°	+12°	+28°
Canary Islands	+36°	+30°	+42°
Sicily, Libya, Tunisia	0°	0°	+10°
Greece	-12°	-20°	0°
Turkey, Ukraine, Belarus	-15°	-17°	---
Near East	---	-35°	---
Scandinavia	0°	0°	0°
England, Ireland	+10°	+5°	+14°

As seen from the LNB looking into the antenna dish, positive degree numbers require a CLOCKWISE and negative degree numbers a COUNTER-CLOCKWISE pivoting of the LNB. Adjustments of less than -15° are usually not required as long as reception is undisturbed.

Notes on protection of the environment

	At the end of its lifecycle, this product must not be disposed of with your normal waste, but instead must be returned to a recycling facility for electric and electronic devices. This is indicated by the symbol on the product, the operating manual or the packaging.

The materials can be reused in accordance with their identification. By reusing or recycling old equipment or making use of it in other ways you are making an important contribution to protecting our environment.

Please contact your local council to find out where your nearest disposal facility is.

Contact and service

If you have any questions about using your CARO VISION II system, please feel free to call us:

Phone: +49 (0)72 37 / 48 55 – 0

We are available

Monday – Friday   7.30 a.m. – 5.30 p.m.

We hope you get a lot of enjoyment out of your CARO VISION II system.

ten Haaft GmbH

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