



CSA-450 Multi

**Fully automatic, auto-tracking marine Satellite antenna
with 3 outputs**

Instruction Manual

Ver. 1.2



**Thank you for purchasing our product.
Please read this instruction manual carefully before installing
and operating this antenna!**

**Please write down the serial number of this antenna.
In case of queries please inform us of this number:**

Serial No: _____

Introduction

The Camos CSA-450 enables reception on the move of the major European satellites including THOR 2/3, ASTRA 1, ASTRA 2, HOTBIRD, SIRIUS and ATLANTIK BIRD3. If you want to watch TV or download from the Internet via satellite, even when your boat is moving, here's the equipment you need. The sat-dome is compact in size, light in weight, reliable in operation and incredibly easy to operate and install: there's just one co-ax cable to run.

1. Supplied standard equipment

- 1 x Camos CSA-450 Multi Satellite Antenna
- 1 x Control box incl. power cable
- 1 x HQ co-ax cable (10m) with F-plug on both ends
- 1 x HQ co-ax cable (1m, black)

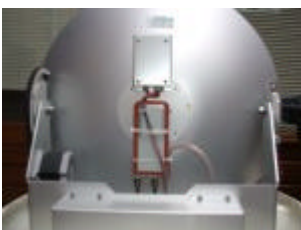
2. Installing your antenna

We recommend installing the CSA-450 with the help of your professional dealer/workshop.

Before mounting we recommend testing the antenna in the desired position. Consideration should be given to masts or funnels that may obstruct the view of the satellite. The dome must not be mounted in the same horizontal plane as any Radar scanner.

After checking mount the antenna as follows:

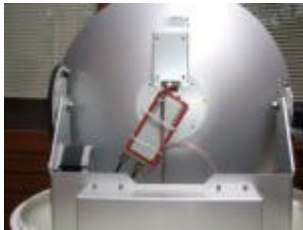
1. Mount the antenna on the selected mounting place and adjust if necessary. The mounting place must be flat and there should be no obstructions which may interfere with reception of the satellite signal.
2. Mark and drill the mounting holes
3. Fix the antenna with the supplied bolts.
4. Once the antenna assembly has been secured, remove the dome. Then locate and remove the two "safety screws". These screws lock the antenna in place during shipping from the factory.
5. Set the Skew Angle of LNB
 - The Antenna LNB should be adjusted to optimize the channel reception for your preferred satellite in your regular cruising area . Refer to the local satellite television service provider to locate the proper skew angle for the selected satellite service and geographic location. A practical website for good help and useable for all satellites is: www.igp.net/Antenna_Alignment
 - Loosen the four wing screws securing the choke feed
 - Adjust the LNB as necessary as closely as possible the skew angle according proper skew angle (See following examples)



A. Standard adjustment by delivery (0 degrees)



B. Example adjustment by minus polarization (in this case - 20 degrees)



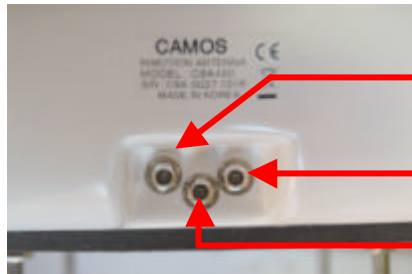
C. Example adjustment by plus polarization (in this case + 20 degrees)

6. Refit Dome and secure.

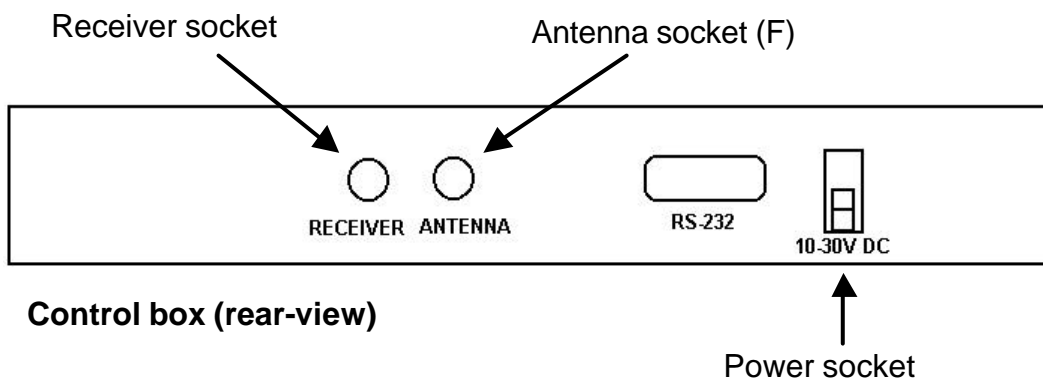
3. Connections

Install the cables carefully to avoid damage. Pay attention to existing cables, try to avoid long cable runs bundled with Radar and VHF cables.

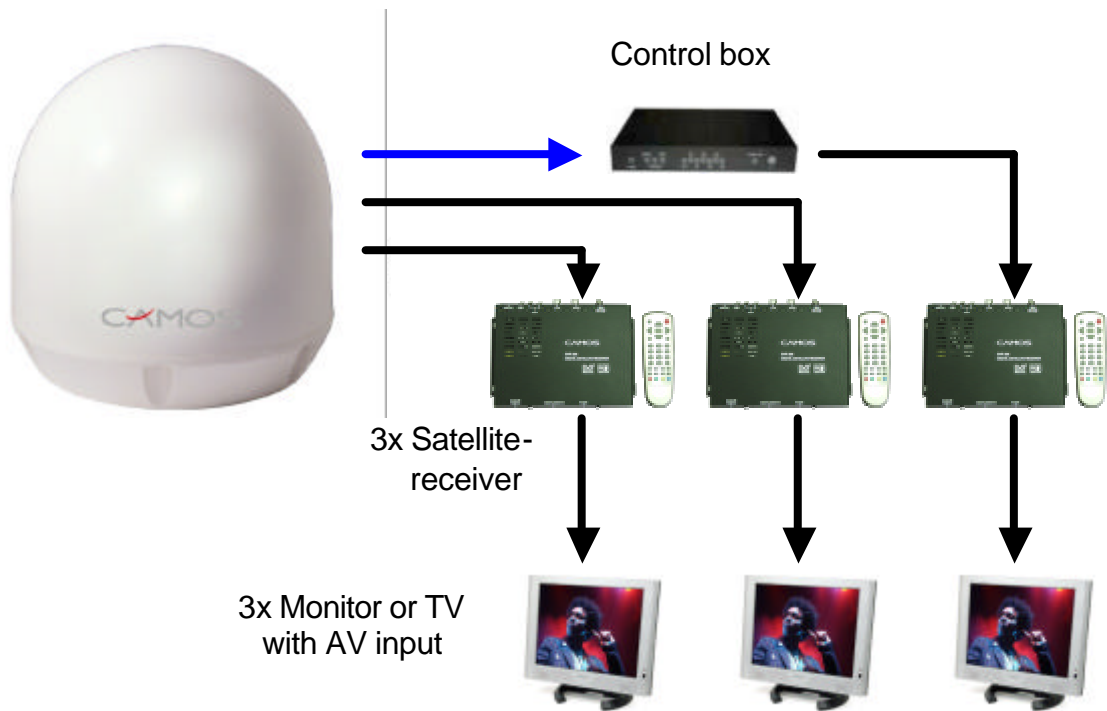
1. Connect the antenna by plugging the supplied long coax cable to the middle antenna cable socket on the base of the antenna dome.
2. Connect other end of the coax cable to the control box connector, marked antenna.



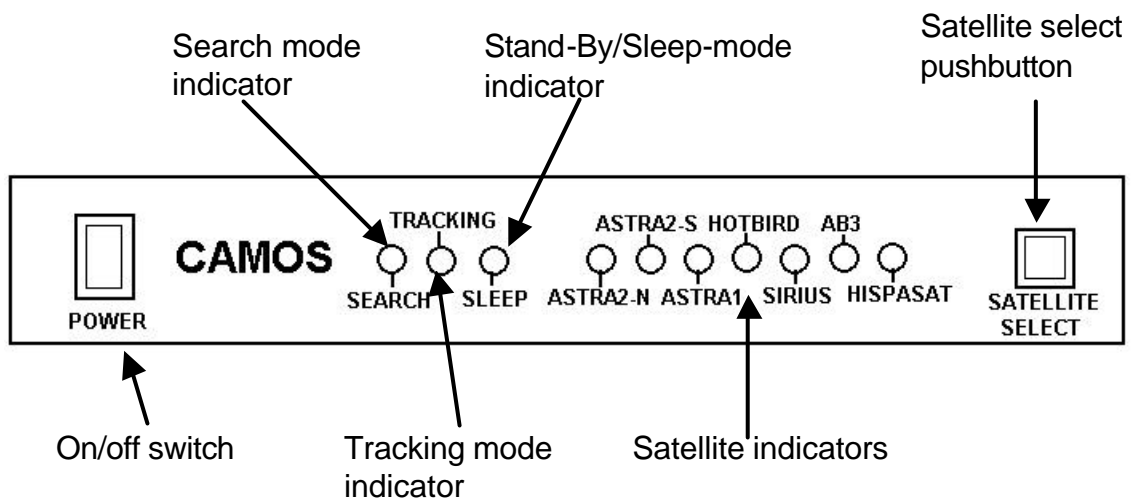
2. Connect the power cable (red/black) to the control box and power source. This can be between 10V & 30V D.C.
 Positive terminal (+) = red colour
 Negative terminal (-) = black colour



- Then connect one receiver (via the short co-ax cable) with the socket marked "RECEIVER" on the back of the control box, the other receivers connect directly to the remaining sockets of the antenna.



4. Starting up



- Switch on your satellite receiver and monitor/TV. Then switch on the control box.
- The antenna goes to search mode and, after a while, finds the desired satellite.

5. Operating the antenna

1. Selecting a satellite / Search mode

Push the "SATELLITE SELECT" button several times until the desired satellite indicator lights up.

ASTRA 2-N Select this position when you are in the northern part of ASTRA2 footprint.

ASTRA 2-S Select this position when you are in the southern part of ASTRA2 footprint.

ASTRA 1 Select this position for Astra 1

HOTBIRD Select this position for Hotbird

SIRIUS Select this position for Sirius

AB 3 Select this position for Atlantik Bird 3

HISPA Select this position for Hispasat

Now the antenna starts searching and the indicator for the search mode (SEARCH) lights up.

2. Tracking mode

When the antenna has found the selected satellite, the satellite indicator goes out for 1 second and lights up again. Now the satellite is logged in and the tracking indicator (TRACKING) lights up.

Sometimes it happens that the antenna at first stops and locks onto a different satellite (depending on your position, signal strength and weather conditions). In this case the indicator of the different satellite lights up for a second and goes out again. The antenna has now recognized that it has found the wrong satellite and moves to the correct position.

The controller will remember which satellite it last found and will always look for that one when it is switched on again.

Now you can enjoy TV.

3. Standby / Sleep mode

When the vessel does not move for an extended period, the antenna automatically falls into a "Sleep" mode (Standby). This means the tracking movements will stop (to save power and avoid tracking noise).

If the antenna position is changed (vessel moves) the antenna automatically starts the tracking mode (TRACKING) or search mode (SEARCH), depending on how much the antenna position has changed.

You can also manually activate the standby / sleep mode:

After logging in (TRACKING mode indicator lights up) push the "SATELLITE SELECT" button once. Now the SLEEP mode indicator lights up in addition and the antenna stops moving.

You can deactivate the SLEEP mode by pushing the "SATELLITE SELECT" button once again.

If you completely switch off the antenna (e.g. overnight) the antenna will go to search mode again after switching on the next day.

6. Troubleshooting

No reception / no picture:

- a) Any obstacles (big ships, buildings or roof constructions) between antenna and satellite?

Choose a different position with a clear line of sight to the satellite.

- b) Correct installation of antenna cables? Defective cables (broken)?

Please check the cables!

- c) Did you select the right satellite? Please check whether the satellite you have selected on your receiver corresponds with the satellite you have selected on the control box.

- d) Did you switch on both the control box and satellite receiver?

- e) Power supply ok? Please check power cable(s).

If you want to use a different cable (from antenna to control box):

Only use high quality. low loss co-ax cable. The F-plugs must be high quality types as well, because as well as the RF signal, the power supply voltage for the antenna passes down this cable. Even small losses may have an effect on reception.

We strongly advise to use the supplied cables.

7. Technical Data

Frequency range:	10.7 to 12.75 GHz
LNB-Type:	universal
Polarisation:	horizontal and vertical
Gain:	32dBi
Full elevation range:	5° - 90°
Azimuth turn range:	unlimited
Power supply:	10 - 30V / 3A max.
Operating temperature:	-22°C to +55°C
Radome Diameter:	55cm
Radome Height:	58cm
Tracking rate:	max. 50° per second
Weight (dome only):	appr.15kg

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