

# Smart Antenna Selector



## Instruction Manual



This instruction manual provides all of the basic information you need to operate, set up, troubleshoot, and maintain the Smart Antenna Selector unit.

# Table of contents

- 1 Introduction**
  - Safety Information.....
  - System Overview.....
- 2 Features and interface**
  - Installation and mounting.....
  - Button and connector layout.....
- 3 Wiring Diagram**
  - Application diagrams.....
- 4 Operating instruction**
  - Direct mode.....
  - Smart mode.....
- 5 Using graphical interface**
  - Graphical interface information.....

# 1. Introduction

## Safety Information

For your own safety, and for the safety of your passengers and/or crew, be sure to read the following important notices.

### WARNING

#### **Risk of Electric Shock**

To avoid electric shock, do not open the Smart Antenna Selector chassis enclosure.

### WARNING

#### **Risk of Electric Shock**

If any component of the Smart Antenna Selector system becomes damaged and/or no longer functions normally, disconnect it from power, secure it from unintended operation, and contact Technical Support.

All repairs or modifications must be performed by a trained technician.

### WARNING

#### **Risk of Explosion**

Do not operate the Smart Antenna Selector (or any other electrical device) in an environment where flammable gases, vapors, or dusts are present.

### WARNING

#### **Risk of Electric Shock**

Failure to ground the Smart Antenna Selector system properly may cause an unsafe floating ground condition, risking potentially lethal electric shock. Refer to the Installation Guide for details on the proper grounding of the equipment.

# System Overview

The Smart antenna selector allows to select the RF signal coming from two antennas and route it directly to a designated TV distribution (DIRECT MODE see pag....) or balance the same RF signal received from two antennas and route the better to each TV distribution (SMART MODE see pag...).

**The Smart Antenna Selector is designed to work with KVH TV series and HD series antennas only.**

# 2. Features and interface

## Installation and mounting

### **Plan the Smart Antenna Selector Installation :**

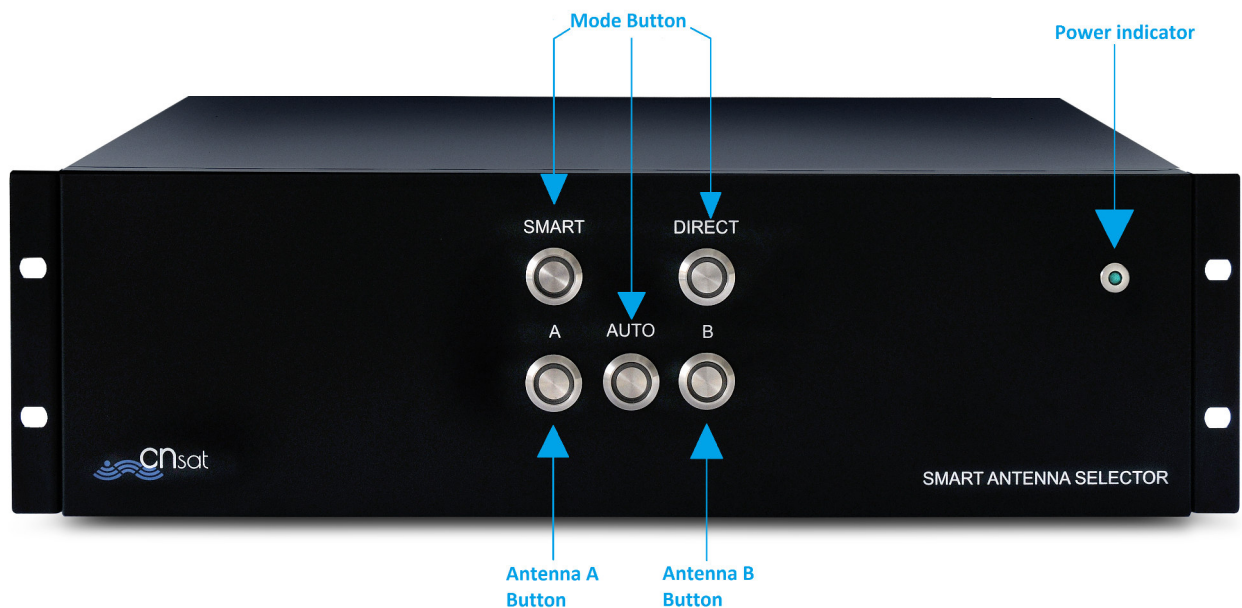
- Select a mounting location in a dry,well-ventilated area away from any heat sources or salt spray.
- The device can be mounted horizontally on a flat surface or inside a rack.
- For rack mount be sure to have enough space , the device need 3x19" rack units and 35 cm depth.
- Leave enough room behind the rear panel (horizontal mount) or below the rear panel (vertical mount) to accommodate connecting the cables and making service loops within the proper bend radius.
  - Select a location where led lights and buttons will be visible to the user.

### **Installation**

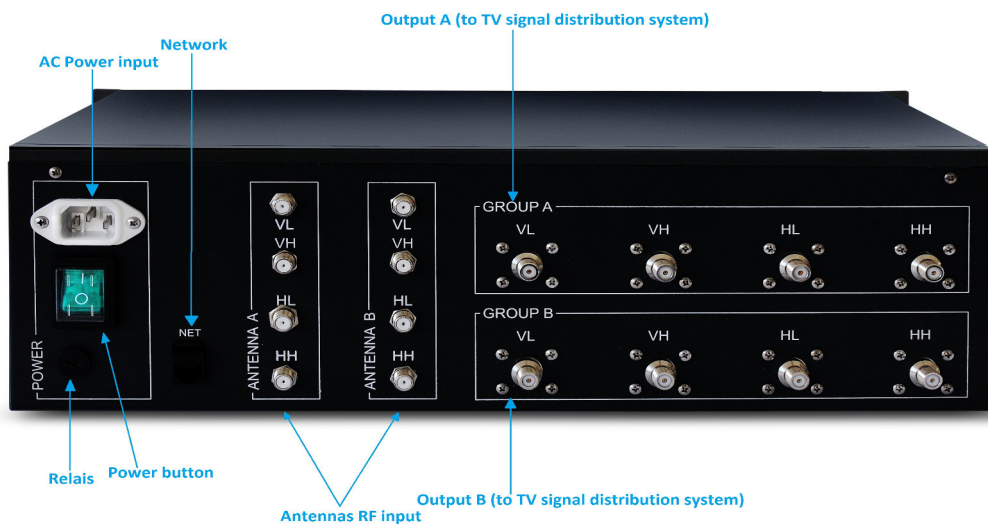
- Connect the RF cables coming from antenna A into “ANTENNA A” RF input
- Connect the RF cables coming from antenna B into “ANTENNA B” RF input
- Connect the “GROUP A” antenna output to multiswitch of a “TV DISTRIBUTION A”
- Connect the “GROUP B” antenna output to multiswitch of a “TV DISTRIBUTION B”

# Button and connector layout

## Front Panel :



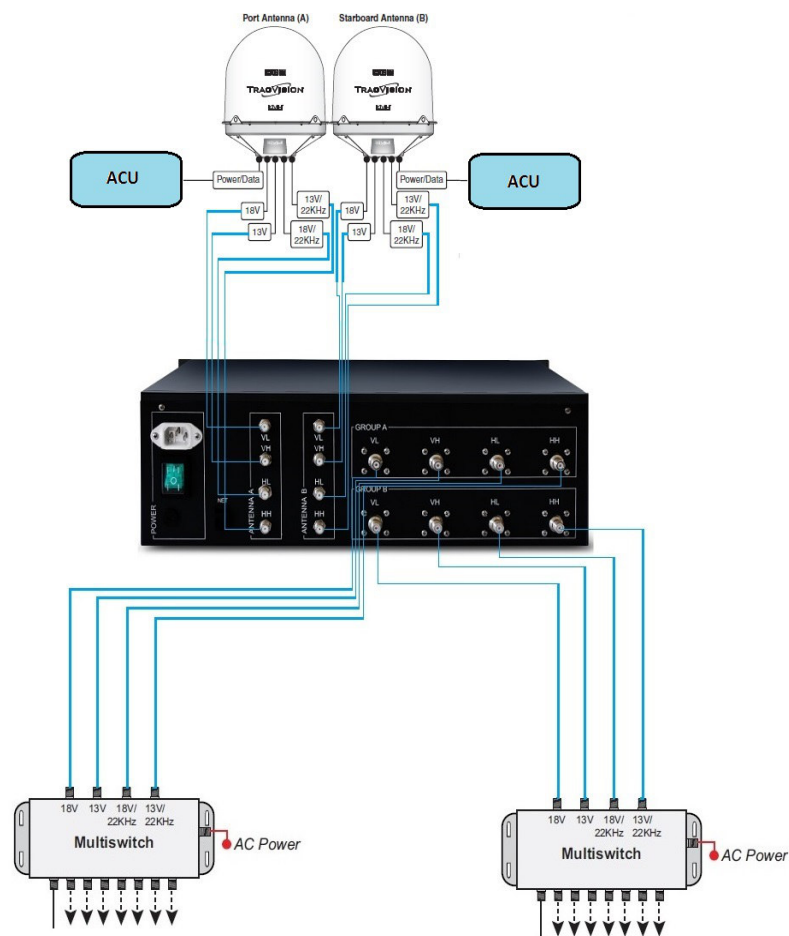
## Rear Panel :



# 3. Wiring diagrams

## Application diagrams

### HD series connection example

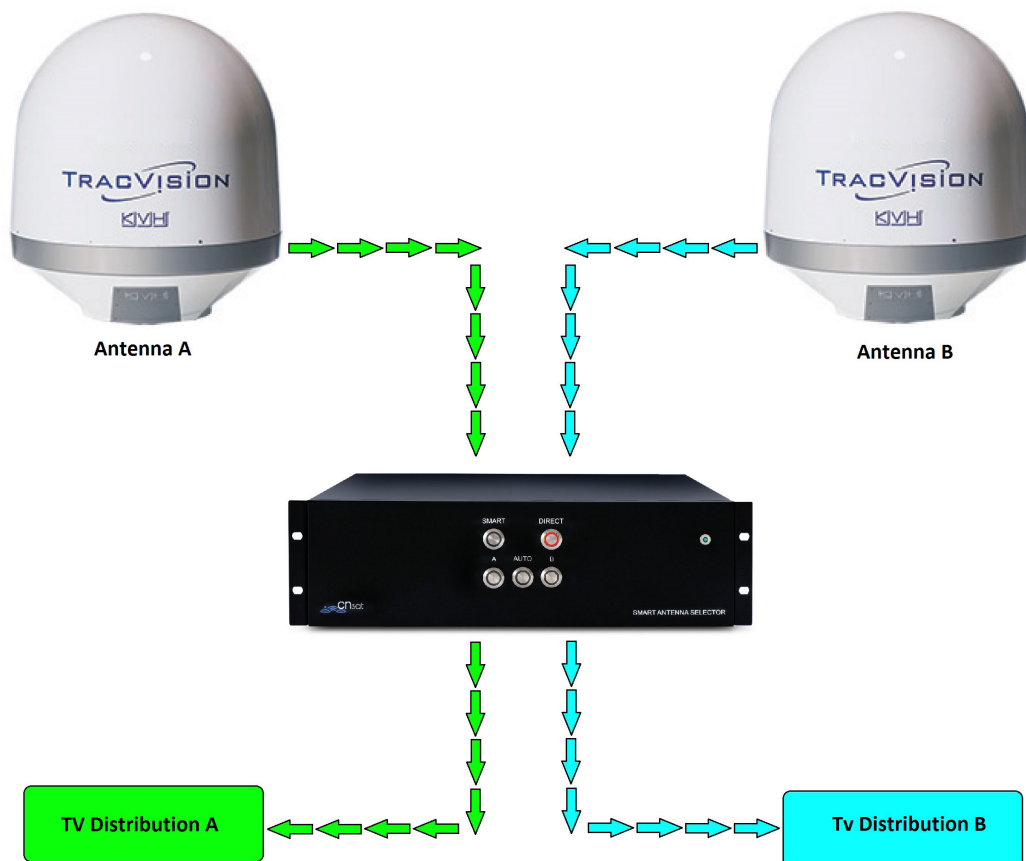




The diagram illustrates the connection of a TracVision 158F satellite dish to a TV-Hub, Receiver, and Antenna. The dish is connected to the TV-Hub via four RF ports (RF1, RF2, RF3, RF4). The TV-Hub is connected to the Receiver, which is connected to the Antenna. The Receiver is connected to the Multiswitch Cascadable, which is connected to the Multiswitch. The Multiswitch is connected to the TV set. The diagram shows the signal path from the dish through the TV-Hub, Receiver, and Antenna, and then through the Multiswitch Cascadable and Multiswitch to the TV set.

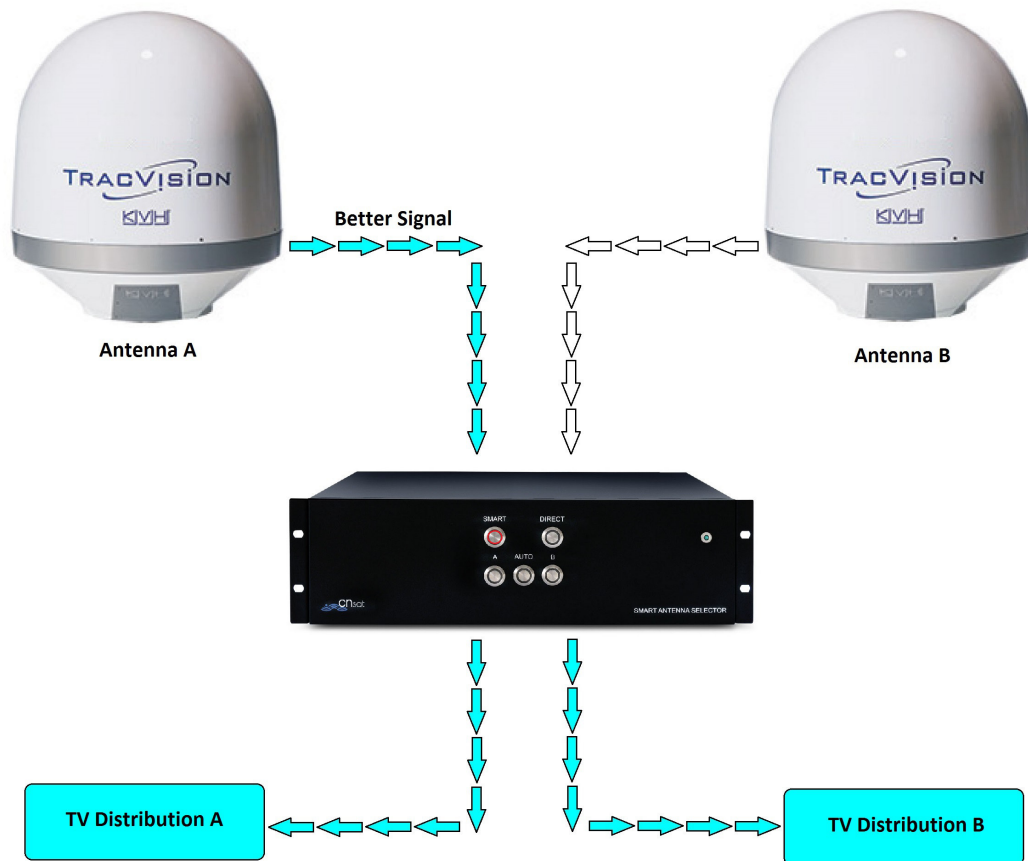
# 4. Operating Instruction

## Direct Mode



This mode is useful to have the two antennas tracking different satellites and have the two distributions working contemporary. For example, if you have a Sky UK and a SKY Italy distributions (A and B) you have to select Astra 28E on antenna A and Hotbird 13E on antenna B. Selecting DIRECT both distributions will have signal and you can watch Sky UK and SKY Italy at the same time. So, resuming antenna A supply distribution A and antenna B supply distribution B. The vice-versa is not possible. For use this function mode push "DIRECT" button on front panel .

# Smart mode



This mode is useful to have the best signal when you are using only one satellite distribution, for example Sky UK. In this mode the automation processor reads data from both antennas, checks the signal level and the relative azimuth and selects the one which is not covered from the mast and/or with the best signal level. In this case you have to select the same satellites on both antennas (Astra 28E in case of Sky UK).

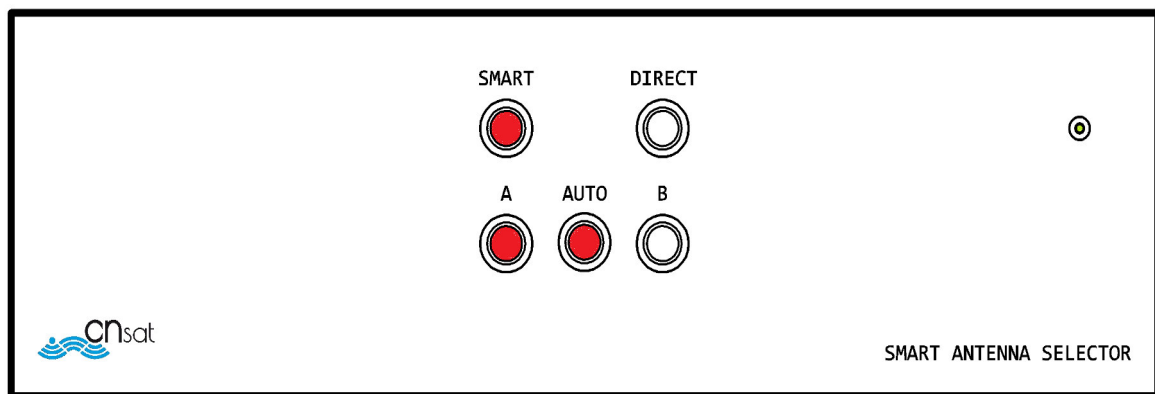
The system can select the best antenna signal automatically or you can force it manually on one antenna.

Remember that if you select different satellites on antenna control units the system automatically reacts and goes on DIRECT mode (the balancing between two different satellites is not useful).

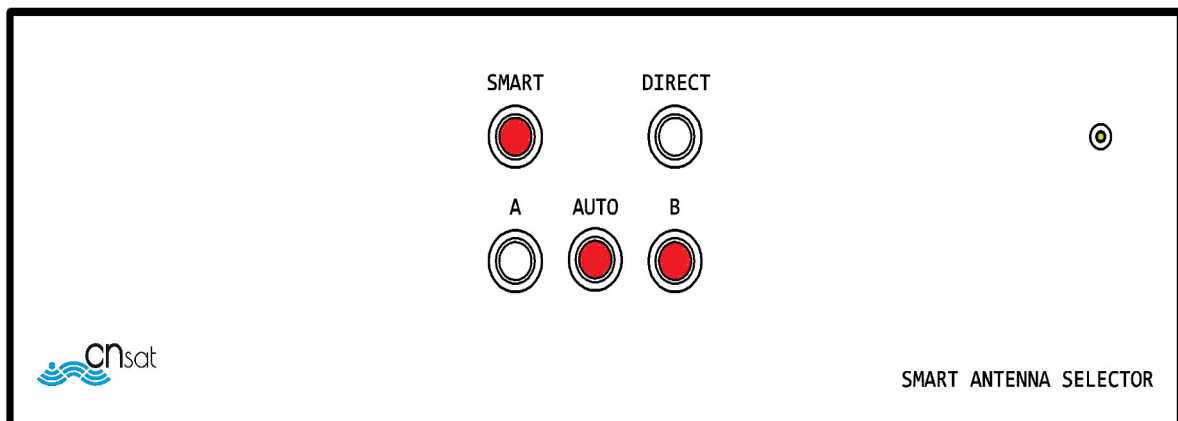
To have the system working properly both antennas control units have to be ON and of course the selector has to be on. If one or both antennas control units are off the system cannot read information about signal/position and cannot work.

If you press SMART button and then AUTO button you can find two possible situations.

If the system calculate that the antenna A is better than antenna B or the antenna B is covered by the mast (blind sector) you will find the following front panel LEDs configuration.

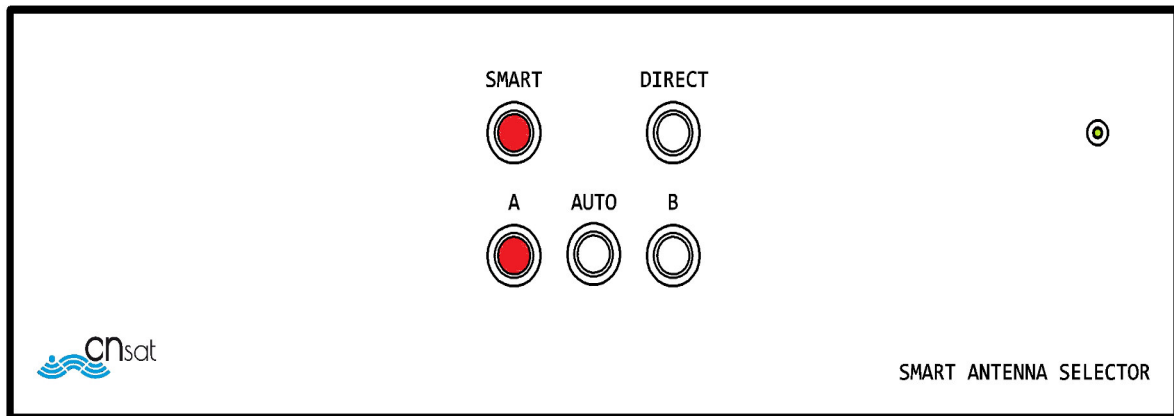


On the contrary if the system calculate that antenna B is better you will find the following front panel LEDs configuration.



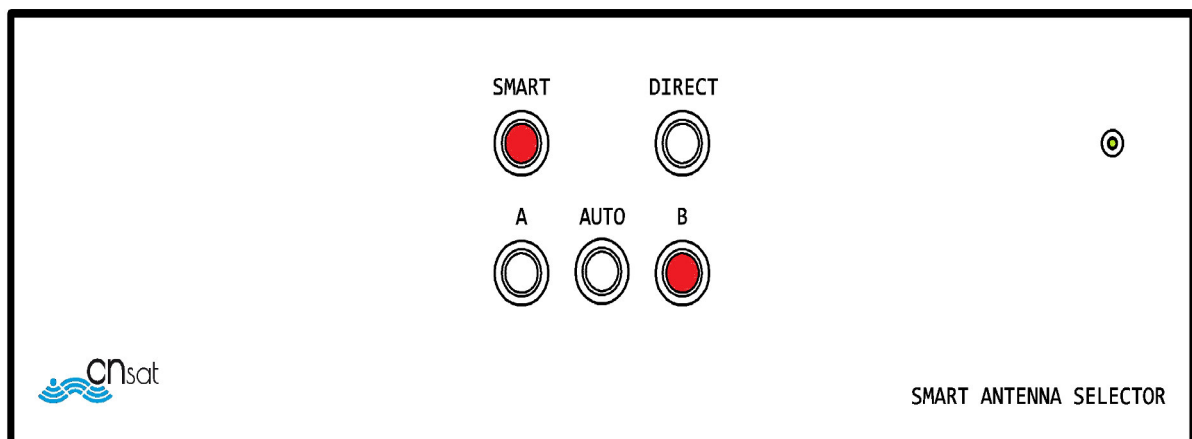
If you want to force the system to have always active the antenna A press A button on front panel.

You will find the following LEDS configuration:



If you want to force the system to have antenna B always active press B button on front panel.

You will find the following LEDs configuration:



Is important to underline the difference between manual and auto mode.

If you cannot see the AUTO button illuminated means that somebody pressed A or B button to force the system to one of the antennas.

In this mode (AUTO LED off), the system will not switch between antennas even if one is better than the other.

Press A or B in SMART mode only if you have steady heading (moored or at anchor with no wind/marine flow) to avoid continuous switching and you are sure that the antenna you want to use is the best one.

If you try to press A or B or AUTO button in DIRECT mode you will not find any reactions, because it's a separate condition and the buttons mentioned before are useful only in SMART mode.

In SMART/AUTO mode sometimes you will find the system switching from antenna A

to antenna B many times.

This case is due to the fact that one or both antennas are searching the satellite selected on antenna control units.

Sometimes happens that one or both antennas track a wrong satellite for about 10/15 seconds.

In this case the system could read an high signal level but from a wrong satellite and switch automatically to that antenna.

The selector doesn't know if the antenna is tracking indeed the correct satellite.

When this happens you will loose signal on satellite receivers for about 15 seconds, do not worry if this happen, the signal will come back in few time.

This is not due to the smart antenna selector but to the tracking function of the antenna.

In fact there are some satellites which have same transponder frequencies and the antenna takes around 15 seconds to understand that is the wrong satellite.

# 5. using graphical interface

## **Graphical interface information**

A graphical interface is also available to manage the smart antenna selector and to see various informations from antennas. (f.e. relative azimuth, AGC, SNR etc...).

To use the graphical interface you need a Windows PC and the executable file provided together with this manual.

**A complete instruction manual is available in a separate file.**