Simply television

smartmeter S10

Digital Satellite-Meter

Manual ENGLISH

Version: 15.06.2010

www.smart-electronic.de

Einfach fernsehen smart®

Preface

Dear Customer,

Thank you for purchasing this digital satellite meter smartmeter S10.

Before operating this digital satellite meter, please read the manual of the smartmeter S10 carefully.

This manual helps you with the

- designated,
- safe and
- advantageous

use of the digital satellite meter smartmeter S10.

Everyone who

- installs,
- connects,
- operates,
- cleans or
- disposes of this receiver

must have familiarised himself with the complete contents of this manual.

Please keep this manual always at hand near the digital satellite meter.

We hope you enjoy using your smartmeter S10.

Your smart electronic GmbH

Contents

Description

The smartmeter S10 is a handy digital antenna measuring device for a quick and easy alignment of satellite antennas. If a satellite is found, the smartmeter S10 shows it on the display and emits a audible signal. Signal strength and quality are displayed as numerical values and bar graphs.

Another measurement value is the forward error correction (FEC) and the bit error rate (BER). In addition, the picture quality can be revised on the high-resoluted 8.9-inch TFTLCD screen.

Many satellites are pre-programmed in order to an quick antenna adjustment.

The scope of supply contains, among the charger, a USB cable which allows you to update the smartmeter S10 software.

Safety instructions

Attention!
Please read the safety instructions carefully before operating the device. Please follow all warnings and instructions on the equipment and in the operating manual.

Safety of persons

Ensure that nobody can be hurt by falling tools or parts of the satellite antenna during the adjustment and installation of the antenna. For your own security use a rope on sloping roofs.

General information

Attention!
The devise should only be operated with the supplied AC adapter at the mains. Do not open the meter or the included AC adapter. There is danger of life through electric shock! Wrong usage of the ports can lead to the destruction of the measuring device.

Proceed carefully with the measuring device:

- Avoid low temperatures (below 0 °C) or to high hum idity.
- The TFT display can be damaged by mechanical impacts.
- Avoid excessive input voltages. Please refer to the technical data starting from page 37.

Do not operate with the device:

- if it has visible damage,
- if there are loose parts in the device,
- . if the device was located outdoors or in damp rooms a extended period of time.

Appropriate Usage

The measuring device smartmeter S10 was developed to measure signals of digital satellite antennas and satellite systems. It is exclusively for this purpose and should only be used for this purpose. Use the equipment only for the purpose, which is described in this manual.
Follow all information in this manual, particularly the safety instructions on page 5.
Any other usage is rated as not properly and can result in damage or even injury. There will be no liability for damages caused by a non-intended use.

Delivery range

Please check if the delivery is complete.
Included in delivery:

- device smartmeter S10,
- a carrying bag,
- a car adapter cable 12 V,
- an extern charger,
- an Euro-mains cable.
- an user manual,

If the delivery should be incomplete, contact your specialist dealer or

smart electronic GmbH
Industriestraße 29
78112 St. Georgen
GERMANY
Service Hotline: 00 49 7724 / 94 78 339
Telefax: 00 49 7724 / 94 78 333
E-Mail: info@smart-electronic.de

Device overview

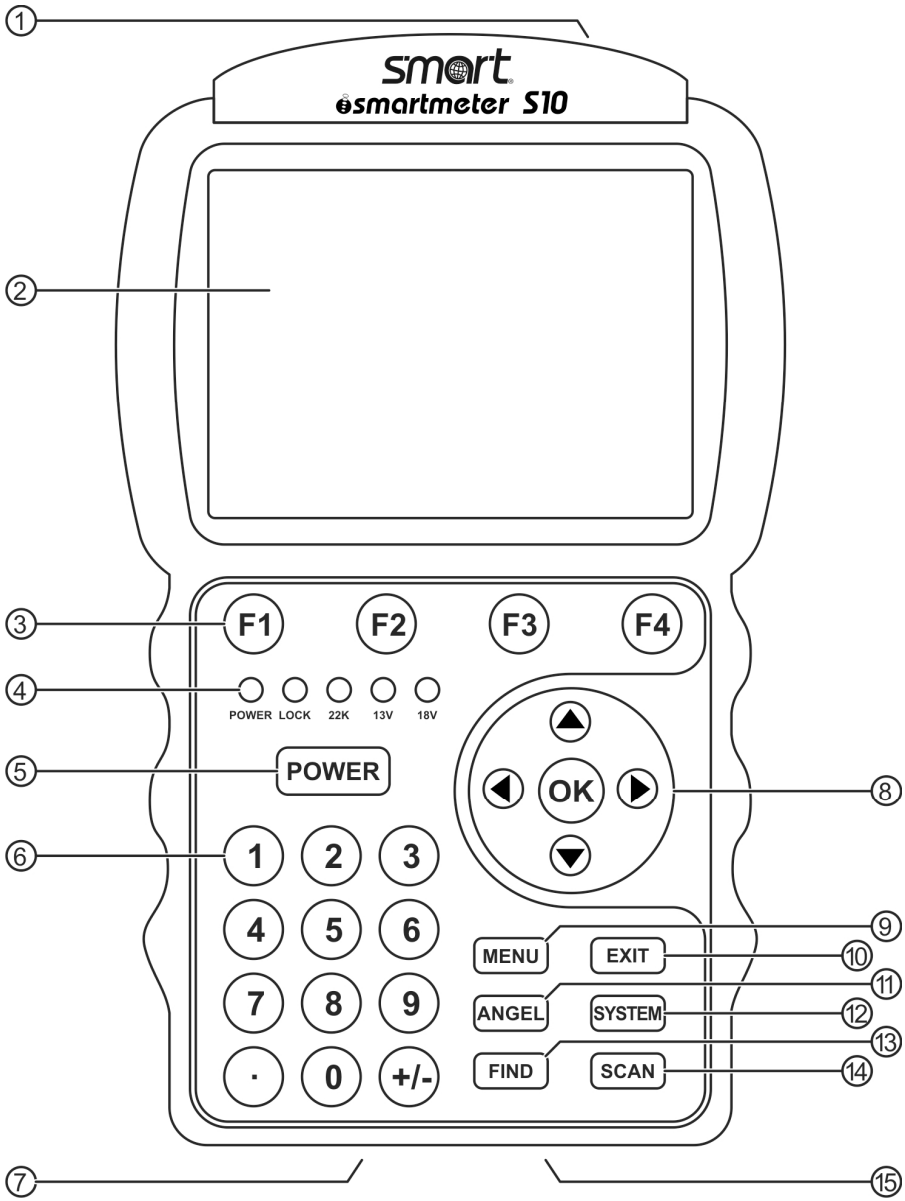


Figure 1: Front of the smartmeter S10

No.		Description
1	LNB-IN	Digital satellite signal input
2	LC-Display	Display of the TV picture, the menu and the measured values
3	FUNCTION keys	Different functions depending on the menu The functions are at the bottom of Screen display
4	POWER-LED	**red** the meter is on **off** the meter is turned off
	LOCK-LED	LED lights when a signal is received
	22K/13V/18V -LED	Lights if 22K/13V/18V signals are received
5	POWER	Switch devise on/off
6	Numeric keys	Direct enter of numbers
7	AC adapter port	Low volt port – for power supply connection
8	Navigation-Cross OK	Navigation through menus, switching programs ▲, ▼ volume control ◄, ► OK button: confirmation of a selection
9	MENU	Display the main menu
10	EXIT	Leave the current menu, cancel operation
11	ANGLE	Open the menu for the calculation of azimuth, Elevation and Polarization
12	SYSTEM	Configuration of all system parameter. Display current software version.
13	FIND	Open the menu satellite detection
14	SCAN	Open the Autoscan Menu
15	USB-Port	USB port for USB-storage device

Start of operation

Battery

Before the first operation with the measuring device charge the battery completely. (see also chapter “Lithium-Ion battery” on page 11).

Load the accumulator during the first loading procedure at least 5 hours.

The maximum battery charging time is approximately 12 hours.

Switch-on the Device

⇨ Press 2 seconds the red power button on the Smartmeter.

Lithium-ions-battery

Explosion danger!
Never the two poles (+ and -) connect with each other!

Attention!
Storing or operating accumulator no more than 40° C. Not burning or damaging accumulator. Not taking accumulator to contact with water.

Charging the battery

The maximum battery charging time is approximately 12 hours.

A charging circuit in the measuring device provides an optimal charge of the battery. The device is charged if it is switched off.

- ⇨ Turn the device off, if it is not already off.
- ⇨ Connect the Euro-main cable with the external AC adapter.
- ⇨ Connect the external AC adapter to the power grid.
- ⇨ Connect the AC adapter to the low-voltage port at the bottom.

The battery is charged as soon as you connect the AC adapter to the smartmeter S10

Charging is displayed by the cycling display of the battery symbol:

When fully charged the battery symbol shows permanently four bars.

Storing of the batteries

Storing the batteries between 0° Celsius and 40° Celsius.

Loading the accumulator at a longer storage every two weeks to avoid a depth discharge.

Align satellite dish

- ⇨ Press the ***MENU***-button.
- ⇨ Use the buttons ◄ / ► and ▲ / ▼ select the menu item ***TP SEARCH*** and confirm your selection with the ***OK*** button.
- ⇨ Choose the desired satellite in the setting field with the buttons ◄ / ►.
- ⇨ Turn the dish until the ***LOCK-LED*** lights, or the bargrapgh displays ***signalstrength*** and ***signalquality***.
- ⇨ Fixate the Dish in the position with the best ***signalstrength***.
- ⇨ Vary the angle of inclination until the bargrapgh displays even more ***signalstrength*** and ***signalquality***.
- ⇨ Fixate the Dish in the position with the best ***BER*** quality.

The ***BER*** value behind “10E” is important. The higher, the better. The value should be minimal 10E-4. The optimum is > 10E-6.

In the menu ***Settings*** → ***Signal Audio Tone*** you can chose wheteher an acoustic signal is represented once a signal is found or not.

TP Search

⇨ Press the ***MENU***-button.

⇨ Use the buttons ◄ / ► and ▲ / ▼ select the menu item ***TP SEARCH*** and confirm your selection with the ***OK*** button.

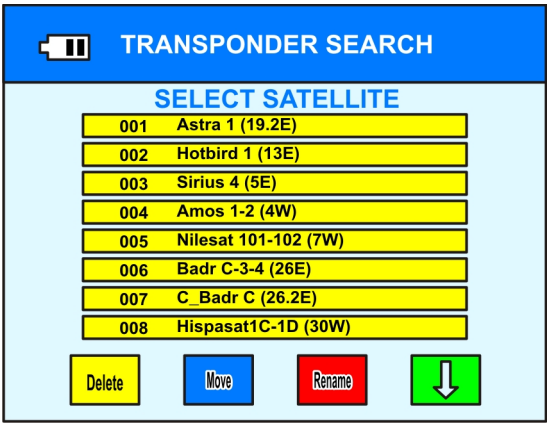


Figure 2: Transponder Search

In the menu TP Search a list of the stored satellites is shown.

Eight satellites are displayed on each page. To display further satellites use the buttons ▲ and ▼.

Remove satellite from list

⇨ Chose the satellite you'd like to delete from the list with the buttons ▲ and ▼.

⇨ Press ***F1***.

⇨ Mark the item ***YES*** with the buttons ◄ and ► confirm by pressing ***OK***.

Move satellite in list

⇨ Chose the satellite you'd like to move in the list with the buttons ▲ and ▼.

⇨ Press ***F2***.

⇨ Use the numeric keys to enter the position you'd like the satellite to be moved to.

⇨ Confirm by pressing ***OK***.

Rename satellite in list

⇨ Chose the satellite you'd like to rename in the list with the buttons ▲ and ▼.

⇨ Press ***F3***.
A screen keyboard opens.

⇨ Use the buttons ◄/► and ▲/▼ to mark a letter and confirm each letter with ***OK***.

⇨ Repeat until you have the desired name.

Standard	show special letters
Caps on	switch between capital and small letters
Back	delete last letter
OK	Save satellite name
Cancel	exit without saving

⇨ Mark the item ***OK*** and confirm with the ***OK***-button.

Search Transponder

⇨ Chose the satellite you'd like to search transponders on with the buttons ▲ and ▼.

⇨ Confirm by pressing ***OK***.

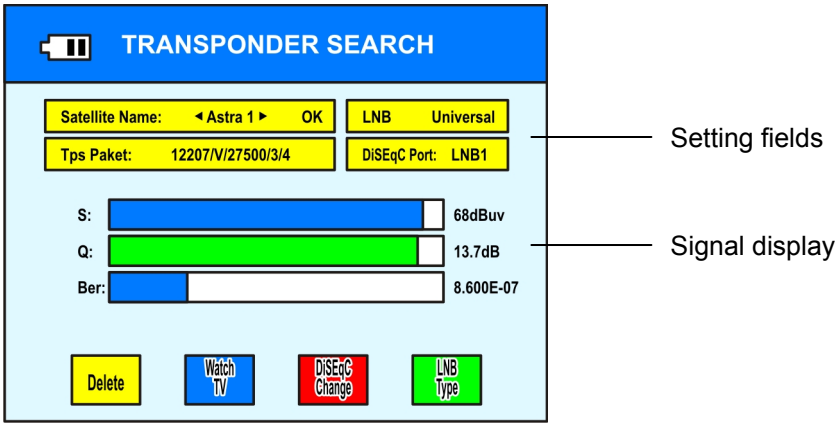


Figure 3: Transponder Search

In this menu you can see the signal quality of single transponders. Use this menu to allign a satellite dish.

By pressing ***F1*** you can delete a marked transponder.

By pressing ***F2*** you start the transponder search and after aprox. 5 sec can watch the TV signal of the marked transponder.

By pressing ***F3*** or ***F4*** you can choose the DiSEqC-Port or the LNB-Type.

Setting fields

Use the buttons ▲ and ▼ to mark one of the setting fields and then use the buttons ◄ und ► to choose different settings.

Example: To choose another DiSEqC-Port press the button ▼ or ▲ until the setting field ***DiSEqC Port*** is marked. Now press the buttons ◄ or ► until the desired DiSEqC-Port is shown.

Signal display

Signal strength (S), Signal quality (Q) and ***Bit Error Rate (BER)*** are shown.

Satellite Identify

⇨ Press the ***MENU***-button.

⇨ Use the buttons ◄ / ► and ▲ / ▼ select the menu item ***SATELLITE IDE*** and confirm your selection with the ***OK*** button.

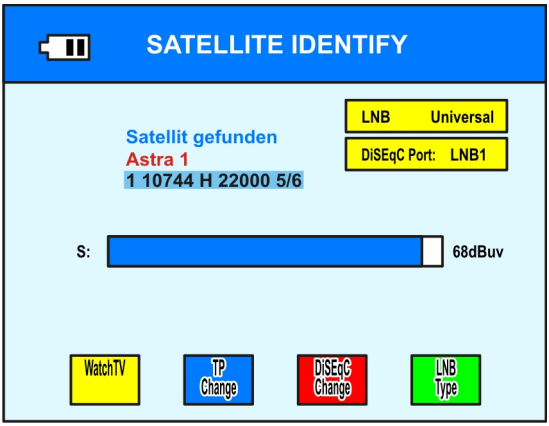


Figure 4: Satellite identify

⇨ Press ***F1*** to watch TV on the chosen transponder.

⇨ Change the transponder with the button ***F3***.

⇨ Chose the DiSEqC-Port with the button ***F3***.

⇨ Chose the LNB-Type with the button ***F4***.

The name of the satellite from which you receive signal is displayed. Also the signal strength of this satellite is displayed.

Packet Control

⇨ Press the ***MENU***-button.

⇨ Use the buttons ◄ / ► and ▲ / ▼ select the menu item ***PACKET CONTROL*** and confirm your selection with the ***OK*** button.

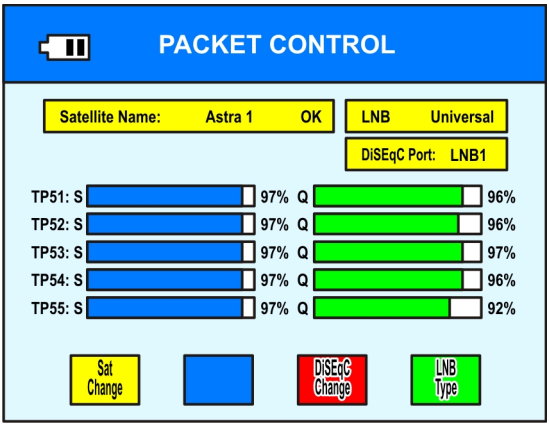


Figure 5: Packet control

⇨ Press OK to display the list of satellites.

⇨ Use the buttons ▲ and ▼ to chose a satellite.

⇨ Chose the DiSEqC-Port wit the button ***F3***.

⇨ Chose the LNB-Type wit the button ***F4***.

Now you can see the ***signal strenth (S)*** and ***signal quality (Q)*** of five transponders.

By pressing the buttons ◄ and ► you can jump from page to page.

DiSEqC Search

⇨ Press the ***MENU***-button.

⇨ Use the buttons ◄ / ► and ▲ / ▼ select the menu item ***DiSEqC Search*** and confirm your selection with the ***OK*** button.

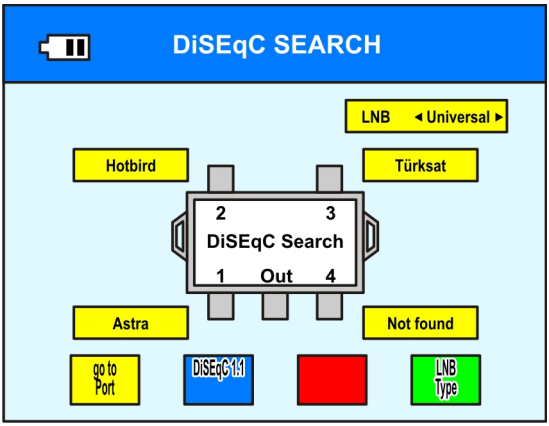


Figure 6: DiSEqC Suche

⇨ Chose the DiSEqC-Port wit the button ***F1***.

⇨ With ***F2*** the allocation of the 16 DiSEqC-Ports is displayed.

⇨ Chose the LNB-Type wit the button ***F4***.

The DiSEqC-Search starts automatically.

At every port the name of the received satellite is displayed.

You can selcet single ports by pressing ***F1*** and can the switch to the menu ***Transponder Search*** by pressing ***OK***.

DiSEqC Motor Search

⇨ Press the ***MENU***-button.

⇨ Use the buttons ◄ / ► and ▲ / ▼ select the menu item ***DiSEqC Motor Search*** and confirm your selection with the ***OK*** button.

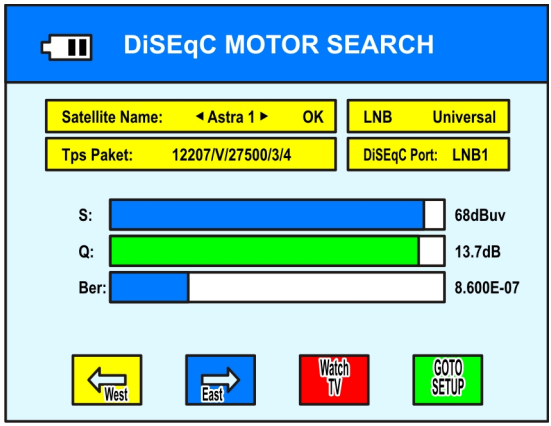


Figure 7: DiSEqC Motor Search

Setting Fields

Use the buttons ▲ and ▼ to mark one of the setting fields and then use the buttons ◄ und ► to choose different settings.

Signal display

Signal strength (S), Signal quality (Q) and ***Bit Error Rate (BER)*** are shown.

Turn Satellite Dish

By pressing ***F1*** or ***F2*** you can turn the satellite dish to the west or to the east.

Watch the green signal quality bar. This graph shows you, if you receive a signal from the satellite.

Spectrum

⇨ Press the ***MENU***-button.

⇨ Use the buttons ◄ / ► and ▲ / ▼ select the menu item ***Spectrum*** and confirm your selection with the ***OK*** button.

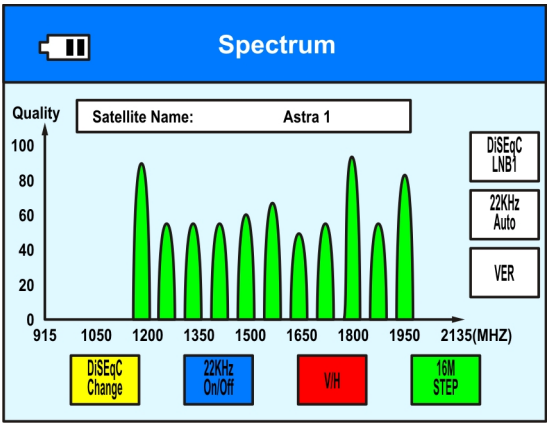


Figure 8: Spectrum

In this menu you can control the signal quality of different transponders over the whole spectrum.

⇨ Chose the LNB-Type with the button ***F1***.

⇨ Switch 22KHz On or Off with ***F2***.

⇨ Chose the polarisation with the button ***F3***.

⇨ Chose the sampling steps with the button ***F4***.
4M STEP: precise scan, duration approx. 10sec.
16 M STEP: duration approx. 3sek., medium precise

Watch TV

⇨ Press the ***MENU***-button.

⇨ Use the buttons ◄ / ► and ▲ / ▼ select the menu item ***WATCH TV*** and confirm your selection with the ***OK*** button.

Figure 9: Watch TV

In this menu you can check the TV reception.

⇨ Chose the satellite by pressing ***F1***.

⇨ Chose the desired channel by pressing ***F2*** and confirm with ***OK***.

⇨ Press ***F3*** for full screen mode.

You can switch through the channels with ▲ and ▼.
Adjust the volume with ◄ and ►.

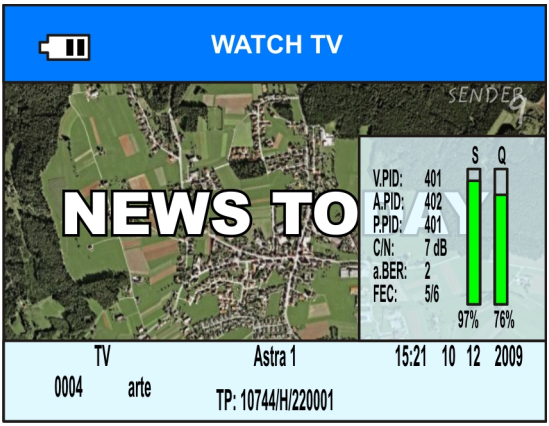


Figure 10: Watch TV

On every channel switching detailed information about the channel are shown.

Settings

⇨ Press the ***MENU***-button.

⇨ Use the buttons ◄ / ► and ▲ / ▼ select the menu item ***SETTINGS*** and confirm your selection with the ***OK*** button.

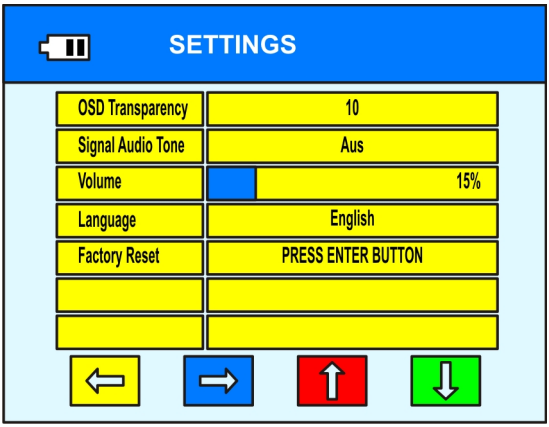


Figure 11: Settings

OSD Transparency

⇨ Use the buttons ◄ and ► to chose the transparency of the On Screen Display.
You can chose from ***10*** (no transparency) to ***1*** (nearly transparent).

Signal Audio Tone

⇨ Use the buttons ◄ and ► to chose whether you like to have a signal tone while adjusting an antenna or not.

Volume

⇨ Use the buttons ◄ and ► to set the volume.

Language

⇨ Use the buttons ◄ and ► to chose a display language.

Factory Reset

⇨ Mark this item to reset the device to factory settings.
⇨ Confirm with ***OK***.
⇨ Mark the item ***YES*** with the buttons ◄ and ► confirm by pressing ***OK***.

PC Update

⇨ Press the ***MENU***-button.

⇨ Use the buttons ◄ / ► and ▲ / ▼ select the menu item ***PC Update*** and confirm your selection with the ***OK*** button.

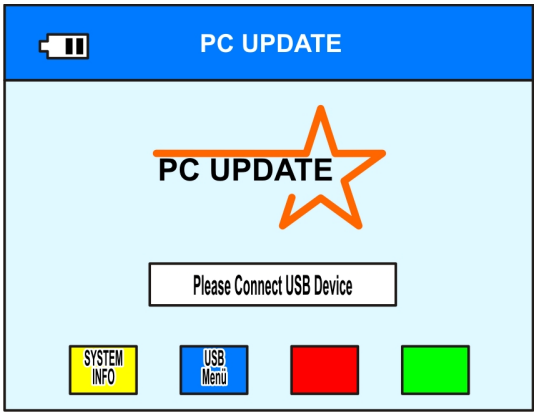


Figure 12: PC Update

System Info

⇨ To show the System Info enter the menu ***PC Update*** and press the button ***F1***.

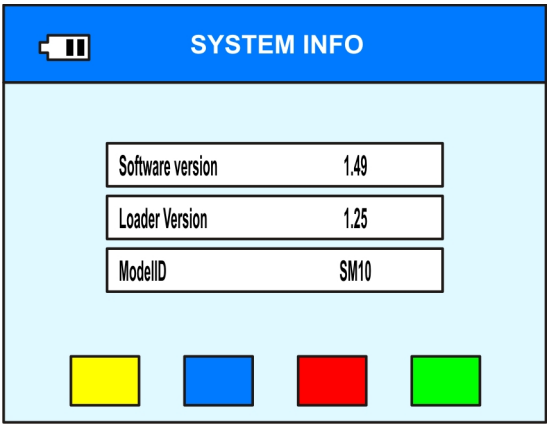


Figure 13: System Info

USB Menu

⇨ To open the USB menu enter the menu ***PC Update*** and press the button ***F2***.

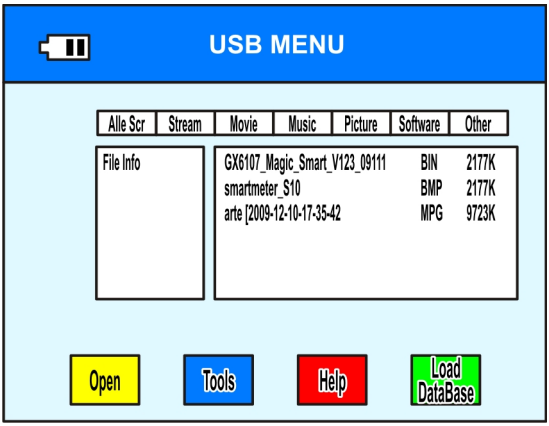


Figure 14: USB-Menu

In the USB menu all files are shown that are stored on the connectes USB-device.

⇨ Use the buttons ◄ and ► to limit the number of shown files.

Example: If you want to see all the music files on the connected USB device: press the button ► until the item ***music*** is marked on the top of the screen.

Only music files are shown now.

⇨ Use the buttons ▲ and ▼ to chose a file an press ***OK*** to open it.

Load Database

⇨ Press ***F4*** to save the channel list ro your USB-device.

⇨ You can modify the channel list on your PC with the Settings Editor. You'll find the ***Setting-Editor*** on the website ***www.smart-electronic.de*** in the category ***Support***.

⇨ Save the modified channel list as ***Version 100*** onto your USB device.

⇨ You can load the modified channel list via the USB-menu by marking it and then pressing ***OK***.

Rename file

⇨ Mark the file you want to rename in the ***USB-Menu***.

⇨ Press ***F2*** to open the ***Tools***.

⇨ Mark the option ***Rename*** and press ***OK***.
A screen keyboard opens.

⇨ Use the buttons ◄/► and ▲/▼ to mark a letter and confirm each letter with ***OK***.

⇨ Repeat until you have the desired name.

Standard	show special letters
Caps on	switch between capital and small letters
Back	delete last letter
OK	Save satellite name
Cancel	exit without saving

⇨ Mark the item ***OK*** and confirm with the ***OK***-button.

Delete file

⇨ Mark the file you want to delete in the ***USB-Menu***.

⇨ Press ***F2*** to open the ***Tools***.

⇨ Mark the option ***Delete*** and press ***OK***.

⇨ Mark the item ***YES*** with the buttons ◄ and ► confirm by pressing ***OK***.

Move file

⇨ Mark the file you want to move in the ***USB-Menu***.

⇨ Press ***F2*** to open the ***Tools***.

⇨ Mark the option ***Move*** and press ***OK***.

⇨ Mark the folder you'd like to save the file in with the buttons ▲ and ▼ and confirm with ***OK***.

Create folder

⇨ Open the Folder in which you want to create the new folder.

⇨ Press ***F2*** to open the ***Tools***.

⇨ Mark the option ***Create Folder*** and press ***OK***.
A screen keyboard opens.

⇨ Use the buttons ◄/► and ▲/▼ to mark a letter and confirm each letter with ***OK***.

⇨ Repeat until you have the desired name.

Standard	show special letters
Caps on	switch between capital and small letters
Back	delete last letter
OK	Save satellite name
Cancel	exit without saving

⇨ Mark the item ***OK*** and confirm with the ***OK***-button.

Disk Info

⇨ Open the ***USB-menu*** and press ***F2*** to open the ***Tools***.

⇨ Mark the option ***DISK INFO*** and press ***OK***.

Format Disk

⇨ Open the ***USB-menu*** and press ***F2*** to open the ***Tools***.

⇨ Mark the option ***Format Disk*** and press ***OK***.

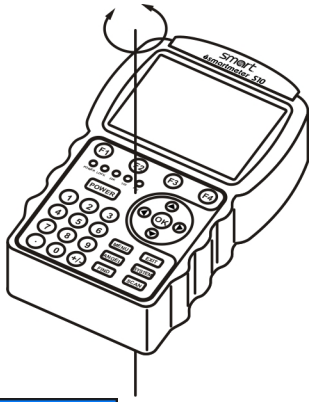
⇨ Mark the item ***YES*** with the buttons ◄ and ► confirm by pressing ***OK***.

WARNING!
All data will be lost after formatting the USB-storage device!!

Compass

⇨ Press the ***MENU***-button.
⇨ Press the ***Exit***. button.
⇨ Press ***F1***.

The internal digital compass is displayed



⇨ Lay the smartmeter S10 on a flat ghorizontal surface.
⇨ Turn the smartmeter S10 on the surface a few times for calibration

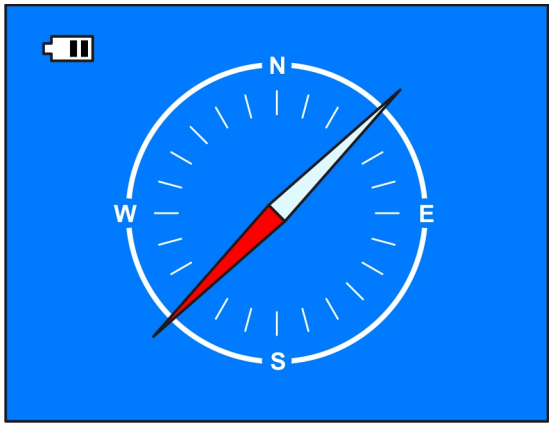


Figure 15: Compass

The red side of the compass-needle shows to the north.

Capture Video

⇨ Press the ***MENU***-button.
⇨ Press the ***Exit***. button.
⇨ Press ***F4***.

The TV picture gets captured on the connected USB-storage device.

⇨ Press ***EXIT*** to stop the recording.

Recorded broadcasts can be played via the ***USB-Menu***.

Save Screenshot

When there is a connected USB-storage device you can save screenshots directly to USB.

⇨ Press the button ⊙.
The Message ***Catch Picture*** is shown.

The Screen is saved as bmp-file on the usb-storage device.

Angle Calculation

⇨ Drücken Sie die Taste ***ANGLE***.

Der Bildschirm zur Winkelberechnung öffnet sich.

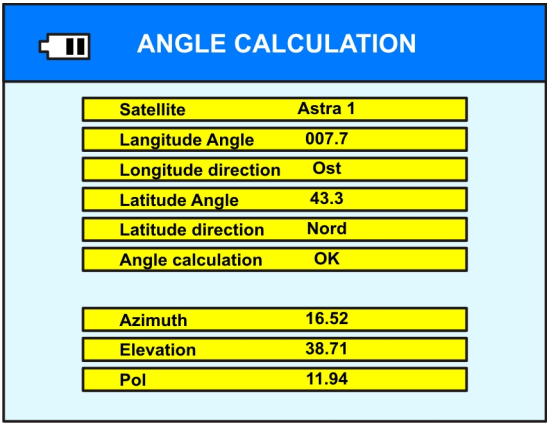


Figure 16: Angle calculation

⇨ Set the name of the satellite you'd like to receive.

⇨ Enter the longitude and latitude and the respective direction of your position.

⇨ Mark the item ***Angle calculation*** and press ***OK***..

In the three fields at the bottom the correct allignment of the satellite dish is shown:

Azimuth Shows the azimuth of the satellite

Elevation Shows the elevation of the satellite

Pol Shows the angle of polarisation of the satellite

Blind Search

⇨ Press ***SCAN***.

The screen ***BLIND SEARCH*** opens.

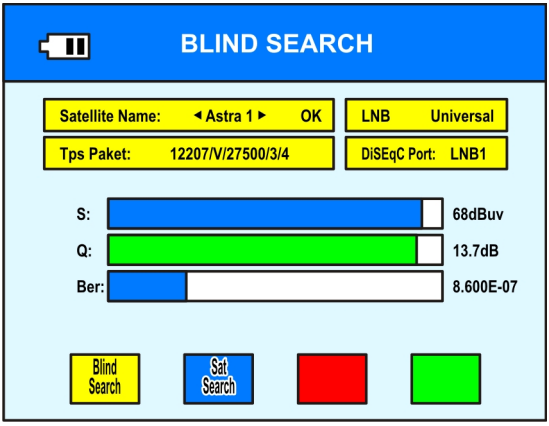


Figure 17: Blind search

Blind Scan

⇨ Chose the satellite you'd like to search with the buttons ◄ and ►

⇨ Press ***F1***.
The scanning over the entire frequency range of the satellite is performed.

Satellite Search

⇨ Chose the satellite you'd like to search with the buttons ◄ and ►

⇨ Press ***F2***.
The scanning over the common transponder of the satellite is performed.

Software-Update

Required equipment

- smartmeter S10
- USB-storage device
- Current Firmware

You'll find the current firmware on www.smart-electronic.de in the section ***Support***.

Warning!
Secure, that during the update the is provided with electricity. During the update supply the smartmeter S10with electrical power by power supply unit.

⇨ Save Software on USB-storage device..

⇨ Connect USB-storage device with smartmeter S10

⇨ Press ***MENU***.

⇨ Use the buttons ◄ / ► and ▲ / ▼ select the menu item ***PC Update*** and confirm your selection with the ***OK*** button.

⇨ Press ***F2*** to open the ***USB-Menu***.

⇨ Chose with the buttons ◄ and ► the filetype ***Software***.

⇨ Mark the Firmware with the buttons ▲ and ▼ and press ***OK***.

⇨ Mark the item ***YES*** with the buttons ◄ and ► confirm by pressing ***OK***. The update starts automatically.

After the update the smartmeter S10 asks you to restart the device.

⇨ Mark the item ***YES*** with the buttons ◄ and ► confirm by pressing ***OK***.

Warning!
Never switch off the Smartmeter during the update processes

Cleaning

	**Danger of electric shock!** No liquid may reach in the device. Never clean it with a wet cloth. Drawing before the cleaning all plugs.
	**Attention!** Never use solvet-containing agents like benzene or similar. Agents like these can damage the surface of the housing.

- ⇨ Pull all plugs from the device (USB-, antenna cable) before cleaning.
- ⇨ Clean the housing and the display using a soft, lint-free cloth. In case of stronger dirt you can use a mild soap sud or spirit.
- ⇨ The keys can be cleaned using compressed air (max. 2 Bar). Do not use any solvents.

Storing the Product

- ⇨ Unplug the device from the mains.
- ⇨ Unscrew the LNB cable from the device.
- ⇨ Pull all plugs out of the sockets.
- ⇨ Pack the device and all cables into the original carton.
- ⇨ Store the device and all accessories at a dry and dust-free location.
- ⇨ Protect the device from frost.

Trouble shooting

Fault phenomenon	Probabable reasons	Solutions
Device does not react.	The battery is empty.	Charge the battery.
Bad picture , block defect	The antenna is not adjusted to the satellite. The LNB is defect	Adjust the antenna. Replace the LNB.
No or onlly fait signal.		Please check all cable connections. Adjust the antenna.
No picture, no sount.	Display/ Sounds turned off	Turn on the display by pushing the F1 button. Turn on the sound by pushing the F2 or ► button.

If you cannot find out what is wrong with your device please contact your local specialized dealer.

At www.smart-electronic.de find the area „Support“ a FAQ being provided in the topical problem solutions.

Disposal

	**Attention!** Never throw the receiver and the batteries in normal household waste. They may contain toxic agents that are hazardous to health and environment. Therefore dispose of the device and the batteries immediately according to the prevailing statutory regulations. Never throw the batteries in normal household waste.

Figure 13: WEEE-Symbol

Used devices contain valuable materials that should be recycled. Electronic equipment is not household waste - in accordance with directive 2002/96/EC OF THE EUROPEAN PARLIAMENT AND THE COUNCIL of 27th January 2003 on used electrical and electronic equipment it must be disposed of properly. At the end of its service life take this unit for disposal at a relevant official collection point.
Help to keep our environment clean which we are living in!

Technical specifications

LNB/Tuner input

F-type connector	IEC 169-24
Frequency range	950 MHz ~ 2150 MHz
Input level	-65 dBm bis -25 dBm
LNB power supply	13/18 V, max. 700 mA
LNB control signal	22 kHz
DiSEqC control	yes

Demodulator

Front-end-modul	QPSK
Symbol rate	2 Mbps bis 45 Mbps

System resource

CPU	216MHz
SDRAM	1PC 16M X16bit/16Mbyte DDR
FLASH	1PC 16bit/4MByte

Video-Decoder

Data rate	bis zu 15 Mbit/s
Video resolution	720×576(PAL) 720×480(NTSC)
Video format	PAL, NTSC, SECAM

Connectors

Serial data interface	USB

Power supply

Supply voltage	12,6 V
Li-oN battery	2700 mAh
Supply voltage (charger)	100 - 240 V ~, 50/60 Hz

Dimensions

Length x width x height	10,3 x 16,7x 4,5 cm
Weight	0,5 Kg

Temperature

Operating temperature	0° C to +40° C
Storage temperature	-40° C to +65° C

Supplier

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Industriestraße 29
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GERMANY

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E-Mail: info@smart-electronic.de
Internet: www.smart-electronic.de

Warrenty

The warranty for the digital satellite receiver Smart smartmeter of the company smart electronic GmbH is in conformity with the prevailing statutory regulations at the time of purchasing the product..

Declaration of conformity

The company smart electronic GmbH, Industriestraße 29, 78112 St. Georgen hereby declares conformity with the following guidelines and standards for this product:

- Guideline for low voltage 2006/95/EG
- EN 60 335-1
- EN 60 335-2-15
- Guideline for electromagnetic compatibility 2004/108/EG
- EN 55 013:2001
- EN 55 020
- EN 61 000-3-2:2000
- EN 61 000-3-3:1995+A1:2001
- EN 61 938
- Equipment type / model: Digital Smartmeter

smart electronic GmbH

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