FULL HD Combo Finder Meter

SCM-6000

HD DVB-S2/2+DVB-C Meter

User manual

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Description

The Satellite meter is a handy digital antenna measuring device for an quick and easy alignment of satellite antennas. If a satellite is found, the meter 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), Modulation error rate(MER),In addition, the picture quality can be revised on the high-resoluted 4.3-inch TFT LCD screen. Many satellites are pre-programmed in order to an quick antenna adjustment.
The scope of supply contains, among the charger, an USB connector which allows you to update software.
A carrying case serves as protection and for the transport. It cares for better readability of the display at sunshine.

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 humidity.
- The TFT display can be damaged by mechanical impacts.
- Avoid excessive input voltages.

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 meter 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 4
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:

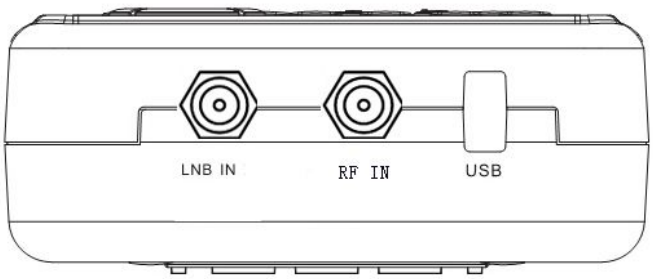
Tool case

device meter

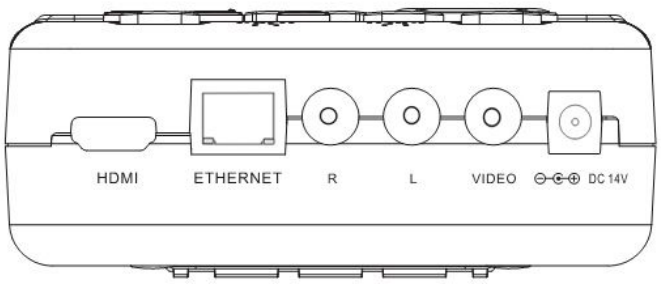
a carrying bag
an extern charger
an power cable
AV cable
F connnector
an user manual CD

If the delivery should be incomplete, contact your specialist dealer

Device overview



LNB IN : Connect this port to the satellite atn cable
RF IN: Connect this port to the C cable
USB: Connect the USB disk



DC 14V: Power supply port
CVBS: Connect this port to TV'S CVBS via AV cable
Ethernet: Connect this port to Internet cable

HDMI: Connect this port to TV HDMI port via HDMI cable

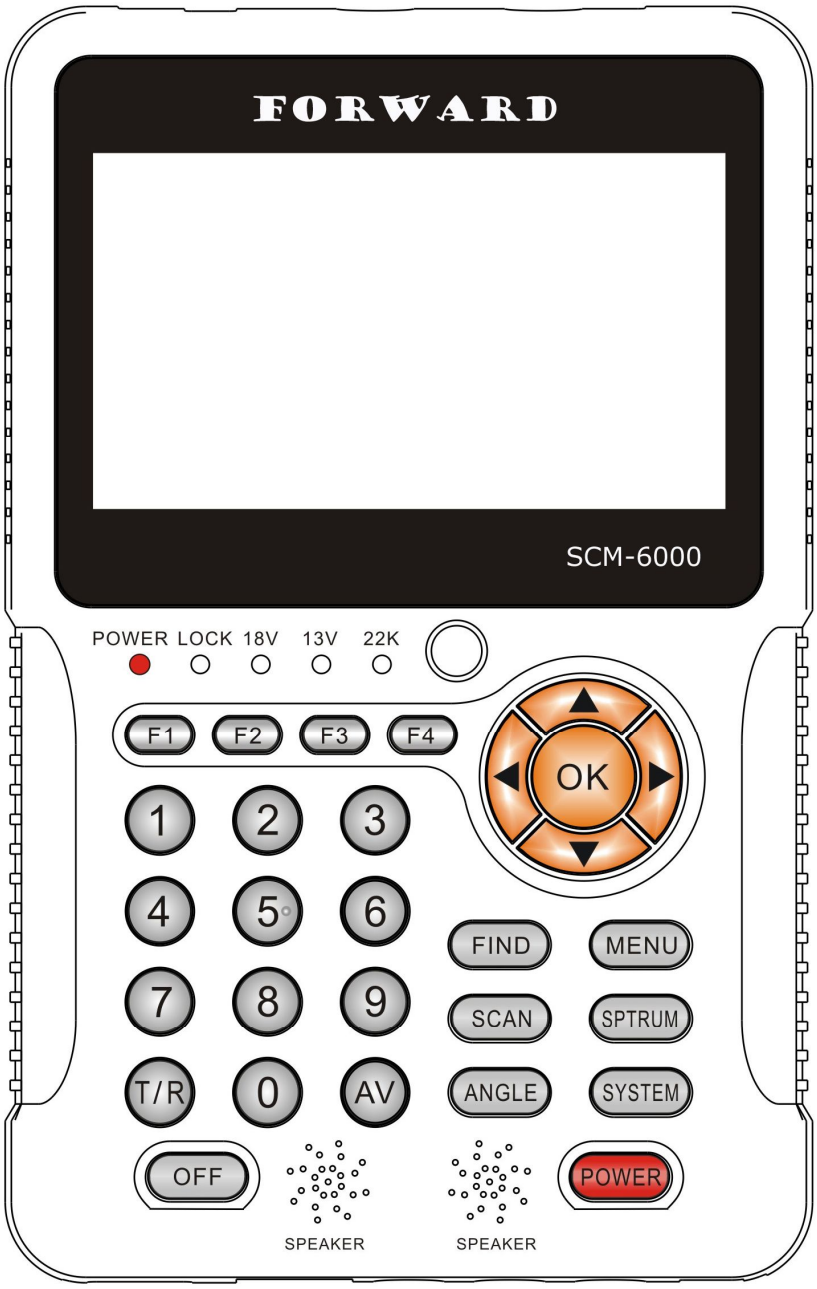


Figure: Front of the meter

No.		Description
1	LNB1-IN LNB2-IN	Digital satellite signal input
2	LC-Display	Display of the TV picture, the menu and the measured values
3	POWER-LED	Display of the energy state: Operation: red: the measuring devise is switched on. Off: the measuring devise is switched off. In charge: Green: The battery is charged Red: The battery is full charged
4	LOCK-LED	LED lights when a signal is received.
5	FUNCTION keys	F1: shortcut key F2: shortcut key F3: shortcut key F4: shortcut key
5.1	22K/13V/18V-LEDs	Lights if 22K/13V/18V signals are received
6 6.1	Navigation-cross OK	Navigation through menus, switching programs ▲, ▼ volume control ◄, ► OK button: confirmation of a selection
7	Numeric keys	Direct enter of numbers
8	FIND	FIND menu: for a quick and easy alignment of a satellite antenna
9	Menu	Display the main menu
10	AV	Switch AV input or out put setup
11	ANGLE	Display the calculation menu
12	SYSTEM	Configuration of all system parameter. Display current AV setup.
13	POWER	Switch on the power on at 2-3 second
14	SCAN	Display the auto scan menu
15	OFF	Switch off the power
16	T/R	Switch the TV or Radio program display
17	SPTRUM	Display the menu of spectrum (for spectrum meter only)

Start of operation

Battery

Before the first operation with the measuring device charge the battery completely. (see also chapter “Lithium-Ion battery” on page 10).

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 2-3 seconds the red power button on the meter.

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

meter

The Power-LED shows the battery status:
Red: the battery is charged
Green: the battery is completely loaded

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.

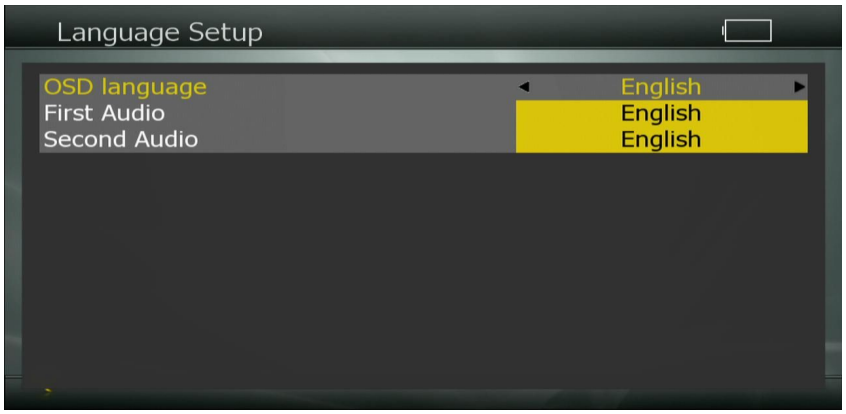
System setting

➔ Press the MENU button.
➔ Select the point ***system setting***.
➔ Confirm your selection using the OK button.

Figure 2: System setting

language Setup

Press the SYSTEM button to change the menu language.
⇨ Select the point ***Language setup***.
⇨ Choose your desired language using the ◄- or ►- button.
⇨ After your selection press the EXIT button and follow the instructions on.



INFO

Factory Default

Press the SYSTEM button to change the menu language.

⇨ Select the point ***Factory Default***.

⇨ Press OK to make the factory setting

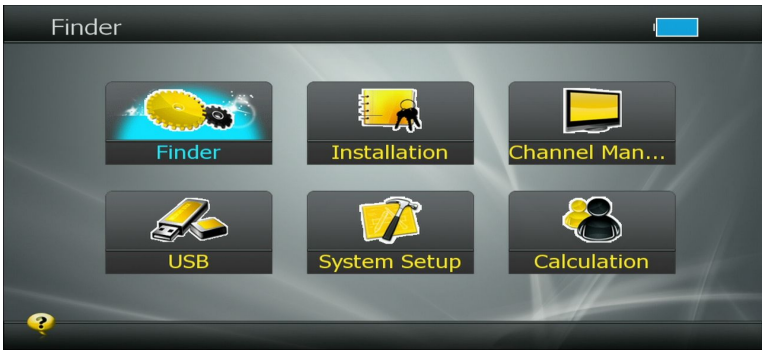
Factory reset

Attention!
All programs and settings, configured by you, will be reset to delivery status.

Satellite finding

In this menu you have the option to search for single channels or using the display for lining a satellite dish up.

⇨ Press the FIND button to display the Satellite Finding menu.



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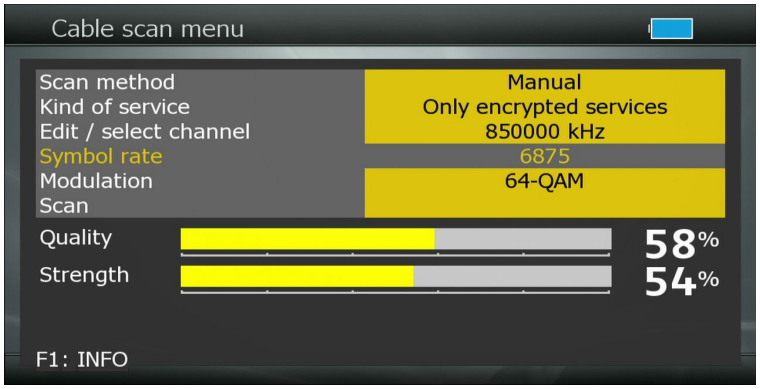


Figure 4: Satellite Finding

- ⇨ Press the ◄- or ►- button to select a satellite..
- ⇨ Press the ◄- or ►- button to select a LNB type..
- ⇨ Input the Frequency using the NUMERIC buttons.(press◄- or ► first, then input the number you want)
- ⇨ Input the symbol rate using the NUMERIC buttons.(press◄- or ► first, then input the number you want)
- ⇨ Press the ◄- or ►- button to select the polarisation.
- ⇨ F1 button to enter the Dish Setup menu
- ⇨ F2 button to add new TP
- ⇨ F3 button to Remove TP
- ⇨ Scan button to enter the channel scan menu

Lining satellite aerial up

-> Press the FIND button to display the menu ***satellite finding***.

- ⇨ Choose a satellite.
- ⇨ Turn the receiving dish as long as the LOCK- LED lights, or the joists of the signal level and signal quality are green.

Once a signal is found, the bar graph shows the signal strength and quality. In addition C/N, FEC and a.BER ,MER) are displayed. In addition an acoustic signal is represented.

Notice!

The satellite call sign (see Figure 4) registers which satellite you receive at the moment. At some satellites, as for example "Türksat", a wrong satellite call sign is cosent on single transponders, hence, the announcement can be falsified. Therefore, we recommend to leave the setting on the preset first transponder with the search of a satellite. Therefore the right satellite call sign is indicated in general always.

⇨ Set up the satellite antenna exactly to receive the best signal.

Notice!

The C/N value should amount 6dB at least. Values of 10dB and more are urgently if you liked to have a certain bad weather reserve. Or in the case if the signal about a multicounter should be distributed to several buyers.

The higher the C/N value, the better.

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

Cable Finding

In this menu you have the option to search for single channels or using the display for lining a C antenna up.

➔ Press the Menu to choice CFinder button pic to display the C Finding menu..

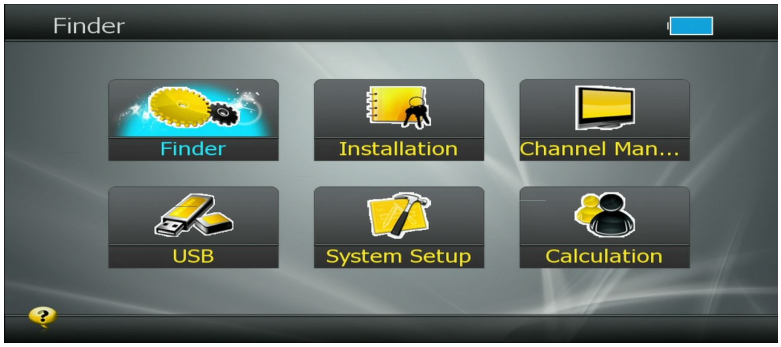


Figure 5:C Finder munu

Finding channels manual

➔ Press the C Finder button to display the menu ***C finding***.

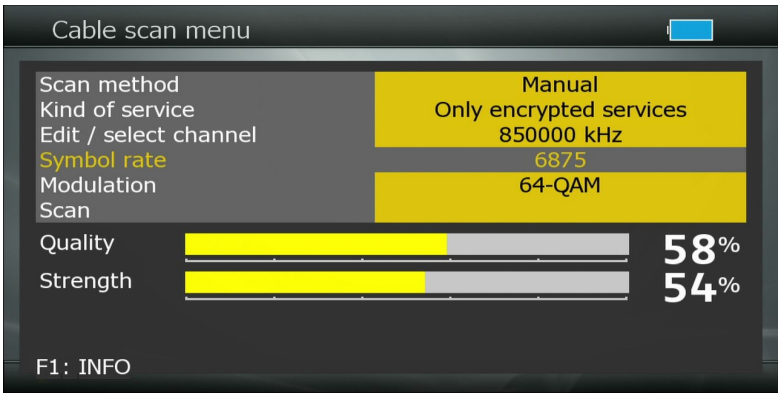


Figure 6:C Finding

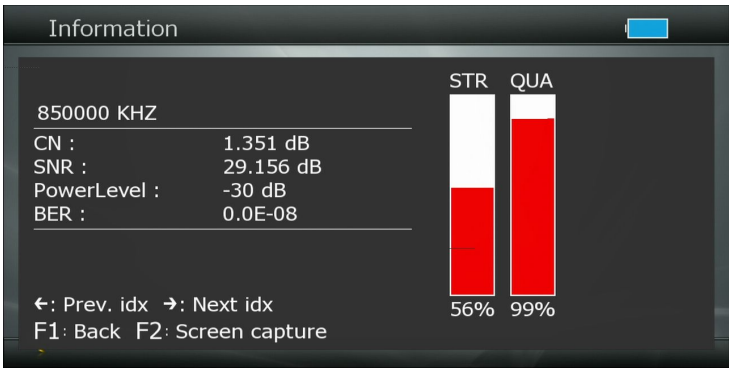
➔ Press the ◄- or ►- button to select **Scan method at Manual/Auto.**.

➔ Press the ◄- or ►- button to select **Kind of service at All services/Only free services/Only encrypted services**

➔ Press the ◄- or ►- or 0---9 NUMBERIC button to select **Select channel frequency at 177.5MHz--858MHz.**

➔ Press the ◄- or ► button to choose **Modulation at 16QAM/32QAM/64QAM/128/QAM/256QAM**

➔ Press the F1- button to display C signal info..



Figue 7:C Signal info

➔ Press the ◄- or ►- button to select the C frequency

➔ Press the F1 button to back C Finder menu

➔ Press F2 button to screen capture

Lining C antenna up

-> Press the C Finder button to display the menu ***C finding***.

➔ Choose a C Frequency and .Bandwidth

➔ Turn the receiving antenna as long as the LOCK- LED lights, or the joists of the signal level and signal quality are green.

Once a signal is found, the bar graph shows the signal strength and quality. In addition C/N, SNR, PowerLevel and a.BER (after BER) are displayed. In addition an acoustic signal is represented.

Notice!

The satellite call sign (see Figure 7) registers which frequency you receive at the moment. At some frequency, as for example "474MHz 8M", a wrong frequency call sign is cosent on single transponders, hence, the announcement can be falsified. Therefore, we recommend to leave the setting on the preset first transponder with the search of a frequency. Therefore the right frequency call sign is indicated in general always.

➔ Set up the satellite antenna exactly to receive the best signal.

Notice!

The C/N value should amount 6dB at least. Values of 10dB and more are urgently if you liked to have a certain bad weather reserve. Or in the case if the signal about a multicounter should be distributed to several buyers.

The higher the C/N value, the better.

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

Installation

Satellite setting

⇨ Press the MENU button to display the main menu.

⇨ Press the ▲- or ▼- button to move the cursor.

⇨ Select the point **INSTALLATION** and press the OK button

Figure 5: Satellite setup

⇨ Select the point ***Dish Setup*** and press the OK button.

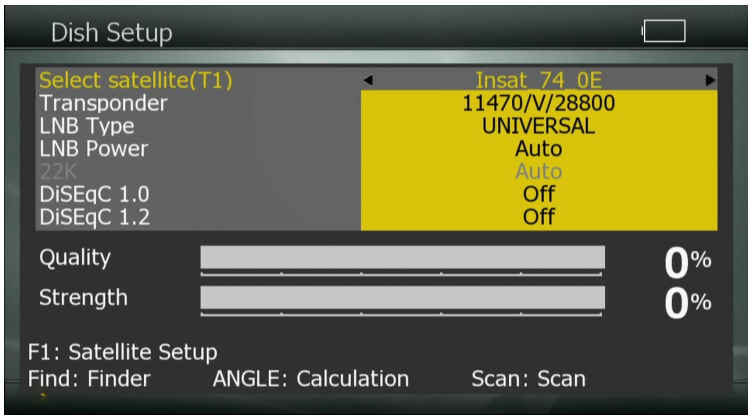


Figure 9: Dish set-up settings

⇨ Press the ▲- or ▼- button to move to the desired item
⇨ Press the ◄- or ►- button to modify the value of the selected item. Use the NUMERIC buttons if necessary.

⇨***Select Satellite:*** Satellite selection

⇨***LNB-Type:*** Univ-LNB1(9750-10600),Univ-LNB2(9750-10750),UNICABLE, 5150, 9750, 10750, 11300, 10700,

⇨***22K:*** AUTO, ON, OFF

⇨***LNB power (LNB-Tension):*** Off, Auto, 13V, 18V

⇨***DiSEqC-Level:*** - / DiSEqC 1.0

⇨DiSEqC 1.0: ***Switch Input:*** 1, 2, 3, 4

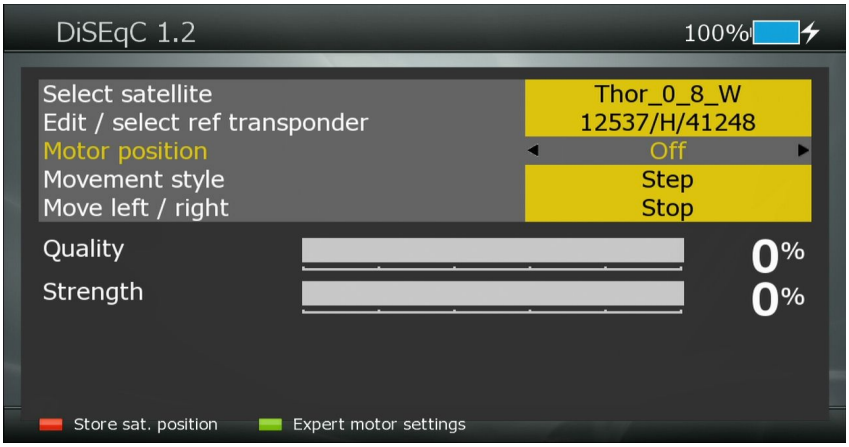
⇨DiSEqC 1.2: To enter the DisEqc1.2 Menu

⇨SCAN: you can scan the channels at this menu by press SCAN key

⇨Finder:To enter the finder menu

⇨ANGLE:To enter the Angle menu

⇨Press F2 to enter the DiSEqC1.2 menu



⇨Select Satellite:Press the ◄- or ►button to choose the Satellite name

⇨Edit/Select ref Transponder:Press ◄- or ►button to choose the TP

⇨Motor Position:Press ◄- or ►button to choose the Motor positon at the off/1-64

⇨Movement style:Press ◄- or ►button to choose he movement style at the

⇨Step/Continuous/1 second

⇨Move left/Right:Press ◄- or ►button to choose move left or right

⇨F1:To store sat positon

⇨F2:To Expert motor settings

⇨ Select the point ***Satellites Setup*** and press the OK button.

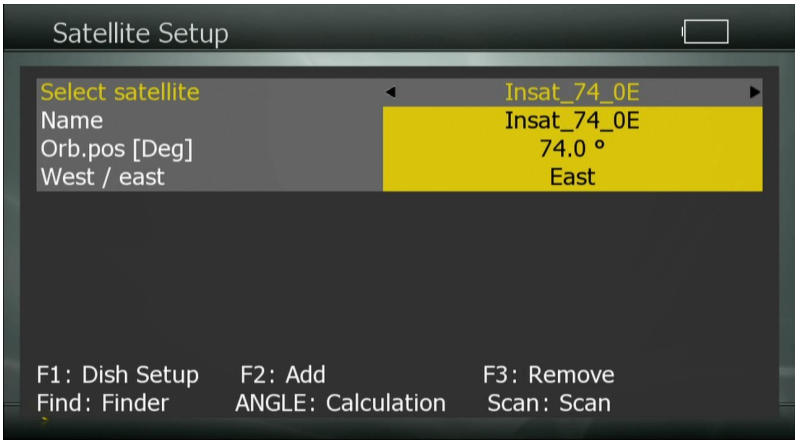


Figure 6: Satellites Setup

⇨Select Satellite: Satellite select

⇨Name: Satellite name

⇨Orb.pos[Deg]:Satellite Degree

⇨West/East: control the antenna trun toWest or East

⇨F1: press F1 to enter the Dish setup menu

⇨F2: Add the new satellite

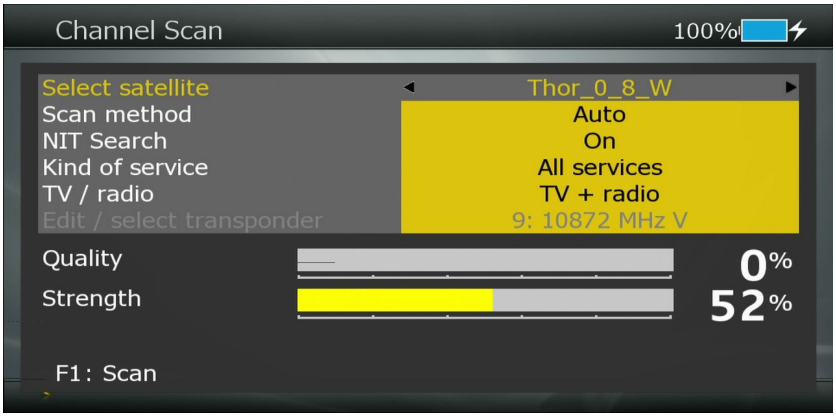
⇨F3:Remove this satellite

⇨Finder: To enter the Finder menu

⇨ANGLE: Calculation the satellite Degree

⇨Scan: Scan this satellite program

⇨ Press the Channel Scan button to enter the channel scan menu.



⇨ In Select satellite button ,press the ◄- or ►- button choose the Satellite name
⇨ In the Scan method button ,press the ◄- or ►- button choose the scan method mode at the Atuo/Blind/Manal
⇨ In the NIT Search button ,press the ◄- or ►- button choose the NIT search at the ON/OFF
⇨ In the Kind of service button ,press the ◄- or ►- button choose the Kind of service mode at the All services/Only free services/Only encrypted services
⇨ In the TV/Radio button ,press the ◄- or ►- button choose TV/Radio mode at the TV Only/Radio Only/TV+Radio

USB

⇨ Press the **USB** button to display the **Updating and Backup Data** menu.

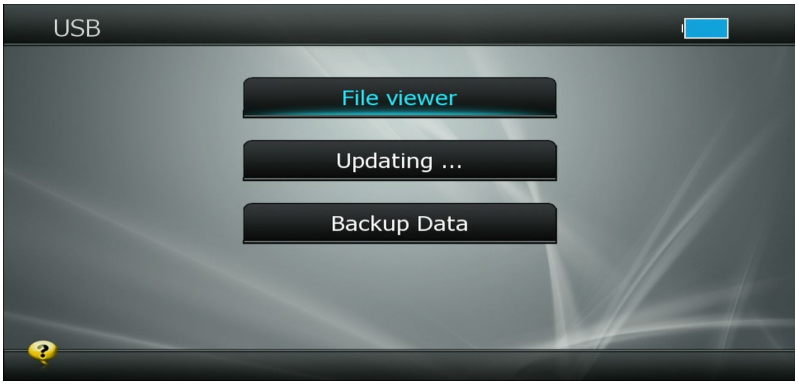


Figure 11: USB

⇨Press the File viewer to play usb file

⇨ Press the Updating- button or use the updating the sw

⇨ Press the Backup Data to backup data

Figure 12: SW updating

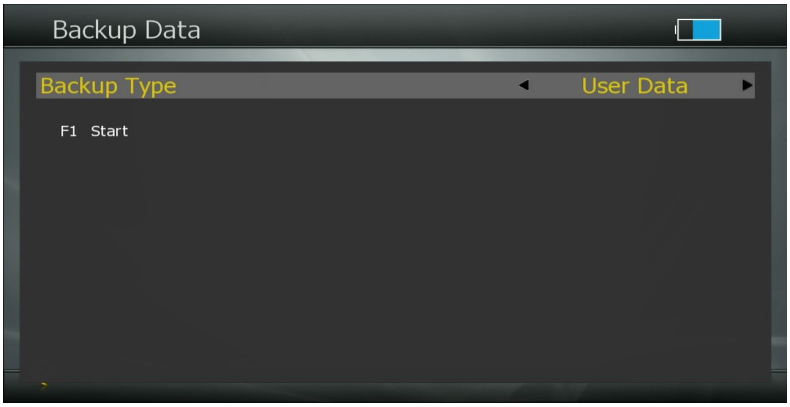


Figure 13: Backup Data

Angle calculation

⇨ Press the ANGLE button to display the Calculation menu.
⇨ Press the ◄- or ►- button or use the NUMERIC keys to change the configuration of the selected menu point.

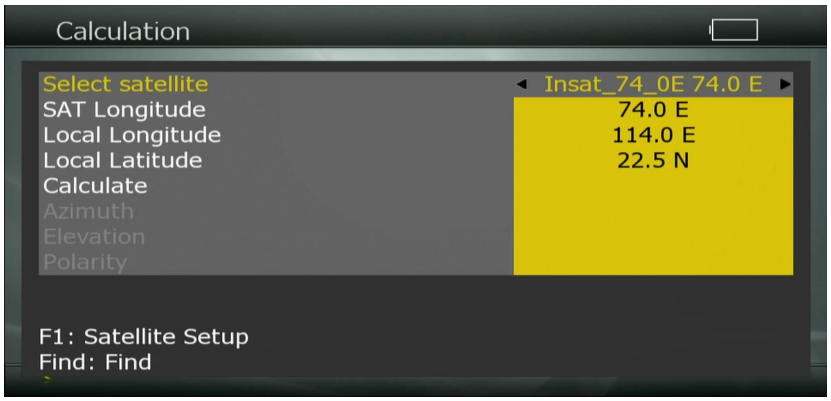


Figure 11: Angle Calculation

⇨ Press the ▲- or ▼- button to select the following points:

Satellite	• Longitude	• Location	• Latitude
Hemisphere	• Angle calculation		

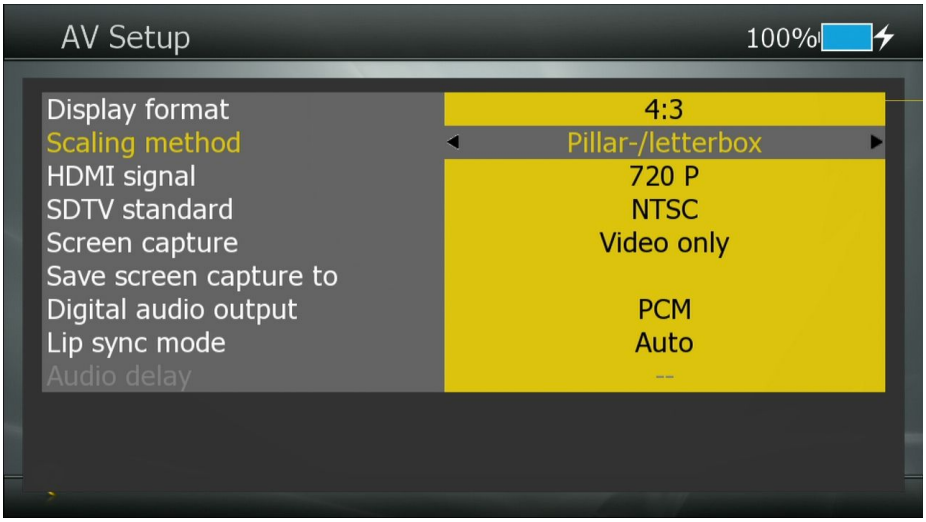
⇨***Satellite:*** Select the desired satellite
⇨***Longtitude:*** Input your local longtitude
⇨***Location:*** Input the direction
⇨***Latitude:*** Input your local latitude
⇨***Longitude:*** Input your local longtude

⇨After the completion of all values select **Angle Calculation** and press the OK button.

⇨***Azimuth:*** shows the azimuth of the chosen satellite
⇨***Elevation:*** shows the angle of elevation of the chosen satellite
⇨***Polarity:*** shows the polarity angle of the chosen satellite

▪ AV Setup

⇨Press the SYSTEM BUTTON to enter the AV Setup



⇨Display format: Press ◄- or ►button to choose the display format at 4:3/16:9
⇨Scaling method: Press ◄- or ►button to choose the Scaling method at Pillar-Letterbox/Fullscreen(zoom)/Fullscreen(CCO)/Let TV scale
⇨HDMI signal : Press ◄- or ►button to choose the HDMI signal at 1808i/720p/480/576i 480/576p
⇨SDTV standardt: Press ◄- or ►button to choose theSDTV standard at PAL/NTSC/SECAM/PAL-M/PAL-N/PAL-N Argent/
⇨Screen capture: Press ◄- or ►button to choose the Screen capture at Video only/Video+OSD
⇨Save screen capture to: Press ◄- or ►button to choose the Save screen capture to usb
⇨Digital audio output : Press ◄- or ►button to choose the Digital audio out put at PCM/Original
⇨Lip sync mode: Press ◄- or ►button to choose the Lip sync mode at Auto/Manual
⇨Audio delay:Press ◄- or ►button to choose the Audio delay at 0ms/20ms/40ms/…

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 16: 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

S2

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. 400 mA
LNB control signal	22 kHz
DiSEqC control	Version 1.0

Demodulator

Front-end-modul	QPSK/8PSK
Symbol rate	1,5 Mbps bis 45 Mbps
SCPC- und MCPC	
Spectral inversion	Auto conversion

C

Tuner input

F-type connector	IEC 169-24
Frequency range	47 MHz ~ 862 MHz
Input Level	-80 to -35DM
RF Input/Output impedance:	-75Ω Unbalance

Demodulator

Front-end-modul	16QAM/64QAM/128QAM/256QAM
Channel Bandwidth:	6MHz/7MHz/8MHz
Corde Rate:	1/2,3/5,2/3,3/4,4/5,5/6

Guard Internal:	
	1/4,5/32,1/8,5/64,1/16,1/32,1/64,1/128
SCPC- und MCPC	
Spectral inversion	Auto conversion

System resource

Processor	FUJITSU[MB86H60]
Clock Frequency	324MHz
DDRII-System	64 Mbyte
DDRII-Video	64Mbyte
FLASH	16 MByte

Vide decoder

Data rate	up to 15 Mbit/s
Resolution	1080i 720p 576p 480p
Video format	PAL, NTSC, SECAM

Connectors

USB2.0	USB 2.0
Enternet	Rj45
Hdmi	output
CVBS	
	3RCA[Video,L-Autio,R-Audio]

Power supply

Supply voltage	14 V
Li-oN battery	3000 mA
Charger	90 – 240 V
Supply voltage (charger)	175 - 250 V ~, 50/60 Hz

Dimensions

Length x width x height	
Gross-weight	0,5 Kg

Temperature

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

Warranty