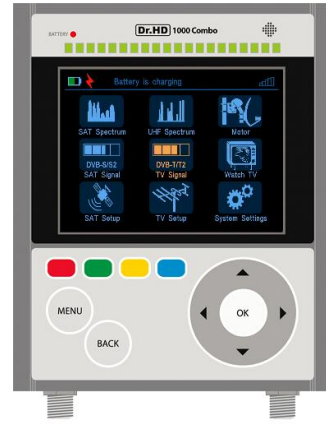


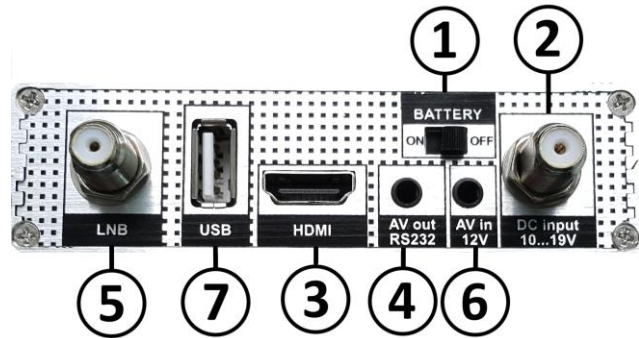


Dr.HD 1000Combo Dr.HD 1000S+



Multifunctional Signal Meter QUICK START GUIDE

Interfaces



- BATTERY ON/OFF** switch (sometimes called as Main Switch) is for battery disconnection.
- DC Input 10...19V** is the external supply for the battery charge and power supply to Meter in the active mode
- HDMI** out for TV connection.
- AV out** for CVBS + Mono Audio connection to old style TV. Also, works as **RS232** port when special cable is connected.
- "LNB"** connector. Antenna cable connects here. LNB in satellite mode, also terrestrial TV antenna and active antenna are connected here (only in Combo model).
- AV in / 12V**. Input for CCTV cameras and CVBS (video+audio).
- USB** socket for software and settings updates / backups (USB stick is required). Also, the Dr.HD USB Wi-Fi dongle can be used here.

Battery

The Multifunctional Satellite Meter is equipped with a high quality Li-Ion battery, which allows you to work off-grid for a long enough period. For better efficiency and longer usage, we recommend that you Switch off the battery with main switch to prevent self-discharge when the Meter is not used. Working time heavily depends on LNB loading, polarization mode and temperature. Remember that shorter working is achieved in cold environment, and also when horizontal polarization is used on Universal LNB. So, switch to Vertical Polarization (13V) whenever convenient. Also, Motorised Dish installation drains battery quickly when motor is powered from Meter. Average working time is around 3 hours for typical 100mA universal LNB at room temperatures (25 C, 75F).

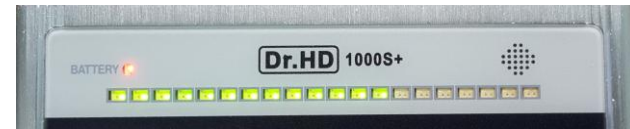
IMPORTANT: The Meter is guaranteed to work only with **original Dr.HD battery**. Using of unapproved by Dr.HD batteries can damage the meter and voids the warranty. Please ask authorized dealer/distributor of Dr.HD if you ever need to change battery.

Battery Charge and Power Supply

To charge the Meter, connect external power supply, switch the Main Switch to ON position and make sure that the Meter is in the main menu (battery symbol on display). If all is done correctly, the display will show a charging battery symbol and the "Battery" LED will become RED. When battery charge is finished, the LED will change color to GREEN. If battery switch is in OFF position and PSU is connected, you will see LED flashing red/green continuously. **After opening a new Meter – fully charge it for few hours, until LED is green.**

When the Meter is powered by internal battery, the display will show the battery charge status in percents. The same symbol can be found as an icon in other menu pages. It helps the operator to understand how much time remains.

NOTE: the working time depends on consumed current. Therefore, the remaining percentage value displayed may change significantly in a short time, when power consumption is substantially changing.



Charge is going, around 60% is done



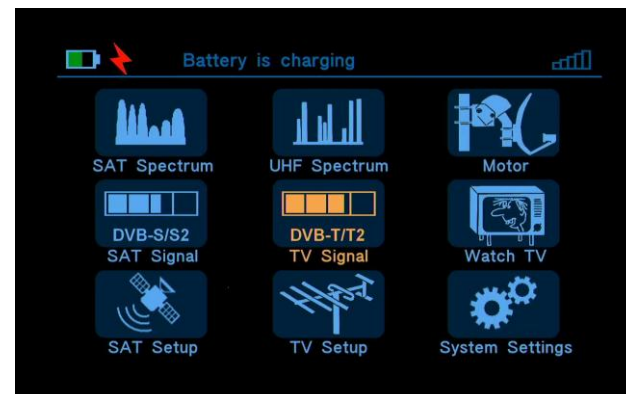
Charge was well done, 100%

WARNING!

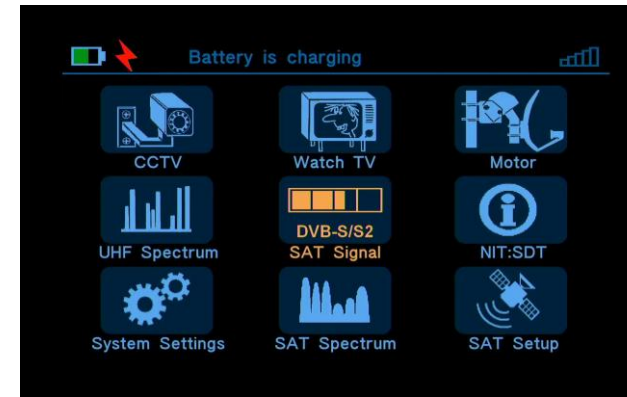
We have tried to make our Meter as user-friendly as possible. We made it possible to charge from any satellite STB, if needed. However, there are important limitations, which you should know about.

- Please, charge or work from stabilized Power Supply Unit providing from 12 to 15 volts, with current no less than 1A and no more than 2A. We recommend to use **ONLY** the Dr.HD PSU (12V, 2A) that we provide with the Meter. Also, you can **charge** from the DC car charging cable that we provide.
- If main battery is flat (low), you can work with the the Dr.HD PSU (12V, 2A) that we provide with the Meter. But, in case of short-circuit in the LNB cable, the Meter won't be able to show the red warning message about over-current, instead it will reboot to protect itself. This kind of reboot is normal, it is for protection. Please check your LNB cable immediately and find a reason for over-current.
- If necessary, you can charge from the LNB IN port of any Satellite receiver. To avoid over-heating, remember to switch the receiver to any transponder with Vertical polarisation, so the receiver provides 13 Volts to the cable. This is important.
- NOTE:** If necessary, it is possible to work from any satellite receiver's power (13V, vertical), but we do not recommend to work on STB power, because STB supplies only 500mA power and it won't be enough power to safely run the Twin/Quad/Unicable LNB, etc.
- The safest operation is always from the internal battery. Please, use it whenever possible.**
- Using other Power Supply Units, except provided by Dr.HD (12V, 2A) is prohibited, especially if the PSU units are providing more than 2A power. These power supply units could be not stabilized, not filtered, not protected and simply dangerous to use. The warranty does not cover use with such PSUs.

Main menu and control



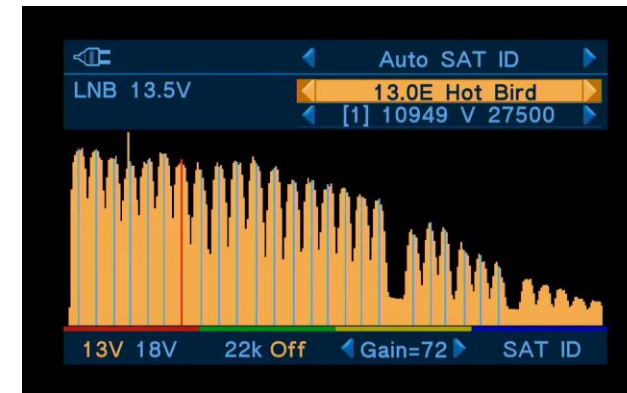
Its main menu of 1000Combo model



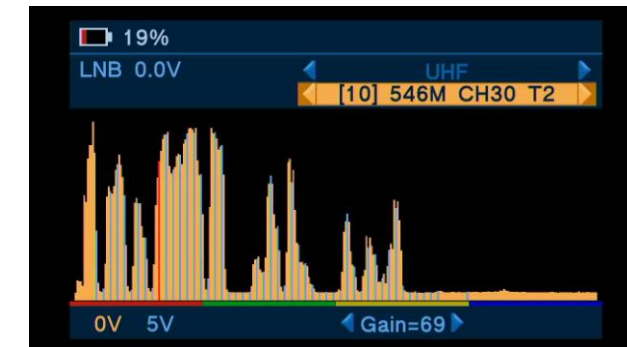
Its main menu of 1000S+ model

Main functions

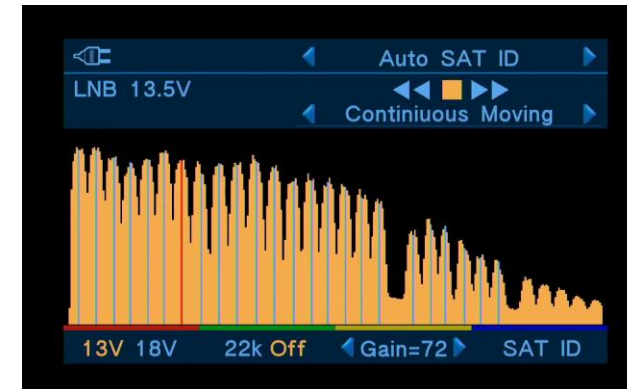
SATellite Spectrum



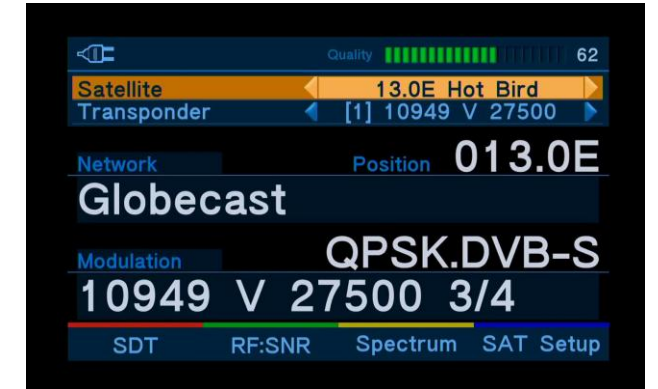
Spectrum UHF



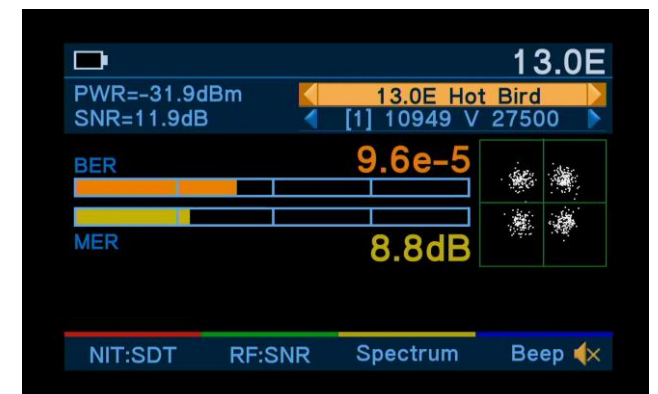
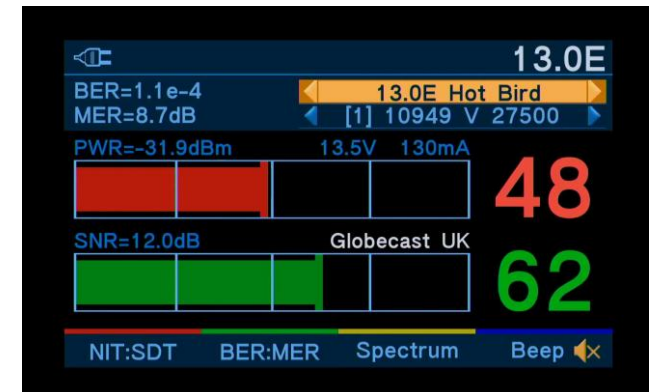
Motor



NIT:SDT



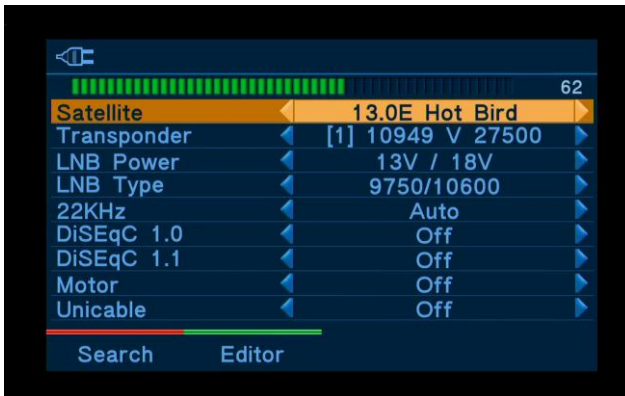
SAT Signal (Signal Measuring menu). TV Signal (available in 1000Combo model only)



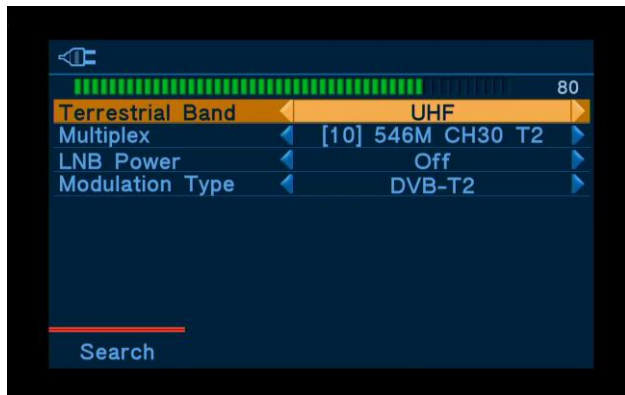
Watching TV



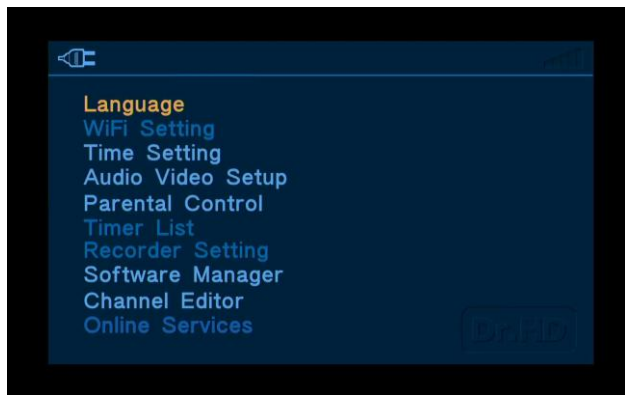
SAT Setup



TV Setup (available for 1000Combo model only)



System Settings



CCTV mode

NOTE! The CCTV mode will be enabled automatically, when you insert the special CCTV-cable into the AV IN connector. After this, CCTV camera will get 6...11V power supply from the main battery (voltage depends on mode of work, and normally it is enough to test-power the CCTV cameras), and the display will show the video picture from Camera, and audio will play on the built-in speaker. The CCTV power output has shortcut protection. This mode supports the analogue CCTV with CVBS PAL/NTSC color system and mono audio.

IMPORTANT! The CCTV mode is a power-saving mode! Therefore, to return back from CCTV mode, you must reboot the Meter! Unplug PSU from Meter (if was connected) turn the main switch to "OFF" then "ON".

Remote control unit (RCU)

Using RCU is one more way to control the Meter, especially in the Set-Top Box mode. We did our best to make RC as easy as possible and user-friendly for all potential customers.

Firmware USB update

We are continuously improving the Dr.HD™ 1000S+ / 1000Combo software, adding new functions, in order to provide the best functional and convenient product for our customers.

User can find information about firmware of Meter. To do this, go to Menu ->System Settings -> Software Manager .

How to update firmware:

1. Download the latest version of firmware at official Website: WWW.DR-HD.COM .
2. Unzip files to the **root** folder of the USB stick. Firmware files have "ssu" extension.
3. Connect the USB stick to Meter.
4. **Be sure that Meter's battery has 20% charge or more** , otherwise connect PSU, to prevent update failures with power off reason.
5. Select Menu ->System Settings -> Software Manager- >Upgrade, press OK.
6. Select ssu or xml file for updating, and press Ok to start update.

You will see pop up warning messages and running progress bar. The update requires not too much time, within 2-3 minutes. Do not do anything during that time. After successful update finder will reboot by itself and will enter the main menu.

NOTE: NEVER touch the main switch or disconnect PSU when doing software update or downloading the XML files.

Follow us for new SW updates for more functions and other upgrades! You can check our official site, but better idea is to follow us on FaceBook, also there are YouTube videos that may help you.

Database editor and settings USB update

The Meter has simple embedded satellite+transponder database editor. It helps to insert some changes in settings in any moment of installation. For example, you can change polarization of transponder, you can add new transponders, etc.

For bigger changes it is wiser to use your PC. In this case, you can record the **satellites.xml** and **terrestrial.xml** database files to the USB stick and downloaded to Meter from USB.

How to update settings:

1. Download database files at the official site: WWW.DR-HD.COM .
2. Unzip files to the USB stick's root folder. The setting database files always have "xml" extension.
3. Connect the USB stick to the Meter.
4. **Be sure that Meter's battery has 20% charge or more** , otherwise connect PSU, to prevent update failures with power off reason.
5. **NOTE!** The sequence of downloading is critical. Satellites.xml must be downloaded before terrestrial.xml and they should be download together (one right after another) always. Call Menu ->System Settings -> Software Manager- >Upgrade, press OK.
6. In simple file manager select xml file and press Ok to start update. You will see pop up warning messages and running progress bar.

Attention! Embedded database has memory limitations:

- Maximal satellite items count is 61.
- Maximal transponder items count is 2000.
- Maximal terrestrial band count is 3 for 1000Combo (VHF I/II, VHF III и UHF) and 1 for 1000S+ (UHF only).
- Maximal satellite name length is 15 Latin symbols

Editing the Database on PC.

Some customers may like editing the Database on PC. In this case, you can edit the XML file with some editor able to work with XML files.

Then, the edited file can be recorded to USB drive and downloaded to Meter. But **REMEMBER TO RESPECT the maximal satellite and transponder counts, as above.**

Specifications

Tuner input	Connector for the cable from LNB	IEC169-24, female
	Input IF frequency range	450MHz ~ 2150MHz (1000S+) (maximal BW in Spectrum mode) 45MHz ~ 2150MHz (1000Combo)
	Input IF signal level range	-70dBm ~ -25dBm (satellite mode) -100dBm ~ -25dBm (terrestrial mode)
	LNB (antenna) supply	DC 13/18V 500mA* 4.3/13V 200mA (1000Combo)
	LNB switch control	22KHz
Demodulator	Demodulator	DVB-S QPSK, DVB-S2 QPSK/8PSK/16APSK/32APSK (all models) DVB-T QPSK 16QAM/64QAM, DVB-T2 QPSK 16QAM/64QAM/256QAM (only on Combo)
	Symbol rate	1 ~ 45MS/s
	Spectral inversion	Auto conversion
Video decoder	MPEG 2,4	MPEG-2, MPEG-4, H.264 AVC and Less
	Data Rate	up to 15M bits/s
	Video format (CVBS)	PAL, NTSC
Power supply	Video format (HDMI)	FULL HD 4:3/16:9 1920x1080p/i, 1280x720p, 720x576p/i, 640x480p/i
	Power consumption (max)	24W active, 0W sleeping
	Supply voltage	100V ~ 250V
	Supply frequency	50Hz ~ 60Hz
	Battery	Built-in Li-ion, replaceable (8.4V)
	Battery working time	~ 27 hours, depends on mode and (LNB) load, typical 3+ hours

Rear Panel connectors	BATTERY ON/OFF	Battery switch
	USB 2.0	150mA, A-Type
	HDMI	Digital HD-Video/Audio output
	Audio(MONO)/Video (CVBS) output	With using cable-adapter 3 RCA
	RS232	With using cable-adapter DB9
	Audio (Mono)/Video (CVBS) input, DC12V output	With using cable-adapter 2 RCA and DCOUT
Keypad	Digital tuner input	IEC169-24
	Power DC	From DC adapter 12V 2A (other options, read more above)
Keypad	Dip membrane buttons	
Display	LCD Display	LCD 3.5' 320x240
Size & Weight	Size (W x H x D) (without connectors)	105x30x130, mm
	Weight (Netto)	~0,5 kg

Attention! We are continuously improving the Dr.HD™ 1000S+ / 1000Combo software and hardware, adding new functions, in order to make it the MOST Effective, functional and convenient product for our customers. Therefore, we reserve the right to make changes for the benefit of our customers. That is why some functions described in this manual might be somewhat different from what you see in your Dr.HD™ 1000S+ / 1000Combo. That means that we have improved software/hardware for your convenience!

We hope you enjoy using our Dr.HD™ 1000S+ / 1000Combo!

- From creators of Dr.HD™ 1000S.

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