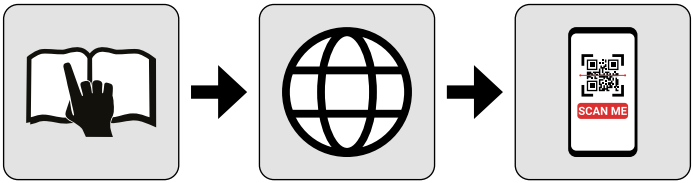
TELESTAR®

SATPLUS 5

user manual

Bedienungsanleitung · User manual · Manuel d’utilisation
Manuale d’uso · Manual de usuario · Handleiding · Příručka
Instrukcja obsługi · Használati útmutató · Manual de utilizare
Brukermanual · Användarmanual · Käyttöohje · Brugervejledning
Návod na použitie · Manual do utilizador
Ръководство за употреба · Navodila za uporabo
Upute za uporabu · Εγχειρίδιο χρήσης · Kasutusjuhend
Lietošanas pamācība · Naudojimo vadovas



Manual Languages Scan me!

https://www.telestar.de/support/dl/

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1. Safety instructions

General safety
Please read these instructions thoroughly before using the device for the first time and keep them in a safe place. Use the measuring device strictly as intended and only for the measurement and analysis functions described in these instructions. Do not leave the device unattended near children and do not make any modifications to the device.

Power supply
Only use the supplied or expressly recommended mains adapter to charge the measuring device. Ensure that the mains adapter and cable are undamaged and protect them from heat, moisture and physical stress. Do not use any defective charging accessories.

Battery / Charging Process
Charge the device only with the designated charging accessories and do not expose the battery to heat or direct sunlight. Do not use it if the battery is damaged, swollen or leaking. When replacing the battery, only use the same or an equivalent battery type, as there is otherwise a risk of explosion.

Operation & Environment
Operate the measuring device only in dry environments and protect it from moisture, rain, condensation, extreme temperatures, impacts and vibrations. Do not cover the device to prevent overheating, and do not use it in potentially explosive atmospheres.

RF signals & connections
Connect only suitable antennas, LNBs and RF cables, and ensure that all connectors are properly seated. The antenna supply (e.g. 13/18 V, 22 kHz) can cause short circuits and damage both the measuring instrument and connected components. Only carry out measurements on systems that are clearly de-energised.

Electromagnetic compatibility (EMC)
The device may generate or receive RF signals and thereby affect sensitive equipment such as medical devices, security systems or radio technology. Keep the device away from strong sources of interference such as motors, switching power supplies or radio equipment, as these may impair reception.

1. Safety instructions

Cleaning & Maintenance
Disconnect all cables and switch off the device before cleaning. Use a dry, soft cloth and do not use liquids or cleaning agents. The device must only be opened or repaired by qualified technical personnel.

Firmware & Software
Only install officially provided firmware versions. Do not interrupt the update process or switch off the device whilst it is in progress to avoid malfunctions.

Storage & Transport
Store the device in a dry, dust-free environment and protect it from extreme temperatures. During transport, the measuring device must be protected against impacts, moisture and pressure. Remove any connected cables to prevent damage.

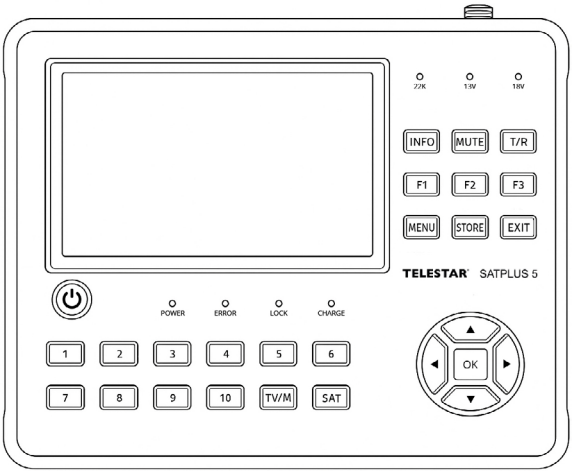
Disposal
Dispose of the device in accordance with local regulations for waste electrical equipment. Rechargeable and non-rechargeable batteries must not be disposed of with household waste and must be handed in at suitable collection points.

2. Contents of the package

- Satplus 5
- 230 V mains adapter
- 12 V car charger
- F-connector adapter
- F-to-coaxial adapter
- Rubber protective cover
- Carry case
- User manual

3. Overview and connections

3.1 Front view



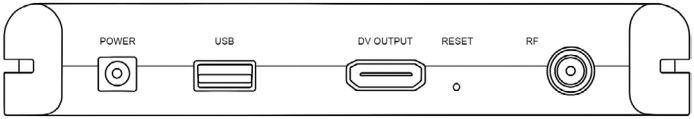
POWER	The blue LED lights up when the meter is switched on.
ERROR	The red LED lights up if a short circuit is detected on the antenna or the LNB.
LOCK	The green LED lights up when the signal has been detected correctly and the satellite has been acquired.
CHARGE	The LED lights up red whilst the battery is charging and turns green once the battery is fully charged.
22K	Indicates whether the 22 kHz signal is active (e.g. for high/low band).

3. Overview and connections

13V	The LED indicates that the receiver is supplying 13 volts to the LNB.
18V	The LED indicates that the receiver is supplying 18 volts to the LNB.
INFO	Show or hide help messages in the menus.
MUTE	Turns the sound on or off.
TV/R	Switches between TV and radio reception.
F1	The functions of the F keys vary depending on the menu. The available functions are displayed at the bottom of the screen.
F2	The functions of the F keys vary depending on the menu. The available functions are displayed at the bottom of the screen.
F3	The functions of the F keys vary depending on the menu. The available functions are displayed at the bottom of the screen.
MENU	Open or exit the menu.
STORE	Take a screenshot of the relevant menu and save it to the USB stick whilst it is connected to the measuring device.
EXIT	Exit the current menu or the current task.
0~9	Enter numerical values or activate certain functions. Please refer to the help texts in the menus.
TV/M	Switch between the video menu and other menus.
SAT	Display all available satellites for DVB-S.
▲▼	Switch between channels or navigate through the menu.
◄►	Turn the volume up or down, or navigate through the menu.
OK	In video playback mode, press the OK button to open the channel list. In all other menus, the OK button confirms your selection or action.

3. Overview and connections

3.2 Connections



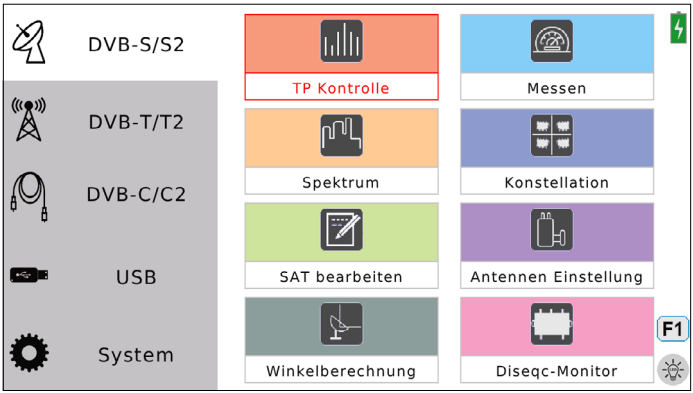
3. Overview and connections

POWER	This connection is used to power the meter or charge the battery. To avoid damaging the device, use only the mains adapter supplied.
USB	The USB port can be used to install software updates, import or export channel lists, and save screenshots.
HDMI	The HDMI port allows the TV picture to be displayed on an external monitor or television. Ideal for signal testing or extended display.
RESET	The recessed reset button is used to restart the meter, for example if it stops responding. Press the button briefly using a needle or another thin object to restart the device. The settings will remain unchanged.
HF	This is where the coaxial cable from the LNB, multiswitch or cable connection is connected. The input is used to measure DVB-S/S2, DVB-T/T2 or DVB-C signals.

4. Basic functions

Switch on the device. To do this, press and hold the power button for approx. 1–2 seconds until you hear a beep. Once started, the meter will return to the main menu. Press EXIT to access the video playback menu, or press OK to open a submenu.

Use the ▲▼◄► buttons to navigate the menu. These allow you to select menu items, scroll through lists and switch between different options.

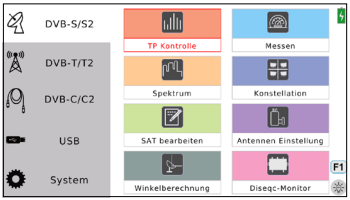


4. Basic functions

Satellite	Displays the menus for satellite TV (DVB-S/S2) on the right-hand side of the screen. Press OK to open the sub-menus.
Terrestrial	Displays the menus for terrestrial television (DVB-T/T2) on the right-hand side of the screen. Press OK to open the relevant sub-menus.
Cable	Displays the menus for cable TV (DVB-C) on the right-hand side of the screen. Press OK to open the sub-menus.
USB	Displays the available USB functions on the right-hand side of the screen (video, images, music, data). Press OK to access the sub-menus.
System	Displays the system settings on the right-hand side of the screen. Press OK to access settings such as language, display, factory settings, time, etc.
	Displays the current battery charge level
F1	Press F1 to switch the LED light on the back of the meter on or off. This function is only available in the main menu; in sub-menus, the F1 key has different functions.

5. Satellite (DVB-S/-S2)

The submenu for DVB-S/S2 functions is displayed on the right-hand side of the screen. Use the ▲▼ ◄► buttons to navigate and press OK to open the desired function.

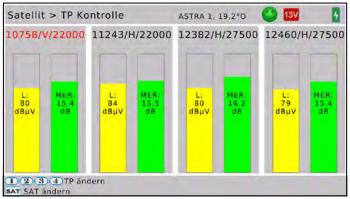


TP Check	Press OK to open the ‘Satellite > TP Check’ menu to view transponder parameters, perform a level check or identify individual levels on the cable.
Measure	Press OK to open the ‘Satellite > Measure’ menu and view signal strength, quality and other parameters.
Spectrum	Press OK to open the ‘Satellite > Spectrum’ menu and analyse the RF spectrum.
Constellation	Press OK to open the ‘Satellite > Constellation’ menu and check the constellation display (e.g. QPSK/8PSK).
Edit SAT	Press OK to open the ‘Edit Satellite’ menu, where you can edit satellite lists or transponder entries.
Antenna settings	Press OK to open the ‘Satellite > Antenna Settings’ menu for LNB configuration (e.g. LOF, 22 kHz, DiSEqC).
Angle calculation	Press OK to open the ‘Satellite > Angle Calculation’ menu to calculate the azimuth, elevation and skew angles.
Monitor DiSEqC	Press OK to open the ‘DiSEqC Monitor’ menu, which allows you to check and analyse DiSEqC commands.
F1	Press F1 to switch the LED light on the back of the meter on or off. This function is only available in the main menu; in sub-menus, the F1 key has different functions.

5. Satellite (DVB-S/-S2)

5.1 TP check

This menu displays all four transponders, including their signal strength indicators, at the same time. This allows you to see immediately whether all four channels are working.

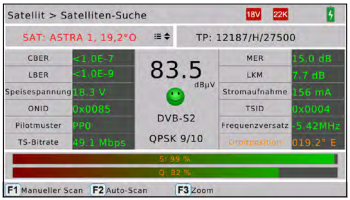


Transponder selection (1–4)	Open the transponder list to select a transponder for the relevant display. This allows you to specify which transponder is displayed on which screen.
SAT	Open the satellite list to select the desired satellite.
Current satellite (e.g. ASTRA 1, 19.2° E)	Displays the currently selected satellite.
	A green icon appears when all displayed transponders have been successfully locked; a red icon appears when one or more transponders have not been locked.
13 V / 18 V	Displays the currently active LNB supply voltage (vertical/ horizontal).
22 kHz	Indicates that the 22 kHz tone is enabled.

5. Satellite (DVB-S/-S2)

5.2 Measuring

This menu is used to calibrate a satellite and to analyse the currently selected satellite or transponder. All key reception parameters, such as signal strength, quality, MER, BER and other technical values, are displayed here in real time. Use the ◀ ▶ buttons to switch between the satellite and the transponder.



13 V / 18 V	Displays the currently active LNB supply voltage (13 V for vertical polarisation, 18 V for horizontal polarisation).
22 kHz	Indicates whether the 22 kHz tone is enabled.
SAT	Displays the currently selected satellite. Use ▲▼ to switch between satellites, and press OK to open the satellite list.
TP	Displays the currently selected transponder. Use ▲▼ to switch between transponders, and OK to open the transponder list. You can edit transponder parameters using the number keys 1–9.
CBER	Displays the CBER error rate of the input signal (error rate before forward error correction / Pre-BER).
LBER	Displays the LBER error rate of the input signal (error rate after forward error correction / post-BER).
Supply voltage	Displays the LNB supply voltage output by the meter.
ONID	Displays the original Network ID of the received signal.
Pilot	Indicates whether pilots are used in the DVB-T2 signal.

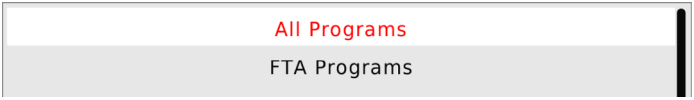
5. Satellite (DVB-S/-S2)

TS Bitrate	The current bitrate of the received transport stream.
MER	Displays the MER value of the input signal (Modulation Error Ratio).
LKM	Displays the LKM value of the signal (depending on the device, this may be the Lock Margin or Link Margin).
Power consumption	Displays the current drawn by the connected LNB.
TSID	Displays the transport stream ID of the input signal.
Frequency offset	Displays the frequency offset relative to the current transponder frequency.
Orbit Position	The satellite's orbital position as determined from the received signal.
83.5 dBµV	The measured signal level of the input signal.
	A green icon appears when the signal has been successfully locked; a red icon appears if the signal has not been locked.
DVB-S2	The reception system used (e.g. DVB-S or DVB-S2).
QPSK	The modulation type and FEC rate of the received signal (e.g. QPSK 9/10).
S:	The percentage signal strength of the input signal.
Q:	The percentage signal quality of the input signal.

5. Satellite (DVB-S/-S2)

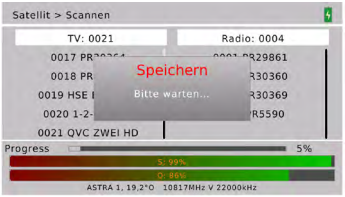
F1 key: Manual search
Press the F1 key to open the manual search menu. In this mode, only the currently selected transponder is analysed. This is particularly useful for checking specific frequencies or for troubleshooting.

F2 key: Automatic search
Press the F2 key to start the automatic search.
A selection menu with two options will first appear:



All programmes:
The receiver scans for and stores all TV and radio stations it finds, including encrypted channels.

FTA programmes:
Only free-to-air channels are searched for and saved.

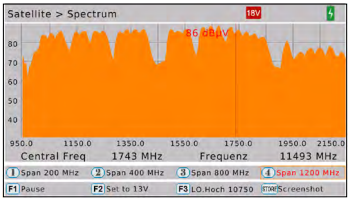


Key F3: Zoom
Press the F3 key to switch to a larger display of the measurement values so that you can see the details more clearly.

5. Satellite (DVB-S/-S2)

5.3 Spectrum

In this menu, you can analyse the RF spectrum of the selected satellite. Use buttons 1–4 to select the frequency range to be displayed, and use the function buttons to start or stop the analysis or to change the LNB settings.

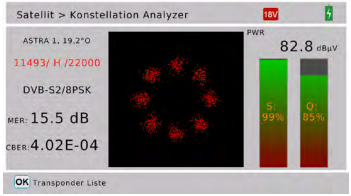


13 V / 18 V	Displays the currently active LNB supply voltage (13 V for vertical polarisation, 18 V for horizontal polarisation).
22 kHz	Indicates whether the 22 kHz tone is enabled.
(1) Span 200 MHz	Set the spectrum range (span) to 200 MHz.
(2) Span 400 MHz	Set the frequency range (span) to 400 MHz.
(3) Span 800 MHz	Set the frequency range (span) to 800 MHz.
(4) Span 1200 MHz	Set the frequency range (span) to 1200 MHz.
F1	Starts or stops the spectrum analysis.
F2	Switches the LNB supply voltage between 13 V and 18 V.
F3	Switches between the LO-High and LO-Low bands of the LNB.
STORE	Saves a screenshot of the current spectrum to the connected USB storage device.

5. Satellite (DVB-S/-S2)

5.4 Configuration

This menu displays the constellation diagram for the selected transponder and allows for a quick assessment of signal quality.

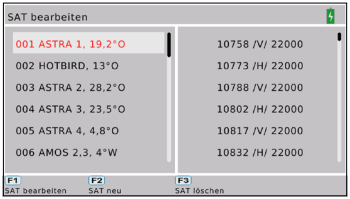


13 V / 18 V	Displays the currently active LNB supply voltage (13 V for vertical polarisation, 18 V for horizontal polarisation).
22 kHz	Indicates whether the 22 kHz tone for universal LNBs is enabled.
Current satellite	Shows the currently selected satellite.
Current transponder	Displays the currently selected transponder. Use ▲▼ to select a different transponder. Press OK to open the transponder list.
DVB-System / Modulation	Displays the transmission system used and the signal modulation type (e.g. DVB-S2/QPSK).
MER	Displays the MER (Modulation Error Ratio) of the input signal.
CBER	Displays the CBER error rate (pre-BER) of the input signal.
PWR	Displays the measured signal level of the input signal.
S:	Shows the signal strength as a percentage.
Q:	Shows the signal quality as a percentage.
OK	Opens the list of available transponders.

5. Satellite (DVB-S/-S2)

5.5 Edit SAT

This menu allows you to manage satellites/transponders and their settings. Use ◀ ▶ to switch between the satellite list and the transponder list, and ▲▼ to navigate within the list.



Red text	Displays the currently selected satellite/transponder.
F1: Edit SAT	Opens the dialogue box for editing the selected satellite.
F2: New SAT	Opens the dialogue box for adding a new satellite. Step 1: Enter the satellite name, longitude/latitude and position. Step 2: Set the satellite's antenna and LNB parameters.
F3: Delete SAT	Deletes the currently selected satellite. A confirmation dialogue box will appear, allowing you to confirm or cancel the deletion.

Transponders can be added, edited or deleted in this menu in the same way as satellites.

5. Satellite (DVB-S/-S2)

5.6 Antenna adjustment

In this menu, you can configure all antenna and LNB settings, including LNB type, LNB voltage, oscillator frequencies, 22 kHz tone, LNB voltage, DiSEqC switch and motor control. Use ▲▼ to navigate through the list and ◀ ▶ or the number keys to change the values.

Satellite	Displays the currently selected satellite. Use ◀ ▶ to change the satellite; press OK to open the satellite list.
LNB Type	Sets the LNB type. Use ◀ ▶ to change the type. Default: Universal.
LO.LOW	Displays the local oscillator frequency as ‘Low’. Can be changed using the number keys when the LNB type is set to ‘Custom’.
LO.HIGH	Displays the local oscillator frequency as ‘High’. Can be changed using the number keys when the LNB type is set to ‘Custom’.
22 kHz	Toggles the 22 kHz tone between ON / OFF / AUTO. Default setting: Auto.
LNB Power	Switches the LNB power supply between Auto / 13 V / 18 V / Off. Default setting: Auto.
Change type	Sets the type of switch used. Use ◀ ▶ to select between None / DiSEqC 1.0 / DiSEqC 1.1 / SCR / SCD2. Default: None.

5. Satellite (DVB-S/-S2)

Switch input	Here, depending on the selected type, you can set your position or channel. If DiSEqC is selected, choose your DiSEqC switch position. If SCR or SCD is selected, set your IF channel.
Central Freq	Sets the centre frequency for SCR or SCD2 systems.
Motor	Sets the motor type for the antenna. Use ◀ ▶ to select between Fixed / DiSEqC 1.2 / USALS. If DiSEqC 1.2 or USALS is selected, pressing OK opens the corresponding settings menu. Default: Fixed.
OK	Depending on the menu item, pressing the OK button will display a list of available options.
F1: Auto DiSEqC	Starts the automatic test of the DiSEqC 1.0 port to detect the correct switch port.

5. Satellite (DVB-S/-S2)

5.6.1 DiSEqC 1.2 Settings Menu

This menu allows you to control and position a motorised antenna via DiSEqC 1.2. You can move the motor, navigate to preset positions, set limits and manage saved positions.

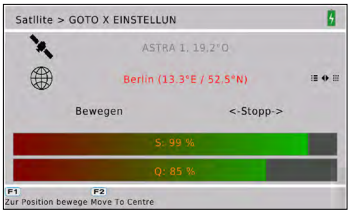
13 V / 18 V	Displays the currently active LNB supply voltage (13 V / 18 V).
22 kHz	Indicates whether the 22 kHz tone is enabled.
Satellite	Shows the currently selected satellite.
Transponder	Displays the currently selected transponder.
A step eastwards	When you press OK, the meter sends a DiSEqC command to move the motor one step eastwards.
A step westwards	Press OK to send a DiSEqC command instructing the motor to move one step west.
Moving eastwards	Press OK to send a DiSEqC command instructing the dish to move continuously eastwards.
Moving westwards	Press OK to send a DiSEqC command instructing the dish to move continuously westwards.
Stop the movement	Press OK to send a DiSEqC command to stop the motor movement.
Eastern border	When you press OK, the meter sets the east limit for the motor.
Western border	When you press OK, the meter sets the western limit for the motor.

5. Satellite (DVB-S/-S2)

Disable limit	Pressing OK deactivates all set limits on the meter.
Move to Center	Press OK to move the motor to the centre position (mechanical centre position).
Move to the position	Press OK to move the motor to the satellite's saved position.
Save	When you press OK, the measuring device saves the current motor position as a satellite position.
S:	Shows the signal strength as a percentage.
Q:	Shows the signal quality as a percentage.

5.6.2 USALS Settings Menu

This menu allows you to control a motorised antenna via the USALS system. Here, you can set location data, move the motor and navigate to saved positions.



Current satellite	Shows the currently selected satellite.
Position (z. B. „Customised“)	Displays the set location in degrees of longitude and latitude. Use ◀ ▶ to select saved locations. Press OK to open the location list.
Move	Moves the motor gradually eastwards or westwards (using ◀ ▶).
Moving east-wards	When you press OK, the meter sends a USALS command for continuous movement eastwards.
Moving west-wards	When you press OK, the meter sends a USALS command for continuous movement westwards.
F1: Move to position	Press OK to move the motor to the calculated satellite position according to the USALS coordinates.
F2: Move to the centre	Press OK to move the motor to the mechanical centre position.
S:	Shows the signal strength as a percentage.
Q:	Shows the signal quality as a percentage.

5. Satellite (DVB-S/-S2)

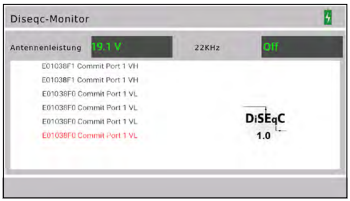
5.6.3 Angle calculation

This menu displays the calculated alignment data for the selected satellite, including azimuth, elevation and LNB skew. The values are calculated based on the user's location and will vary depending on where the user is situated.

Current satellite	Shows the currently selected satellite.
Location (Longitude / Latitude)	Displays the saved location in longitude and latitude. Tap OK to open the location list. Use ▲▼ to switch between saved locations. **NOTE:** In most cases, it is sufficient to select a nearby location from the list.
Azimuth	Displays the calculated azimuth angle (vertical angle) of the selected satellite.
Elevation	Displays the calculated elevation angle (horizontal angle) of the selected satellite.
LNB Skew	Displays the calculated LNB rotation angle (skew) of the satellite.

5.6.4 DiSEqC-Monitor

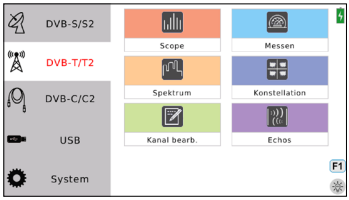
This menu displays the LNB supply voltage output by the connected terminal device, the 22 kHz status, Unicable control commands and received DiSEqC commands. To do this, connect the terminal device to the measuring instrument using a coaxial cable before switching on the measuring instrument.



Antenna power	Displays the LNB supply voltage output by the external device.
22 kHz	Displays the received 22 kHz status (On / Off).
DiSEqC command	Displays the DiSEqC commands received from the external device (e.g. Commit Port, Polarisation, Band).

6. Terrestrial (DVB-T/-T2)

This menu contains all functions for DVB-T/T2, including measurement, spectrum analysis, constellation, channel editing and echo measurement.

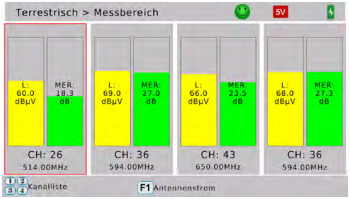


Scope	Open the ‘Terrestrial > Oscilloscope’ menu.
Measurement	Open the ‘Terrestrial > Measure’ menu.
Spectrum	Open the ‘Terrestrial > Spectrum’ menu.
Constellation	Open the ‘Terrestrial > Constellation’ menu.
Edit channel	Open the ‘Terrestrial > Edit Channel’ menu.
Echos	Open the ‘Terrestrial > Echoes’ menu.
F1	Press F1 to switch the LED light on the back of the meter on or off. This function is only available in the main menu; in sub-menus, the F1 key has different functions.

6. Terrestrial (DVB-T/-T2)

6.1 Scope

This menu displays the signal levels and MER values for several DVB-T/T2 channels at the same time.

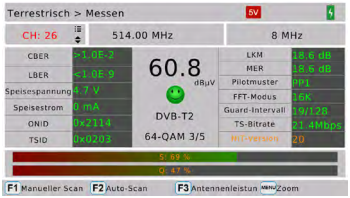


Antenna voltage	Displays the currently active antenna voltage (5 V / 12 V / 18 V / 24 V).
Channel selection buttons (1–4)	Opens the channel list so you can select the frequencies to display.
Q1: Antenna voltage	Select the required supply voltage for active antennas: Off / 5 V / 12 V / 18 V / 24 V.
L	Displays the level of the input signal.
MER	Displays the MER (Modulation Error Ratio) of the input signal.
CH	Displays the channel number and the corresponding frequency.

6. Terrestrial (DVB-T/-T2)

6.2 Measurement

This menu displays all the key reception parameters for the currently selected DVB-T/T2 channel.



Antenna voltage	Displays the currently active antenna voltage (5 V / 12 V / 18 V / 24 V).
CH	Displays the currently selected channel. Use ▲▼ to change the channel, and OK to open the channel list.
Frequenz (z. B. 666.00 MHz)	Displays the frequency of the selected channel. You can edit the value using the number keys.
Bandwidth (e.g. 8 MHz)	Displays the bandwidth of the selected channel. Use ▲▼ to switch between the available bandwidths.
CBER	Displays the CBER error rate of the input signal (pre-BER).
LKM	Displays the LKM value of the signal (Lock Margin).
LBER	Displays the LBER error rate of the input signal (post-BER).
MER	Displays the MER value of the input signal (Modulation Error Ratio).
Supply voltage	Displays the antenna voltage output by the device.
Prototype	Indicates whether pilots are used in the DVB-T2 signal.
Power supply	Displays the power consumption of the connected antenna.

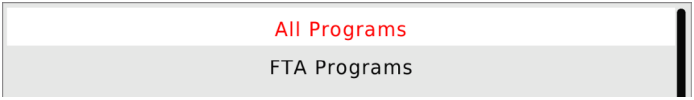
6. Terrestrial (DVB-T/-T2)

FFT Mode	Displays the FFT mode of the received DVB-T/T2 signal (e.g. 2K, 8K, 32K).
ONID	Displays the original Network ID of the received signal.
TSID	Displays the transport stream ID of the received signal.
Guard Interval	Displays the guard interval used for the signal.
TS Bitrate	Displays the current transport stream bitrate.
NIT Version	Displays the version of the received NIT table.
Pegelwert (z. B. 61.6 dBµV)	Displays the current signal level of the input signal.
	A green icon appears when the signal is locked; a red icon appears if the signal is not locked.
DVB-T2	Displays the broadcast standard received (e.g. DVB-T or DVB-T2).
Modulation (z. B. 256-QAM 3/5)	Displays the modulation type and FEC rate of the signal.
S	Shows the signal strength as a percentage.
Q	Shows the signal quality as a percentage.

6. Terrestrial (DVB-T/-T2)

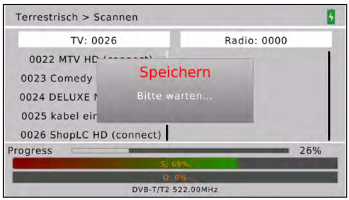
F1 key: Manual search
Press the F1 key to open the manual search menu. In this mode, only the currently selected transponder is analysed. This is particularly useful for checking specific frequencies or for troubleshooting.

F2 key: Automatic search
Press the F2 key to start the automatic search.
A selection menu with two options will first appear:



All channels:
The set-top box scans for and stores all TV and radio channels found, including encrypted channels.

FTA channels:
Only free-to-air channels are scanned for and stored.



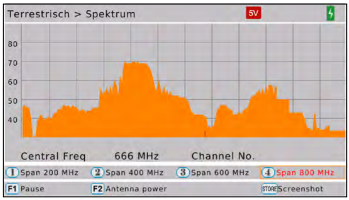
F3 key: Antenna voltage
Press the F3 key to open the dialogue box for setting the antenna voltage (Off / 5V / 12V / 18V / 24V).

Menu key: Zoom
Press the Menu key to switch to a larger display of the measured values, allowing you to see the details more clearly.

6. Terrestrial (DVB-T/-T2)

6.3 Spectrum

This menu displays the frequency spectrum of the selected channel and allows you to analyse signal levels, interference and channel distribution.

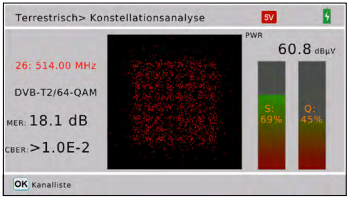


Antenna voltage	Displays the currently active antenna voltage (5 V / 12 V / 18 V / 24 V).
Level (e.g. 65 dBµV)	Displays the signal level of the currently displayed frequency.
Centre frequency	Displays the current centre frequency of the displayed spectrum range.
Channel number	Displays the channel whose frequency is closest to the centre frequency.
Key 1	Sets the bandwidth to 200 MHz.
Key 2	Sets the frequency range to 400 MHz.
Key 3	Sets the frequency range to 600 MHz.
Key 4	Sets the frequency range to 800 MHz (default value).
F1: Pause	Starts or stops the current spectrum analysis.
F2: Antenna voltage	Opens the dialogue box for setting the antenna voltage (5 V / 12 V / 18 V / 24 V).

6. Terrestrial (DVB-T/-T2)

6.4 Constellation

This menu displays the constellation diagram for the selected channel and allows you to assess the signal quality.

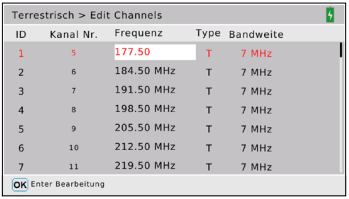


Antenna voltage	Displays the currently active antenna voltage (5 V / 12 V / 18 V / 24 V).
Current channel (e.g. 45: 666.00 MHz)	Displays the current channel and frequency.
DVB-T2/modulation (e.g. DVB-T2/256-QAM)	Shows the received transmission system and the modulation.
MER	Displays the MER value of the input signal (Modulation Error Ratio).
CBER	Displays the CBER error rate of the input signal (pre-BER).
PWR	Displays the level of the input signal (e.g. 62.5 dBµV).
S	Shows the signal strength as a percentage.
Q	Shows the signal quality as a percentage.
OK	Press OK to open the channel list. Use ▲▼ to select a channel and press OK to confirm.

6. Terrestrial (DVB-T/-T2)

6.5 Editing channels

In this menu, you can edit frequencies, channel numbers, bandwidths and the signal type for DVB-T/T2 channels.

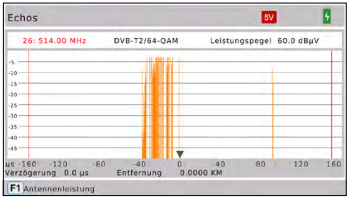


Navigation (▲▼)	Navigates through the list of available channels.
OK	Press OK to enter edit mode. You can then switch between frequency, type and bandwidth.
Change frequency (number keys 0–9)	Allows you to enter a new frequency directly.
Change type (T / DT / etc.)	Use ▲▼ to change the channel's signal type.
Change bandwidth (e.g. 6, 7, 8 MHz)	Use ▲▼ to select the desired bandwidth.

6. Terrestrial (DVB-T/-T2)

6.6 Echos

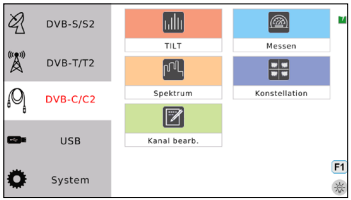
This menu displays multipath and reflection signals (echoes) that may affect DVB-T/T2 reception.



Antenna voltage	Displays the currently active antenna voltage (5 V / 12 V / 18 V / 24 V).
Current channel (e.g. 45: 666.00 MHz)	Displays the current channel and its frequency. Use ▲▼ to switch between channels, and OK to open the channel list.
DVB-T2/modulation (e.g. DVB-T2/256-QAM)	Displays the received transmission system and the modulation type.
Power level	Displays the measured level of the input signal.
Antenna Power / Key F1	Opens the dialogue box for setting the antenna voltage.

7. Cable (DVB-C/-C2)

This menu contains all the functions for DVB-C, including measurement, spectrum analysis, TILT, constellation and channel editing.

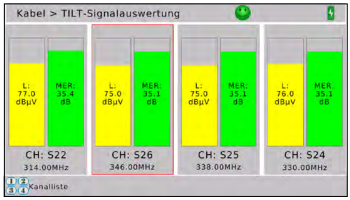


TILT	Open the ‘Cable > TILT’ menu.
Measure	Open the ‘Terrestrial > Measure’ menu.
Spectrum	Open the ‘Terrestrial > Spectrum’ menu.
Constellation	Open the ‘Terrestrial > Constellation’ menu.
Edit channel	Open the ‘Terrestrial > Edit Channel’ menu.
F1	Press F1 to switch the LED light on the back of the meter on or off. This function is only available in the main menu; in sub-menus, the F1 key has different functions.

7. Cable (DVB-C/-C2)

7.1 Tilt

This menu displays the levels of linearly distributed DVB-C channels to assess the tilt of the signal distribution in the cable network.

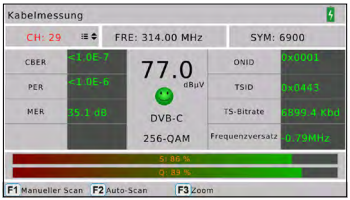


	A green icon appears when all the displayed frequencies have been successfully locked; a red icon appears if a lock is missing.
Channel selection buttons (1–4)	Opens the channel list so you can select the frequencies to display.
L	Displays the level of the input signal.
MER	Displays the MER (Modulation Error Ratio) of the input signal.
CH	Displays the channel number and the corresponding frequency.

7. Cable (DVB-C/-C2)

7.2 Measure

This menu displays all the key reception parameters for the currently selected DVB-C channel.



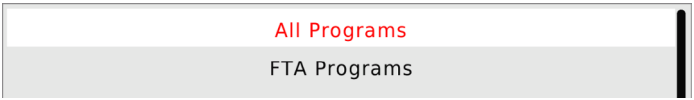
CH	Displays the current channel. Use ▲▼ to change the channel, and OK to open the channel list.
Frequency (e.g. 114.00 MHz)	Displays the frequency of the selected channel. You can edit the value using the number keys.
Symbol rate (e.g. 6900)	Displays the symbol rate of the channel.
CBER	Displays the CBER error rate (pre-BER).
PER	Displays the packet error rate.
MER	Displays the MER (Modulation Error Ratio).
ONID	Displays the signal's original network ID.
TS Bitrate	Displays the current transport stream bitrate.
frequency offset	Shows the frequency deviation relative to the setpoint.
Level value (e.g. 82.0 dBµV)	Displays the current signal level.
	A green icon appears when all the displayed frequencies have been successfully locked; a red icon appears if a lock is missing.

7. Cable (DVB-C/-C2)

DVB-C	Shows the received transmission system.
256-QAM	Displays the modulation type of the DVB-C signal.
S	Shows the signal strength as a percentage.
Q	Shows the signal quality as a percentage.

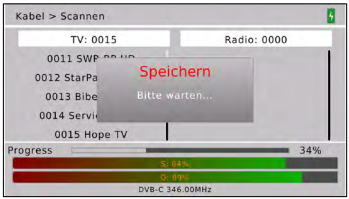
F1 key: Manual search
Press the F1 key to open the manual search menu. In this mode, only the currently selected transponder is analysed. This is particularly useful for checking specific frequencies or for troubleshooting.

F2 key: Automatic search
Press the F2 key to start the automatic search.
A selection menu with two options will first appear:



All channels:
The set-top box scans for and stores all TV and radio channels found, including encrypted channels.

FTA channels:
Only free-to-air channels are scanned for and stored.

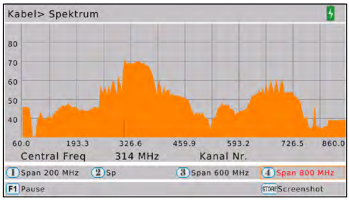


F3 key: Zoom
Press the Menu key to switch to a larger view of the measured values so that you can see the details more clearly.

7. Cable (DVB-C/-C2)

7.3 Spectrum

This menu displays the frequency spectrum in the cable network and allows you to analyse signal levels and channel distribution.

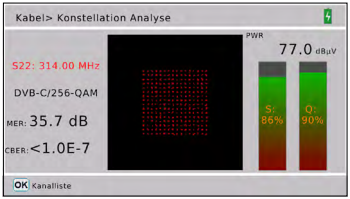


Level value (e.g. 58 dBµV)	Displays the signal level of the currently displayed frequency.
Centre frequency	Shows the centre frequency of the displayed spectral range.
Channel number	Displays the symbol rate of the channel whose frequency is closest to the centre frequency.
Key 1	Sets the bandwidth to 200 MHz.
Key 2	Sets the frequency range to 400 MHz.
Key 3	Sets the frequency range to 600 MHz.
Key 4	Sets the frequency range to 800 MHz (default value).
F1: Pause	Starts or stops the current spectrum analysis.

7. Cable (DVB-C/-C2)

7.4 Constellation

This menu displays the constellation diagram for the selected DVB-C channel to assess signal quality.

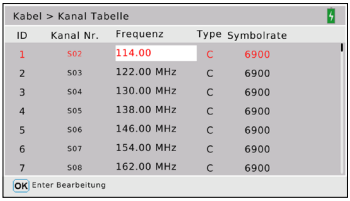


Current channel (e.g. S02: 114.00 MHz)	Displays the selected DVB-C channel. Use ▲▼ to switch between channels, and press OK to open the channel list
DVB-C / 256-QAM	Displays the received transmission system and the modulation type.
MER	Displays the MER value of the input signal (Modulation Error Ratio).
CBER	Displays the CBER error rate of the input signal (pre-BER).
PWR	Displays the signal level of the input signal (e.g. 82.0 dBµV).
S	Shows the signal strength as a percentage.
Q	Shows the signal quality as a percentage.
OK	Press OK to open the channel list. Use ▲▼ to select a channel and press OK to confirm.

7. Cable (DVB-C/-C2)

7.5 Editing channels

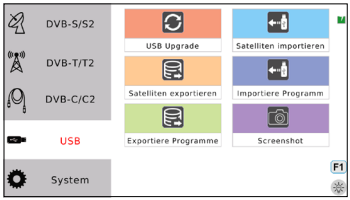
In this menu, you can view the saved DVB-C channels and edit them if necessary.



Navigation (▲▼)	Navigates through the list of available channels.
OK – Edit mode	Press OK to enter edit mode. You can then switch between frequency, type and bandwidth. Press OK to open edit mode. Use ◀ ▶ to switch between frequency, type and symbol rate. Use ▲▼ to change the value for type and symbol rate. Use the number keys 0–9 to edit the frequency directly.

8. USB

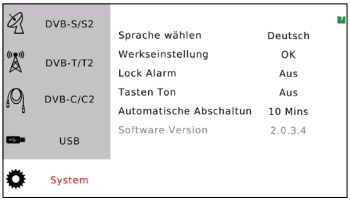
In the USB menu, you can install software updates, import or export satellite and channel lists, and view saved screenshots.



USB-Upgrade	Press OK to view all the update files available on the connected USB stick. Select the desired file to start the upgrade.
Import satellites	Press OK to view all the files available on the USB stick. Select the appropriate file to import satellites.
Export satellites	Press OK to export all saved satellite and transponder data to the USB stick.
Import programmes	Press OK to view all the files available on the USB stick. Select the relevant file to import channels.
Export programmes	Press OK to export all saved channel data to the USB stick.
Screenshot	Press OK to open the screenshot viewer. The device will display any saved screenshots if there are corresponding files on the USB stick.
F1	Press F1 to switch the LED light on the back of the meter on or off. This function is only available in the main menu; in sub-menus, the F1 key has different functions.

9. System

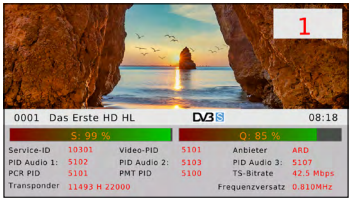
In the System Settings menu, you can customise the meter's basic functions. Here, you can, amongst other things, change the menu language, perform a factory reset, enable audible alerts or set the automatic switch-off time.



Select language	Sets the menu language. Press OK to open the list of languages. Default: German
Factory setting	Resets the meter to its factory default settings. All custom settings will be deleted.
Lock Alarm (Sat-Finder tone)	Emits an audible signal as soon as the selected satellite has been successfully located and the signal has been locked onto.
Key tone	Press OK to enable or disable the key tone. Default: On
Automatic shut-off	The device will switch off automatically after the selected time. Press OK to set the time. Default: 10 minutes
Software-Version	Displays the currently installed software version of the device

10. TV Mode

In TV mode, you can view the current programme and access detailed information about the selected channel. You can also switch between programmes, adjust the volume or open the programme guide.



▲▼	Use these buttons to switch between programmes.
◀▶	Use these buttons to adjust the volume.
OK	Opens the programme list.
TV/M	Switches between TV mode and the other menus.
INFO	Displays the information bar for the current programme.
F2	Opens the audio channel dialogue (e.g. voice, stereo/ mono).
TV/R	Switches between TV and radio channels.
1, 2, 3, ...	Use the number keys to enter the programme number directly.

IMPORTANT NOTICE:
Dolby Digital (AC-3) is not supported by the Satplus 5 set-top box. Programmes broadcast exclusively in Dolby Digital will have no sound in Live TV mode.

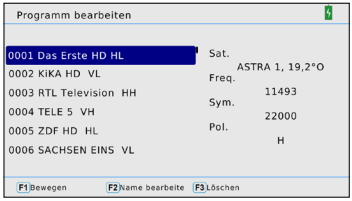
11. Channel list

In the channel list, you can view, browse and select all your saved TV and radio stations. There are also features for filtering, editing and quickly switching between TV and radio lists.

▲▼	Use these buttons to scroll up or down the channel list.
OK	Press this button to select the highlighted channel and start playback in full-screen mode.
F1	Press this button to open the alphabetical search function and find channels by their first letter.
SAT	Use this button to switch between the channel list for the selected satellite and the complete list of all channels.
F2	Press this button to open the channel editing menu.
TV/R	Use this button to switch between TV and radio channels.

12. Edit programmes

In this menu, you can manage your saved TV programmes. You can reorder channels, edit their names or delete individual programmes. The device is easily operated using the function keys.



F1	Press this button to activate the move function. Use the ▲▼ buttons to move the channel. Press OK to confirm the new position.
F2	Press this button to open the on-screen keyboard so you can edit the sender's name.
F3	Press this button to open the confirmation dialogue for deleting the selected channel.

13. Troubleshooting

Symptom	Possible causes
No signal is being displayed. What could be the reason for this?	Check that the satellite dish is correctly aligned. Ensure that the LNB is connected and that the LNB power supply (13/18 V) is switched on. Also check the coaxial cable and the F-connectors.
The signal strength or signal quality remains very low. What could be the reason?	Check that the dish is correctly aligned and ensure that there are no obstacles obstructing the signal. Make sure that the polarisation and 22 kHz settings are correct, and try a different transponder.
The device displays 'No Lock' or the smiley face is red. What does this mean?	The selected transponder cannot be received or demodulated correctly. Check that the frequency, symbol rate and modulation are set correctly, and select the correct channel for terrestrial reception.
The LNB power supply shows 0 V or is not active. What can I do?	Check in the menu whether the LNB voltage is enabled. If there is still no voltage output, fully charge the device and try a different coaxial cable to rule out a short circuit.
The meter isn't responding or has frozen. What should I do next?	Restart the device. If the problem persists, perform a reset via the 'System → Factory settings' menu. Please note that this will delete any custom settings.
The battery isn't charging, or is charging very slowly. Why is that?	Use the original charger and check the plug connection and the USB cable. Charge the device at normal room temperature, as extreme temperatures can affect charging performance.
DiSEqC commands aren't working. What's the reason?	Make sure that the correct DiSEqC mode (1.0 / 1.1 / 1.2 / USALS) is selected in the menu and that your system supports DiSEqC. Where possible, do not use any additional splitters or amplifiers in the signal path.

13. Troubleshooting

Symptom	Possible causes
No values are displayed in the DiSEqC monitor. What does this mean?	Connect the meter directly to the other meter or the system, without any splitters in between. Also check that the LNB power supply is switched on and select the menu option again.
USB import or export isn't working. What can I do?	Check that the USB stick is formatted to FAT32. Then open the relevant USB function in the menu and make sure the files are in the correct folder.
In TV mode, the screen remains black. What could be causing this?	Check whether the selected channel is available free-to-air. Ensure that the transponder is being received correctly and that the signal levels are sufficiently high. If necessary, select a different channel.
The LED light isn't working. What can I do?	Press the F1 key to switch the LED light on or off. This function may be disabled if the battery is low, so the device should be fully charged.
There is no sound in TV mode. What should I check?	Use the ◀ ▶ buttons to increase the volume and check the info banner to see if an audio stream is available. If an alternative audio PID is available, select it. If the broadcaster transmits only in Dolby Digital (AC-3) mode, the meter cannot receive any sound. Dolby Digital is not supported.
No channel is found during terrestrial reception. What is the reason?	Check that the correct frequency or channel has been selected. Also check that an active antenna is connected and that the 5V antenna power supply has been enabled.
No signal is being detected on the cable TV. What can I do?	Check that the symbol rate is set correctly and ensure that the cable network is operating without attenuation errors. If necessary, select an alternative frequency.

10. Technical specifications

General information

- Combined meter for DVB-S/S2/T/T2/C
- 5-inch colour display
- High measurement accuracy
- Save screenshots to USB and analyse them later
- Loud audible alarm
- USB firmware update
- LED light on the rear
- Back up/restore channel list (for different lists)
- Hardware reset button
- Zoom function with large digital measurement display
- Switch between measurement mode and live TV
- Live TV and radio with channel information and editing functions

DVB-S / DVB-S2

- DVB-S/S2 support
- LNB short-circuit protection and indicator
- DiSEqC monitor
- LNB current & voltage monitor
- Unicable EN50594 & EN50607
- TP control (DVB-S/S2)
- Wideband support (250–2300 MHz)
- Spectrum analysis
  Switchable polarisation: HH, HL, VH, VL
- Constellation diagram
- Simple satellite and antenna configuration
- Auto-scan
- Angle calculation (azimuth/elevation)
- MER, PWR, BER, FEC
- Automatic satellite detection (NIT)
- Display of signal strength and signal quality (%)
- LNB noise figure measurement

10. Technical specifications

DVB-T / DVB-T2 / DVB-C / DVB-C2

- Spectrum analysis
- Scope/Tilt
- Constellation diagram
- Transmitter editing
- Auto-scan
- Transfer of detected transmitters to Scope/Tilt
- 5–24 V antenna power supply for active antennas

LED displays

- POWER (Operating status)
- ERROR (Error indicator)
- LOCK (Signal status)
- CHARGE (Charging indicator)
- 22K (22 kHz switching tone)
- 13V (Vertical polarisation)
- 18V (Horizontal polarisation)

Connections

- Power supply
- USB
- DV output (digital video)
- RF (coaxial input)

Dimensions / Weight

- Dimensions: 220 x 168 x 44 mm (W/H/D)
- Weight: 812 g

Legal notices

Conformity information

Telestar GmbH hereby declares that the following devices comply with the essential requirements and other relevant provisions of the Directives:

- 2014/35/EU (LVD)
- 2014/30/EU (EMV)
- 2011/65/EU + 2015/863/EU (RoHS)
- 1907/2006 (REACH)

Telestar SATPLUS 5 (Item No. 5600001)

The full declaration of conformity is held by Telestar GmbH and is available online at: www.telestar.de/support/dl

CE

Disclaimer

This user manual has been compiled with the utmost care. However, we accept no liability for any errors, misprints or inaccurate information. We reserve the right to make changes and technical improvements. Use is at your own risk.

Legal notices

Symbols and notes

Old appliances must not be disposed of with household waste. You are legally required to hand in old electrical and electronic equipment at local collection points. Batteries and rechargeable batteries must be removed before disposal and disposed of properly.
WEEE-Reg.-Nr.: DE49015927

The packaging for this product is made from environmentally friendly materials that can be recycled. Please dispose of the packaging and packing materials in accordance with local waste separation regulations.

Information on battery disposal
The device contains a lithium-ion battery. Rechargeable batteries must not be disposed of with household waste. Consumers are legally obliged to hand in used batteries and rechargeable batteries at a suitable collection point (e.g. local recycling centres or retail take-back points).

Cd
Hg
Pb

Batteries and rechargeable batteries are marked with the symbol of a crossed-out wheelie bin. If batteries or rechargeable batteries contain hazardous substances, they are additionally marked with the chemical symbols Pb (lead), Cd (cadmium) or Hg (mercury).

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