



DVB-T2/C/S2 +ANALOG TV / RF












TVmeterHD-T

HD

MPEG4

4.3"
TFT 16:10

- 3 - Front panel • Keys
- 4 - HOME Screen
- 4 - Navigation
- 9  Volume • Configuration
- 9 - Battery saving • Timer off
- 10 - DISCOVERY
- 11  SAT
- 12  TV
- 13 - Analog TV measurement • Video input
- 14  CATV
- 15  SPECT
- 16  LIST
- 17  HELP
- 18 - SAT SCR
- 19  MEMORY
- 20 - LOGGER save and recall
- 21 - BATTERY TEST & BATTERY REGENERATION
- 22 - Li-Ion polimer batteries and warnings
- 23 - Power supply and battery charge LED status
- 23  Meter maintenance
- 23 - Disposal of electronic equipment



No.	Name	Function
1	DC&RF IN ON-OFF	Remote bypass switch
2	RF SAT/TV IN	SAT input connector 950-2150 MHz TV/CATV input connector 47-1000 MHz
3	SPECT Key	Press to visualize spectrum
4	HOME Key	Press to turn on. Keep pressed to turn off.
5	PLAN Key	Press to select SAT, TV and CATV memory plans
6	VOLUME Key	Press to regulate the volume and other adjustments
7	DC@RF IN	LED on with remote control active
8	BATT. CHARGE	LED on during battery charge
9	MAINS	LED on when the meter is connected to the mains power supply
10	CATV Key	Press to go to CATV measurement screen
11	TV Key	Press to go to TV measurement screen
12	SAT Key	Press to go to SAT measurement screen
13	Encoder	Press to confirm, rotate to select
14	Power Supply	External power supply connector, 12/18 Volt DC
15	USB	For PC connection
16	VIDEO input	RCA analog video input connector



CAUTION:

If on the coaxial cable to be tested is present a power supply, turn the switch DC@RF IN to "OFF" otherwise you may risk permanent damage to the instrument

HOME Screen

Press the **HOME** key to go to the home screen, then rotate the wheel to navigate in the SAT, TV or CATV icons and press the wheel to select the measurement mode required:



Press the **HOME** key at any time to return to the home screen.

Navigation

IMPORTANT:

The few simple steps described below describe how to use the meter using the mechanical commands: keyboard and encoder (rotate and press).

For instruments equipped with TOUCHSCREEN display, the same operations can be performed by touching the mentioned menu item directly on the display.

• Display zones

- 1 Tuning parameters
- 2 Picture
- 3 Measurements
- 4 Transport Stream info
- 5 Context sensitive menu



• NAVIGATION USING MECHANICAL COMMANDS

How to select from the menus and adjust the value:

- Rotate the wheel and select from the menu required (fig. 1)
- Press the wheel (fig. 2)
- Rotate the wheel to adjust the value (fig. 3)
- Press the wheel and confirm the selection (fig. 4)

Example of TV/CATV channel selection:



Example of SATELLITE transponder selection (TP/TS):



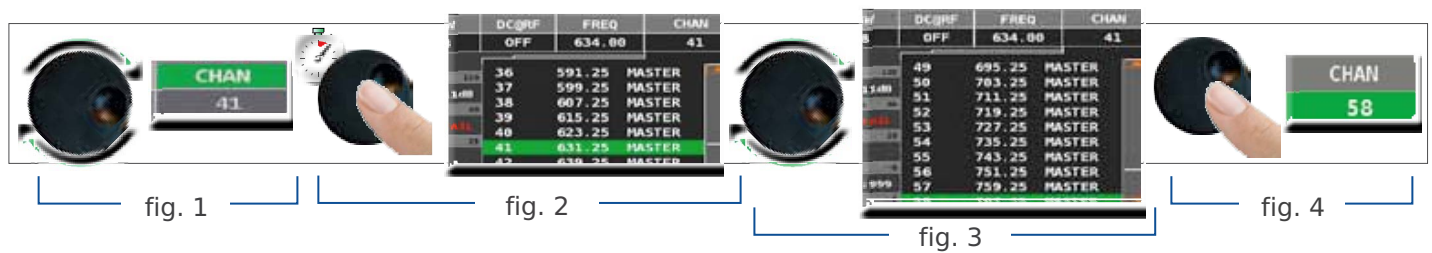
Example of remote TV-CATV power supply selection (DC&RF):



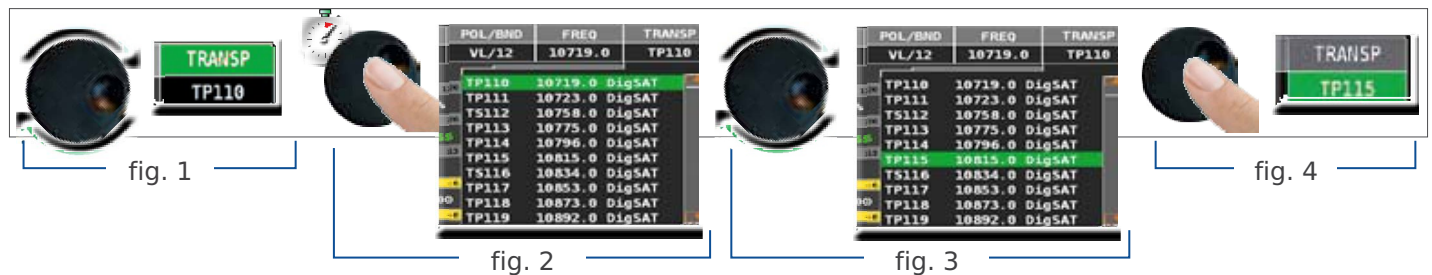
How to select from the menus and change a value using the drop down menus:

- Rotate the wheel and select the menu required (fig. 1)
- Keep the wheel pressed for 2" to visualized the drop down menu (fig. 2)
- Rotate the wheel to adjust the value (fig. 3)
- Press the wheel and confirm the selection (fig. 4)

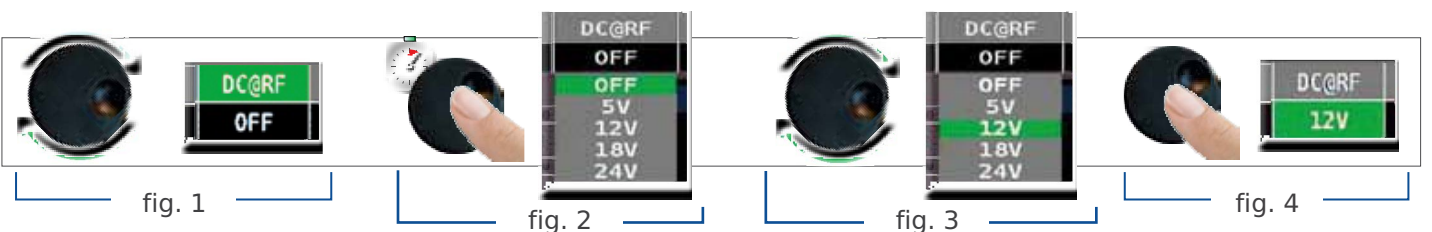
Example of TV/CATV channel selection:



Example of SATELLITE transponder selection (TP/TS):



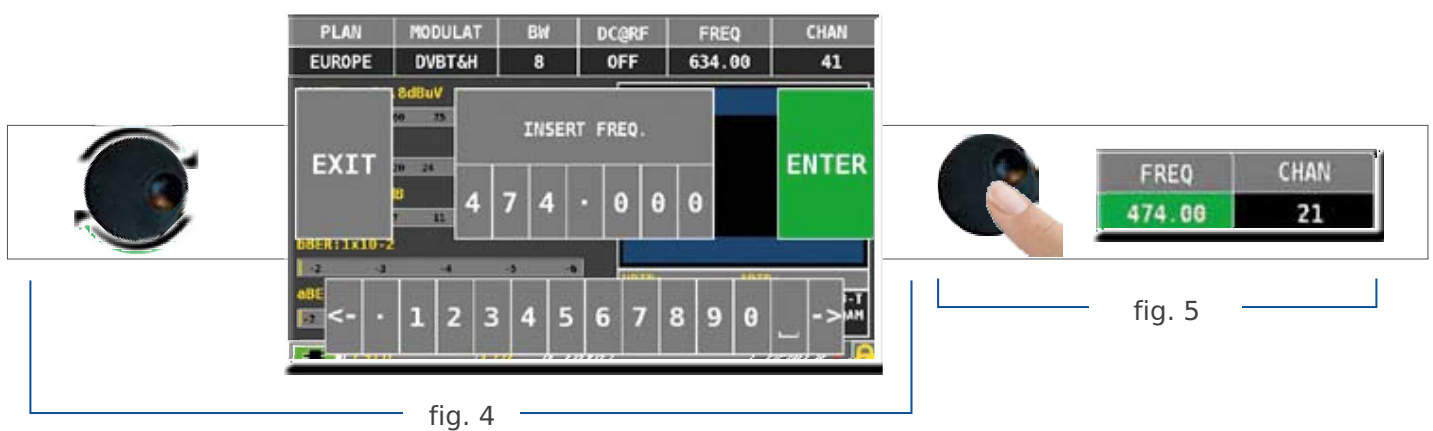
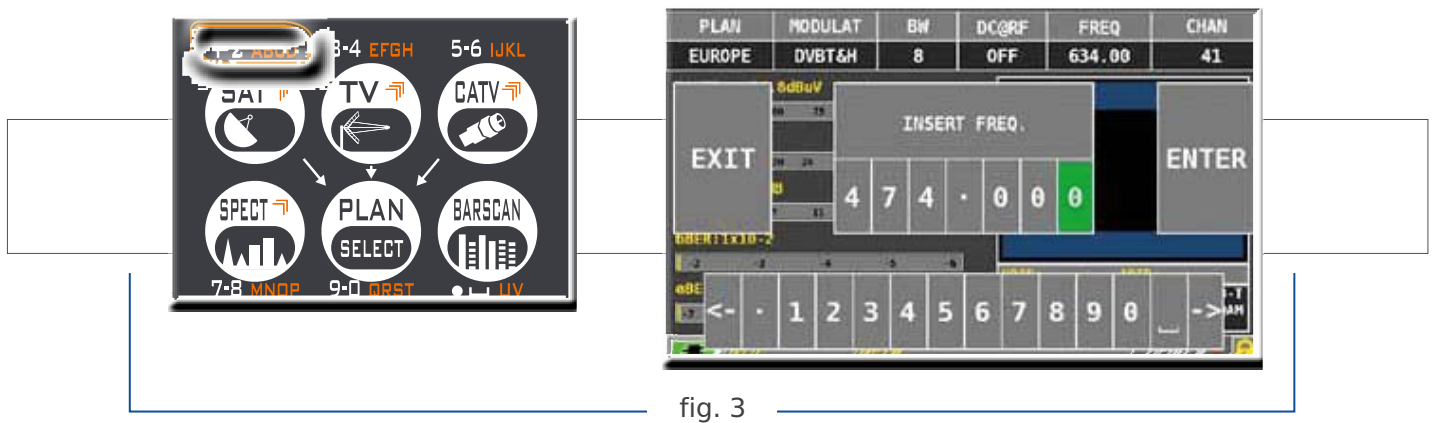
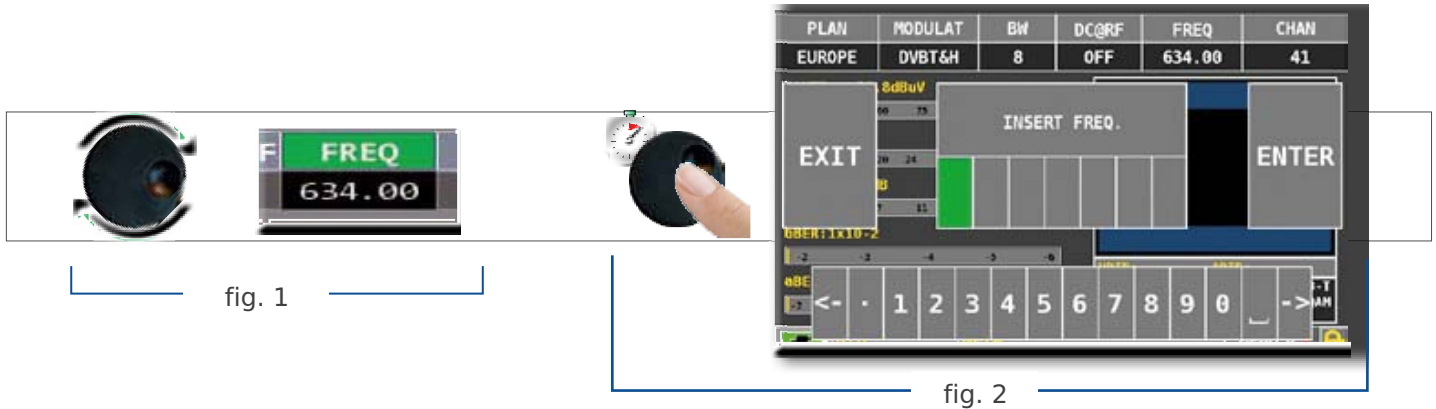
Example of TV- CATV remote power supply selection (DC & RF):



How to select the frequency and set the value using the numerical keyboard:

- Rotate the wheel and select frequency (FREQ) (fig. 1)
- Keep the wheel pressed for 2" to visualize the keyboard (fig. 2)
- Press the relative number keys to digit the frequency value required, rotate the wheel to navigate within the window (fig. 3)
- Finally rotate the wheel and select enter (fig. 4)
- Press the wheel and confirm the selection (fig. 5)

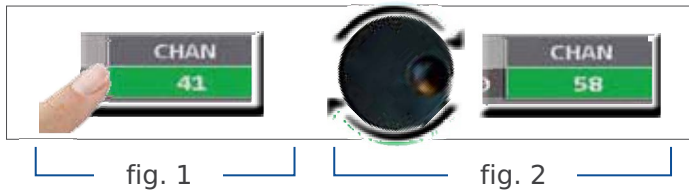
Example of manual frequency (FREQ) selection:



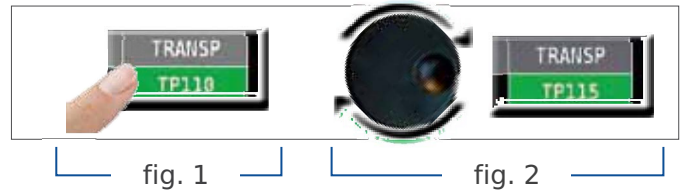
• NAVIGATION USING MIXED COMMANDS: MECHANICAL & TOUCH 7

- Touch a value in the menu (fig. 1)
- Rotate the wheel to adjust the value (fig. 3) or touch the value required (fig.2)
- Press the wheel and confirm the selection (fig.3) or touch the monitor outside the drop down menu (fig.3)

Eg. TV/CATV channel selection:



Eg. SATELLITE transponder selection (TP/TS):



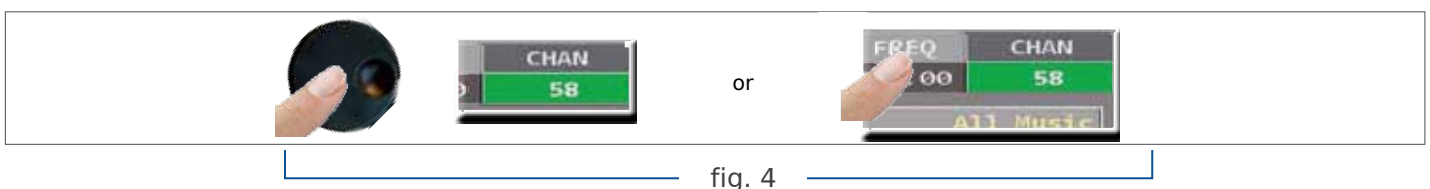
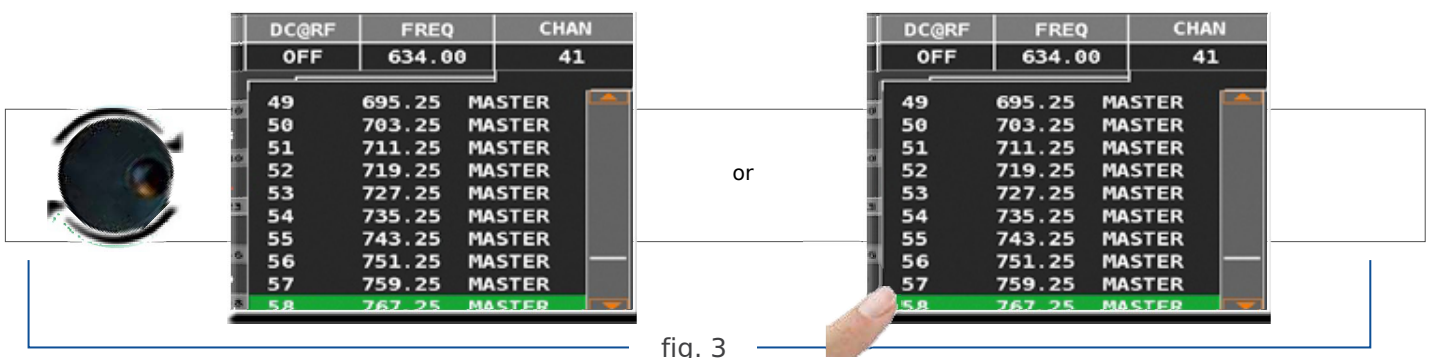
Example of TV- CATV remote power supply selection (DC & RF):



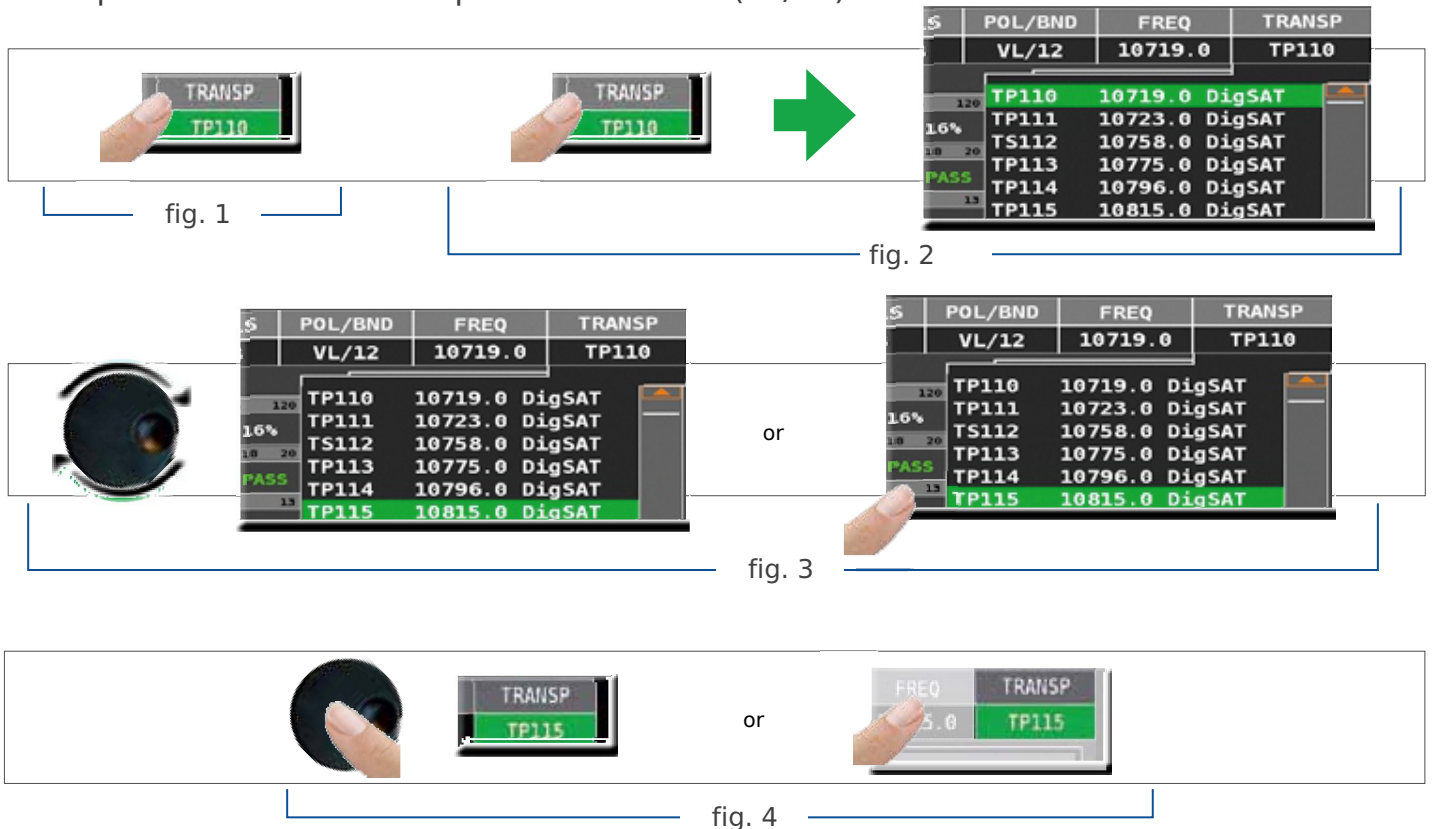
Select from the menus and adjust the value using the drop down menu:

- Touch a value in the menu (fig. 1)
- Touch again to visualize the drop down menu (fig. 2)
- Rotate the wheel to adjust the value (fig. 3) or touch the value required (fig. 3)
- Press the wheel and confirm the selection (fig. 4), or touch the monitor outside the drop down menu (fig. 4)

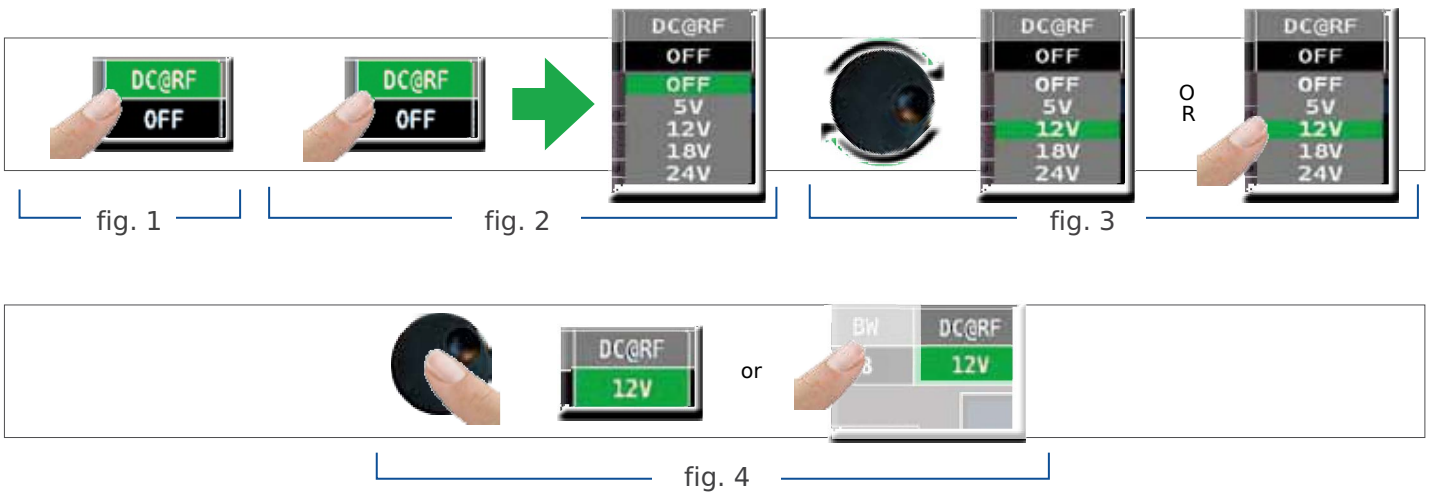
Example of TV channel selection:



Example of SATELLITE transponder selection (TP/TS):



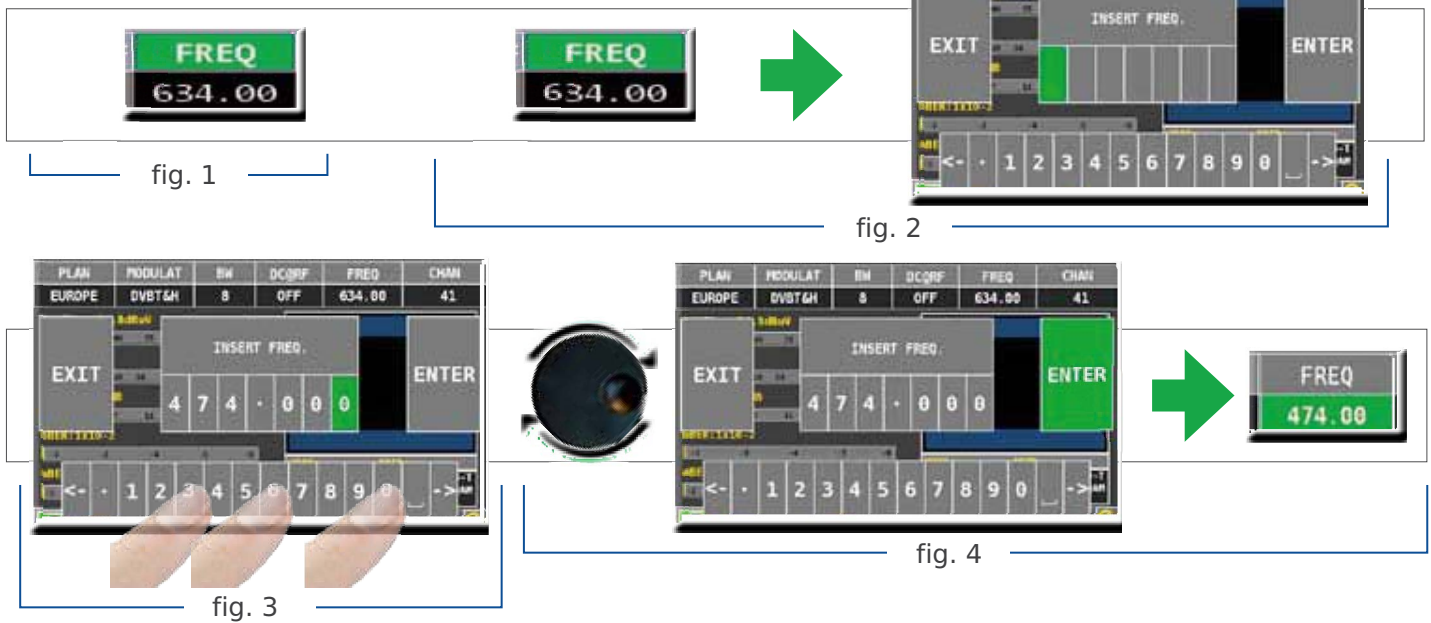
Example of remote TV - CATV power supply selection (DC & RF):



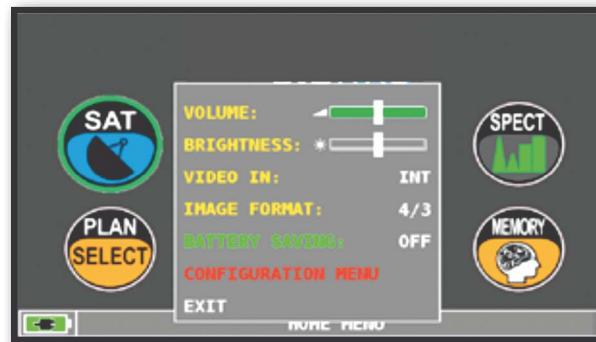
Select the frequency and set the value using the numerical keyboard:

- Touch **FREQ** (fig. 1)
- Touch again to show the menu "INSERT FREQ" (fig. 2)
- Touch the numbers to digit the required frequency value (fig. 3)
- Finally touch enter and confirm the selection (fig. 4)

Example of manual frequency selection (FREQ):



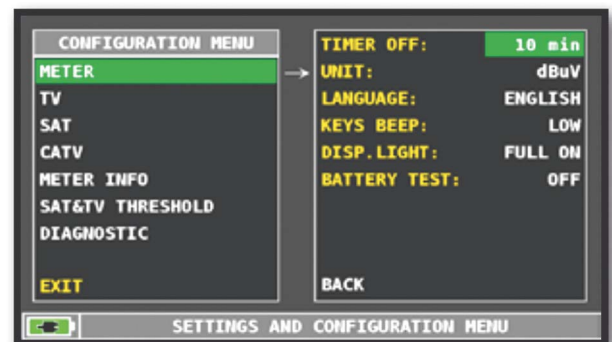
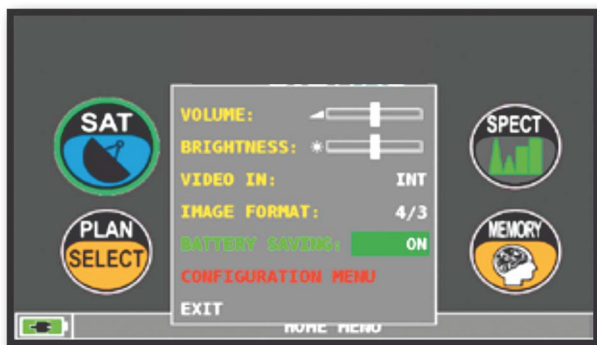
Volume • Configuration



Volume selection is immediately active, press **ENTER** for the Display configuration and other important settings.

Battery saving • Timer off

Settings for battery save mode:



Choose **BATTERY SAVING** from the volume screen. In ON mode, if no key is pressed, after 30 seconds, the display brightness is reduced and after 5 minutes the meter automatically turns off. Press any key to temporarily reset the battery save mode.

Navigate in **CONFIGURATION MENU** then **METER** in the volume screen and set the **TIMER OFF** value required. The meter will turn off after 5 or 10 minutes of inactivity. Press any key to interrupt the automatic turn-off.

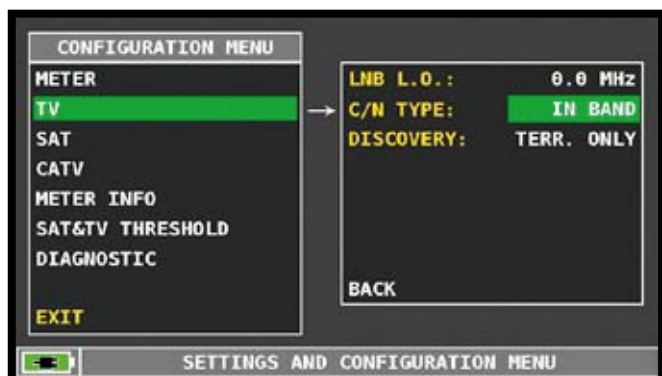
Discovery

Identifies the modulation of a tuned TV channel in the TV master **PLAN**:



Navigate in the **CONFIGURATION MENU** in the **VOLUME** window.

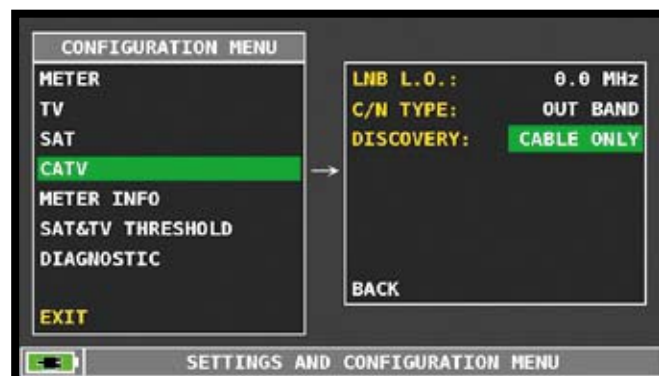
TV mode



Navigate in **TV** and then **DISCOVERY** and set the identification mode:

- **TERR ONLY,**
- **TERR & CABLE.**

CATV mode (cable)

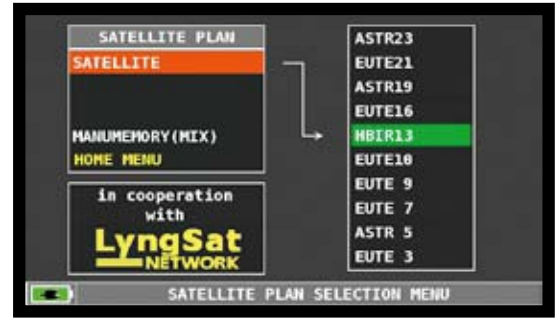


Navigate in **CATV** and then **DISCOVERY** and set the identification mode:

- **CABLE ONLY,**
- **TERR & CABLE.**

NOTES:

- **DISCOVERY** mode is active only if the antenna cable is connected to the instrument.
- **DISCOVERY** mode is not active if you use a manual or automatic memory plan (Manual Memory or Automemory)



SAT Channel Plan screen

"Satellite information (mux data) is provided in cooperation with LyngSat www.lyngsat.com

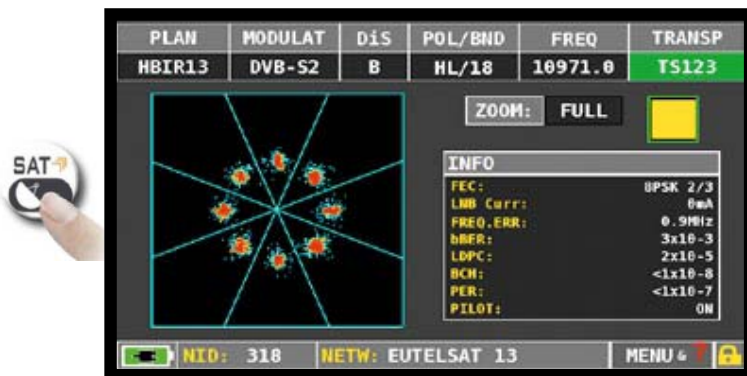
Digital SAT measurement displays DVB-S and DVB-S2



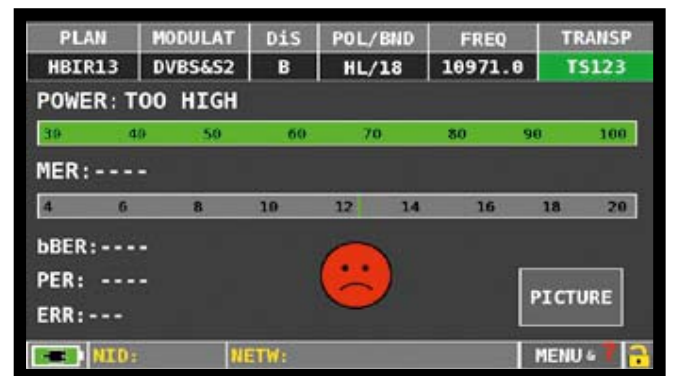
Main Measurements



Navigate in PICTURES and press the encoder wheel to visualize the services list and pictures. Press SAT to return to the measurements



8PSK Constellation



If the input signal is too high, the meter warns with the following message: "TOO HIGH".



Navigate in **ZOOM** and select the constellation square window to enlarge.

Related functions



SAT-Spectrum



SAT channel **PLAN** selection

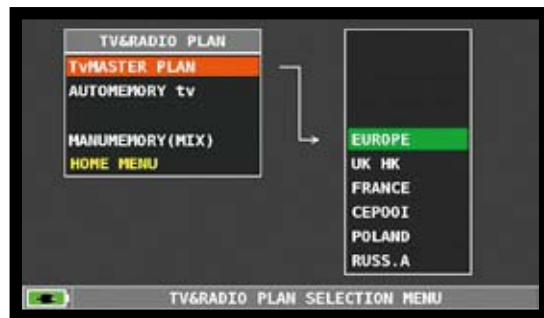


MPEG service LIST



Identifies the tuning parameters of a digital unknown signal

TV (all channels received at the Antenna)



TV Channel Plan screen

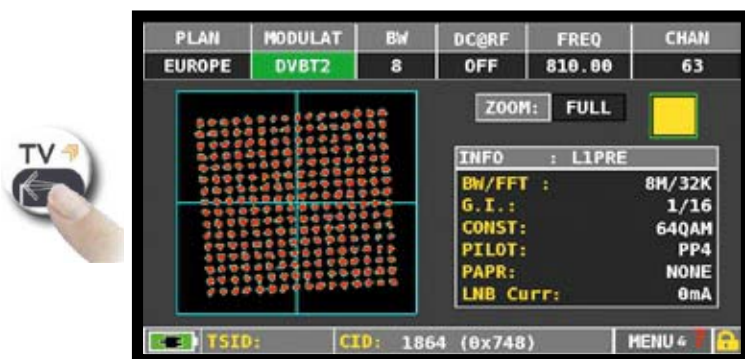
Digital TV measurement displays DVB-T and T2



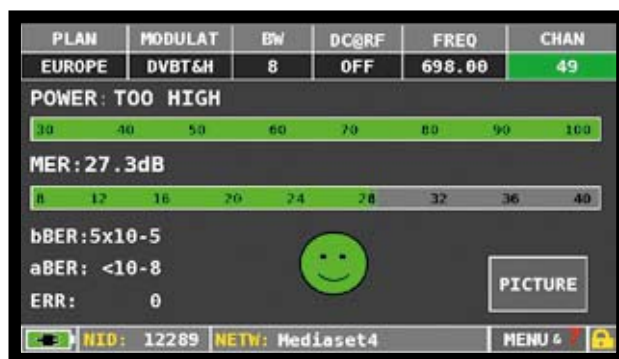
Main Measurements



Navigate in **PICTURES** and press the encoder wheel to visualize the services list and pictures. Press TV to return to the measurements.



DVB-T2 Constellation. Navigate in **ZOOM** and select the constellation square window to enlarge



If the input signal is too high, the meter warns with the following message: **TOO HIGH.**

NOTES: for the services list and pictures, see paragraph: LIST MPEG SERVICE

Related functions



TV Spectrum



TV channel PLAN selection



MPEG Service Liste



Identifies the tuning parameters of a digital unknown signal

Analog TV Measurements

Navigate in **CHAN** to select the required channel.



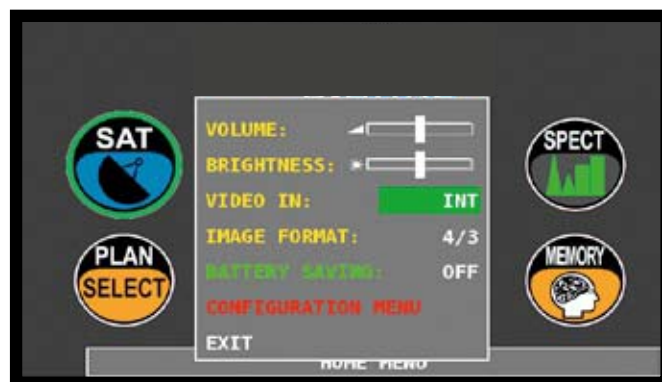
Main measurements



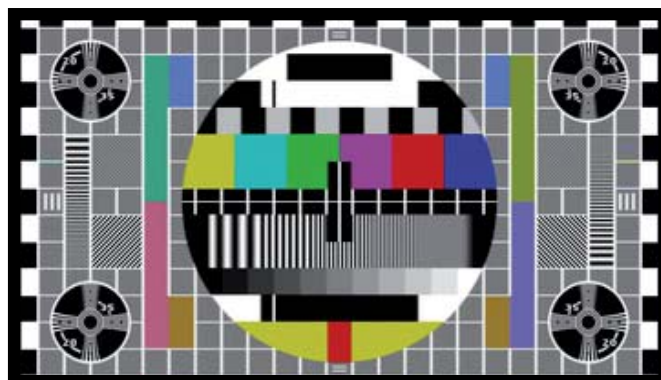
Navigate in picture and press the encoder wheel to visualize the picture. Press again to go back to the measurements.

Analog Video Input

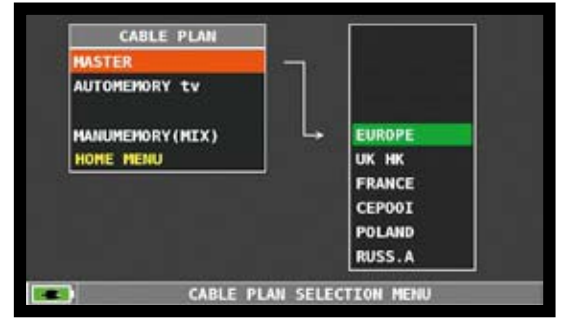
Connect an analog video signal to the appropriate RCA connector.



Select **VIDEO IN**. **EXT** to visualize the Video Input



CATV (All Antenna and S band channels)



CATV Channel Plan screen

Digital CATV measurement display DVB-C



Main Measurements



Navigate in **PICTURE** and press the encoder wheel to visualize the services list and pictures. Press **CATV** to return to measurements



DVB-C Constellation. Navigate in **ZOOM** and select the quadrant of the constellation to enlarge



If the input signal is too high, the meter warns with the following message: **TOO HIGH.**

NOTES: for the services list and pictures, see paragraph: LIST MPEG SERVICE

Related functions



CATV Spectrum



CATV channel PLAN selection



MPEG Service LIST



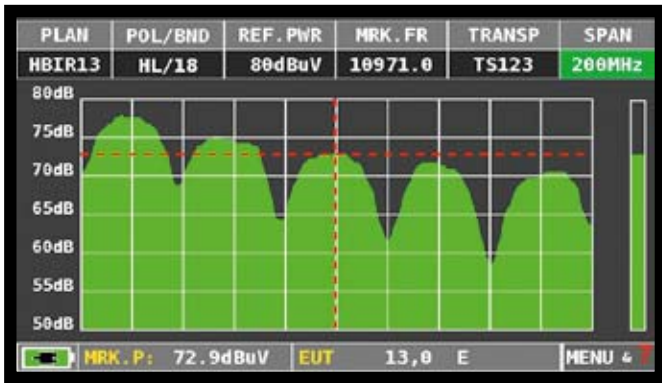
Identifies the tuning parameters of a digital signal



or



Spectrum Analyzer screens



Fast spectrum

Navigate in **SPAN** to modify the value or directly select the active span value:



or

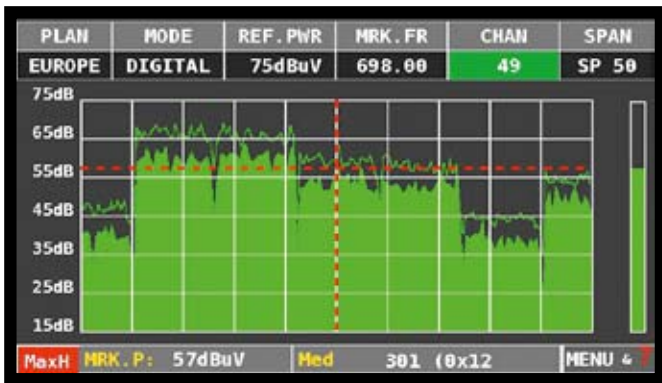


rotate to navigate



press to confirm

Press the spectrum key again to activate the **MAX HOLD** function.



Fast spectrum with peak memory **Max H**



Press to cycle through spectrum analyzer screens

Related functions



Finds the tuning parameters of a digital unknown signal



Navigate in **MENU** to visualize the additional spectrum functions



PLAN	MODULAT	BW	DC@RF	FREQ	CHAN
EUROPE	DVBT&H	8	OFF	698.00	49

POWER: 62.3dBuV

MER: 35.1dB

bBER: 2x10⁻⁵

aBER: <10⁻⁸

ERR: 0

NID: 12289 NETW: Mediaset4

PICTURE

Navigate in **PICTURE** in the TV-CATV-SAT measurement windows and press **ENTER**.

PLAN	MODULAT	BW	DC@RF	FREQ	CHAN
EUROPE	DVBT&H	8	OFF	698.00	49

NAME	TYPE	ENC
Servizio12	DATA	N
Rete4	TV	N
Canale5	TV	N
Italia1	TV	N
La 5	TV	N
TGCOM24	TV	N
Iris	TV	N

DATE: 5/12/2013

VIDEO RATE: 4.86 Mb/s

TSID: 940 CID: 301 (0x12D)

Mediaset4

Press **ENTER** to access the list of services and pictures.

PLAN	MODULAT	BW	DC@RF	FREQ	CHAN
EUROPE	DVBT&H	8	12V	698.00	49

NAME	TYPE	ENC
Servizio12	DATA	N
Rete4	TV	N
Canale5	TV	N
Italia1	TV	N
La 5	TV	N
TGCOM24	TV	N
Iris	TV	N

DATE: 10/06/2013

VIDEO RATE: 3.59 Mb/s

TSID: 940 CID: 301 (0x12D)

Mediaset4

Rotate the encoder to navigate between services

PLAN	MODULAT	BW	DC@RF	FREQ	CHAN
EUROPE	DVBT&H	8	OFF	698.00	49

NAME	TYPE	ENC
Servizio12	DATA	N
Rete4	TV	N
Canale5	TV	N
Italia1	TV	N
La 5	TV	N
TGCOM24	TV	N
Iris	TV	N

DATE: 14/11/2013

VIDEO RATE: 1.73 Mb/s

NID: 12289 NETW: Mediaset4

Mediaset4

Press **ENTER**, select the picture by rotating the encoder and press **ENTER** to enlarge it.

CHANGE AUDIO

Mediaset4 Rete4

VIDEO: MPEG-2 704x576i 16:9 25Hz MP@ML

AUDIO: MPEG-2 L-2 48kHz LANGUAGE: ita

Press **ENTER** to return to the services list and pictures.

PLAN	MODULAT	BW	DC@RF	FREQ	CHAN
EUROPE	DVBT&H	8	OFF	698.00	49

NAME	TYPE	ENC
Servizio12	DATA	N
Rete4	TV	N
Canale5	TV	N
Italia1	TV	N
La 5	TV	N
TGCOM24	TV	N
Iris	TV	N

DATE: 14/11/2013

VIDEO RATE: 3.99 Mb/s

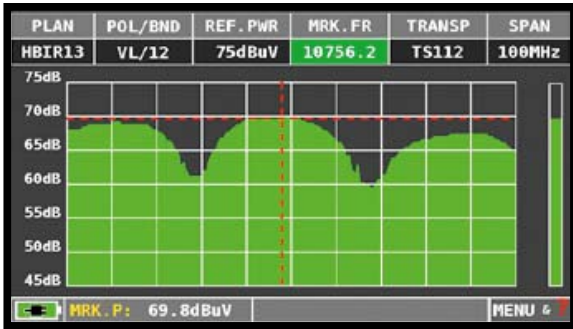
TSID: 940 CID: 0 (0x0)

Mediaset4

Rotate the encoder wheel to navigate in Vpid - Apid and press **ENTER** to return to the measurements, or press the SAT/TV/CATV measurement key.

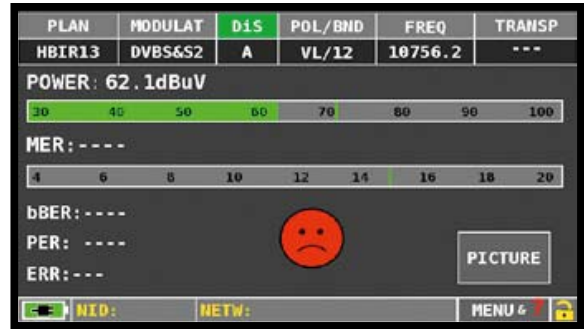
The **HELP** function identifies the tuning parameters of a digital TV or SAT signal:


How to use the HELP function

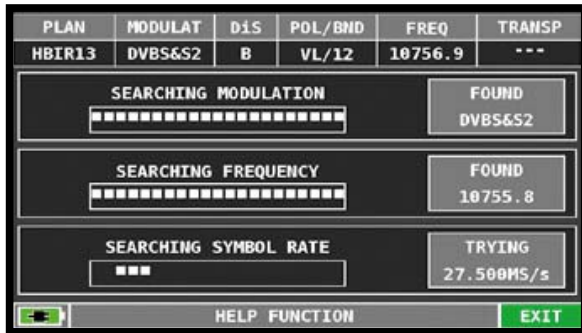
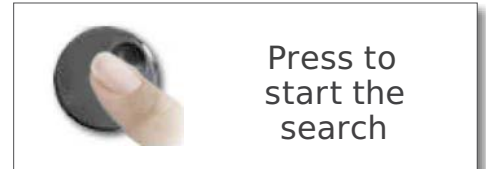


Spectrum mode move the **mrk.Fr** to the center of a digital carrier.

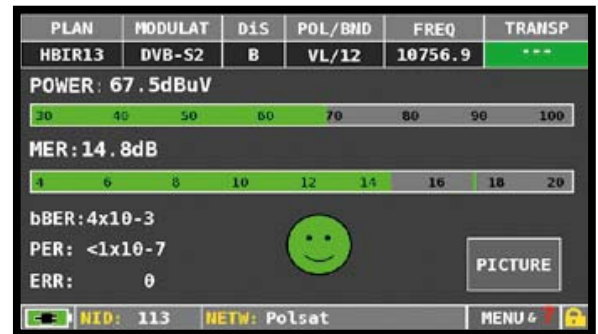
or



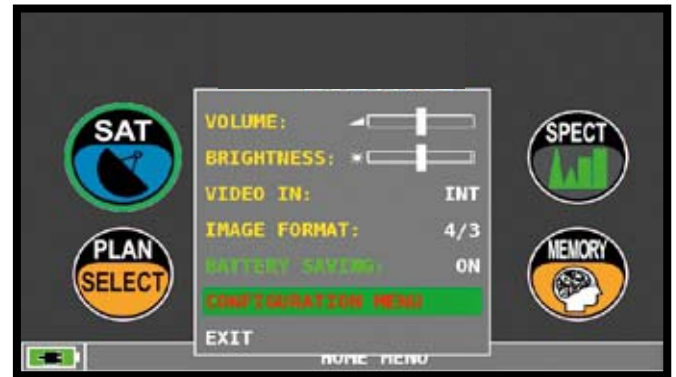
In measurement mode when the lock icon  is open (the signal is not locked).



The **HELP** function will try to identify the tuning parameters of the selected digital carrier.



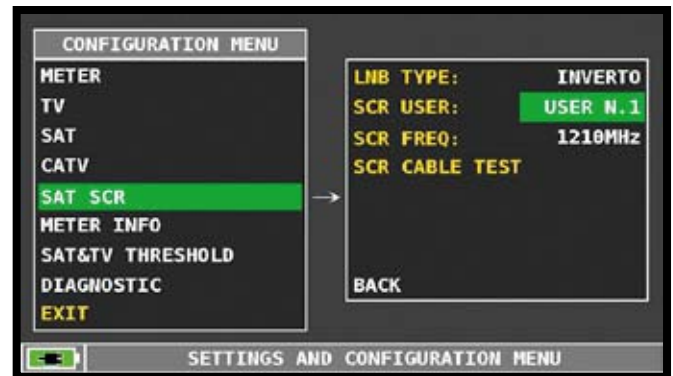
At the end of the search (the word **Found** will be shown in the 3 boxes) the meter automatically shows the measurement display and the picture of the selected carrier (if available).



Navigate in **CONFIGURATION MENU** from the **VOLUME** screen.



Navigate in **SAT SCR**:



Navigate in **LNB TYPE** and choose the **LNB/MULTISWITCH** model,

navigate in **SCR USER**, and choose the user number to test (USER 1-8),

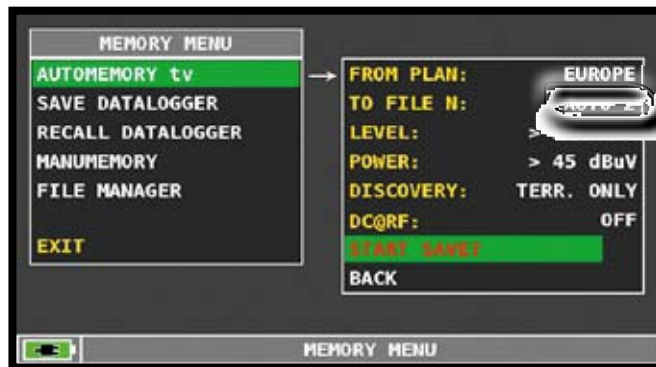
Press **SPECT** to display the spectrum or **MEAS** to start measuring,

or navigate in **SCR CABLE TEST** to perform in spectrum mode the **SCR LNB/MULTISWITCH 8** frequencies check (USER 1-8).



AUTOMEMORY (TV)

To automatically store all the existing channels in a city or building. Navigate in **AUTOMEMORY TV** and press the wheel:



Set the desired parameters:

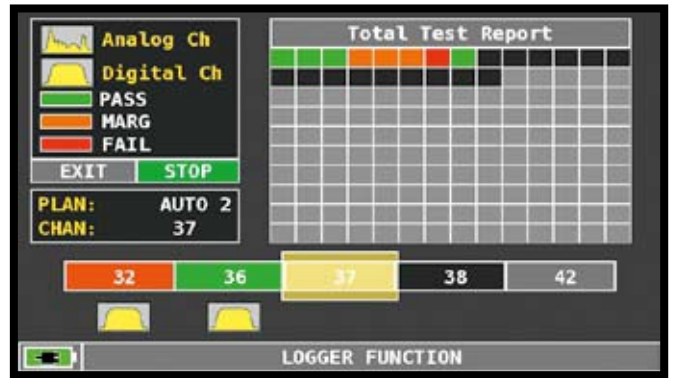
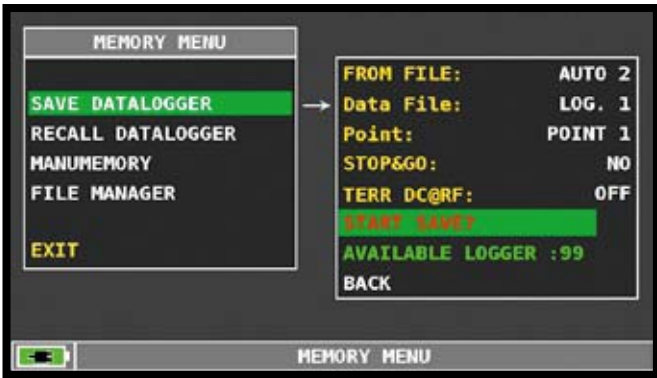
- Navigate in **to FILE N** and select the destination file **AUTO** where the search must be saved.
- Navigate in **LEVEL** and set the minimum level threshold of the analog channels searched.
- Navigate in **POWER** and set the minimum power level of the digital channels searched.
- Navigate in **DISCOVERY** and set the channel search mode,
 - **TERR ONLY** (terrestrial only),
 - **TERR & CABLE** (terrestrial & cable),
- Navigate in **START SAVE** to create a new channel plan and to activate the search.

NOTE: If the words **START OVERWRITE** appear, the selected file will be overwritten, wait a few mins, the meter indicates the recorded **ANALOG & DIGITAL** Channels.



Upon automemory completion the new plan is automatically selected.

Logger SAVE

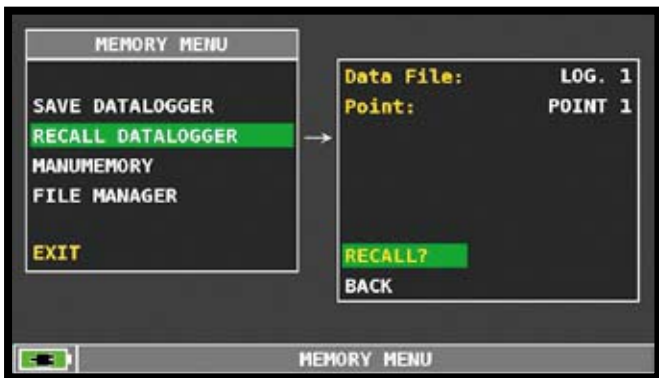


Navigate in **SAVE DATALOGGER** and set the parameters required. Touch **START SAVE** to create a new log file

DATA LOGGER run

NOTE: If the **MANU** plan has mixed TV and SAT programs, the **STOP&GO** function will assist when running a **LOGGER** asking to move the cable lead from a TV to a SAT signal source or vice-versa.

Logger RECALL



LOG. 1 POINT 1		EXIT			
NAME	TYPE	PWR LVL	MER C/N	bBER A/V	aBER PER
E5	DVB-T	63.6	33.7	7.0E-05	<E-08
E8	DVB-T2	58.5	10.7	<E-06	<E-08
21	DVB-T	88.2	24.4	<E-06	<E-08
22	DVB-T	56.6	23.2	5.0E-03	<E-08
26	DVB-T	60.6	21.5	9.0E-03	<E-08
30	DVB-T	60.2	24.9	1.0E-03	<E-08
32	DVB-T	66.1	16.6	5.0E-02	3.0E-02
36	DVB-T	58.8	32.4	6.0E-05	<E-08
37	DVB-T	60.4	34.4	4.0E-05	<E-08
38	DVB-H	61.9	32.0	<E-06	<E-08
42	DVB-T	57.3	10.7	1.0E-02	2.0E-02

Navigate in **RECALL DATALOGGER** and set the LOG file parameters. Touch **RECALL ?** to see them.

Browse through measurements saved in the log file.



Rotate to Navigate.

Battery test & Battery regeneration

This procedure explains how to regenerate/check your batteries and calibrate the battery charge indicator.

USEFUL ADVICE:

- Charge the batteries every night after use, even if they are not completely discharged;
- Always use the “BATTERY SAVE” & “TIMER OFF” functions to increase your meter’s autonomy;
- The maximum capacity of the batteries and battery charge indicator’s accuracy improves by up to 20% if you carry out many battery test cycles;
- Do not replace the batteries: first carry out 3 to 5 battery test cycles until you recover the maximum capacity of the batteries.

“BATTERY TEST” INSTRUCTIONS & PROCEDURE:

1. Before carrying out the test connect the meter to the original battery charger:
 - Turn on the meter;
 - Press the volume key and select “configuration menu” (fig. 1);
 - Select the word “meter” and press “ENTER” to confirm (fig. 2);
 - Select “battery test” and select “on” (fig. 2);
 - Press “enter” to confirm;
 - Carefully read the various screens, pressing “enter” in succession;
 - in the last instructions window, select “start” and press “enter” to start the test.

WARNING: the procedure will be cancelled if you select “exit” on any screen.



FIG. 1*



FIG. 2*



FIG. 3*

IMPORTANT ADVICE:

- Do not connect any type of load to the F input connector (Inb, tv head-end, amplifiers, etc.).
 - Extract the conditional access module (cam), if it is present in your meter.
2. The battery test takes approx. 18 Hours (charging/discharging/recharging activities and measurement of the battery autonomy), during this time the meter must not be used. At the end of the test the meter will turn off automatically. in order to make sure that the test has been carried out correctly, all the meter’s commands are blocked except for the reset function, which remains active so that the meter can be turned off if necessary.
 3. The batteries will be completely charged at the end of the test.
 4. To check the battery test results, enter METER SETUP, select BATTERY TEST function and read the results: for example 130ACIY (fig.3) = 130 minutes. The “Y” of YES confirms that the battery is still good enough, whereas an “N” for NO indicates that it could be faulty, too deteriorated or that the cycle was interrupted.

IMPORTANT NOTES:

If the test is interrupted using “reset”, the battery charge indicator may provide incorrect indications, therefore repeat the battery test procedure.

* The displays shown in this guide may change according to the model and are subject to change without notice. If you connect your meter, using the S.M.A.R.T. Pro program, from the usb port to the pc, you can download the screens shown above.

LI-ION-POLIMER Batteries

IMPORTANT:

- Always turn the instrument off before connecting the battery charger
- Do NOT leave the batteries discharged for long periods
- Always charge the batteries at night for at least 7 hours, even if they are not completely discharged.

USEFUL INFORMATION:

1. The batteries supplied are high quality and tested individually, the autonomy depending on the following conditions:
 - the LNB power consumption: Single, Dual or Quadruple,
 - the external temperature: with temperatures of less than 10 °C, 20 % of the capacity is lost,
 - the age of the batteries: a 10 % loss in efficiency each year,
 - Remember that the TIMER OFF function, that automatically turns off the Meter after 5 to 10 minutes of inactivity saves up to 30 %.
2. The battery indicator has a tolerance (like all battery powered electronic devices) according to the following factors:
 - the battery's charging percentage
 - external temperatures
 - battery wear and tear
 - +/-2 %

Icons showing the battery charge status:



WARNINGS

RECHARGEABLE BATTERY

This device contains a built-in Li-PO (Lithium polimer) battery that can be recharged many times. The battery contains chemicals that might wear with time even if not used. Please dispose of batteries properly.

Do not take the battery pack apart or expose it to extreme temperatures (over 50 °C). If the device has been exposed to very low or high temperatures let it rest at room temperature before use.

RECHARGING THE BATTERY

The Battery must be recharged at room temperature (about 20 °C) with the device turned off. To avoid premature failure of the battery never leave the device with an empty battery for prolonged periods.



Instrument	Connected to the mains power supply	▼ LED MAINS	▼ LED BATT CHRГ	Notes
OFF	YES	ON	ON	Batteries in fast charge
OFF	YES	ON	OFF	Battery charge completed
OFF	YES	ON	flashing 0,5 s OFF 0,5 s ON	Abnormal battery temperature. The recharge cycle has been suspended temporarily and will automatically reset.

Meter maintenance

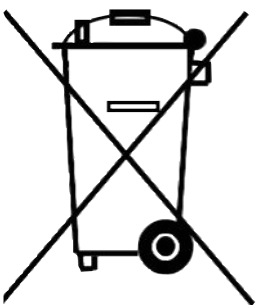
CLEANING THE METER cleaning the meter from dust and dirt is easy and helps maintaining it in optimal work conditions through the years. The cleaning procedure is simple and quick and requires only minor attention. Never use chemical aggressive products (diluent) and/or abrasive or rough clothes which may damage plastics and displays. Always use a soft cloth, dampened with a simple water and alcohol solution or a de-greasing not abrasive liquid soap. Keyboard and display should be gently cleaned. Rubbing the keyboard and/or the display(s) may seriously damage their functions.

MAINTENANCE AND CARE OF THE METER

This meter has been designed to withstand severe conditions of use. Even so, its life may be prolonged by respecting some simple and effective rules:

- The meter has not been designed to withstand high temperatures (over 60 °C or 140 °F). Those temperatures can be easily reached when the meter is left in a car, especially behind the windshield, or in the trunk. The LCD display and/or other details may easily be damaged by the extreme temperature.
- The internal battery may rapidly lose its efficiency if exposed to high or low temperatures. This will result in reduced autonomy of the meter when powered by internal battery.
- When recharging the internal battery, do allow a good air circulation around the meter and the adapter: do not cover it with clothes and do not recharge the battery when the meter is contained in its transport case
- The meter is not waterproof, even if it is protected against incidental water drops. In case of contact with water, electronic circuits may be damaged, allow the meter to dry thoroughly before trying to turn it on. Do not use hairdryer or other strong heating sources, but just leave the meter in quiet air. If possible, contact SAT-Kabel GmbH.

Disposal of electronic equipment



Disposal of electric / electronic equipment (applicable in all CEE countries and wherever separate waste collection system is applied).

This symbol on the packaging indicates that the product should not be considered as domestic waste. The product, at the moment of disposal, should be brought to a waste collection point with the proper facilities to manage electrical/electronic appliances. Electric/electronic appliances, if not disposed of correctly, may have negative consequences on your health and environment.

Furthermore, a proper recycling procedure helps maintaining natural resources.

For more information about the correct disposal of this product, please refer to your local waste management offices or the shop where this product was bought.

SAT-Kabel[®]

Satelliten- und Kabelfernsehanlagen/Industrievertretung GmbH

Telefon: +49 (0)3724 6665-0

Telefax: +49 (0)3724 6665-44

info@sat-kabel.de • www.sat-kabel.de

Errors, technical amendmends and developments are subject to change without notice!

