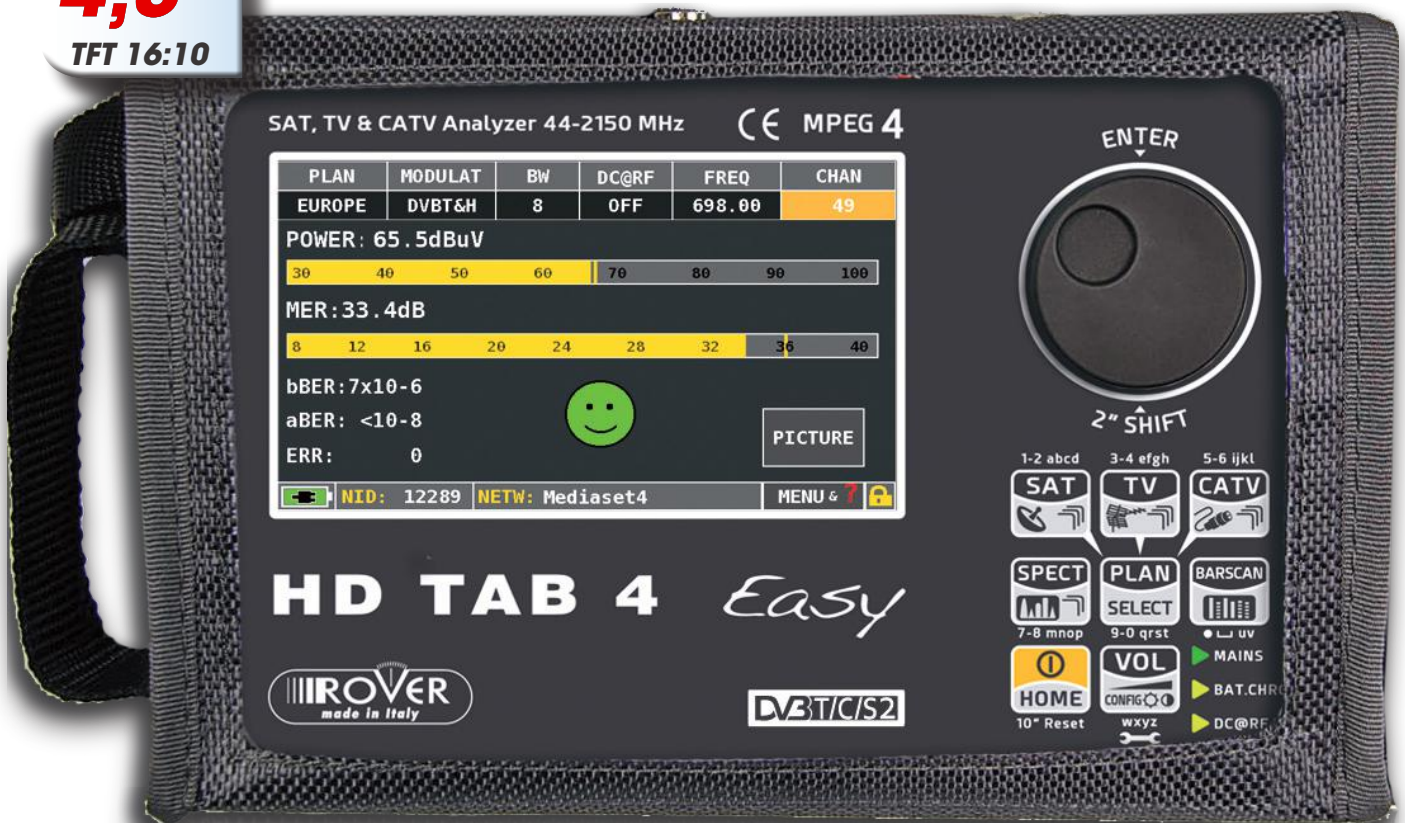


HD TAB 4 EASY

USER'S GUIDE










HD Field Meter, TV & SAT,
Spectrum analyzer, MPEG HD pictures,
SCR & SAT constellation.

4,3"
TFT 16:10



ROVER
www.roverinstruments.com

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- 4 – FRONT PANEL & KEYS
- 5 – 'HOME' SCREEN
- 5 – NAVIGATION
- 8  VOLUME & CONFIGURATION
- 8 – BATTERY SAVING & TIMER OFF
- 9 – DISCOVERY
- 10  SAT
- 11  TV
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- 13  SPECT
- 14  LIST
- 15  HELP
- 16 – SAT SCR
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- 18 – LOGGER SAVE & RECALL
- 19 – BATTERY TEST & BATTERY REGENERATION
- 20 – LI-ION POLIMER BATTERIES & WARNINGS
- 21 – POWER SUPPLY & BATTERY CHARGE LED STATUS
- 22 – METER MAINTENANCE
- 22  DISPOSAL of ELECTRONIC EQUIPMENT

Correct power OFF/ON procedure _____

Correct power OFF/ON procedure for ROVER instruments to avoid occasional Memory Plans and navigation cancellation.

The **“HOME”** key has four timed functions:

1. One shot = turn-ON
2. One shot (when on) = always goes the to HOME MENU
3. If kept pressed for 2 seconds = turn-OFF
4. Kept pressed for about 10 seconds = HW reset, Forced turn-off, (interrupts the ongoing data saving in memory).

• **POWER ON:**

Press once the **“HOME”** key and wait until the start-up is completed, about 20 seconds (do not press it again during the start-up phase).

• **POWER OFF:**

Press and hold the **“HOME”** key, the instrument will emit a first beep immediately and a second BEEP after about 2 seconds, then release immediately the **“HOME”** key (even if the display is still active and shows the batteries instructions).

• **CAUTION:**

Do not keep pressed the **“HOME”** key after the second BEEP, to avoid starting the HW reset function (forced turn-off see point 4).

Basically, every time you turn off the instrument, it needs about ten seconds to save the data in memory before turn-off.

If accidentally you interrupt this storing process, activating the HW Reset function the data in memory could be corrupted. In any case you can restore the memory plans yourself with a PC by following the instructions in the “F.A.Q.” under the heading “Simple SW self repair”.

www.roverinstruments.com

Front Panel & Keys



no	Name	Function
1	DC&RF IN ON-OFF	Remote bypass switch
2	RF SAT/TV Ingress	SAT input connector 950/2.150 MHz TV/CATV input connector 47-1.000 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 & 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

DC@RF IN remote power switch



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

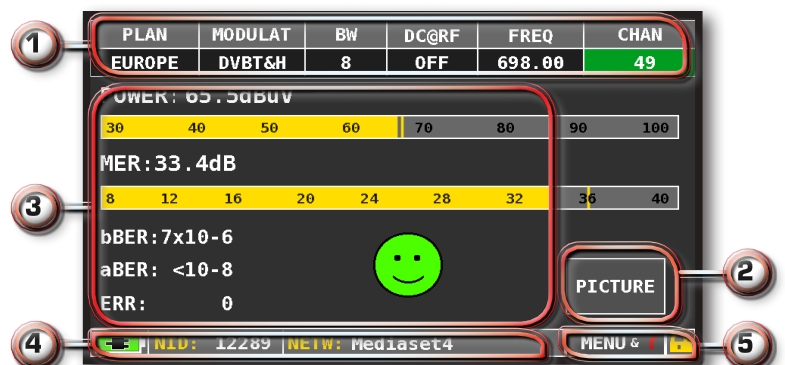
IMPORTANT:

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

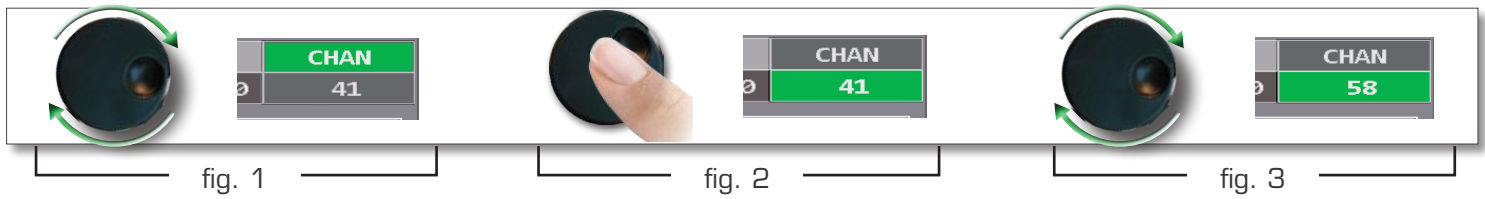


• NAVIGATION USING MECHANICAL COMMANDS

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):



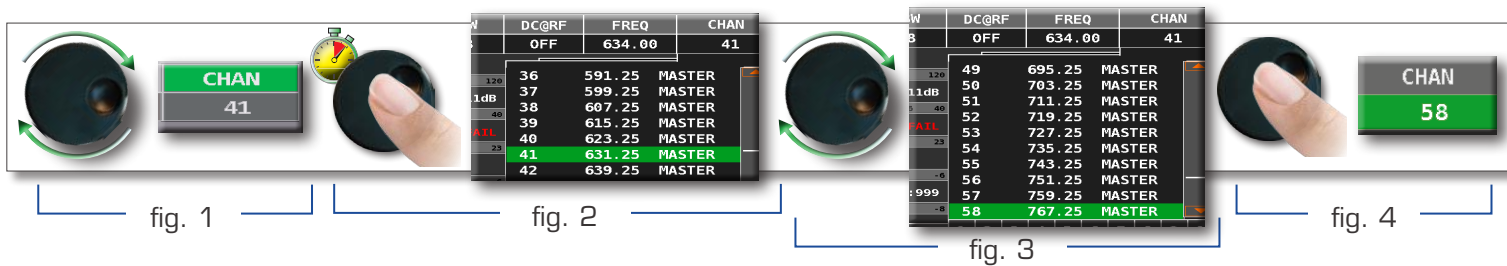
Example of remote TV-CATV power supply selection (DC&RF):



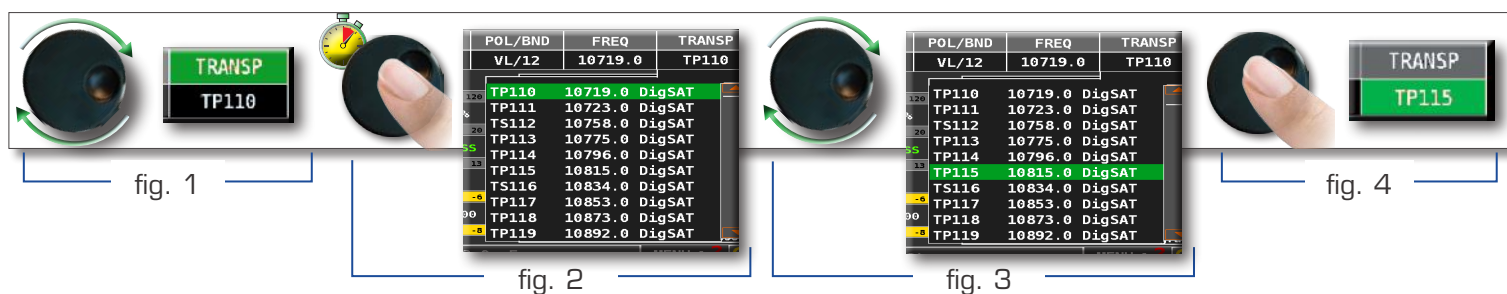
How to select from the menus and change a value using the drop down menus:

- 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)

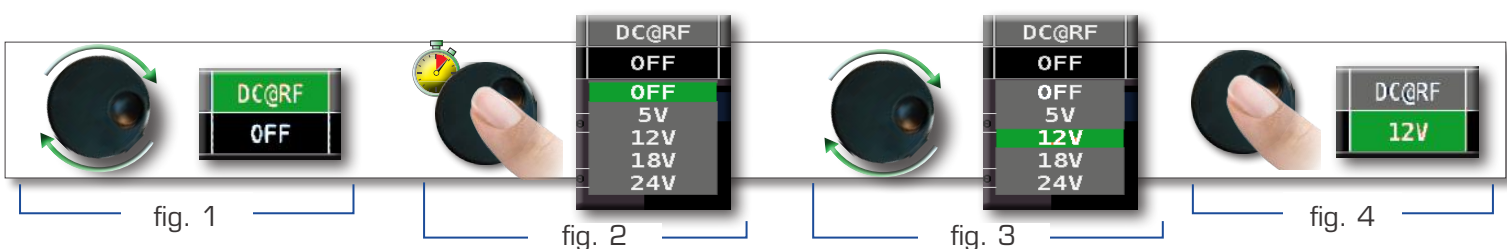
Example of TV/CATV channel selection:



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:



fig. 1

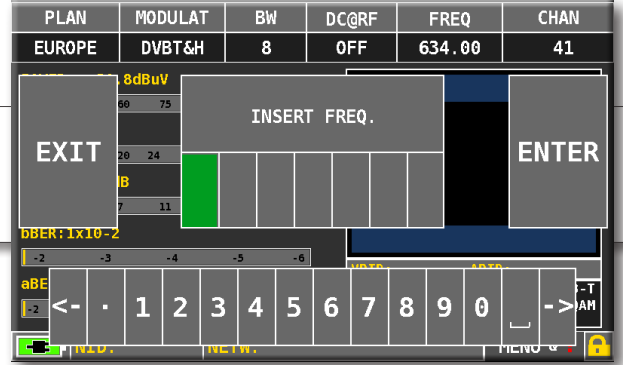


fig. 2

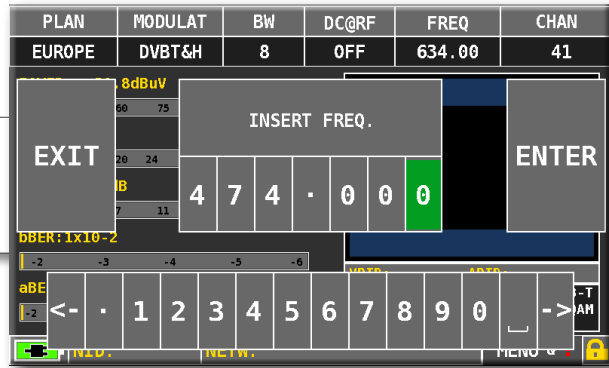
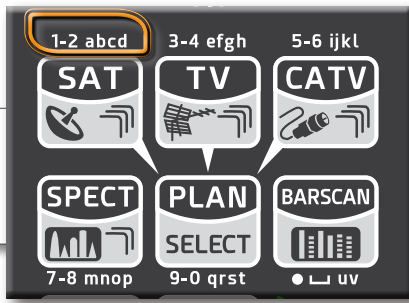


fig. 3

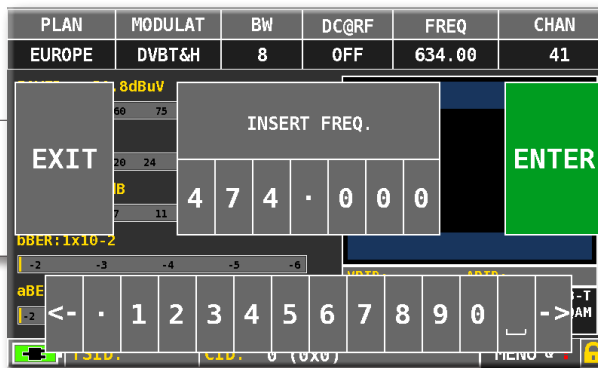
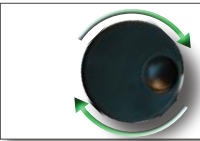


fig. 4

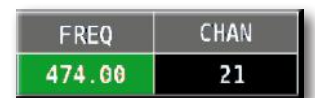
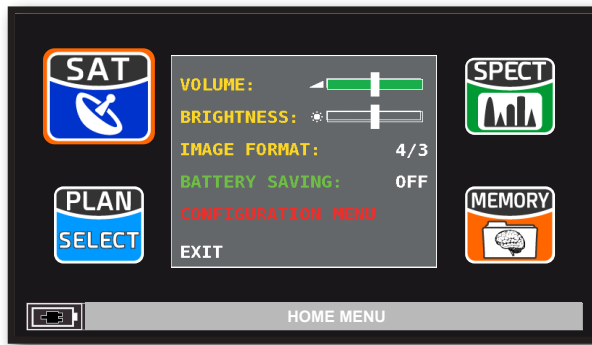


fig. 5



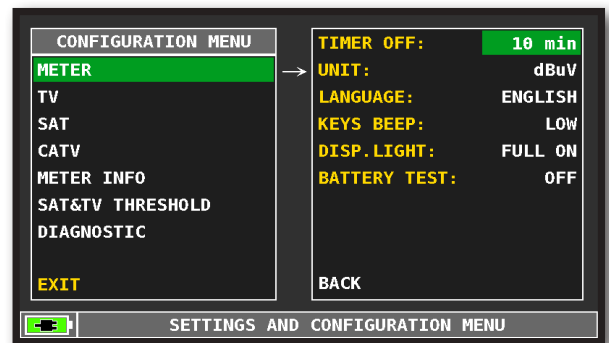
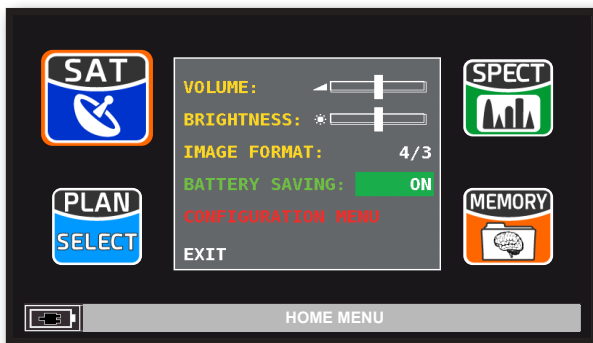
Volume & Configuration



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

BATTERY SAVING & TIMER OFF

Settings for battery save mode:

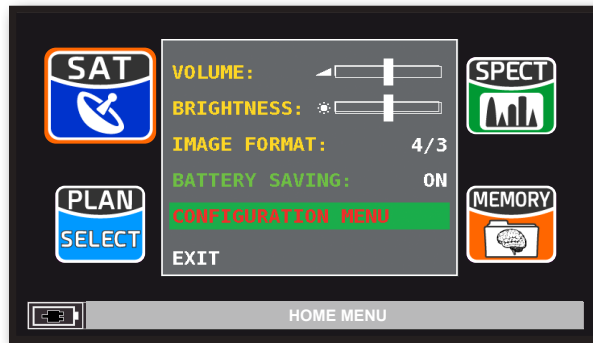


Choose "BATTERY SAVING" from the volume screen. In ON mode, if no key is pressed, after 30 seconds, the display brightness is reduced and after 5 minutes the meter automatically turns off. Press any key to temporarily reset the battery save mode.

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.

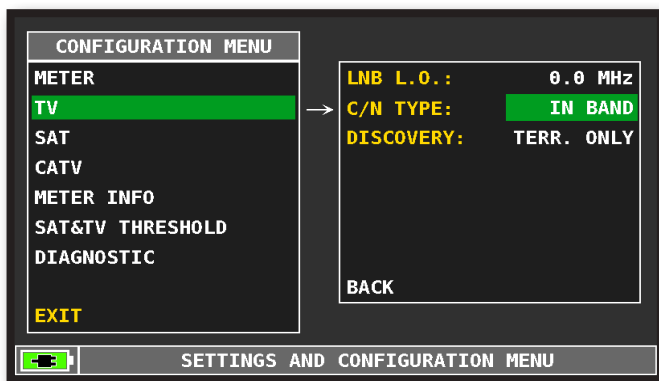
Discovery

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



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

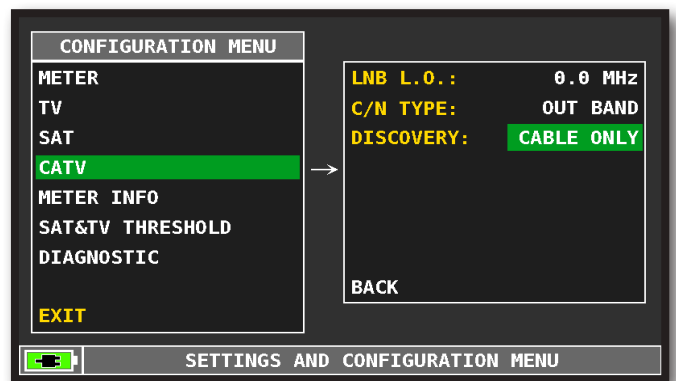
TV Mode



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

- TERR ONLY,
- TERR & CABLE.

CATV (Cable) Mode



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).



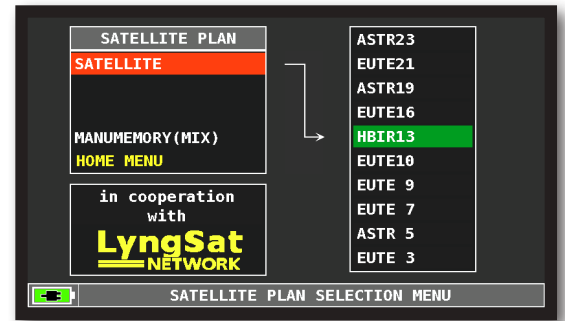
SAT



ro



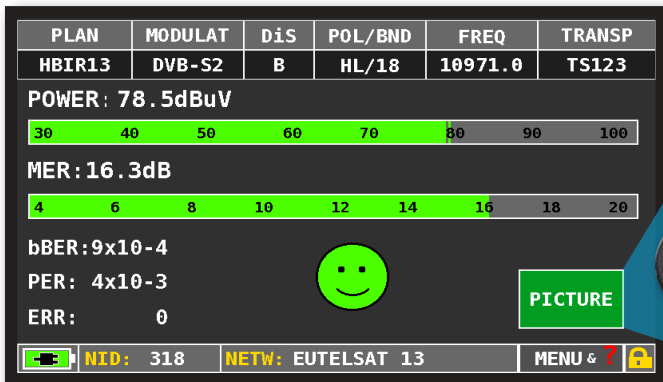
then press



SAT Channel Plan screen

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

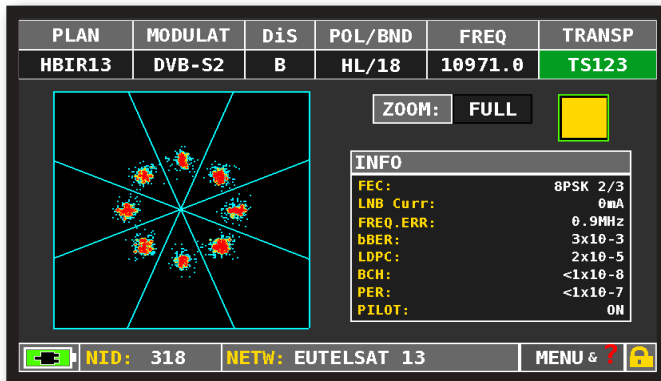
Digital SAT measurement displays DVB-S & DVB-S2



Main Measurements

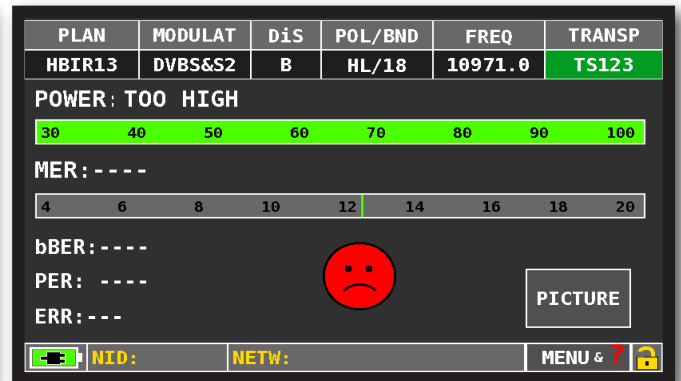


Navigate in PICTURES and press the encoder wheel to visualize the services list and pictures. Press SAT to return to the measurements.



8PSK Constellation.

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



SAT Spectrum



SAT channel PLAN selection



MPEG service LIST



Identifies the tuning parameters of a digital unknown signal



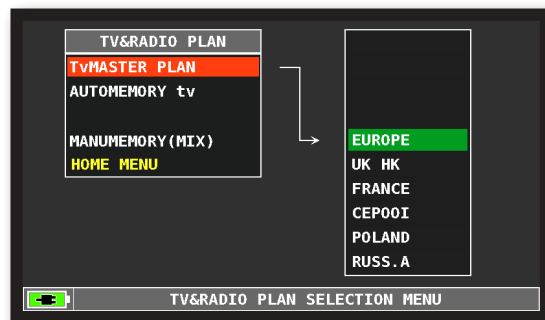
TV (all channels received at the Antenna)



or

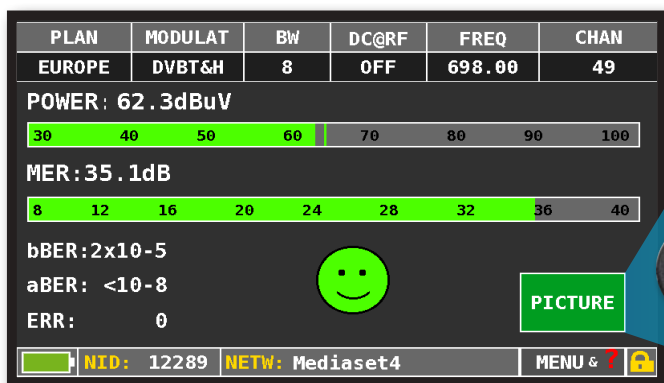


then press

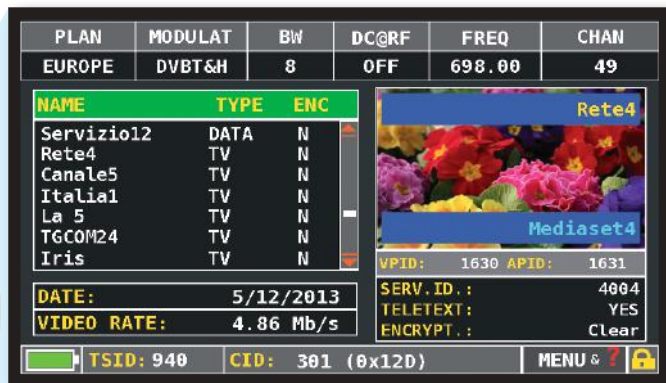


TV Channel Plan screen

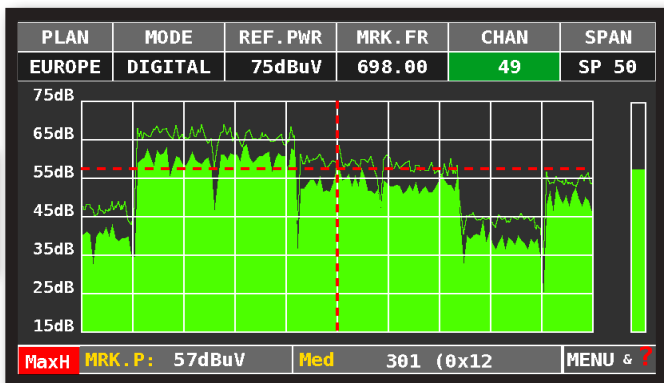
Digital TV measurement displays DVB-T



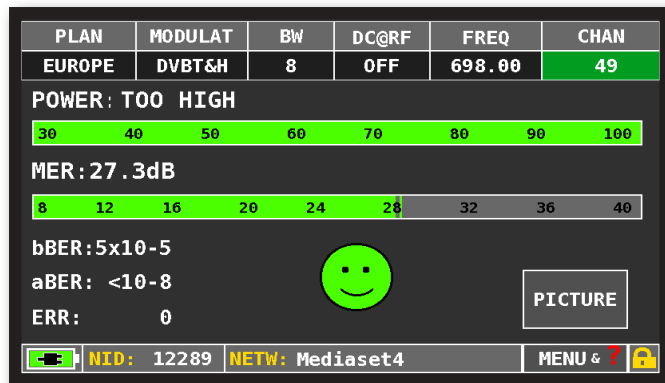
Main Measurements



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



Press "SPECT" key to visualize TV Spectrum



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 LIST



Identifies the tuning parameters of a digital unknown signal



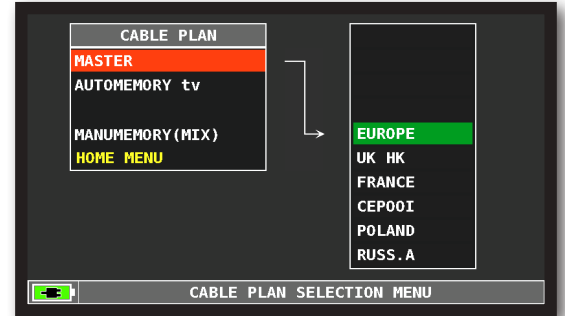
CATV (all channels received at the Antenna and in S Band)



press

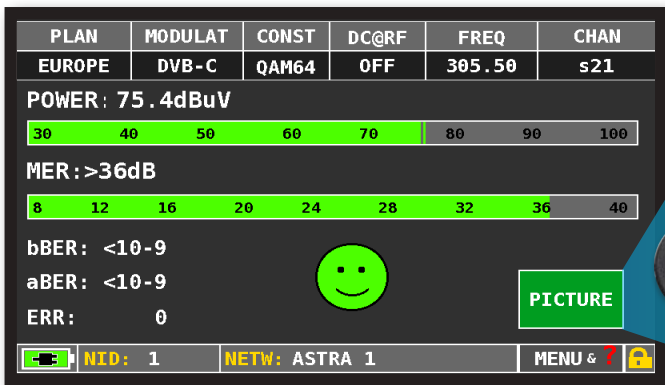


then



CATV Channel Plan screen

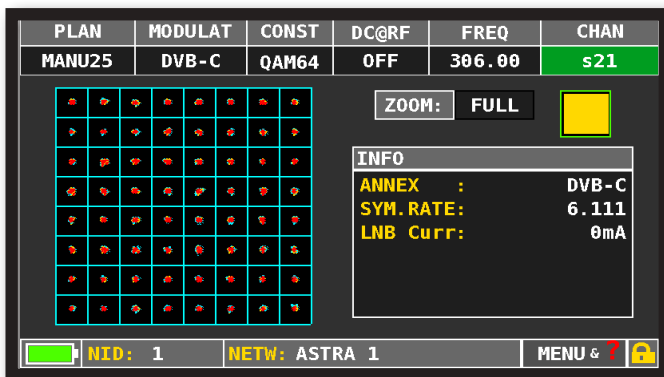
Digital CATV measurement display DVB-C



Main Measurements

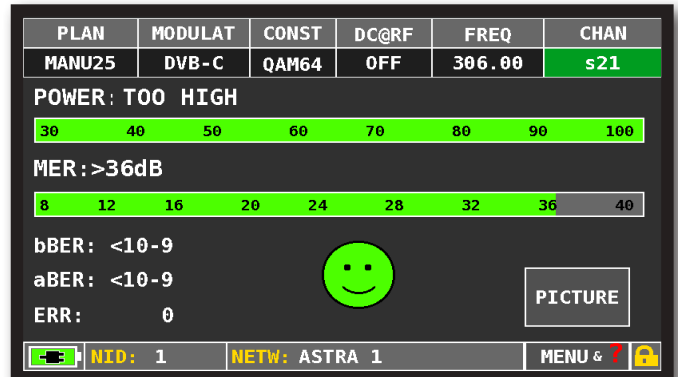


Navigate in PICTURE and press the encoder wheel to visualize the services list and pictures. Press CATV to return to measurements.



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



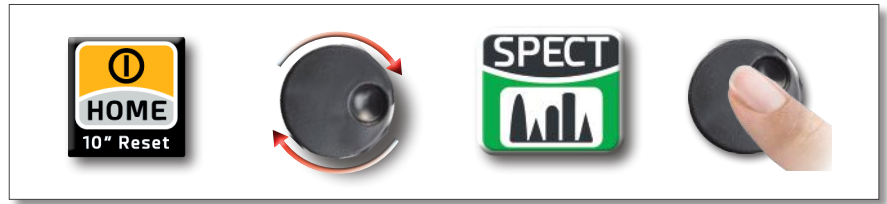
Identifies the tuning parameters of a digital unknown signal



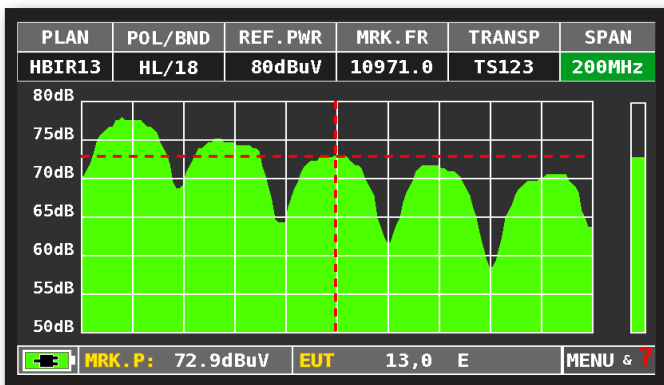
SPECT



or



Spectrum Analyzer screens



Fast spectrum

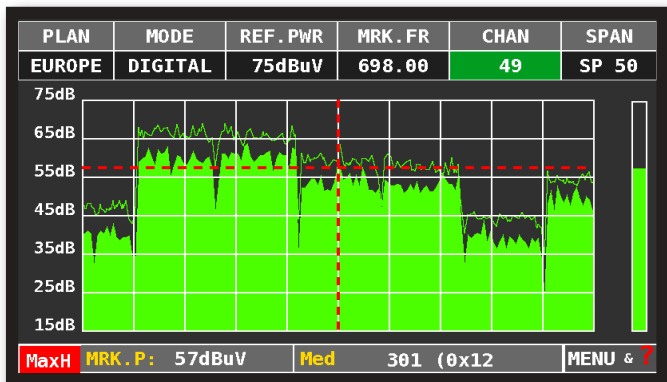
Navigate in "SPAN" to modify the value or directly select the active span value:



or



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					
30	40	50	60	70	80 90 100
MER: 35.1dB					
8	12	16	20	24	28 32 36 40
bBER: 2x10 ⁻⁵					
aBER: <10 ⁻⁸					
ERR: 0					
<div style="float: right; border: 1px solid black; padding: 2px;">PICTURE</div>					
NID: 12289				NETW: Mediaset4	
MENU & ?					

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	N		
Rete4	TV	N	N	VPID: 1630 APID: 1631	
Canale5	TV	N	N	SERV.ID.: 4804	
Italia1	TV	N	N	TELETEXT: YES	
La 5	TV	N	N	ENCRYPT.: Clear	
TGCOM24	TV	N	N	DATE: 5/12/2013	
Iris	TV	N	N	VIDEO RATE: 4.86 Mb/s	
TSID: 940		CID: 301 (0x12D)		MENU & ?	

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	N		
Rete4	TV	N	N	VPID: 1630 APID: 1631	
Canale5	TV	N	N	DATE: 10/06/2013	
Italia1	TV	N	N	SERV.ID.: 4804	
La 5	TV	N	N	TELETEXT: YES	
TGCOM24	TV	N	N	ENCRYPT.: Clear	
Iris	TV	N	N	VIDEO RATE: 3.59 Mb/s	
TSID: 940		CID: 301 (0x12D)		MENU & ?	

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	N		
Rete4	TV	N	N	VPID: 1630 APID: 1631	
Canale5	TV	N	N	DATE: 14/11/2013	
Italia1	TV	N	N	SERV.ID.: 4804	
La 5	TV	N	N	TELETEXT: YES	
TGCOM24	TV	N	N	ENCRYPT.: Clear	
Iris	TV	N	N	VIDEO RATE: 1.73 Mb/s	
NID: 12289		NETW: Mediaset4		MENU & ?	

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	N		
Rete4	TV	N	N	VPID: 1630 APID: 1631	
Canale5	TV	N	N	DATE: 14/11/2013	
Italia1	TV	N	N	SERV.ID.: 4804	
La 5	TV	N	N	TELETEXT: YES	
TGCOM24	TV	N	N	ENCRYPT.: Clear	
Iris	TV	N	N	VIDEO RATE: 3.99 Mb/s	
TSID: 940		CID: 0 (0x0)		MENU & ?	

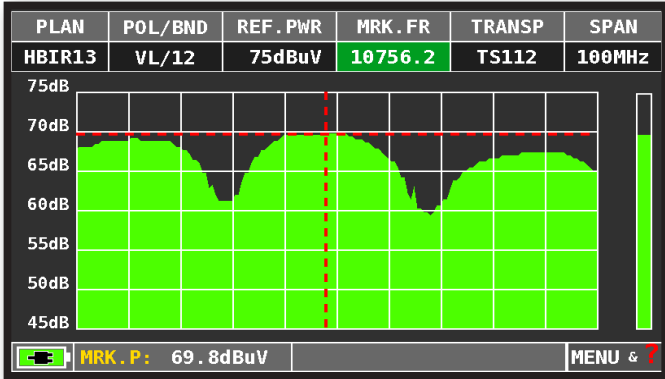
Rotate the encoder wheel to navigate in Vpid - Apid and press ENTER to return to the measurements, or press the SAT/TV/CATV measurement key.



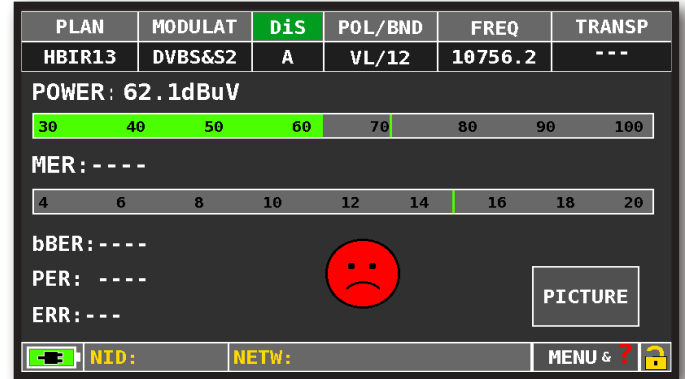
HELP inspect the parameters of an unknown signal

The "help" function identifies the tuning parameters of a digital TV or SAT unknown signal:

How to use the "HELP" function

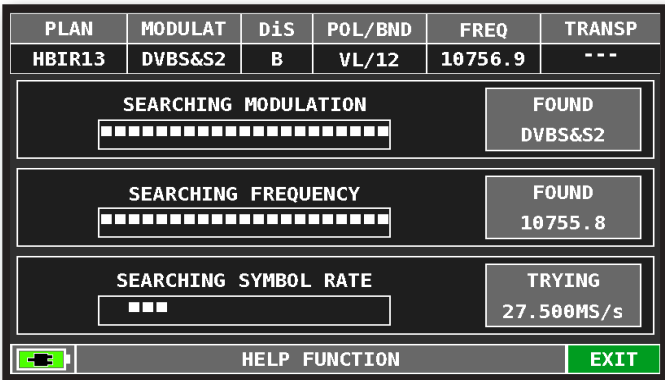


Spectrum mode move the "mrk.Fr" to the center of a digital carrier.

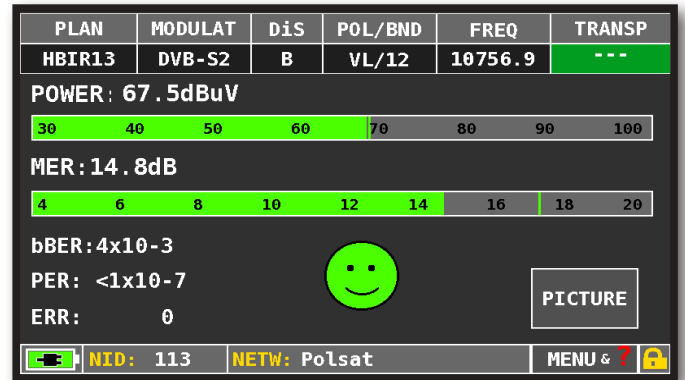


or

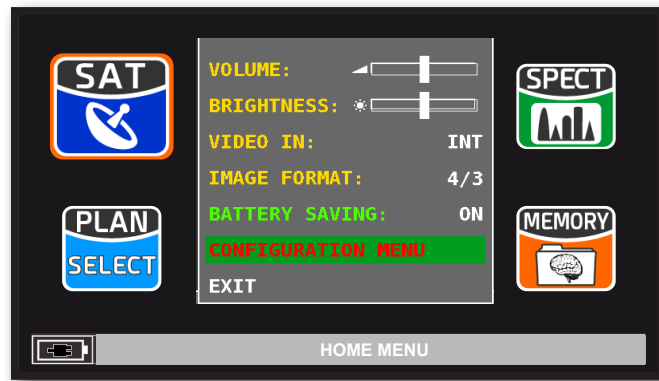
In measurement mode when the lock icon is open (the signal is not locked).



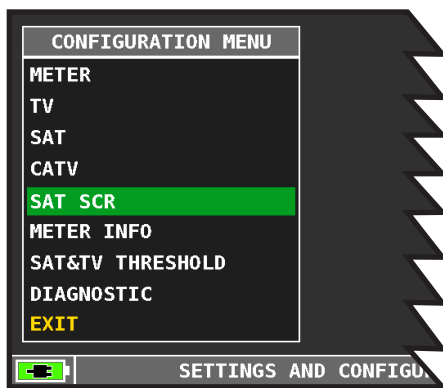
The "help" function will try to identify the tuning parameters of the selected digital carrier.



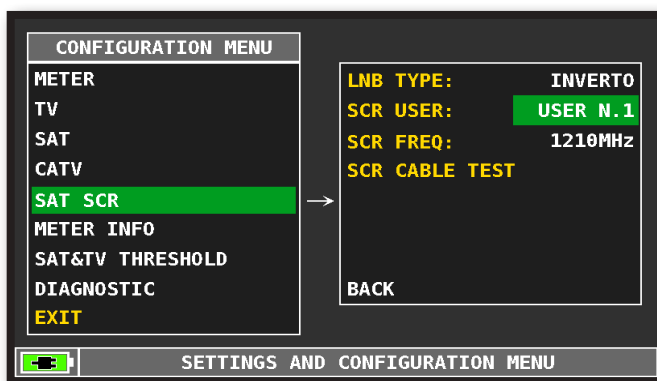
At the end of the search (the word "FOUND" will be shown in the 3 boxes) the meter automatically shows the measurement display and the picture of the selected carrier (if available).



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



Navigate in "SAT SCR" and press ENTER

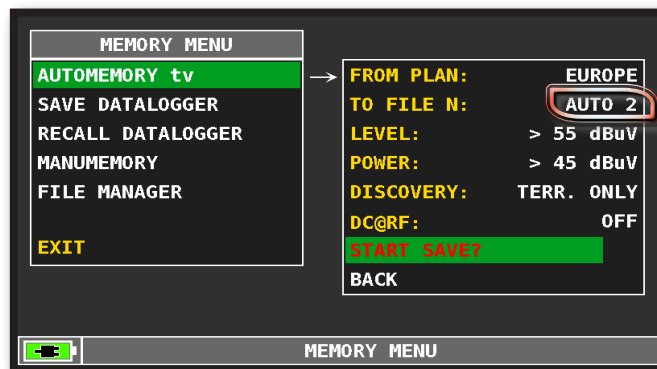


Navigate in "LNB TYPE" and choose the LNB/MULTISWITCH model, navigate in "SCR USER", and choose the user number to test (USER 1-8), Press "SPECT" to display the spectrum or "MEAS" to start measuring, or navigate in "SCR CABLE TEST" to perform in spectrum mode the SCR LNB/MULTISWITCH 8 frequencies check (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.

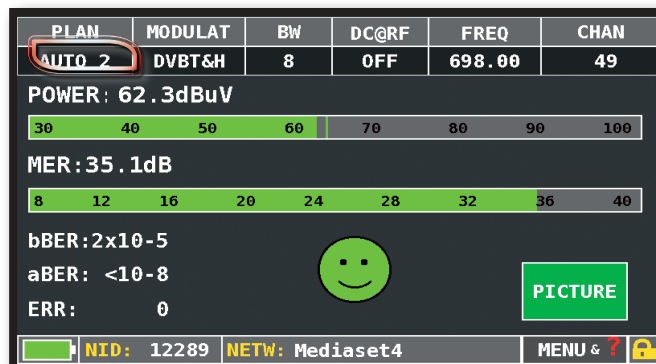
Navigate in "POWER" and set the minimum power level of the digital channels searched.

Navigate in "DISCOVERY" and set the channel search mode,

- TERR ONLY (terrestrial only),
- TERR & CABLE (terrestrial & cable),

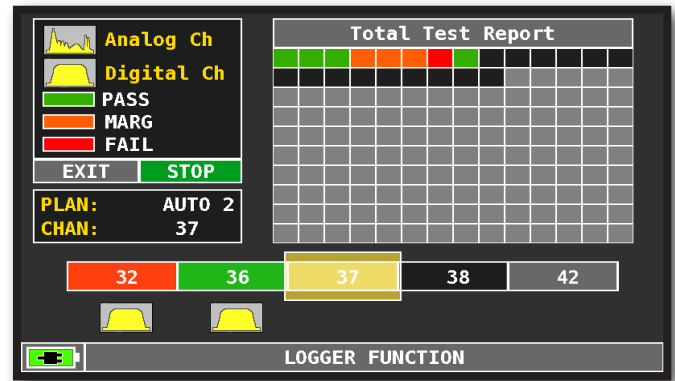
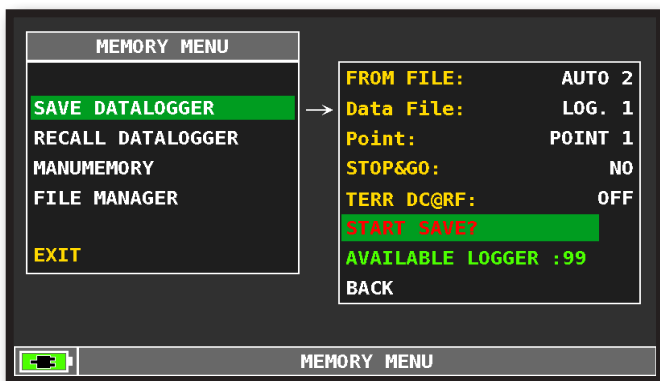
Navigate in "START SAVE" to create a new channel plan and to activate the search.

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

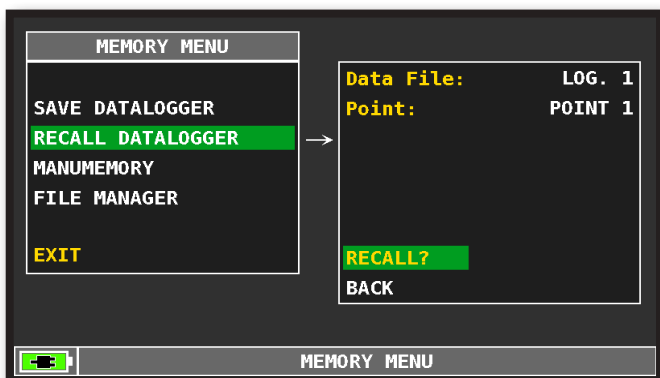


Navigate in "SAVE DATALOGGER" and set the parameters required. Touch "START SAVE" to create a new log file

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	2.0E-05	<E-08
E8	DVB-T2	58.5	10.7	<E-06	<E-08
21	DVB-T	68.2	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.

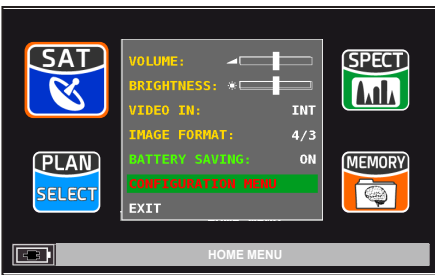


FIG. 1*

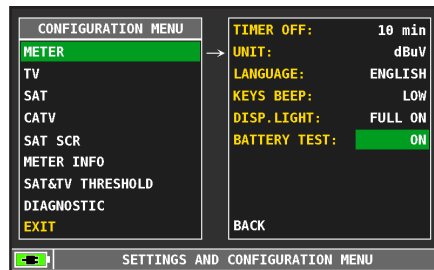


FIG. 2*

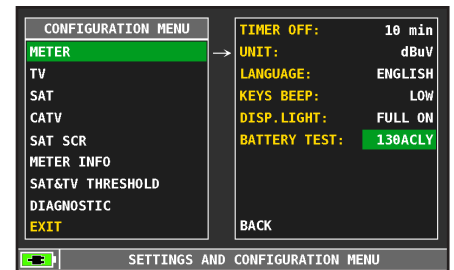


FIG. 3*

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 130ACLY (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 POLYMER 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, their autonomy depends 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 or 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:



BATTERY AUTONOMY:

The battery autonomy is up to a maximum of 3 hours.



WARNINGS

RECHARGEABLE BATTERY

This device contains a built-in Li-Po (Lithium polymer) 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.

POWER SUPPLY (MAINS) AND BATTERY CHARGE (CHRG) LED STATUS



INSTRUMENT	CONNECTED TO THE MAINS POWER SUPPLY	▼ LED MAINS	▼ LED BATT CHRG	NOTES
OFF	YES	ON	ON	Batteries in fast charge
OFF	YES	ON	OFF	Battery charge completed
OFF	YES	ON	Flashing 0.5 SECONDS OFF 0.5 SECONDS ON	Abnormal battery temperature. The recharge cycle has been suspended automatically and will automatically reset.

METER MAINTENANCE

CLEANING THE METER

Keeping the meter clean from dust and dirt is easy and helps maintain optimum working conditions over the years. The cleaning procedure is simple and quick and requires only minor attention.

Never use aggressive, chemical products (diluent) and/or abrasive or rough clothes, which may damage plastics and displays.

Always use a soft cloth, dampened with a solution of water and alcohol or a de-greasing, non-abrasive liquid soap.

The 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

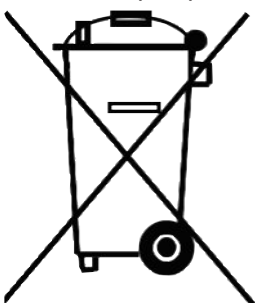
This meter has been designed to withstand severe conditions of use. Even so, its life can be prolonged by respecting some simple and effective rules:

- The meter has not been designed to withstand high temperatures (over 60°C or 140° F). These temperatures can be easily reached when the meter is left in a car, especially behind the windshield, or in a trunk. The LCD display and/or other details could easily be damaged by extreme temperatures.
- The internal battery could rapidly lose its efficiency if exposed to high or low temperatures. This may result in reduced meter autonomy when powered by its internal battery.
- When recharging the internal battery, allow 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 in its transport case.
- The meter is not waterproof, even if it is protected against incidental water drops. If it comes into contact with water electronic circuits may be damaged. Allow the meter to dry thoroughly before trying to turn it on. Do not use hairdryers or other strong heating sources, just leave the meter at room temperature. If necessary, contact Rover Laboratories S.p.A. for technical assistance.

Disposal of Electronic Equipment

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

This symbol on the packaging indicates that the product should not be considered 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 the environment.

Furthermore, a proper recycling procedure helps maintain natural resources.

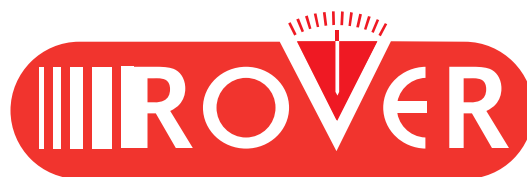
For more information about the correct disposal of this product, please refer to your local waste disposal management offices or the shop where this product was bought.

A series of horizontal dashed lines for writing notes.

CUSTOMER SUPPORT

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skype® only for call
wecare.roverinstruments



UG-HDTAB4EASY-EN-V1,1

Designed in Europe, Assembled in Europe

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