

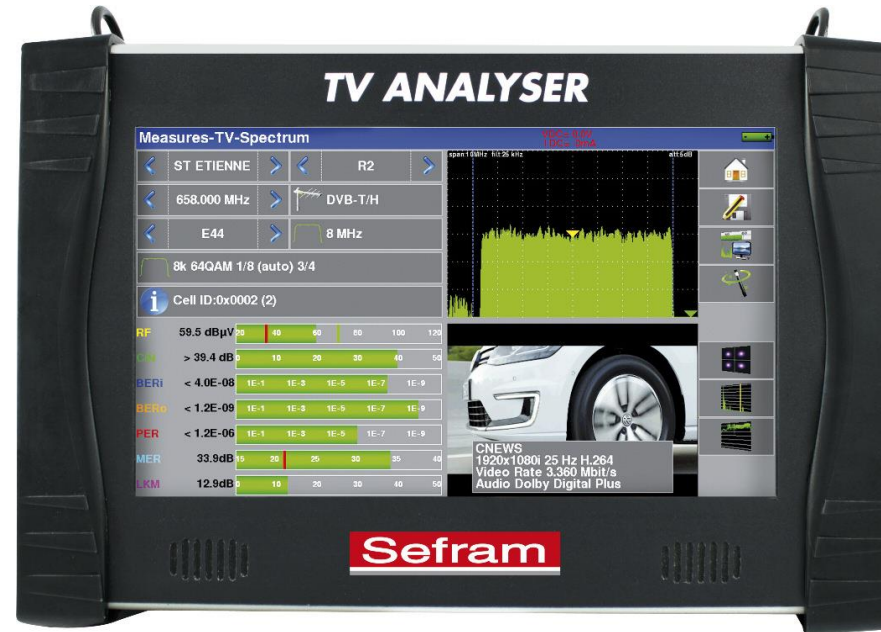
# SEFRAM 7880 series

## TV Meter



SEFRAM 7880 series  
TV Meter

# Overview



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# Overview

- Panoramic LCD touch screen : 10 inches
- Display High Definition TV programs MPEG4-H.264 and **H.265 (HEVC)**
- **Display analog TV programs**
- All measurements for DVB-T/T2, DVB-C/C2 (J83-A and B), DVB-S, DVB-S2, **DAB/DAB+**, Wifi, DVBT2-MI via IP and OTT mode (available in September by software upgrade)
- IPTV measurements and decoding
- Shoulder measurement in DVB-T/T2
- SFN delay in DVB-T
- Optical input with optical to RF converter, including Optical Power measurements
- **Ultra fast spectrum analysis (FFT)**
- **TV Analog input and output**
- Real time echoes and pre-echoes measurement
- 2 Year Warranty

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# Front Panel

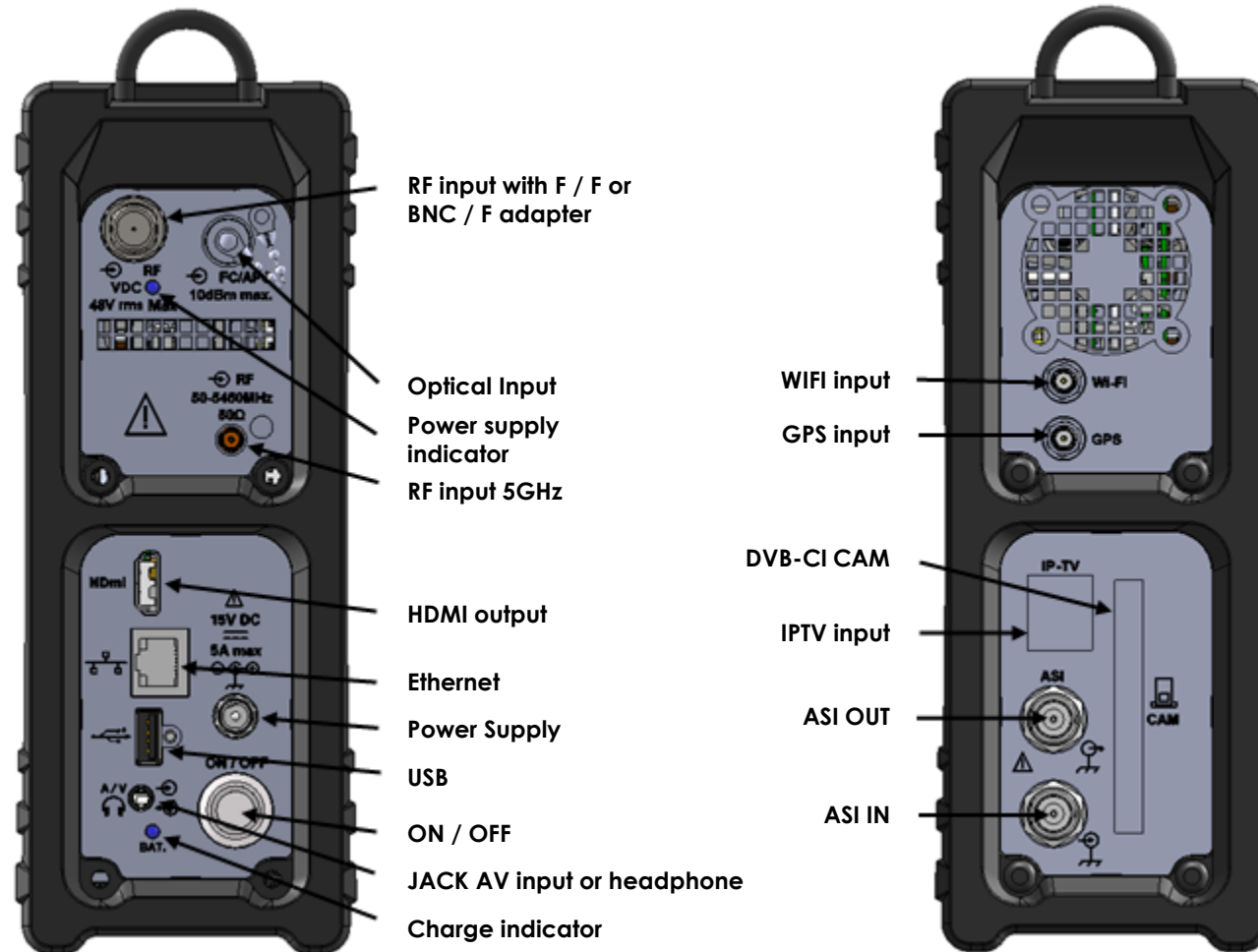


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# Side of the device

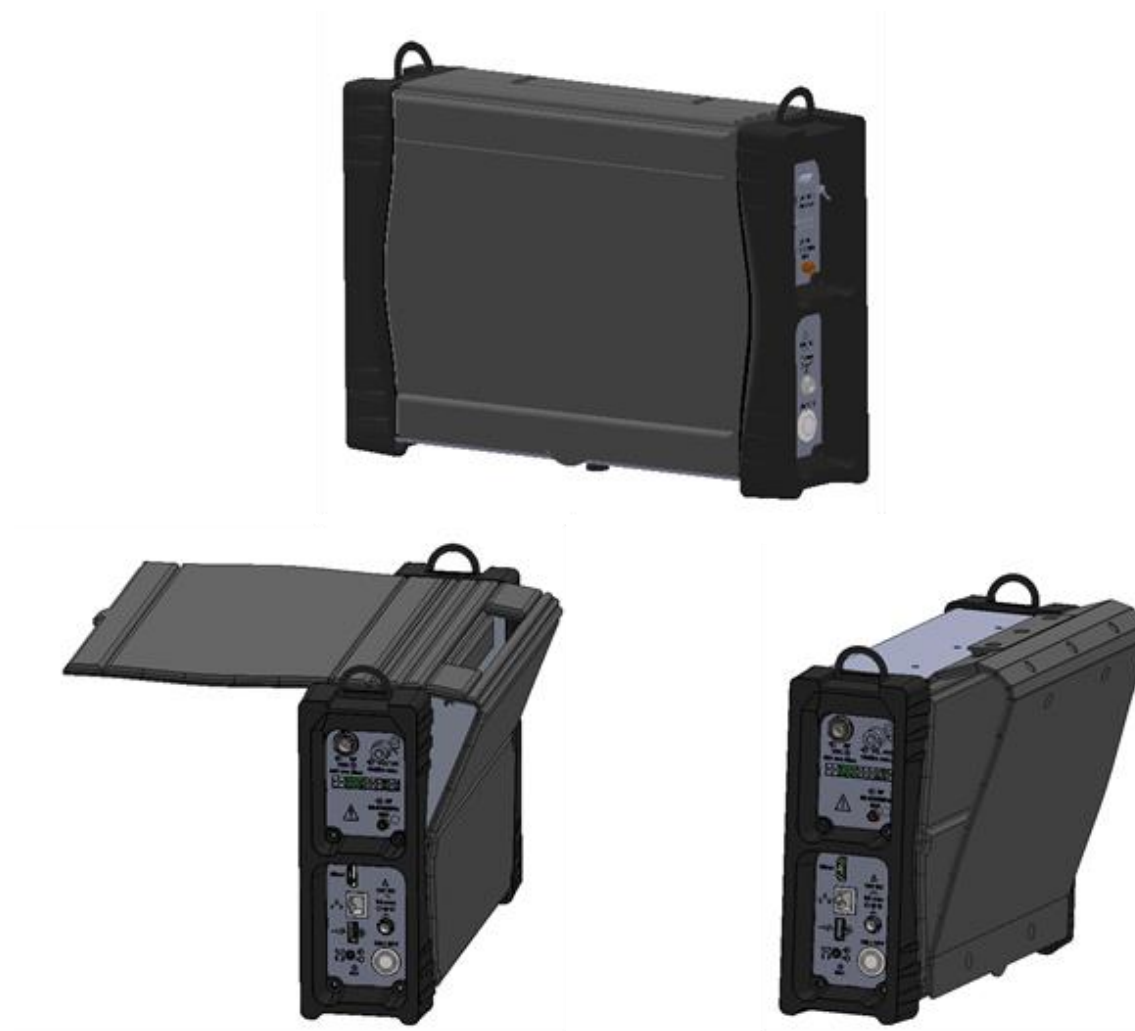


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# Sun protector



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# Easy to use



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# Easy to use

Direct access to function from the touch screen is like a game: dedicated icons, special "home" function to go back to main menu, virtual keyboard to enter your specific data, possibility to export / import file on USB memory stick,... Getting started with the new SEFRAM 7885 is fast and easy.



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# Easy to use

## One menu per function

Using the upper panel, access the different menu and view the available measurements



RF Measurement    Optical Measurement    RF 5GHz Measurement    ASI Input    Video Input / Output    GPS function    IPTV Measurement    WiFi Measurement

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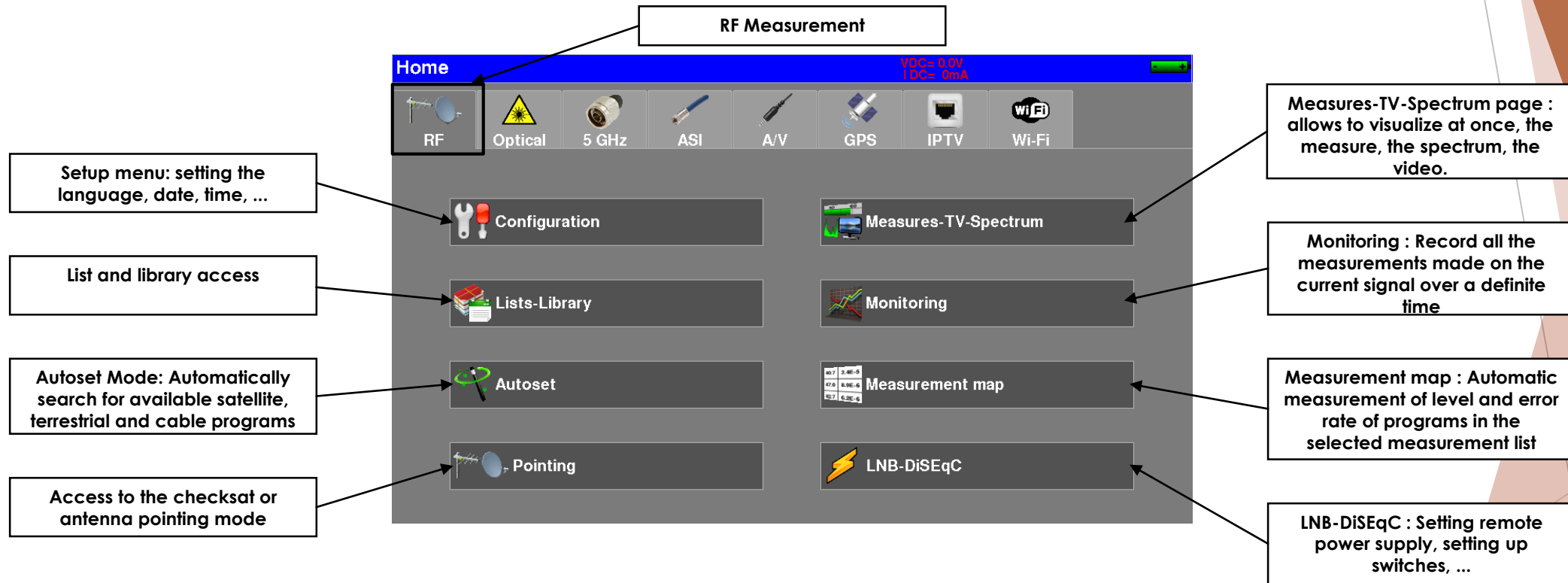
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# Easy to use

## One menu per function : RF Measurement

Direct access to available functions for RF measurement



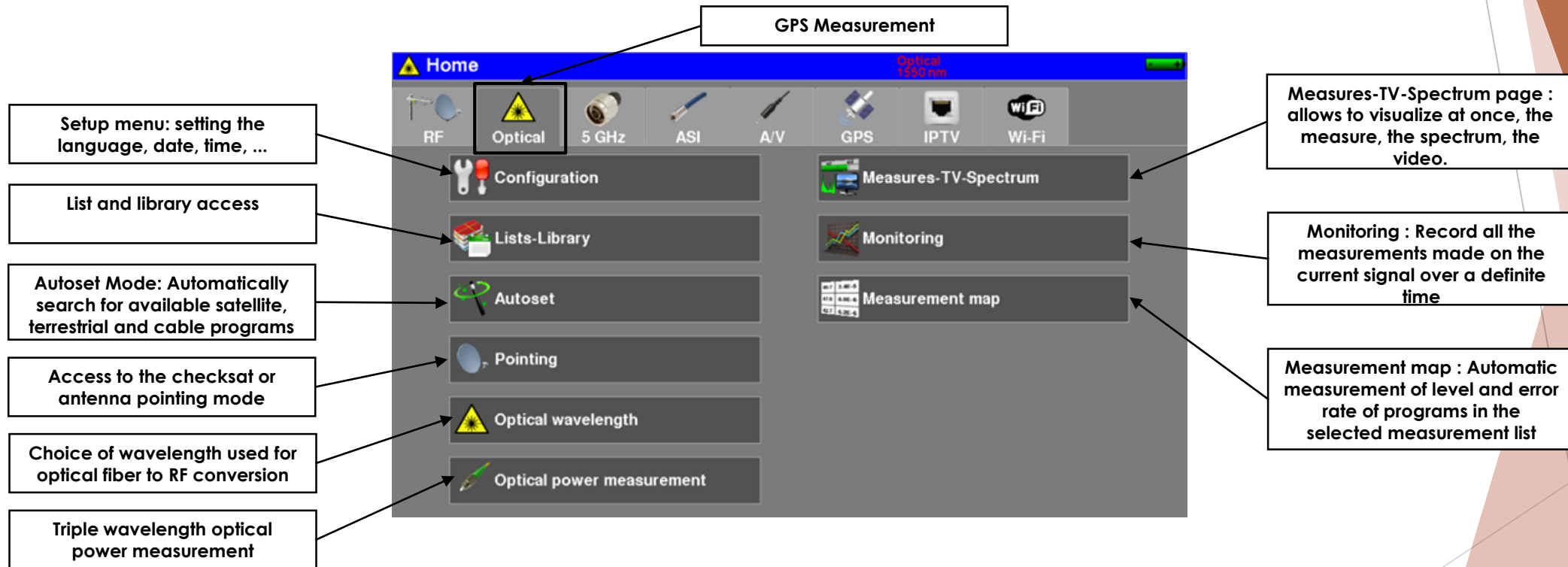
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# Easy to use

One menu per function : Optical Measurement – Same measurement that RF measurement and optical power measurement



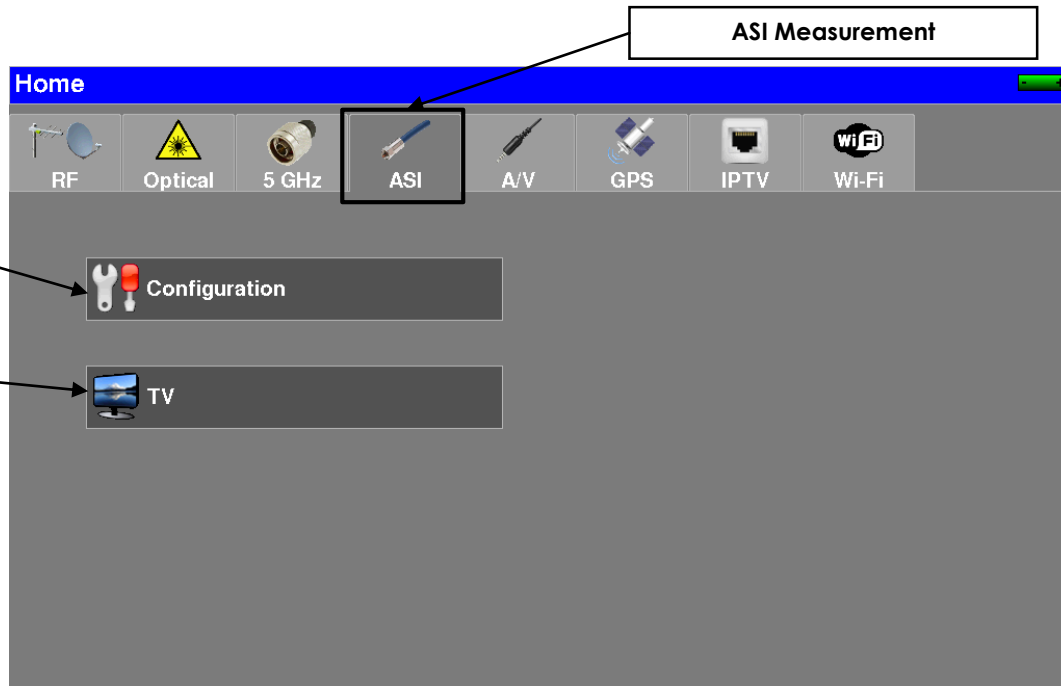
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# Easy to use

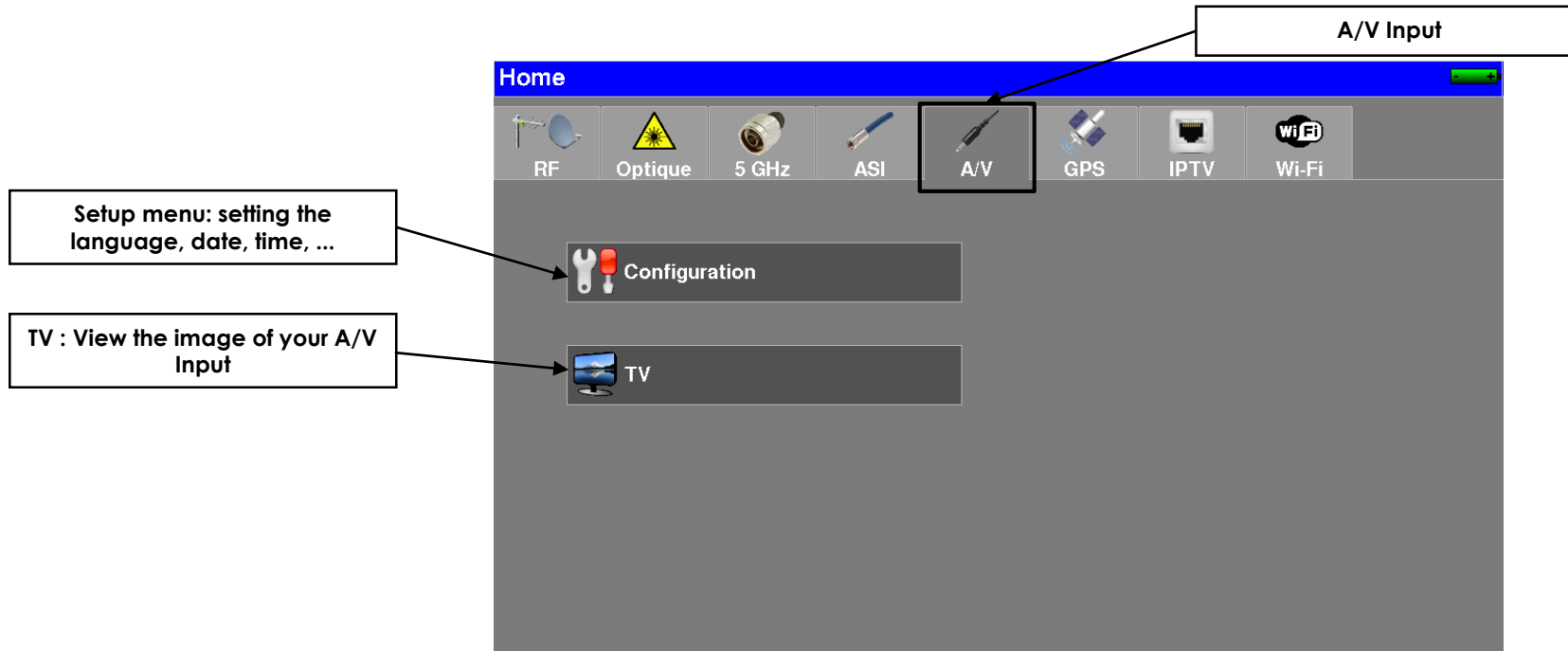
One menu per function : ASI Input



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# Easy to use

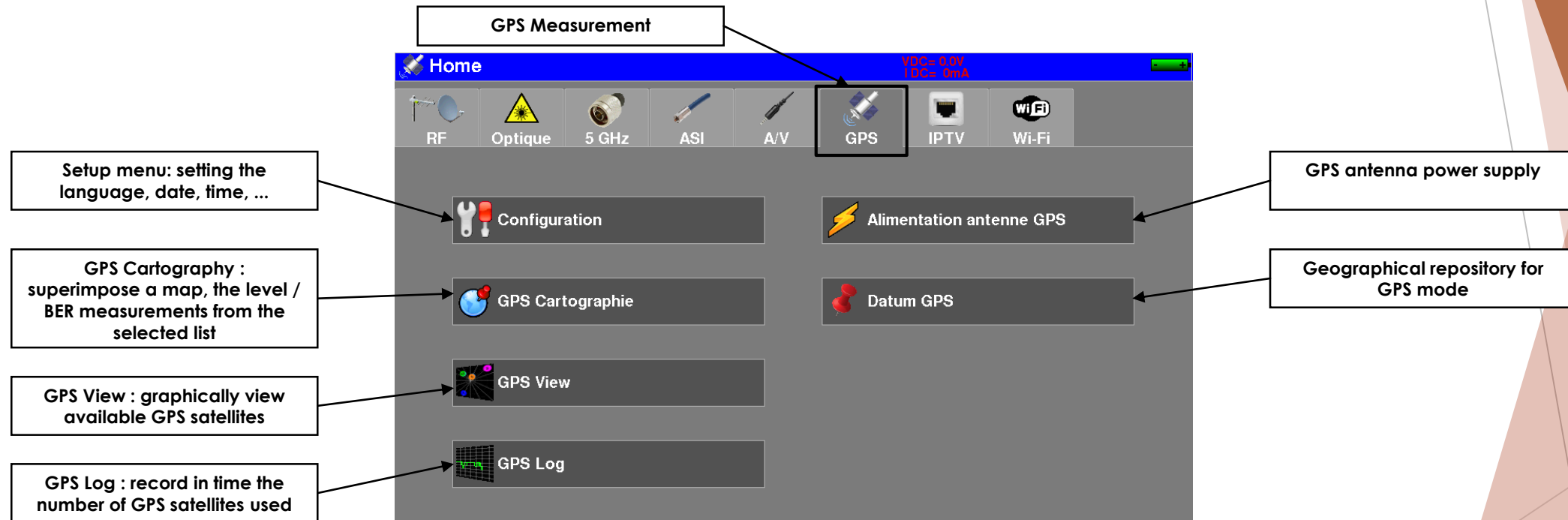
One menu per function : Video Input / Output



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# Easy to use

One menu per function : GPS Function



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# Easy to use

One menu per function : Wifi Measurement

**WiFi Measurement**

Home

RF Optical 5 GHz ASI A/V GPS IPTV Wi-Fi

Configuration

Measure Wi-Fi

Wi-Fi measure map

Wi-Fi graphical measurement

Setup menu: setting the language, date, time, ...

Measure the reception level of the Wi-Fi network, or list all the networks that the device receives

Measurement map : Automatic measurement of level of the WiFi signal

Graphical display of received WiFi signals

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# Key Features



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# Measures-TV-Spectrum page

All information on one page - Press the zone of your choice to enter the function

**Signal parameters**

**Measures-TV-Spectrum**

ST ETIENNE R1  
610.000 MHz DVB-T/H  
E38 8 MHz  
8k 64QAM 1/8 (auto) 3/4  
Cell ID:0x3420 (13344)

**Full screen measurements**

Measures

ST ETIENNE R7  
698.000 MHz DVB-T/H  
E49 8 MHz  
8k 64QAM 1/8 (auto) 3/4  
Cell ID:0x0007 (7)

RF 54.8 dBµV  
C/N 34.9 dB  
BERI 1.8E-04  
BERo < 3.5E-08  
PER < 3.6E-05  
MER ---dB  
FM ---dB

**Spectrum analyzer**

Spectrum

610.000 MHz Power:53.0 dBµV  
C/N: 37.3 dB  
Att: 0dB auto 10dB div  
Mode:Normal Fill:250.00 kHz

**Full Screen TV**

TV

TL7 HD - Television Loire 7  
1920x1080i 25 Hz H.264  
Video Rate 3.437 Mbit/s  
Audio MPEG Layer II

Jacques Tassin  
Chercheur en écologie  
Autour de la Loire et de la Communauté

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# Measures-TV-Spectrum page

All information on one page - Easy access to complementary measures

**Measures-TV-Spectrum**

VDC= 0.0V  
IDC= 0mA

span: 1.0MHz filt: 25 kHz  
att: 0dB

ST ETIENNE R1

610.000 MHz DVB-T/H

E38 8 MHz

8k 64QAM 1/8 (auto) 3/4

Cell ID: 0x3420 (13344)

RF	53.0 dBμV	20	40	60	80	100	120
C/N	> 37.6 dB	0	10	20	30	40	50
BERi	7.6E-07	1E-1	1E-3	1E-5	1E-7	1E-9	
BERo	< 1.5E-08	1E-1	1E-3	1E-5	1E-7	1E-9	
PER	< 1.5E-05	1E-1	1E-3	1E-5	1E-7	1E-9	
MER	33.3dB	15	20	25	30	35	40
LKM	12.3dB	0	10	20	30	40	50

TL7

TL7 HD - Television Loire 7  
1920x1080i 25 Hz H.264  
Video Rate 3.439 Mbit/s  
Audio MPEG Layer II

**Autolock** : with this function the device finds in a few seconds the standard, the modulation and other signal parameters

**Constellation** : The device displays the constellation of the current signal

**Echoes** : Displays echo measurement

**MER / Carrier** : The device displays the MER per carrier and the overall MER of the current signal

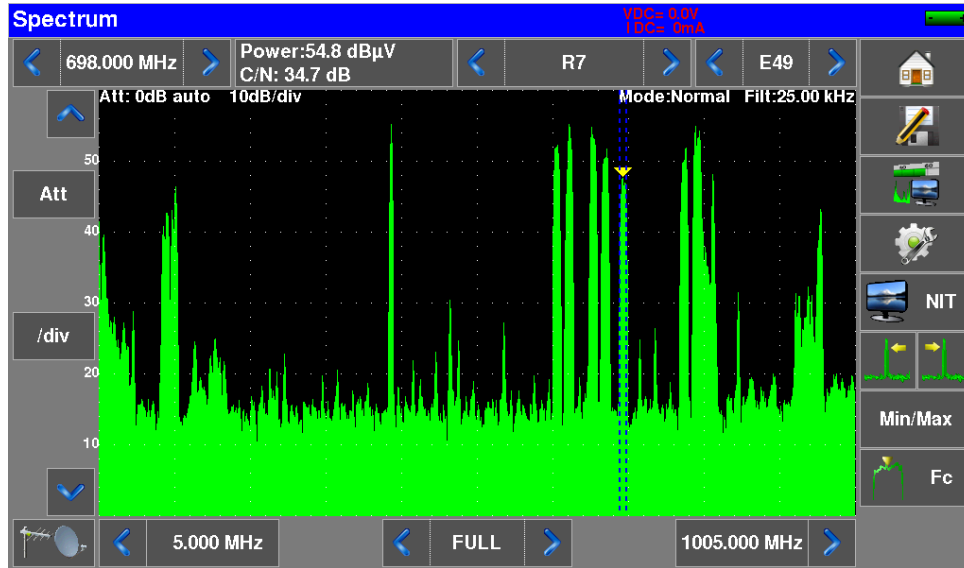
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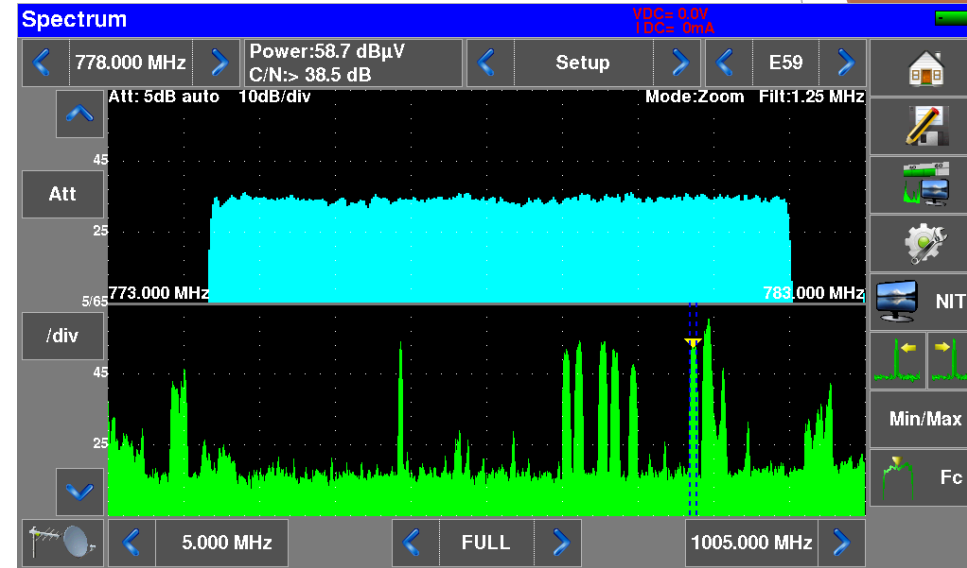
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# Measures-TV-Spectrum page

Spectrum – Put some cursors and zoom on a part of the spectrum



Cursors on the spectrum



Zoom between cursors

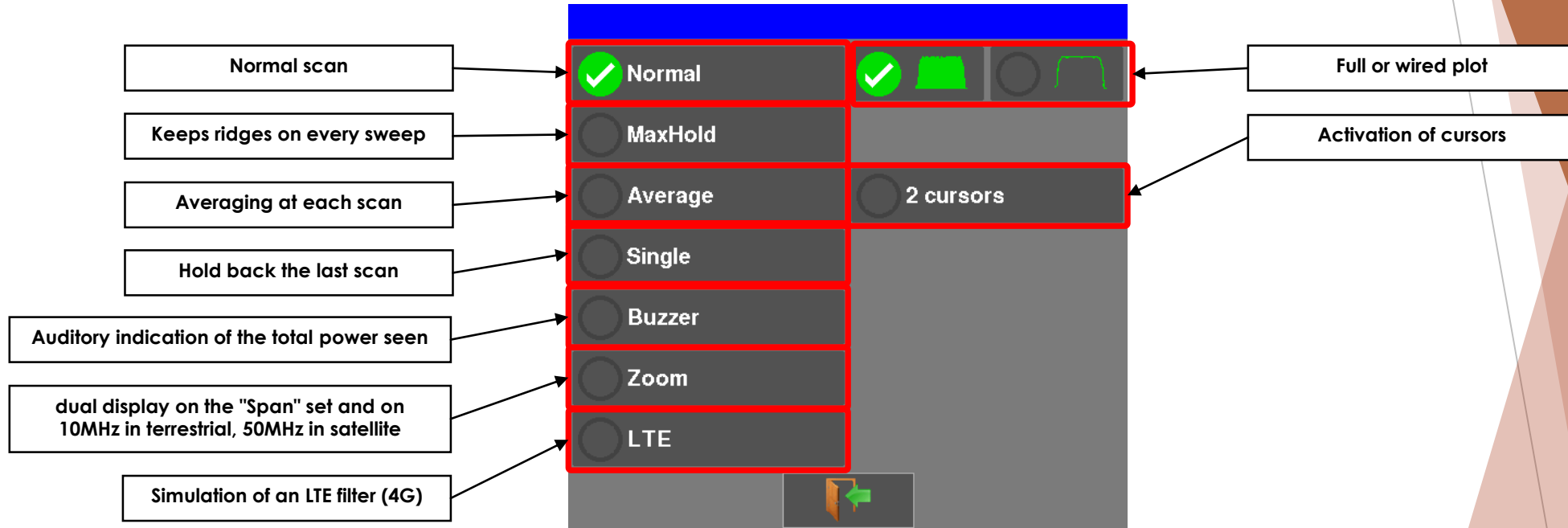
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# Measures-TV-Spectrum page

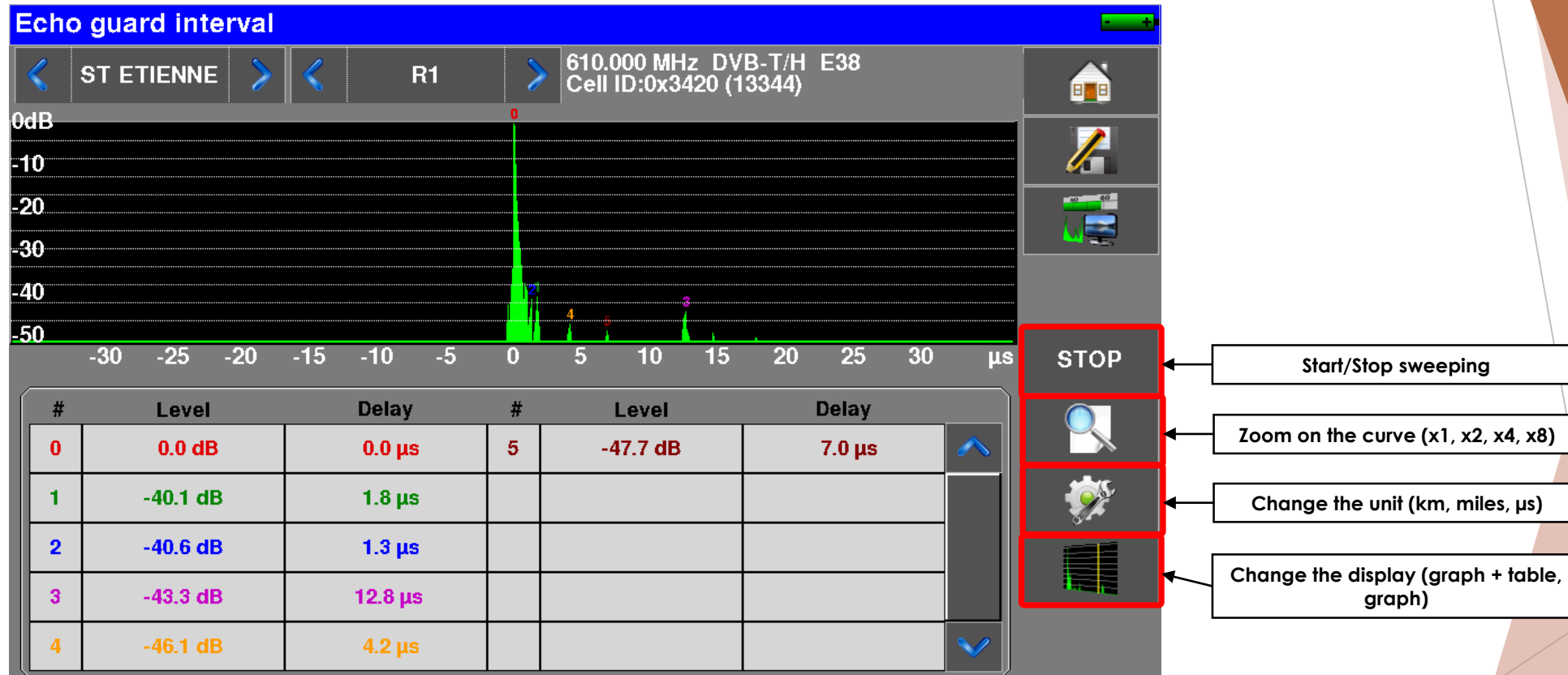
Spectrum – Different display modes



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# Echoes

Signal multiple ways displayed



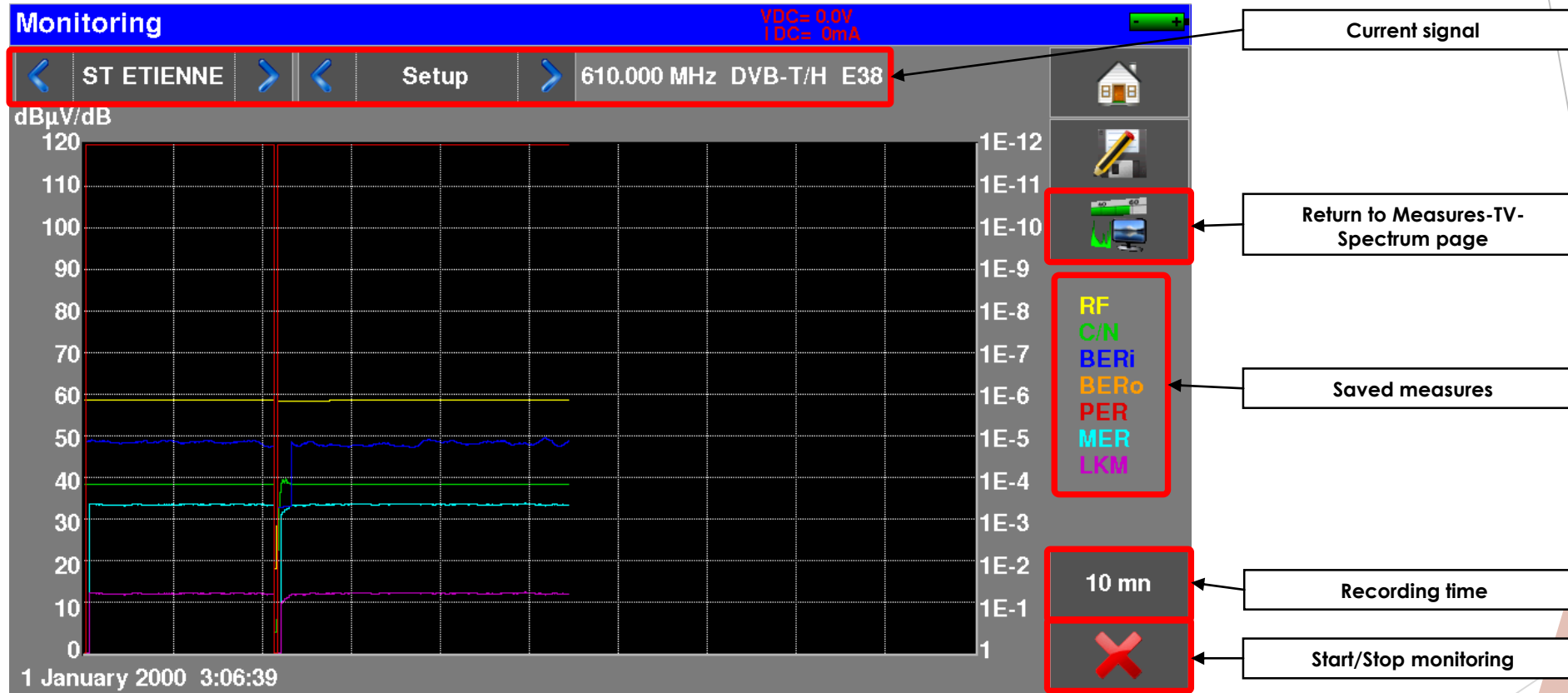
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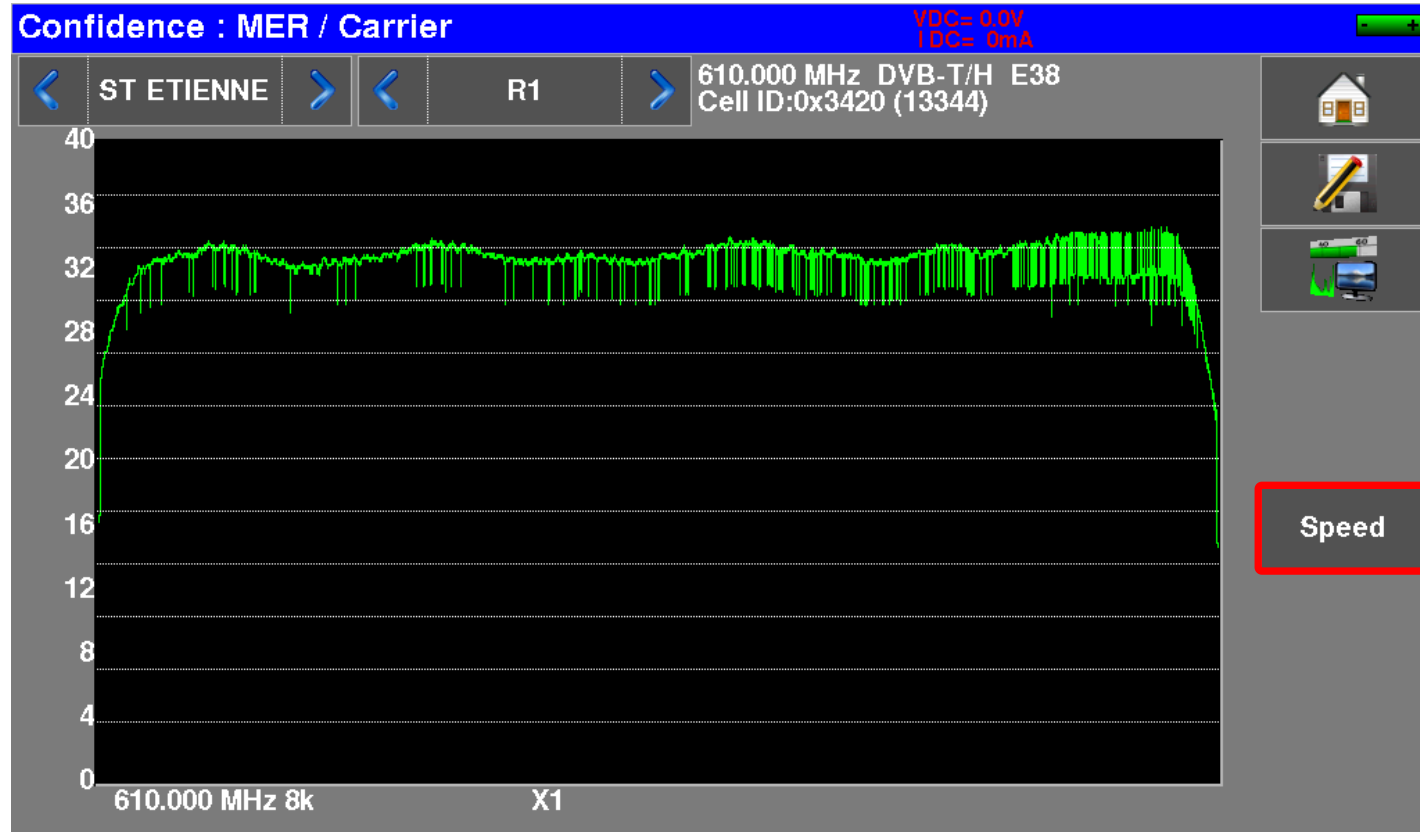
# Monitoring

Record all the measurements made on the current signal over a definite time



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# MER / Carrier



**Speed : to change the number of carriers used for display**

	X1	: one on one, ie all the carriers are used
	X2	: one in two
	X4	: one in four
	X8	: one in eight
	X16	: one in sixteen
	Max	: max speed measured on 624 carriers only

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# Measurement Map

Automatic measurement of level and error rate of programs in the selected measurement list

Measurement map

ST ETIENNE 1/ 9 -> 0 mn

freq.	std	RF	C/N	BERi	BERo	PER	MER	LKM
E38	DVB-T/H	59.6	>39.6	7.6E-06	<2.4E-08	<2.4E-05	35.2	14.2
E44	DVB-T/H	61.0	>41.0	5.3E-05	<2.4E-08	<2.4E-05	34.7	13.7
E59	DVB-T/H	58.6	>38.6	5.6E-05	<2.3E-08	<2.3E-05	34.0	13.0
E40	DVB-T/H	61.0	>41.0	1.1E-05	<2.4E-08	<2.4E-05	33.4	12.4
E46	DVB-T/H	59.2	>39.2	8.7E-05	<2.4E-08	<2.4E-05	32.4	11.4
E49	DVB-T/H	54.7	>34.7	2.1E-04	<2.4E-08	<2.4E-05	31.6	10.6
10714 HL	DVB-S2	67.3	6.7	Sync?	Sync?	Sync?	---	---
10729 VL	DVB-S2	71.0	8.1	4.2E-03	<1.4E-08	<2.3E-05	13.8	6.9
10743 HL	DVB-S	70.4	11.4	4.5E-06	<3.1E-08	<5.1E-05	14.4	7.5

Measure

Mode

USB Stick

Graphic

Measure : It is possible not to measure all the lines: you can "filter" the lines to be measured by DVB-T / T2 program, DVB-S / S2, etc ...

Mode : it is possible to clock the complete sweeping of the lines: from one-shot to 24 hours

USB Stick : It is possible to memorize these measurements on a USB key. Pressing this key opens a CSV file if the key is present.

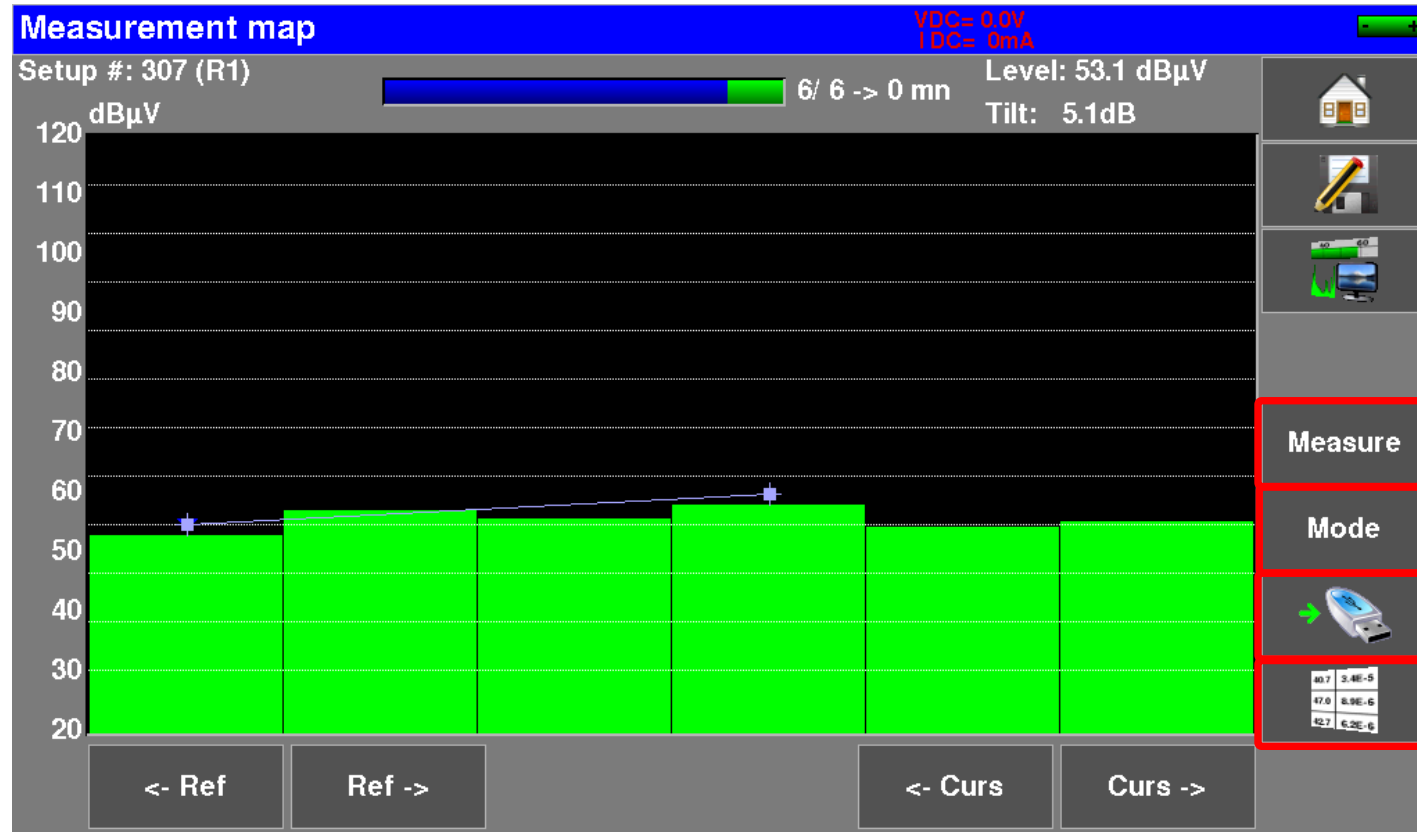
Graphic : It is possible to display the Measurement Plan graphically

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# Measurement Map

Graphically display the measurement plan



**Measure** : It is possible not to measure all the lines: you can "filter" the lines to be measured by DVB-T / T2 program, DVB-S / S2, etc ...

**Mode** : it is possible to clock the complete sweeping of the lines: from one-shot to 24 hours

**USB Stick** : It is possible to memorize these measurements on a USB key. Pressing this key opens a CSV file if the key is present.

**Return to the numerical measurement map**

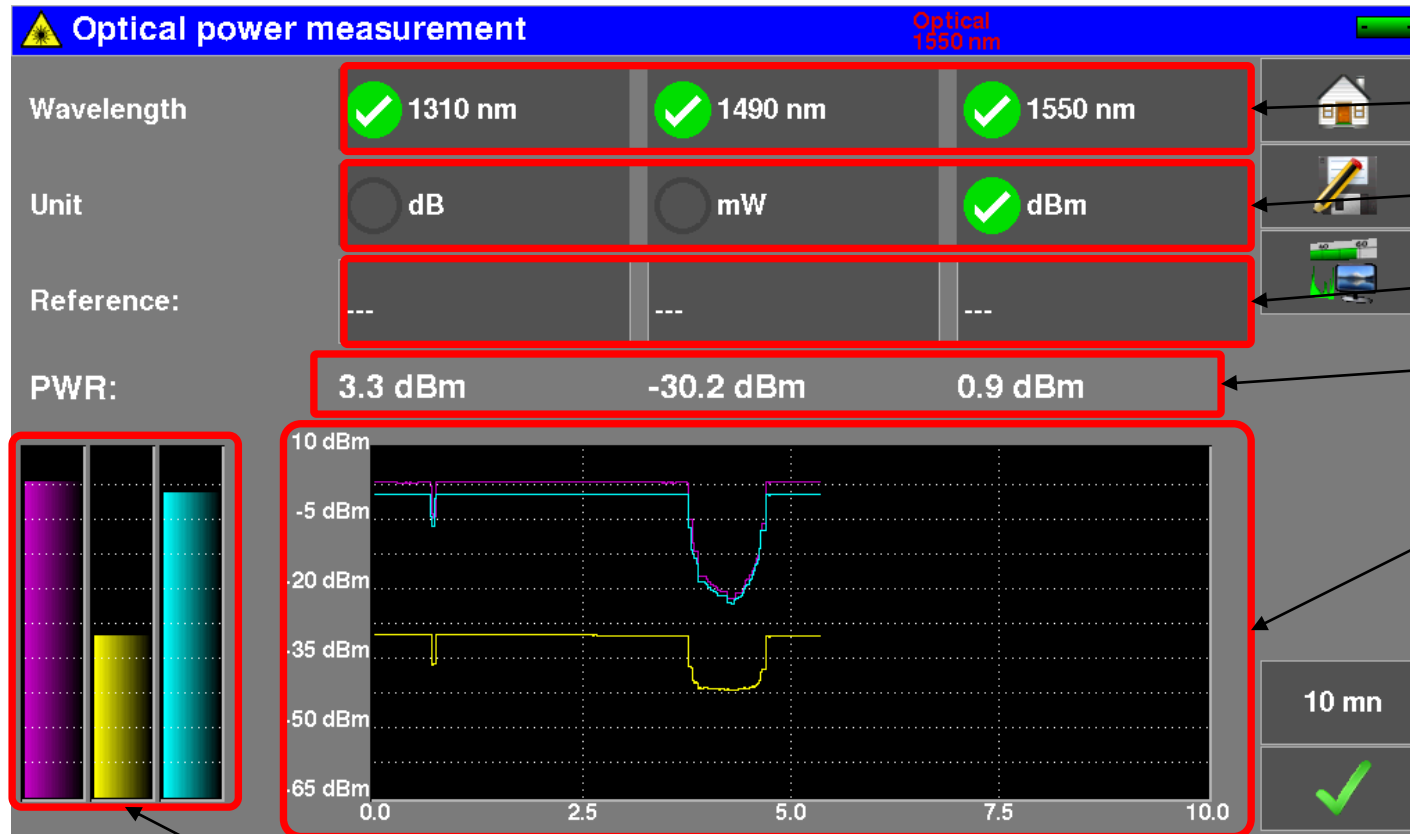
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# Optical Power Measurement

You can choose to measure a single wavelength, or 2, or all 3 simultaneously



- Choice of measured wavelengths
- Display unit: dB, mW or dBm
- Reference points for each wavelength
- Optical power for each wavelength
- Graphical recording of optical power measurements.  
Recording time: 10mn, 60mn, 8h or 24h

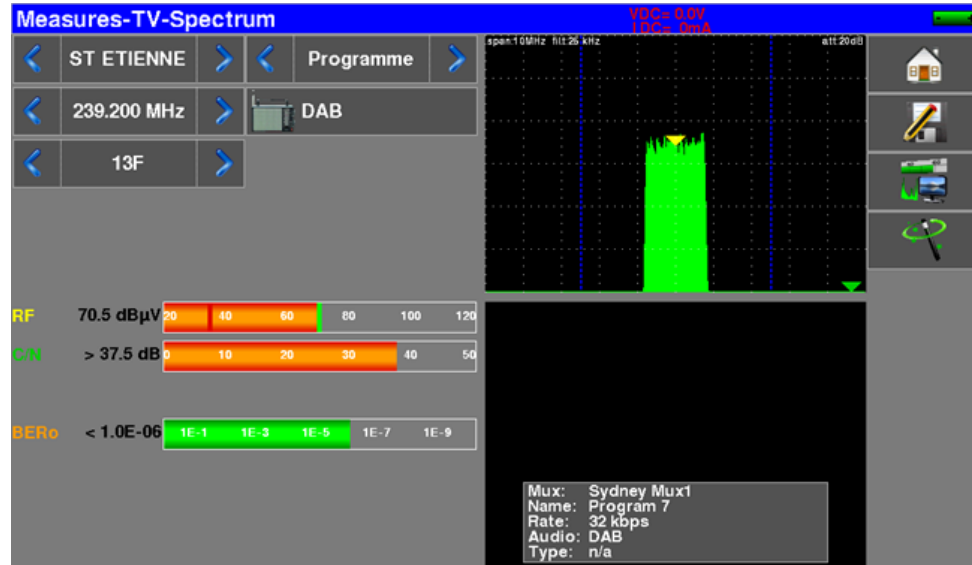
Optical Power Meters : Purple: 1310nm / Yellow: 1490nm / Blue: 1550nm

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# DAB and DAB+

DAB / DAB + digital radio decoding and service display

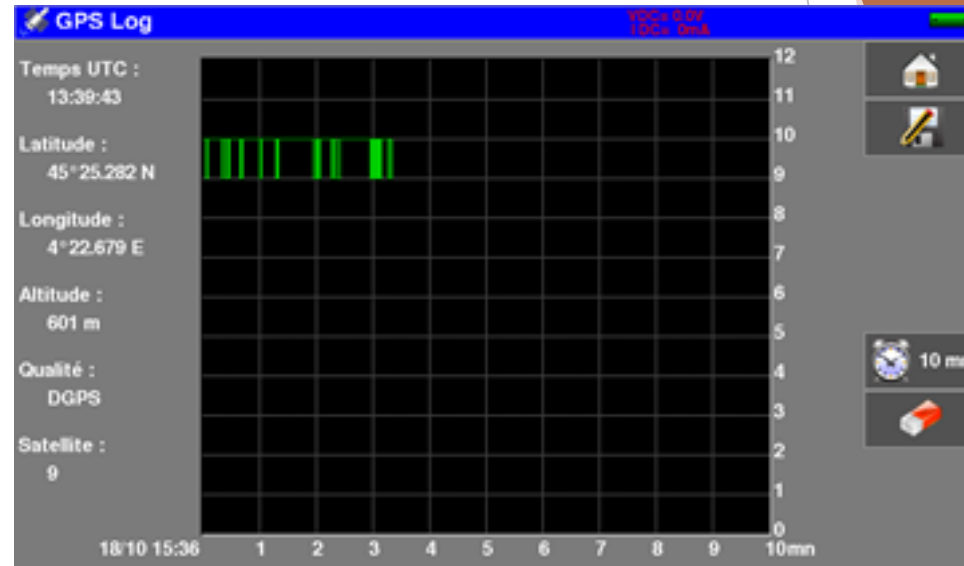


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# GPS Function

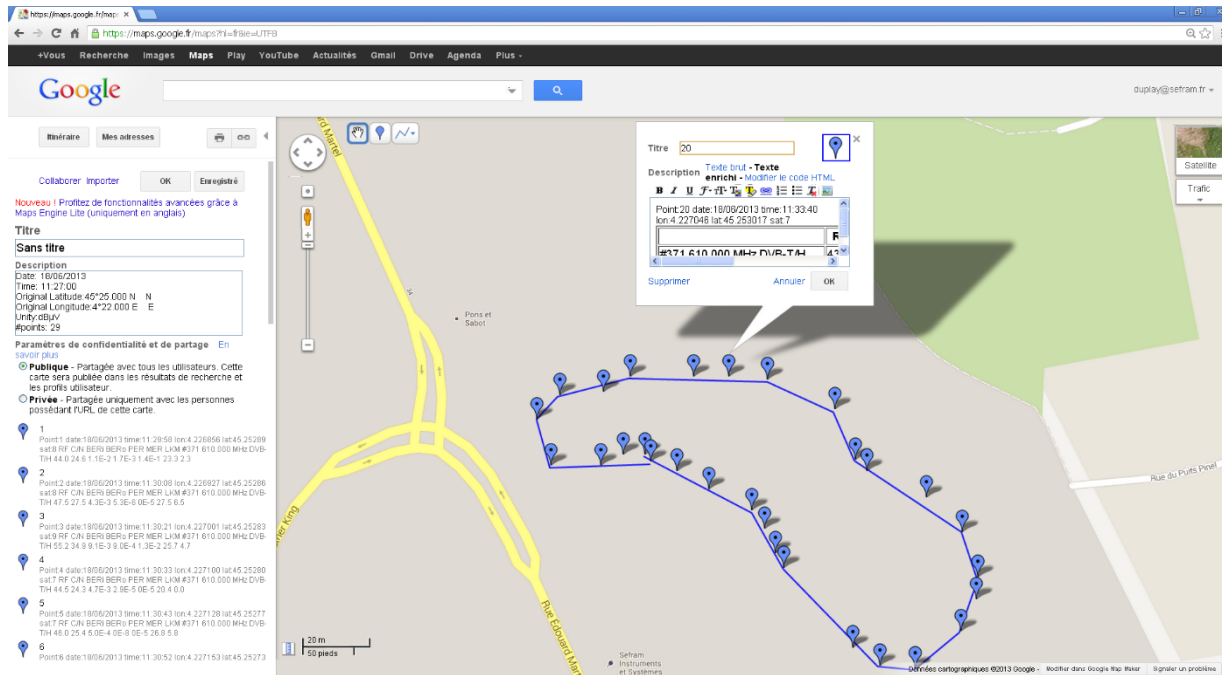
## View and LOG Functions



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# GPS Function

## Cartography Function



This function allows the level / BER measurements of the received RF signals to be superimposed on a map.

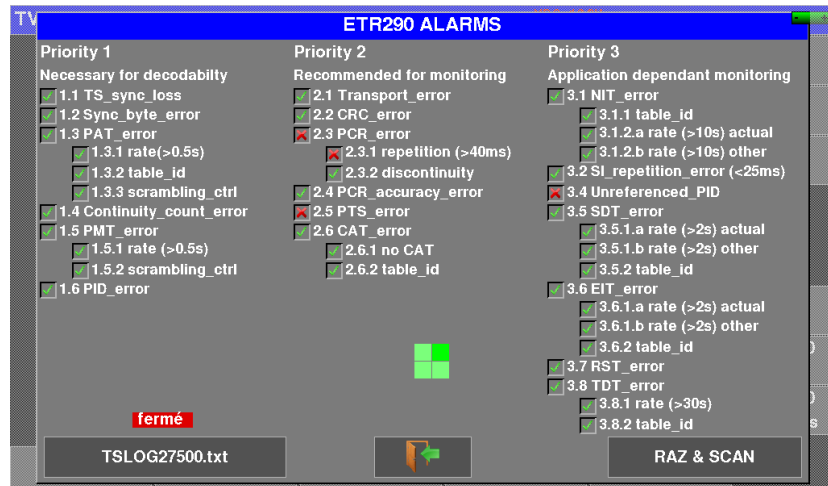
The function create a \*.GPS file in the internal memory of the device with for each registered point :

- geographical coordinates
- measures levels / BER

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# ETR Analysis

## Real-time Transport Stream (TS) analysis according to TR101290



The device analyzes in real time, the Transport Stream (TS) according to the TR101290 standard defining a list of alarms.

Each anomaly detected is indicated by a red cross opposite its definition.

These alarms are stored on the display to detect a transient error for a long period of analysis.

The status of all the alarms can be saved simultaneously on a USB key: a TSLOGxx.txt file is created with indication of the date and time of each alarm.

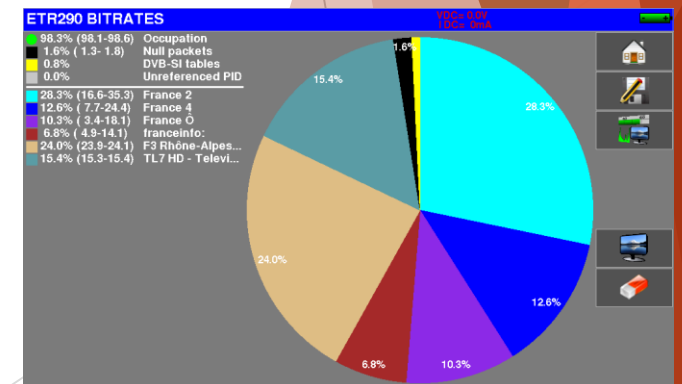
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The device analyzes the Transport Stream (TS), and measures for each Service its bit rate and occupation in the Multiplex.

In the list of Services are displayed, for each Service:

- ▶ the current bit rate
- ▶ the measured minimum
- ▶ the maximum measured
- ▶ the percentage occupied in the total multiplex

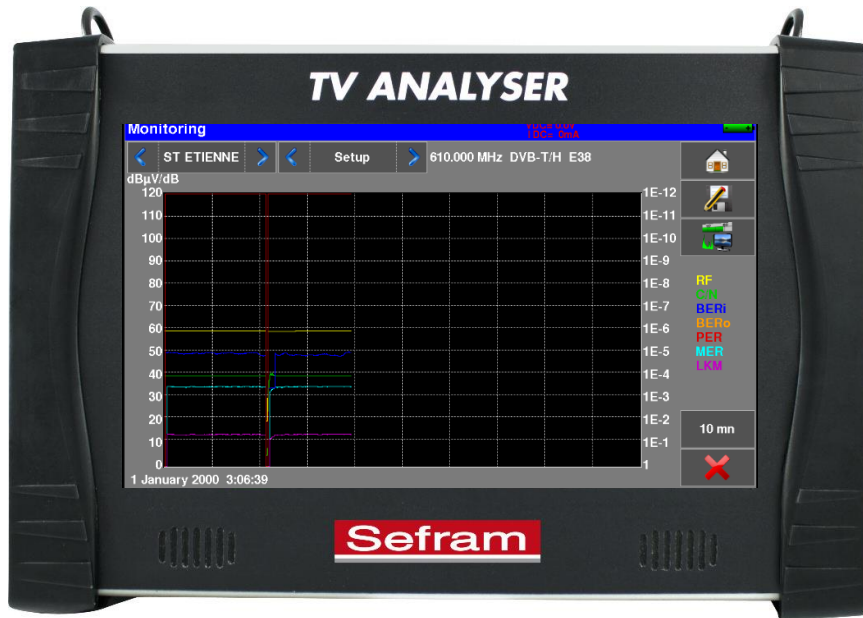


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# Ethernet Interface

Easily remote control your device with a Web Browser



Ethernet connection and IP Address



View the display of your device in a Web Browser

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# Classical Functions



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# Autoset

Powerfull tool



The Autoset mode allows to make automatic search of the frequencies available.

After finishing it provides an list of all frequencies found.

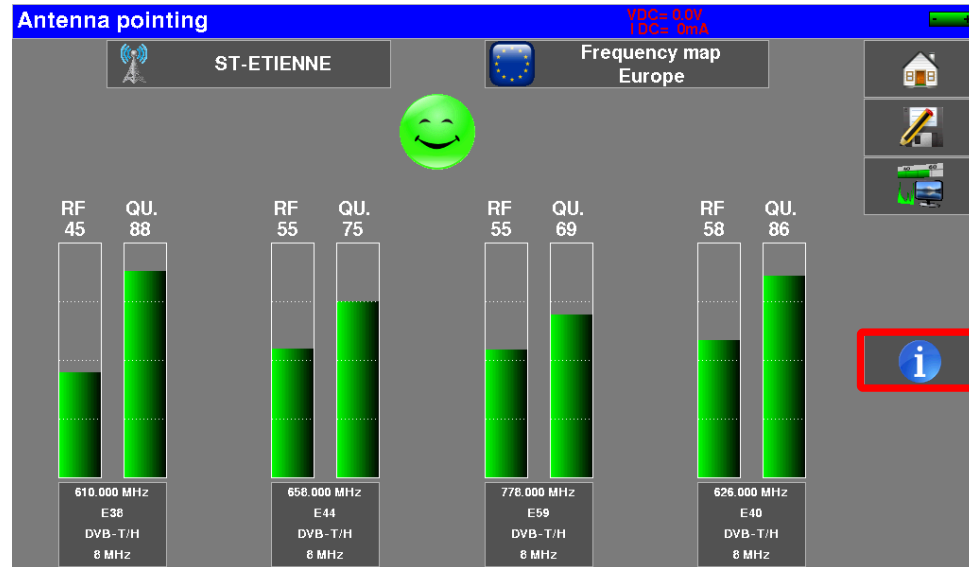
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# Antenna Pointing

Easy to adjust your Antenna



Antenna Pointing

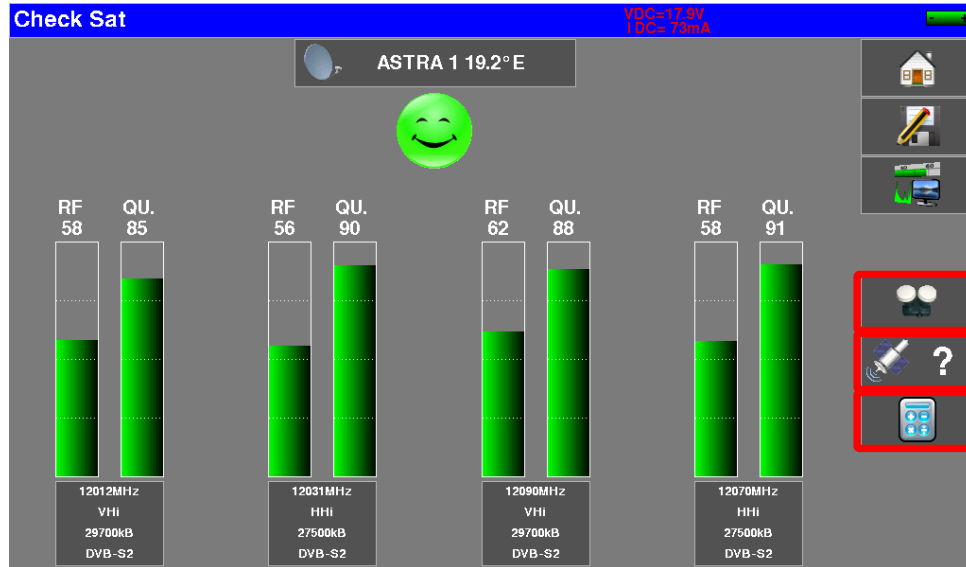
Press this button to display the names of the services on the channels



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# Check Sat Mode

Easy to adjust your satellite

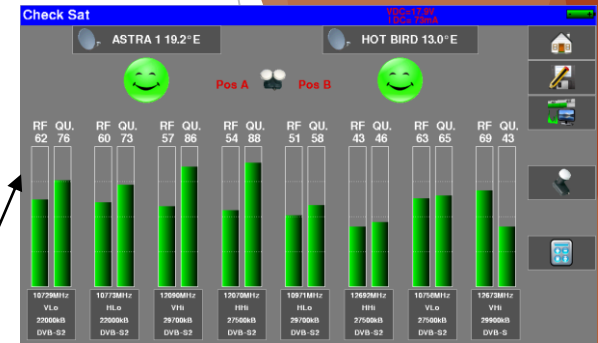


Check Sat

Press this button to point two satellites with a double head

Press this button to access to the NIT function

Use this function to enter your GPS coordinates and get the orientation of your dish

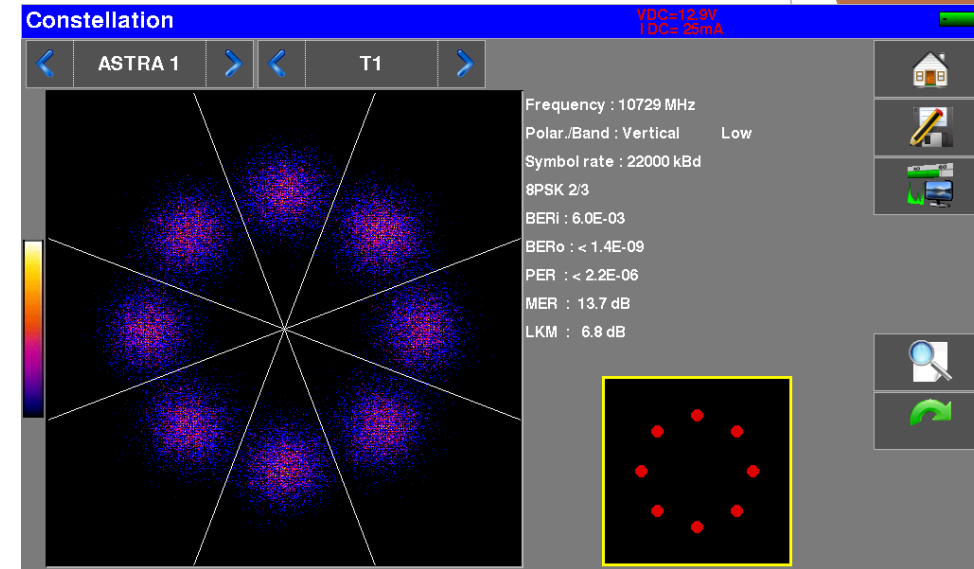
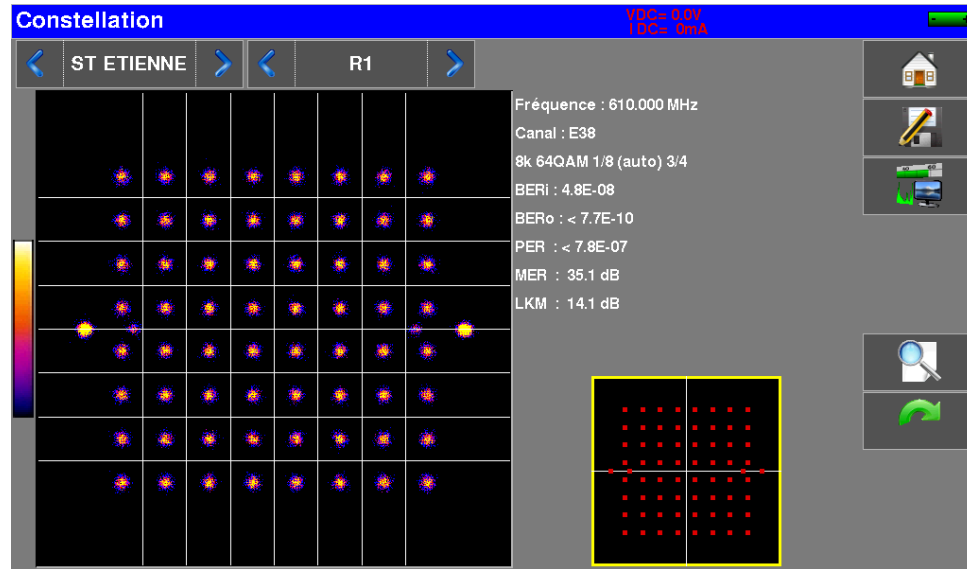


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# Constellation diagram

Digital quality display in one graphical mode



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# LNB-DiSEqC

Setting remote power supply, setting up switches, ...

**Remote supply - LNB** VDC= 0.0V  
IDC= 0mA

Remote supply	Off <input type="radio"/> On <input checked="" type="radio"/>	Apply remote supply in terrestrial mode Apply remote supply in satellite mode
LO frequencies	9750 MHz / 10600 MHz	OL frequencies: OL1 frequency and OL2 of the LNB
LO selection	0/22kHz	OL selection: Band switching on the LNB (22 kHz, Tone-Burst or DiSEqC)
Polar selection	13/18V	Polar selection: polarization switching on the LNB (13 / 18V or DiSEqC)
(Committed) Switch	<input checked="" type="checkbox"/> No	Switch: switch, type and position (No, ToneBurst, 22 kHz, DiSEqC, Pos A, B, C or D)
Uncommitted Port	<input checked="" type="checkbox"/> No	Uncommitted: "Un-committed" switch, type and position (No, DiSEqC, Pos 1 to 16)
Positioner	<input checked="" type="checkbox"/> No	Positioner: presence of a positioner (Yes / No)
DCSS	<input checked="" type="checkbox"/> No	DCSS: Digital Channel Stacking System (2 modes SATCR and SCD2 single cable distribution)

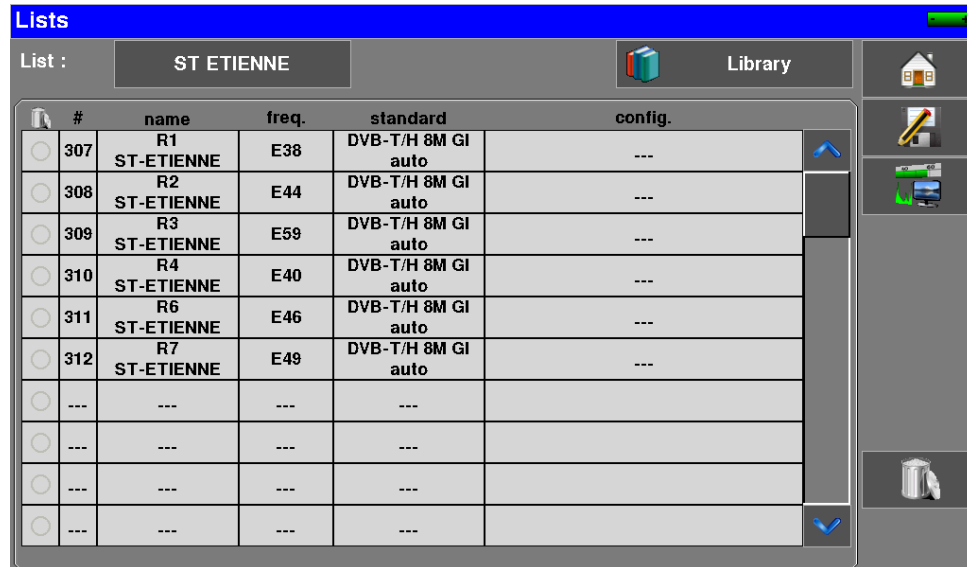
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# List and Library

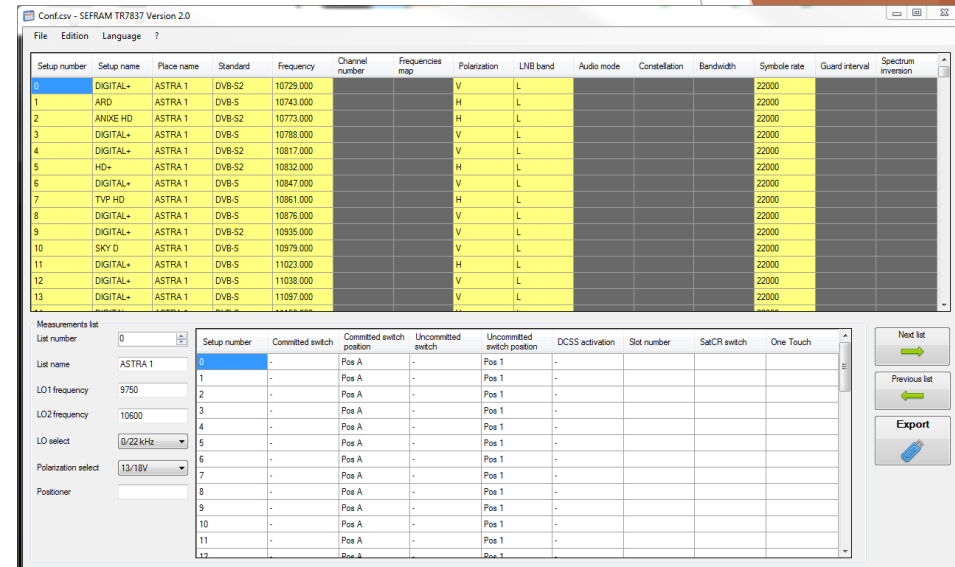
Save and recall your information



The screenshot shows the 'Lists' software interface. At the top, there is a 'List :' dropdown menu set to 'ST ETIENNE' and a 'Library' button. Below this is a table with columns: #, name, freq., standard, and config. The table contains several rows of data for different measurement lists.

#	name	freq.	standard	config.
307	R1 ST-ETIENNE	E38	DVB-T/H 8M GI auto	---
308	R2 ST-ETIENNE	E44	DVB-T/H 8M GI auto	---
309	R3 ST-ETIENNE	E59	DVB-T/H 8M GI auto	---
310	R4 ST-ETIENNE	E40	DVB-T/H 8M GI auto	---
311	R6 ST-ETIENNE	E46	DVB-T/H 8M GI auto	---
312	R7 ST-ETIENNE	E49	DVB-T/H 8M GI auto	---
---	---	---	---	---
---	---	---	---	---
---	---	---	---	---
---	---	---	---	---

Easy to recall of data on field. The Sefram 7880 series uses 20 measurement lists of each 50 lines and 1000 setups



The screenshot shows the 'Conf.csv - SEFRAM TR7837 Version 2.0' software interface. It features a menu bar (File, Edition, Language) and a main table with columns: Setup number, Setup name, Place name, Standard, Frequency, Channel number, Frequencies map, Polarization, LNB band, Audio mode, Constellation, Bandwidth, Symbol rate, Guard interval, and Spectrum inversion. Below the table is a 'Measurements list' section with various input fields and a table for switch positions.

Setup number	Setup name	Place name	Standard	Frequency	Channel number	Frequencies map	Polarization	LNB band	Audio mode	Constellation	Bandwidth	Symbol rate	Guard interval	Spectrum inversion
0	DIGITAL+	ASTRA 1	DVB-S2	10729.000			V	L				22000		
1	ARD	ASTRA 1	DVB-S	10743.000			H	L				22000		
2	ANXE HD	ASTRA 1	DVB-S2	10773.000			H	L				22000		
3	DIGITAL+	ASTRA 1	DVB-S	10788.000			V	L				22000		
4	DIGITAL+	ASTRA 1	DVB-S2	10817.000			V	L				22000		
5	HD+	ASTRA 1	DVB-S2	10832.000			H	L				22000		
6	DIGITAL+	ASTRA 1	DVB-S	10847.000			V	L				22000		
7	TVP HD	ASTRA 1	DVB-S	10861.000			H	L				22000		
8	DIGITAL+	ASTRA 1	DVB-S	10876.000			V	L				22000		
9	DIGITAL+	ASTRA 1	DVB-S2	10935.000			V	L				22000		
10	SKY D	ASTRA 1	DVB-S	10979.000			V	L				22000		
11	DIGITAL+	ASTRA 1	DVB-S	11023.000			H	L				22000		
12	DIGITAL+	ASTRA 1	DVB-S	11038.000			V	L				22000		
13	DIGITAL+	ASTRA 1	DVB-S	11097.000			V	L				22000		

Measurements list	Setup number	Committed switch	Committed switch position	Uncommitted switch	Uncommitted switch position	DCSS activation	Slot number	SatCR switch	One Touch
List number: 0	0	-	Pos A	-	Pos 1	-			
List name: ASTRA 1	1	-	Pos A	-	Pos 1	-			
LO1 frequency: 9750	2	-	Pos A	-	Pos 1	-			
LO2 frequency: 10600	3	-	Pos A	-	Pos 1	-			
LO select: 0/22 kHz	4	-	Pos A	-	Pos 1	-			
Polarization select: 13/18V	5	-	Pos A	-	Pos 1	-			
Positioner:	6	-	Pos A	-	Pos 1	-			
	7	-	Pos A	-	Pos 1	-			
	8	-	Pos A	-	Pos 1	-			
	9	-	Pos A	-	Pos 1	-			
	10	-	Pos A	-	Pos 1	-			
	11	-	Pos A	-	Pos 1	-			
	12	-	Pos A	-	Pos 1	-			

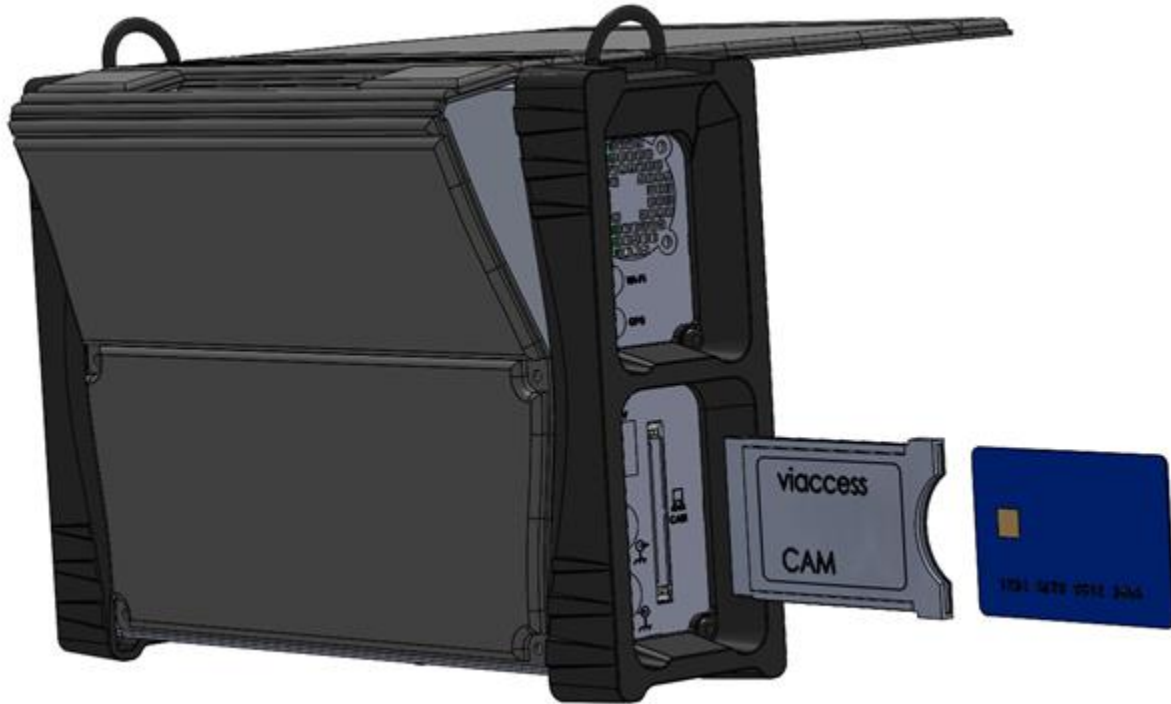
Use the Sefram Software TR7837 to easily manage all your TV Meter lists and Libraries

**SEFRAM 7880 series**  
TV Meter



# CAM CI

To view encrypted services



**SEFRAM 7880 series**  
TV Meter

**BK PRECISION**  
ELECTRONIC TEST INSTRUMENTS

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# Order information

## Sefram 7880 series

### Supplied with:

main adaptor (90-245V with European plug), user's manual on CD ROM, F/F and F/BNC adaptor, carrying protective pouch, belt clip, transportation pouch

Warranty: 2 years



**SEFRAM 7880 series**  
TV Meter

**BK PRECISION**  
ELECTRONIC TEST INSTRUMENTS

**Sefram**



# SEFRAM

32, Rue E. Martel – BP55  
F42009 – Saint-Etienne Cedex 2  
France

Phone: **0033 4 77 59 01 01**

Fax: **0033 4 77 57 23 23**

[sales@sefram.fr](mailto:sales@sefram.fr)

**SEFRAM 7880 series**  
TV Meter



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