Televes®

MOSAIQ6

Refs. 596101, 596111

EN **Multi-touch Meter / Analyser**

User manual

Index

Safety requirements

- **Product inspection**
  - Inspect the equipment for shipping damage. Should any damage be discovered, immediately file a claim with the carrier.
- **Read and Follow All Instructions**
  - All the safety and operating instructions should be read prior to and followed while operating this product.
- **Do not obstruct the ventilation slots**
- **Cleaning**
  - Follow the cleaning instructions contained in the Maintenance section of this manual.
- **Attachments**
  - Do not use attachments that are not approved by the product manufacturer
- **Water and Moisture**
  - This product is splash water resistant but is not submersible.
  - Do not place objects filled with liquids on or near the meter, such as glasses.
- **Power Sources**
  - This product should be operated only from the type of power source specified (12VDC - 4A).
  - Ensure that the voltage applied to the power connector does not exceed 15V. Higher voltages could damage the equipment
  - Maximum consumed current: 4A
- **Grounding or Polarization**
  - Do not bypass or defeat electrical plug polarization or grounding. Doing so will violate the warranty and may pose a risk of fire or electrocution.
- **Wire Protection**
  - Ensure all connected wiring is routed correctly to avoid damage including pinching, excessive bends, or compression.
- **Electrical Supply, Grounding, and Surge Protection**
  - Ensure that all local or national electrical codes are followed.
- **Power Lines**
  - Always use caution and avoid operating this or any connected equipment near uninsulated power lines or any other hazards.
- **Servicing**
  - There are no user serviceable parts except the battery pack. Do not attempt to service this product or remove covers. Refer all servicing to qualified service personnel. Follow the instructions in this manual when replacing the battery.
- **Heat**
  - The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products that produce heat..
  - Do not place naked flame sources on the meter, such as lighted candles.
- **Battery pack**
  - Battery must be replaced by the battery pack supplied by the manufacturer (ref. 596210) only. In no case the battery pack cover can be opened.
  - This product should be operated only from the type of power source specified (12VDC - 4A).
  - Ensure that the voltage applied to the power connector does not exceed 15V. Higher voltages could damage the equipment
  - May explode if damaged or disposed of in fire or water
- **Class**
  - Operation of this equipment in a residential environment may cause radio interference.

Symbols and safety labels

Recycle or dispose of used electronic devices properly.

The equipment contains a recyclable battery. Before depositing the equipment in the container of electrical and electronic equipment, you must remove the battery pack and deposit it separately for proper management

Battery can only be replaced by the battery pack supplied by the manufacturer (ref. 596210)

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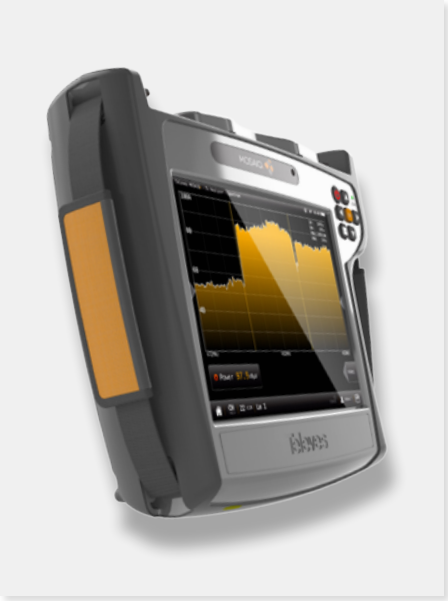
Overview

Introducing the Mosaiq6

Mosaiq6 is the new high-performance portable meter, with advanced features and high measurement accuracy. And all in the most automatic and intuitive way in the market, thanks to its intuitive interface and gestural commands.

With **Mosaiq6**, technicians have a tool to measure, analyse and diagnose radio and TV signals in any scenario, no matter how complex.

Mosaiq6 has an ultra-fast spectrum analyser with high accuracy, together with the echoes analysis features, allows to detect any important issue of the signal.



Key features

- **High performance portable meter**
- **Intuitive**. Thanks to its novel interface, designed to get the most out of its multi-touch 8" screen.
- **All the information about the signal in one screen.** Mosaiq feature, with up to 6 widgets configurable by the user.
- **Powerful digital spectrum analyser** (scanning < 10ms.) 5MHz - 3.3GHz range.
- **Easily updateable**
- Spectrum analyser with **selectable span**
- **Specific measurements over IP** (TSoIP)
- **PASS/FAIL indicators**: Icons indicate if a measurement is good, bad or in the warning zone for quick and easy status check. Reduce installer entry errors and improve decision making.
- **Field-swappable** and separately rechargeable **battery**
- **User profiles** customization
- Automatic **channel scan**
- Automatic **satellite identification**
- **GPS for drive test** and automatic saving of measurements
- **LTE interferences** detection and simulation

General Specifications

Display	8”Touch Screen TFT 1024x768 Full Colour
Weight	2150g
Dimensions	250x210x60 mm (H x W x D)
Power supply	Input: 100-240V~ 50-60Hz Output: 24VDC, 4A
Battery	Li-ion (7,2VDC, 9000mAh). Field-swappable
Operating time	> 4 hours
Operating temperature	-5ºC to 45ºC (23ºF to 104ºF)
Storage temperature	-20ºC to 70ºC (-4ºF to 158ºF)
Humidity	5% to 95% without condensation
Interfaces	ETH, USB, HDMI, Audio Out (Jack), FC/APC optical fibre connector, GPS antenna connector
Storage	32 Gb

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Technical Specifications

Frequency	
Range	5 - 3300 MHz
Accuracy	1 kHz
Tuning	Frequency or channel
Input	
Impedance	50 Ohm
Spectrum Analyzer	
Span	100 KHz, 1, 5, 10, 20, 50, 100, 200, 500 MHz, 1.0, 2.0 and 3.3 GHz. Other (any value between 100 KHz and 3.3 GHz)
RBW	500 Hz, 1, 3, 5, 10, 30, 50, 100, 300, 500 KHz, 1, 3, 5 MHz
Marks	Up to 4, with delta feature
Event trigger	✔
Waterfall	✔
Hold feature	Maximum and minimum
Reference level	Automatic and manual
Digital measurements DVB-T	
Modulations	COFDM (QPSK, 16QAM, 64QAM)
Power	20 - 128dBuV
CBER	9.9E-2 - 1.0E-6
VBER	1.0E-3 - 1.0E-8
MER	Up to 40dB
C/N	Up to 52dB
Echoes	✔
MER by carrier	✔
Constellation	✔
Uncorrectedpackets	✔
TILT	✔
Attenuation	✔
Digital measurements DVB-T2	
Modulations	COFDM (QPSK, 16QAM, 64QAM and 256QAM)
Power	20 - 128dBµV
LDPCBER	9.9E-2 - 1.0E-6
BCHBER	1.0E-3 - 1.0E-8
Link Margin	Up to 30dB
MER	Up to 40dB
C/N	Up to 52dB
Echoes	✔
MER by carrier	✔
Constellation	✔
Uncorrectedpackets	✔
TILT	✔
Attenuation	✔
Multiple PLP	✔

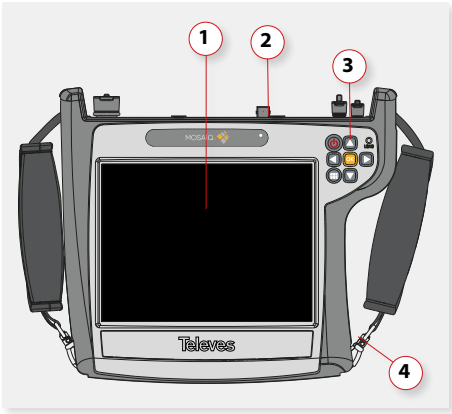
Digital measurements QAM (Annex A/B/C)	
Modulations	4QAM, 16QAM, 32QAM, 64QAM and 256QAM
Power	20 - 128dBµV
BER	1.2E-3 - 1.0E-8
MER	Up to 40dB
C/N	Up to 52dB
Constellation	✔
Uncorrectedpackets	✔
TILT	✔
Attenuation	✔
Digital measurements DVB-S	
Power	20 - 128dBµV
CBER	9.9E-2 - 1.0E-6
VBER	1.0E-4 - 1.0E-8
MER	Up to 20dB
C/N	Up to 30dB
Constellation	✔
Uncorrectedpackets	✔
TILT	✔
Attenuation	✔
Digital measurements DVB-S2X	
Modulations	QPSK, 8PSK
Power	20 - 128dBµV
Link Margin	Up to 10dB
MER	Up to 20dB
C/N	Up to 30dB
LDPCBER	9.9E-2 - 1.0E-6
BCHBER	9.9E-2 - 1.0E-8
Constellation	✔
Uncorrectedpackets	✔
TILT	✔
Attenuation	✔
Multi TS	✔
PLS scrambling	✔
Digital measurements DVB-S2	
Modulations	QPSK, 8PSK, 8APSK, 16 APSK & 32 APSK
Power	20 - 128dBµV
Link Margin	Up to 10dB
MER	Up to 20dB
C/N	Up to 30dB
LDPCBER	9.9E-2 - 1.0E-6
BCHBER	9.9E-2 - 1.0E-8
Constellation	✔
Uncorrectedpackets	✔
TILT	✔

Specifications are subject to change without notice.

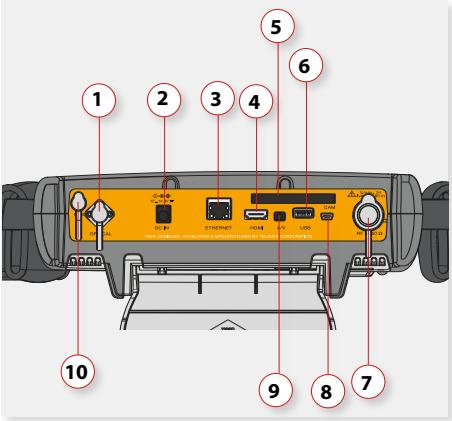
Attenuation	✔
Multi TS	✔
FM Measurements	
Level	✔
C/N	Up to 52dB
RDS	✔
DAB/DAB+ Measurements (Reference 596204)	
Power	De 20 - 128 dBµV
MER	Up to 20 dB
C/N	Up to 30 dB
BER	9.9E-2 – 1.0E-6
Analog Measurements (Reference 596203)	
Level	20 - 128dBµV
V/A	Up to 52dB
C/N	Up to 30dB
Features	
Up to 6 widgets user-customizable	✔
System Scan with measurementsand learning plan	✔
LTE check	✔
FO	Reference 596101
FO Selective	Reference 596111
GPS Drive Test	Reference 596201
MPEG2, MPEG4 Full HD Channels visualization	✔
Info MPEG	SID, VID, AID, Resolution, Profile , Audio Bitrate, Video Bitrate, Resolution info
IPTV Analyzer	✔
Wifi Analyser	2,4 GHz and 5 GHz (opc. Ref 596202)
Units	dBµV, dBmV, dBm
Preamp powering	
Preamppowering	5,13, 18, 24Vdc and other (any value between 5 and 24V)
Maximumsupplied power	12 W
Maximumsupplied current	900 mA
LNB Tone	22 KHz
DiSEqC	✔
SCR | dCSS (EN50494|EN50607)	✔

Description of equipment components

Connectors and controls



1. Touch screen 8”
2. Connectors
3. Keyboard and LED indicators
4. Battery (on the back)



1. F.O.
2. Power connector
3. ETHERNET
4. HDMI
5. CAM
6. USB
7. RF Input
8. USB
9. A/V
10. GPS

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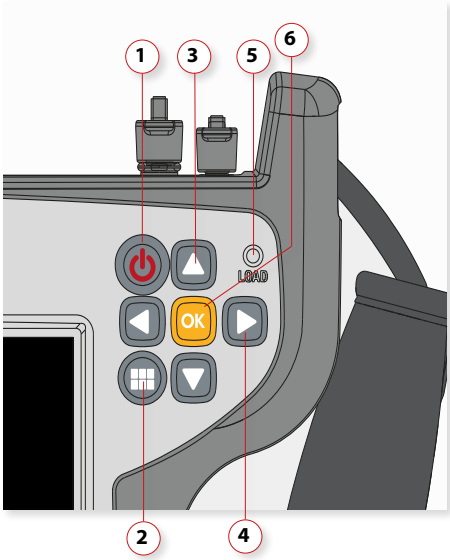
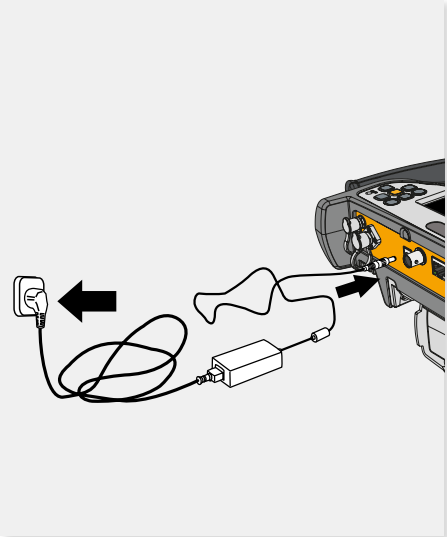
Keyboard



1. **Device ON/OFF button**: To turn the equipment off, press and hold for approximately 3 seconds.
2. **Menu button**: First press-features menu is shown. Second press-context menu is shown. Third press-all menus are hidden.
3. **Up/Down buttons**: Changes channel.
4. **Left/Right buttons**: Changes screen in multi-screen features.
5. **Powering LED**: Indicates if the equipment is powering an external load.
6. **OK button:** Selects an option.

Power supply

A DC adapter is provided to power and charge the meter. Plug the adapter into a properly grounded electrical supply and the power connector on the side of the unit.



When external power is supplied, the battery management system automatically controls the charging process.

A battery icon indicates the charge status of the battery.

When the battery is fully charged, the battery icon is completely filled. As the battery discharges, the amount the icon is filled decreases in steps.

From a fully discharged state, a full charge takes approximately between 3 and 4 hours. And a 1 hour charge will provide battery for around two working hours.

The charge management system will detect various conditions preventing charging, such as a battery that is over a safe temperature.

About the battery

Important:

If the equipment is going to be stored for a while, it is recommended to take the battery off and store them both separately.

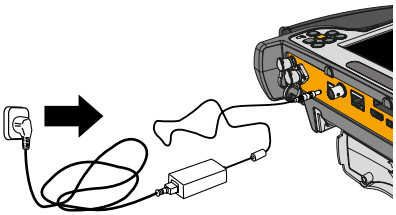
To maximize battery life:

- Allow fully discharging the battery.
- The battery can be charged correctly attached to de device and using the supplied DC adapter. Or separately using the DC adapter supplied with the Mosaiq6.
- For long term storage, take the battery pack off, and keep the device and the battery pack separately at room temperature, or about 25º C. Start with a charged battery and re-charge the battery every 2 to 3 months.

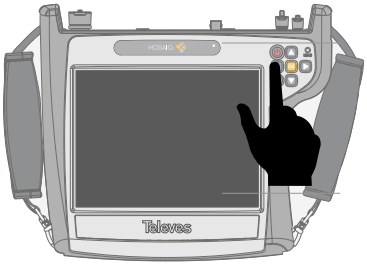
Battery replacement:

It is recommended to use only the battery packs supplied by the manufacturer to replace the battery, following these instructions:

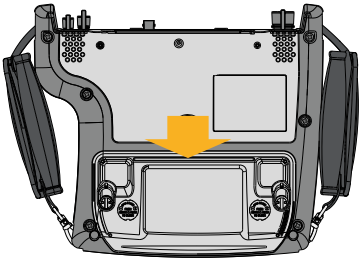
- Disconnect the meter from the power supply:



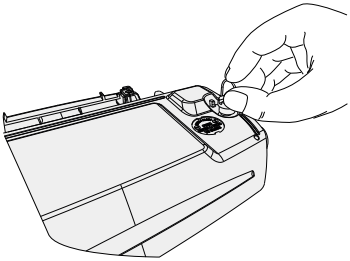
- Turn the Mosaiq6 off:



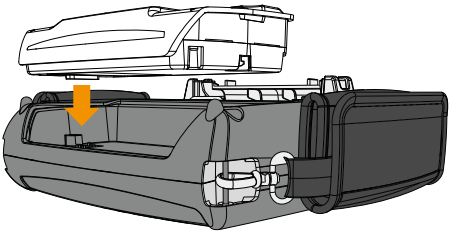
- The battery pack is placed in the botton-back side



- Lift the fixings washers and rotate them 90º. You'll notice that the fixings get out automatically allowing to remove the battery pack



- Put the new battery pack and rotate the fixings washers again until the fixings fit into the device



- Turn you Mosaiq6 on

Important: never remove the battery as long as your meter is on

Separately battery charge

The battery can be charged separately from the meter using the DC adaptor supplied with the Mosaiq6. Plug the adapter into a properly grounded electrical supply and the power connector on the side of the unit.

The flashing light indicates that the battery is being charged.
If the battery charge is less than 30% the light is red.
If the battery charge is between 30% and 60% the light is yellow.
If the battery charge is greater than 60% the light is green.

Gestures

Mosaiq6 has an innovative interface, exclusively designed to get the most out of its 8" multi-touch display.
To do this, Mosaiq6 uses some gestural commands that are explained below:

Tap: one fast touch with one finger.

Double tap: two fast consecutive touches with one finger.

Swipe: short swipe with one finger.

Drag: drag with one finger.

Pinch/Spread: pinch/spread two fingers on the screen.

Drag and drop.

Before starting

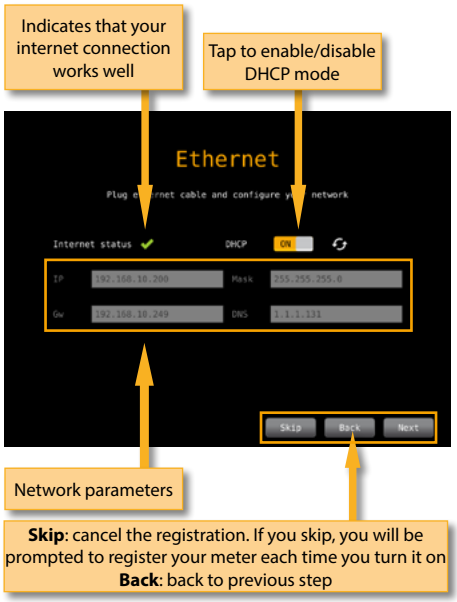
The first time you turn you Mosaiq6 on, please follow the next steps for a proper registration. To do that, you must be registered on the Televes website (www.televes.com).
In addition, you need internet connection (Ethernet or Wi-Fi). Then, please follow the next steps that will be shown on the screen :

1.- Choose the language

2.- Select the internet connection (Ethernet or Wi-Fi):

Skip: cancel the registration. If you skip, you will be prompted to register your meter each time you turn it on
Back: back to previous step
Next: goes to the next step

3.1- If you select Ethernet, all the parameters will appear on the screen: you can enable DHCP mode (the meter will select all the parameters automatically), or disable it (then you must enter all the network parameters)



Skip: cancel the registration. If you skip, you will be prompted to register your meter each time you turn it on
Back: back to previous step

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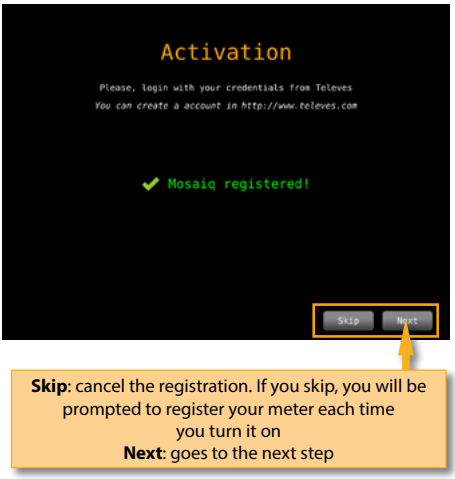
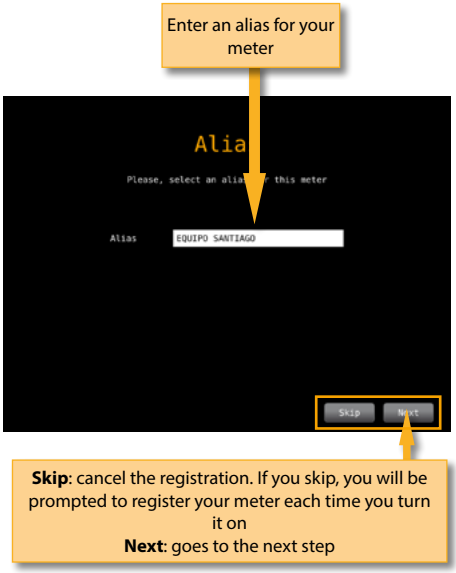
3.2.- If you select Wi-Fi, a list with all the Wi-Fi networks will appear on the screen. You must select one of them to access the internet.

4.- When your Mosaiq6 is connected to the internet, you have to enter you Televes account data (e-mail and password).

5.- Your Mosaiq6 is registered!:



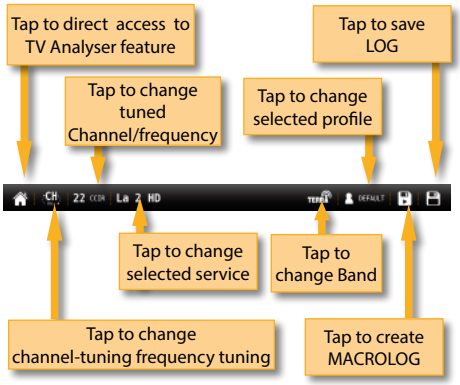
6.- The last step is to enter an alias for your Mosaiq6, this name will be saved in our database:



Icons on the screen

There are always two bars on the screen : one on the top and one on the bottom. The icons in them will be explained bellow.

Bottom bar:



•Direct access to TV Analyser feature: see section *6.- TV Analyser*.

•Change channel/frequency: allows you to select another channel (if it is selected channel tuning model) from the channel plan corresponding to the selected user profile, or another frequency (if it is selected frequency tuning mode). See section *2.- User profiles*.

If it is selected the channel tuning mode, a pop-up window will show all the channels of the channel plan of the user profile (if you haven´t do a sccan -see section *6.1.- Scan-*) or a list with the channels found after having made a scan and saved the plan. In the top right side of the channel list, you can see a pencil icon, if you tan on it you can edit the channel list of channels (add or remove channels).

•Change selected service: it allows the user to select any other service locked previously. This feature shows a pop up window with all the services that the user has selected previously in any channel.

•Change band: see section *2.- User profiles*

•Change profile: changes the user profile. See section *2.- User profiles*

•MacroLOG: allows you to schedule repetitive measures in time intervals selected by the user. See section *9.- LOGs*

•LOG: saves the measurements and the screenshot at that moment. See section *9.- LOGs*

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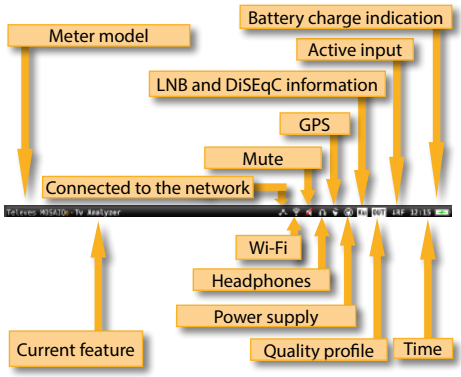
Top bar:



•Conection to the network: indicated that the meter is connected to the network by Ethernet. See section Settings-Network *in Top Muenu*

•Wi-Fi: indicates that the meter is connected to a Wi-Fi network. See section *Settings-Wi-Fi* in *Top Menu*

•GPS: indicates that the GPS is active. While the satellite data is not received, the icon blinks. See section *Settings-GPS* in *Top menu*. To perform a Drive-Test the GPS must be active, and then schedule a MacroLOG (see icons in the Bottom bar). The results of the Drive Test are shown in the web application. See section *1.- Measurements* in *Web application.*

•LNB and DiSEqC information: shows information about the LNB band (only if real frequency is selected -see section *1.2.- Measurements* of the menu *1.- Settings*-), as well as about DiSEqC if it is active. See section *2.- User profiles*

•Quality profile: indicates the selected quality profile. To select another quality profile, access the *options context menu* of the feature. See section *Options context menu* in *Menus.* To add new quality profiles see section *5.- Quality profiles* in *Web application*.

•Enabled input: See section *Inputs/Outputs* in *Top menu.*

•Time: see section *Regional* in the feature *1.- Settings*

Menus

The Mosaiq6 has 3 different menus. These menus will be explained in this section briefly, as well as their locations. All their features will be explained in the sections below.

Top Menu

To access this menu you must do a short swipe in the top central part of the screen.
The features of this menu allows us to set up certain aspects of the meter in a fast way and from any feature.

Main Menu

To access this menu you must do a short swipe in the right central part of the screen.
The main menu is wheel with all the features of the meter.
Doing long swipe on the wheel, the user can access every features. To select a feature, you must tap on the corresponding icon.

Options context menu

Most of the features of the main menu have a menu with some options that pertain exclusively to that feature. These options are in a context menu that appears when the user does short swipe in the left central part of the screen.

Top menu

This menu has several tabs that will be explained below. To select one of them, the user must tap on the title.

Inputs/Outputs:

Doing tap on the connector draw, the corresponding input/output will be enabled/ disabled. Once it is enabled, the user must set some options depending on the kind of input.

Powering:

Allows setup the preamplifiers powering.

Settings:

The user can set the following parameter from this menu:

•**Brightness**: increase/decrease the display brightness

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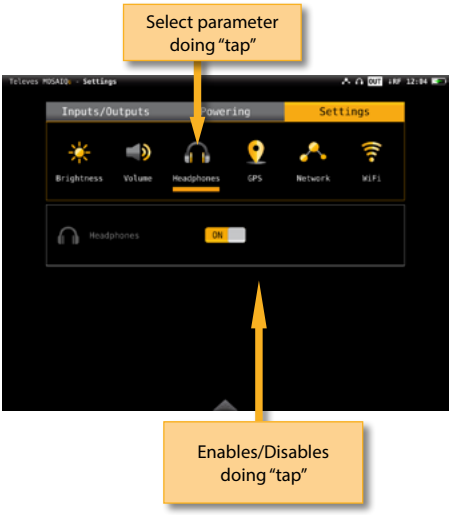
•**Volume**: increases/decreases the volume

•**Headphones**: enables/disables audio A/V output



•**Táctil**: increases/decreases the touch control sensitivity

•**GPS**: Enables/disables the GPS feature. When it is enabled, the corresponding icon appears on the top bar of the screen. While the Mosaiq6 does not receive the satellite signal, the GPS icon will blink.

•**Network**: Allows to set up the equipment network connection. If the user selects the DHCP mode (DHCP ON), the network parameters will be

configures automatically. If the DHCP mode is off, the user must type all the network parameters (IP, Gateway, Mask and DNS), and the do tap in "Apply".

•**Wi-Fi**: enables/disables the equipment Wi-Fi connection.

Main menu

All the Mosaiq6 features are contained in this menu, and they will be explained in the following sections.

1. Settings

Allows set all the global parameters of the meter. This feature has several tabs that will be explained below:

1.1.- Regional
Sets the language, the date and the time.

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1.2.- Measures

Allows to set up those parameter that are commons to all the measurements: units, frequency (if real frequency is nos checked, the meter will use IF) and LNB.

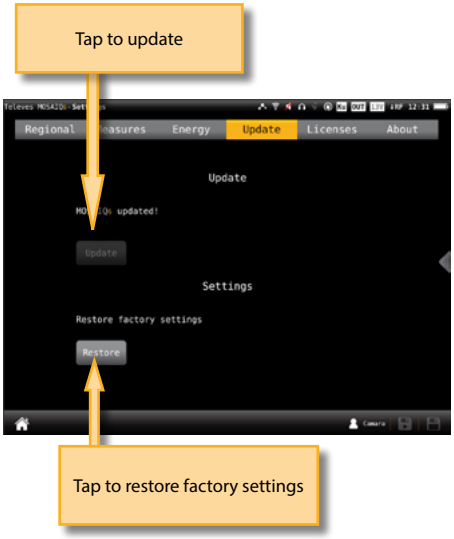
1.3.- Energy

Allows set the energy-saving modes. Select the downtime until equipment auto suspension, and the downtime until auto shutdown.

1.4.- Update

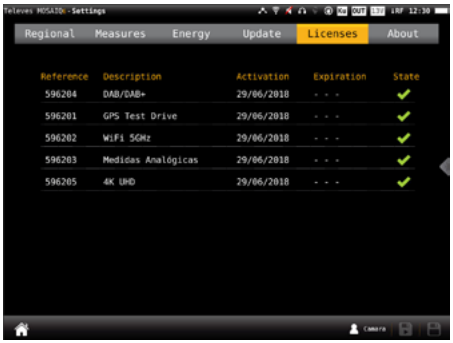
When the Mosaiq6 is connected to the internet (via Ethernet or Wi-Fi) it is automatically detected if a new firmware version is available. If so, tap on the Update button and your Mosaiq6 will be automatically updated.

Be aware that the meter must be connected to the external powering to be updated.



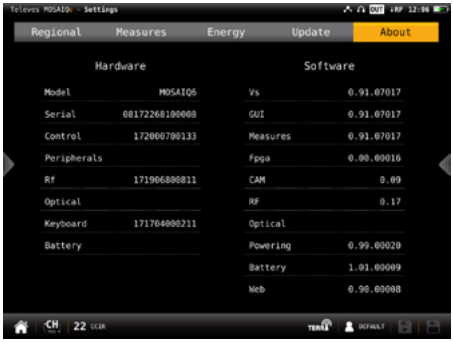
1.5.- Licenses

Shows a list with all the licenses of your **MOSAIQ6**.



1.5.- About

Shows all the information about your equipment, both hardware and software.



2. User profiles

Your **Mosaiq6** allows to define as many user profiles as you need. For each user profile, you must indicate what band(s) is going to measure that user profile and the main parameters.

If you select terrestrial band for a profile, you must select the channel plan, the preamplifiers powering and the norm.

If you select satellite band for a profile, you must select the channel plan, polarity, powering, SCR and DiSEqC.

If you select the radio band, you must select the DAB channel plan.

2.1.- Set

Goes to the setting feature of the main menu (see section 1.- Settings)

2.2.- Add

Adds a new user profile. When you tap on this button, a popup window will open where the user must set all the required parameters.

First of all, you must type the profile's name. Then you must select the bands you want to include in that profile and set up the parameters.

To select a band, you must select the corresponding check box. The first step is the terrestrial band, then tap on "Next" button pass to the satellite band, and finally the radio band.

Once you have finished the radio band configuration, tap on "add" button to save the user profile.

If you include the satellite band in the profile, you must select how many satellites you want to include in that profile. Then you must set all the parameters for each one.

Each satellite plan is automatically associated with a DiSEqC command (fisrt plan with SAT A, second pland wit SAT B, and so on). So, the powering is always ON and automatically set to AUTO, but the user can select any other value.

2.3.- Edit

Allows changes in the selected profile of the list.

The process is similar to add a new profile.

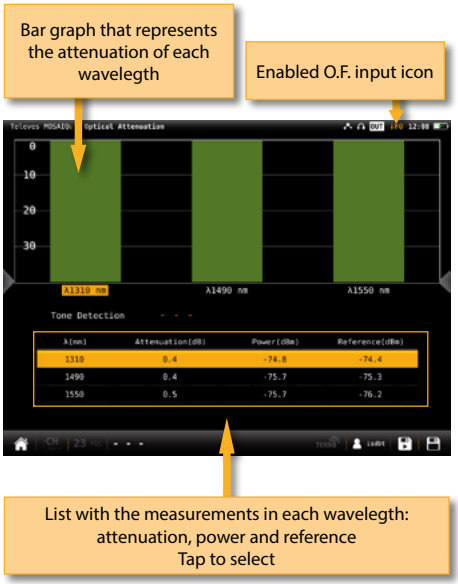
2.4.- Delete

Deletes the selected profile from the list.

3. Optical attenuation

This feature allows to measure the optical attenuation in the fibre network in three wavelengths: 1310nm, 1490nm and 1550nm.
When the user selects this features, the optical fibre input is automatically enabled.

3.1.- Main window:



3.2.- Options context menu:

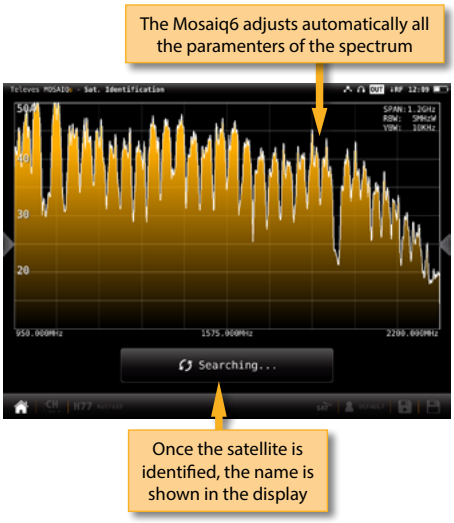
•Calibrate: select the wavelength (tap on the graphic or on the list) and tap on this button to calibrate it.

•Units: mW/µW, dBm.

4. Satellite identification

This feature is able to detect automatically the satellite the input signal belongs to.

4.1.- Main window



4.2.- Options context menu

•Powering:

- VDC: Selects the preamplifier powering.
- DiSEqC (only satellite band): selects the DiSEqC parameter (Sat A, Sat B, Sat C, Sat D).
- Positioner (only satellite band): makes it possible to control the DiSEqC motors used to move mobile parabolic antennas. This function is available in satellite mode and when the equipment is powering the LNB.

  Halt: This command stops the motor movement.

  East: Allows to move the motor in the EAST direction. Each click corresponds to one step in the movement of the motor (pitch motors). By holding the key down, successive movement sequences will be executed until the key is released.

  West: Motor movement in the WEST direction. Each click corresponds to one step in the movement of the motor (pitch motors). By holding the key down, successive movement sequences will be executed until the key is released.

  Store: 8 storage positions are available to store at up to 8 antenna positions . This command allows one of 8 positions to be chosen where the current position of the antenna will be stored.

  Goto: recovers one of the 8 positions for the antenna that has been previously stored
- SCR (only satellite band): Selects the SCR parameters (multiswitch, standard and slots) When a slot is enabled (for example slot 3, freq. 1210MHz), the meter will tune into the slot frequency (1210MHz) and will set the slot with the meter parameters: frequency, band (powering), and DiSEqC. In addition, a SCR icon will be shown in the bar at the top (SCR3) to indicate that the slot is enabled. While the slot is enabled, all the setting changes of the meter, will be applied to the currently slot (SCR3).

•Aim antenna:

Emits a modular audible signal with frequency directly proportional to signal level in the spectrum trace relative to reference level. It is recommended to set the reference level manually, as well as to select the span to include a frequency range wide enough. The audible signal becomes continuous when the signal level is close to the reference level. Then it is necessary to increase the reference level to get a more accurate adjustment. This is a useful feature to point antennas without having to look at the display

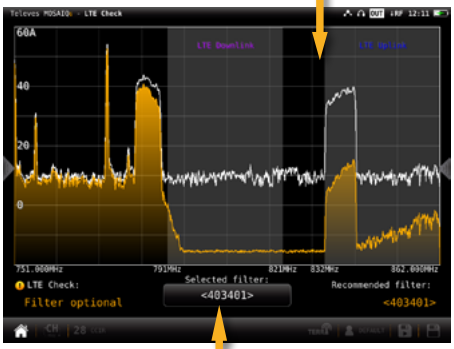
5. LTE check

The presence of the LTE signal in distribution systems DTT, can affect the quality of the TV signal.

This function makes an analysis of the LTE signal and its influence on digital terrestrial television signal (UHF band), and it also estimates the need to insert a LTE filter at the input of a Digital Terrestrial Television (DTT) system, in order to minimize interferences that may cause the LTE signal on the DTT signal.

5.1.- Main window

Similtaneous representation of the high UHF band spectrum (closest to the LTE band), LTE down-link spectrum, and LTE up-link spectrum



Televes filter recommended by the meter

If it is necessary to insert a filter, is indicated on the screen.

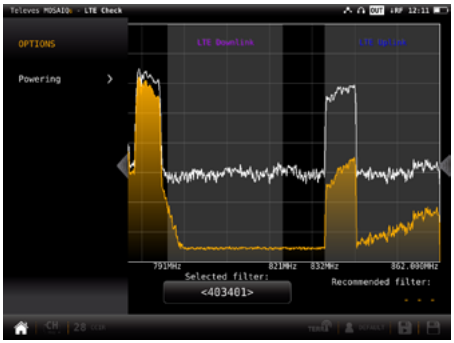
If it was not necessary to insert a filter, it will be displayed the text "LTE Check OK" instead of "Required LTE filter".

On the screen are displayed simultaneously: 1- The spectrum of the high "UHF" band (closest to the LTE band); 2- The spectrum of the LTE down-link; 3- And the spectrum of the LTE up-link.

In addition to the recommended filter, you can select various filters Televés LTE and display the simulation of how the system would respond with a LTE filter inserted on its input (orange graphic). Use the rotary selector to choice each one of the available filters.

The selected filter is displayed in the bottom center of the screen, there is also the option of not selecting a filter.

5.2.- Options context menu



•Powering:

- VDC: Selects the preamplifier powering.

6. TV Analyser

This is the main function of the **Mosaiq6**. The user can reach this function by tapping the icon .

Thanks to this feature it is possible to have in one screen all the information of the tuned signal.

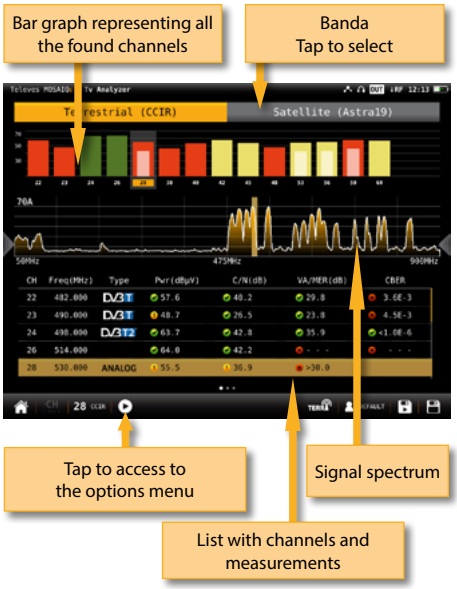
The feature TV Analyser has 3 screens: Scan, Mosaiq 3+1 & Mosaiq 6. To switch between screens do long swipe.

Bellow there is a detailed explanation of each of these screens:

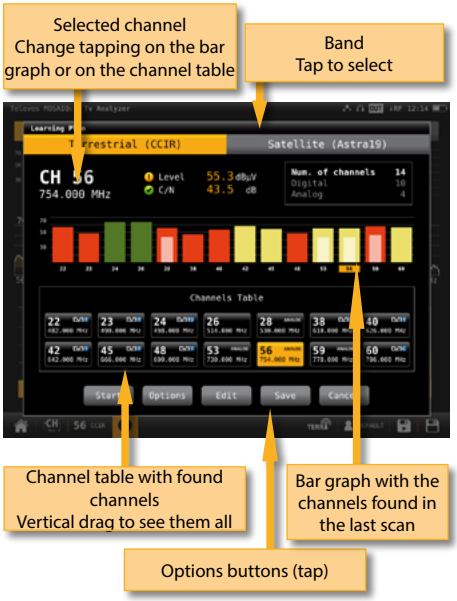
6.1.- Scan

This function scans the selected channel plan and detects every existing analog and digital channel in real time to determine the overall frequency response of the system.
The scan measurement leverages the location based thresholds to clearly show whether or not signal levels comply with the cable system's specifications with their green, yellow and red bars.

6.1.1.- Main window



Tapping on the icon a popup window will appear showing the following functions:



•Start: Starts a new system scan

•Options:

- Fast: ON/OFF. When the fast scan is enabled (ON), the meter will not make CBER and VBER measurements for digital channels, neither V/A measurements for analog channels. So, only power and level measurements will be shown.
- Wide outlet: ON/OFF. Enable this option when the outlet in your installation has both terrestrial and satellite bands. So, both bands will be scanned consecutively. If this options is disabled, only the selected band will be scanned.
  Note: Note that if the selected user profile does not allow to make measurements in some bands, the scan will not be done in that band.

•Edit: Allows to add/delete channels from the plan. If the channel is selected (orange coloured), when you tap on it, it will be deselected. Otherwise, if the channel is unselected (grey coloured), when you tap on it, it will be selected.

•Save: Saves a new plan with the found channels.

•Cancel: Closes the options window.

6.1.2.- Options context menu

•Fast: ON/OFF. When the fast scan is enabled (ON), the meter will not make CBER and VBER measurements for digital channels, neither V/A measurements for analog channels. So, only power and level measurements will be shown.

•Wide outlet: ON/OFF. Enable this option when the outlet in your installation has both terrestrial and satellite bands. So, both bands will be scanned consecutively. If this options is disabled, only the selected band will be scanned.

Note: Note that if the selected user profile does not allow to make measurements in some bands, the scan will not be done in that band.

•Show all: ON/OFF. When show all is ON, all the measurements of all the channels are shown. When it is OFF, you can only see the measurements of the channel that is being measured in that moment.

•Span full: ON/OFF. When Span full ins ON you can see all the bars corresponding to all the found channels. When this option is OFF, only 24 bars are shown, so it is necessary to scroll to see them all.

•Tilt: ON/OFF. When the tilt option is ON, this function measures the tilt between the channels indicated in the labels CH A and CH B. Then you can see a white line between these two channels

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and the tilt measurement on it.

•Attenuation: ON/OFF. When the attenuation option is ON, the Mosaiq6 measures the attenuation of the installation relative to a reference point, usually the head-end output. So, the first thing you must do is connect the meter to the reference point and tap on the Calibrate button. In this way, the equipment will measure and save the level of all the channels.

Then you must go to all the pints of the installation where we want to measure and connect the meter, taking care to have this function ON. The Mosaiq6 will measure the levels of all the channels comparing them with the reference ones.

When this option is ON, the bars of the graphic don't represent the level or the power of the channels, but the attenuation of each one of them. The list shows power (or level) and C/N. In addition, a green trace is shown in the spectrum. This trace indicates the levels in the reference point.

•Quality profile: allows to select the quality profile .

•Powering:

- VDC: Selects the preamplifier powering.
- DiSEqC (only satellite band): selects the DiSEqC parameter (Sat A, Sat B, Sat C, Sat D).
- Positioner (only satellite band): makes it possible to control the DiSEqC motors used to move mobile parabolic antennas. This function is available in satellite mode and when the equipment is powering the LNB.

  Halt: This command stops the motor movement.

  East: Allows to move the motor in the EAST direction. Each click corresponds to one step in the movement of the motor (pitch motors). By holding the key down, successive movement sequences will be executed until the key is released.

  West: Motor movement in the WEST direction. Each click corresponds to one step in the movement of the motor (pitch motors). By holding the key down, successive movement sequences will be executed until the key is released.

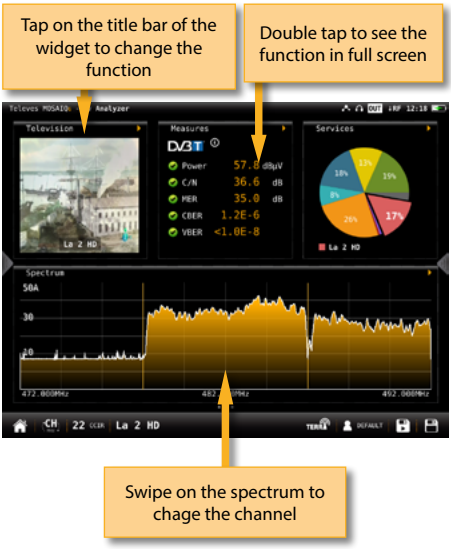
  Store: 8 storage positions are available to store at up to 8 antenna positions . This command allows one of 8 positions to be chosen where the current position of the antenna will be stored.

  Goto: recovers one of the 8 positions for the antenna that has been previously stored
- SCR (only satellite band): Selects the SCR parameters (multiswitch, standard and slots) When a slot is enabled (for example slot 3, freq. 1210MHz), the meter will tune into the slot frequency (1210MHz) and will set the slot with the meter parameters: frequency, band (powering), and DiSEqC. In addition, a SCR icon will be shown in the bar at the top (SCR3) to indicate that the slot is enabled. While the slot is enabled, all the setting changes of the meter, will be applied to the currently slot (SCR3).

6.2.- Mosaiq 3+1

This screen has 4 widgets, 3 in the top of the screen and one in the lower part of the screen. Theses widgets ares user-configurable, that is, the user can select the the function he or she wants to visualize in each widget.

6.2.1.- Main window



All the available features are explained in section *6.4.- Features*.

6.2.2.- Options context menu:

•Quality profile: allows to select the quality profile

•Powering:

- VDC: Selects the preamplifier powering.
- DiSEqC (only satellite band): selects the DiSEqC parameter (Sat A, Sat B, Sat C, Sat D).
- Positioner (only satellite band): makes it possible to control the DiSEqC motors used to move mobile parabolic antennas. This function is available in satellite mode and when the equipment is powering the LNB.

  Halt: This command stops the motor movement.

  East: Allows to move the motor in the EAST direction. Each click corresponds to one step in the movement of the motor (pitch motors). By holding the key down, successive movement sequences will be executed until the key is released.

  West: Motor movement in the WEST direction. Each click corresponds to one step in the movement of the motor (pitch motors). By holding the key down, successive movement sequences will be executed until the key is released.

  Store: 8 storage positions are available to store at up to 8 antenna positions . This command allows one of 8 positions to be chosen where the current position of the antenna will be stored.

  Goto: recovers one of the 8 positions for the antenna that has been previously stored.
- SCR (only satellite band): Selects the SCR parameters (multiswitch, standard and slots) When a slot is enabled (for example slot 3, freq. 1210MHz), the meter will tune into the slot frequency (1210MHz) and will set the slot with the meter parameters: frequency, band (powering), and DiSEqC. In addition, a SCR icon will be shown in the bar at the top (SCR3) to indicate that the slot is enabled. While the slot is enabled, all the setting changes of the meter, will be applied to the currently slot (SCR3).

6.3.- Mosaiq 6

This screen has 6 widgets. Theses widgets ares user-configurable, that is, the user can select the function he or she wants to visualize in each widget.

6.3.1.- Main window

All the available features are explained in section *6.4.- Features*.

6.3.2.- Options context menu

•Quality profile: allows to select the quality profile

•Powering:

- VDC: Selects the preamplifier powering.
- DiSEqC (only satellite band): selects the DiSEqC parameter (Sat A, Sat B, Sat C, Sat D).
- Positioner (only satellite band): makes it possible to control the DiSEqC motors used to move mobile parabolic antennas. This function is available in satellite mode and when the equipment is powering the LNB.

  Halt: This command stops the motor movement.

  East: Allows to move the motor in the EAST direction. Each click corresponds to one step in the movement of the motor (pitch motors). By holding the key down, successive movement sequences will be executed until the key is released.

  West: Motor movement in the WEST direction. Each click corresponds to one step in the movement of the motor (pitch motors). By holding the key down, successive movement sequences will be executed until the key is released.

  Store: 8 storage positions are available to store at up to 8 antenna positions . This command allows one of 8 positions to be chosen where the current position of the antenna will be stored.

  Goto: recovers one of the 8 positions for the antenna that has been previously stored
- SCR (only satellite band): Selects the SCR parameters (multiswitch, standard and slots) When a slot is enabled (for example slot 3, freq. 1210MHz), the meter will tune into the slot frequency (1210MHz) and will set the slot with the meter parameters: frequency, band (powering), and DiSEqC. In addition, a SCR icon will be shown in the bar at the top (SCR3) to indicate that the slot is enabled. While the slot is enabled, all the setting changes of the meter, will be applied to the currently slot (SCR3).

6.4.- Features

This section explains all the features available to visualize in the widgets of the Mosaiq 3+1 and Mosaiq 6 modes.

Note: If the ASI input is selected, only Television and Services features will be available.

6.4.1.- Television

This feature allows to visualize the selected service 's image of the tuned channel.

Note: When the image is not available, one of these icosn will be shown:

•Only audio service

•Encrypted channel

•Data service

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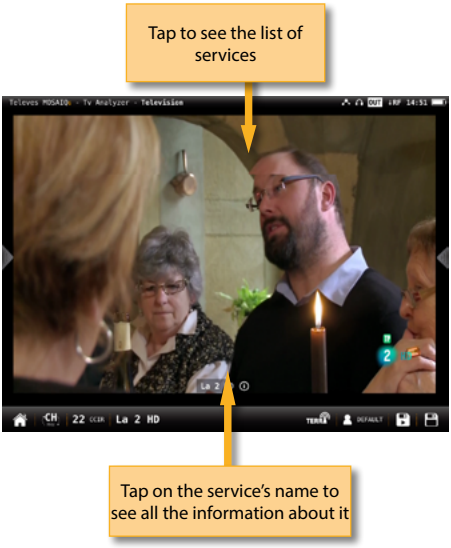
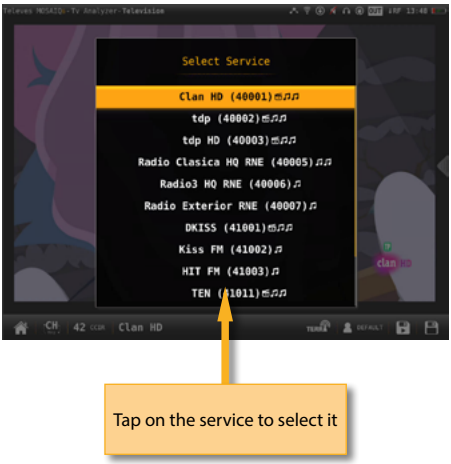
6.4.1.1.- Main window

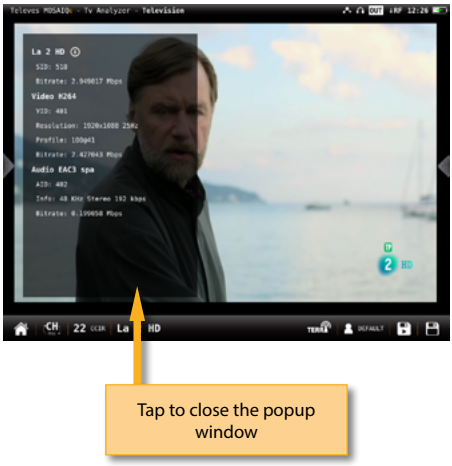


Tapping on the screen, it appears a popup window with the list of the channel's services:



Next to the name of the service, the icons indicating the transports are shown (image, one or more audio transports). To change the audio, tap again on the screen and select the same service in the list, then a new pop-up window will appear showind the available audios.

Tapping on the service's name, it appears a popup window with the information about it:



6.4.1.2.- Options context menu

•Quality profile: allows to select the quality profile

•Powering:

- VDC: Selects the preamplifier powering.
- DiSEqC (only satellite band): selects the DiSEqC parameter (Sat A, Sat B, Sat C, Sat D).
- Positioner (only satellite band): makes it possible to control the DiSEqC motors

used to move mobile parabolic antennas. This function is available in satellite mode and when the equipment is powering the LNB.

Halt: This command stops the motor movement.

East: Allows to move the motor in the EAST direction. Each click corresponds to one step in the movement of the motor (pitch motors). By holding the key down, successive movement sequences will be executed until the key is released.

West: Motor movement in the WEST direction. Each click corresponds to one step in the movement of the motor (pitch motors). By holding the key down, successive movement sequences will be executed until the key is released.

Store: 8 storage positions are available to store at up to 8 antenna positions . This command allows one of 8 positions to be chosen where the current position of the antenna will be stored.

Goto: recovers one of the 8 positions for the antenna that has been previously stored

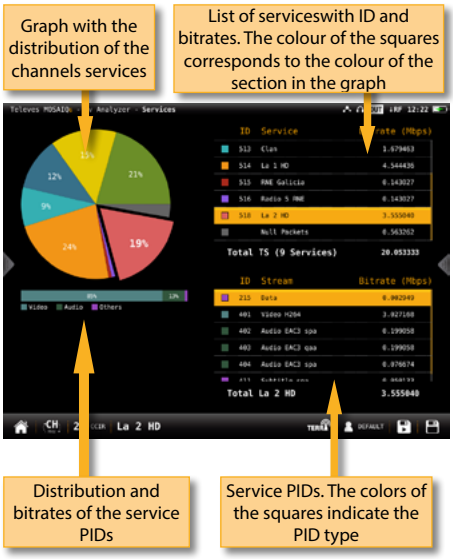
- SCR (only satellite band): Selects the SCR parameters (multiswitch, standard and slots) When a slot is enabled (for example slot 3, freq. 1210MHz), the meter will tune into the slot frequency (1210MHz) and will set the slot with the meter parameters: frequency, band (powering), and DiSEqC. In addition, a SCR icon will be shown in the bar at the top (SCR3) to indicate that the slot is enabled. While the slot is enabled, all the setting changes of the meter, will be applied to the currently slot (SCR3).

6.4.2.- Services

This features shows a graph with the distribution of the services os the channel. Tapping on one of the sections of the graph, you can see the name of the corresponding service.

If you see this feature in full screen, you will have more detailed information.

6.4.2.1.- Main window



6.4.2.2.- Options context menu

•Quality profile: allows to select the quality profile

•Powering:

- VDC: Selects the preamplifier powering.
- DiSEqC (only satellite band): selects the DiSEqC parameter (Sat A, Sat B, Sat C, Sat D).
- Positioner (only satellite band): makes it possible to control the DiSEqC motors used

to move mobile parabolic antennas. This function is available in satellite mode and when the equipment is powering the LNB.

Halt: This command stops the motor movement.

East: Allows to move the motor in the EAST direction. Each click corresponds to one step in the movement of the motor (pitch motors). By holding the key down, successive movement sequences will be executed until the key is released.

West: Motor movement in the WEST direction. Each click corresponds to one step in the movement of the motor (pitch motors). By holding the key down, successive movement sequences will be executed until the key is released.

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Goto: recovers one of the 8 positions for the antenna that has been previously stored.

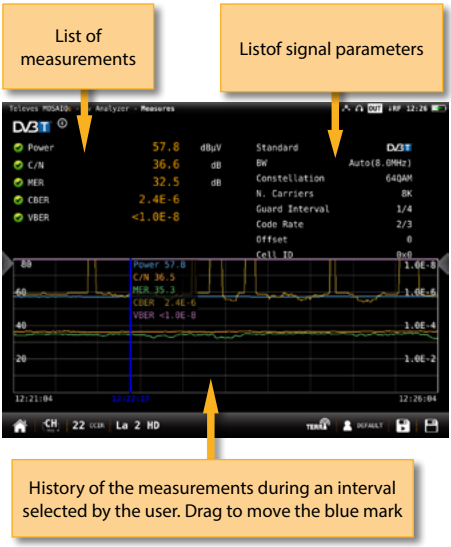
- SCR (only satellite band): Selects the SCR parameters (multiswitch, standard and slots) When a slot is enabled (for example slot 3, freq. 1210MHz), the meter will tune into the slot frequency (1210MHz) and will set the slot with the meter parameters: frequency, band (powering), and DiSEqC. In addition, a SCR icon will be shown in the bar at the top (SCR3) to indicate that the slot is enabled. While the slot is enabled, all the setting changes of the meter, will be applied to the currently slot (SCR3).

6.4.3.- Measurements

This feature shows the measurements of the selected channel. The measurements depends on the signal modulation:
DVB-S: Power, C/N, MER, CBER, VBER
DVB-S2: Power, C/N, MER, LDPCBER, BCHBER
DVB-T: Power, C/N, MER, CBER, VBER
DVB-T2: Power, C/N, Link Margin, LDPCBER, BCHBER
DVB-C: Power, C/N, CBER, MER
Analog: Level, C/N, V/A

If you see this feature in full screen, you will have more detailed information.

6.4.3.1.- Main window



6.4.3.2.- Options context menu

•Clear: restarts the graph.

•Last: 5 min, ½ hour, ½ day, 1 day, 1 week. Allows select the time interval shown in the graph

•Quality profile: allows to select the quality profile

•Powering:

- VDC: Selects the preamplifier powering.
- DiSEqC (only satellite band): selects the DiSEqC parameter (Sat A, Sat B, Sat C, Sat D).
- Positioner (only satellite band): makes it possible to control the DiSEqC motors used to move mobile parabolic antennas. This function is available in satellite mode and when the equipment is powering the LNB.

  Halt: This command stops the motor movement.

  East: Allows to move the motor in the EAST direction. Each click corresponds to one step in the movement of the motor (pitch motors). By holding the key down, successive movement sequences will be executed until the key is released.

  West: Motor movement in the WEST direction. Each click corresponds to one step in the movement of the motor (pitch motors). By holding the key down, successive movement sequences will be executed until the key is released.

  Store: 8 storage positions are available to store at up to 8 antenna positions . This command allows one of 8 positions to be chosen where the current position of the antenna will be stored.

  Goto: recovers one of the 8 positions for the antenna that has been previously stored
- SCR (only satellite band): Selects the SCR parameters (multiswitch, standard and slots) When a slot is enabled (for example slot 3, freq. 1210MHz), the meter will tune into the slot frequency (1210MHz) and will set the slot with the meter parameters: frequency, band (powering), and DiSEqC. In addition, a SCR icon will be shown in the bar at the top (SCR3) to indicate that the slot is enabled. While the slot is enabled, all the setting changes of the meter, will be applied to the currently slot (SCR3).

6.4.4.- Spectrum

This feature shows the spectrum of the signal.

6.4.4.1.-Main window

If you tap to enable marks:

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6.4.4.2.- Options context menu

•Span: 100KHz, 1MHz, 5MHz, 10 MHz, 20 MHz, 50 MHz, 100 MHz, 200 MHz, 500 MHz, 1.0GHz, 2.0GHz, 3.3GHz, Other.

•Reference level: Auto, 50dBµV – 130dBµV

•RBW: 500 HzW – 5MHzW

•VBW: 100Hz – 1MHz

•Advanced: Access to spectrum advanced features:

- Hold: enables/disables max. hold & min. hold features. Tapping on Clear button to restart hold trace.
- Trigger: enables/disables the trigger by level feature. To select the level, tap on the label and a popup keyboard appears.
- Fill: enables/disables the spectrum graph filled.

•Quality profile: allows to select the quality profile

•Powering:

- VDC: Selects the preamplifier powering.
- DiSEqC (only satellite band): selects the DiSEqC parameter (Sat A, Sat B, Sat C, Sat D).
- Positioner (only satellite band): makes it possible to control the DiSEqC motors used to move mobile parabolic antennas. This function is available in satellite mode and when the equipment is powering the LNB.

  Halt: This command stops the motor movement.

  East: Allows to move the motor in the EAST direction. Each click corresponds to one step in the movement of the motor (pitch motors). By holding the key down, successive movement sequences will be executed until the key is released.

  West: Motor movement in the WEST direction. Each click corresponds to one step in the movement of the motor (pitch motors). By holding the key down, successive movement sequences will be executed until the key is released.

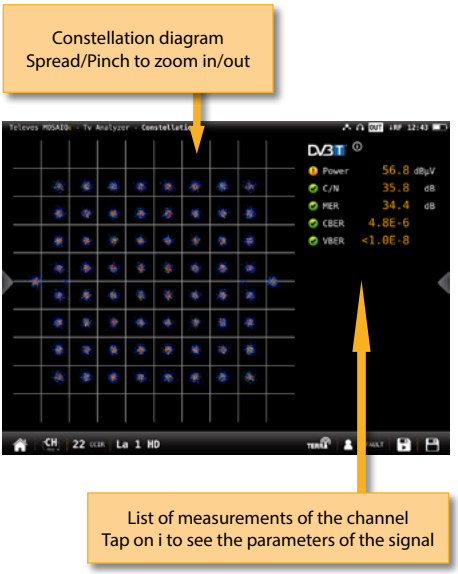
  Store: 8 storage positions are available to store at up to 8 antenna positions . This command allows one of 8 positions to be chosen where the current position of the antenna will be stored.

  Goto: recovers one of the 8 positions for the antenna that has been previously stored
- SCR (only satellite band): Selects the SCR parameters (multiswitch, standard and slots) When a slot is enabled (for example slot 3, freq. 1210MHz), the meter will tune into the slot frequency (1210MHz) and will set the slot with the meter parameters: frequency, band (powering), and DiSEqC. In addition, a SCR icon will be shown in the bar at the top (SCR3) to indicate that the slot is enabled. While the slot is enabled, all the setting changes of the meter, will be applied to the currently slot (SCR3).

6.4.5.- Constellation

This feature shows the constellation diagram of the tuned channel.

6.4.5.1.- Main window



6.4.1.2.- Options context menu

•Grid: ON/OFF. Shows/hide the grid.

•Carrier (only DVB-T/T2): All, TPS+continual (only DVB-T), Other. Allows you to select the constelation of the selected carrier(s).

•Quality profile: allows to select the quality profile

•Powering:

- VDC: Selects the preamplifier powering.
- DiSEqC (only satellite band): selects the DiSEqC parameter (Sat A, Sat B, Sat C, Sat D).
- Positioner (only satellite band): makes it possible to control the DiSEqC motors used to move mobile parabolic antennas. This function is available in satellite mode and when the equipment is powering the LNB.

  Halt: This command stops the motor movement.

  East: Allows to move the motor in the EAST direction. Each click corresponds to one step in the movement of the motor (pitch motors). By holding the key down, successive movement sequences will be executed until the key is released.

  West: Motor movement in the WEST direction. Each click corresponds to one step in the movement of the motor (pitch motors). By holding the key down, successive movement sequences will be executed until the key is released.

  Store: 8 storage positions are available to store at up to 8 antenna positions . This command allows one of 8 positions to be chosen where the current position of the antenna will be stored.

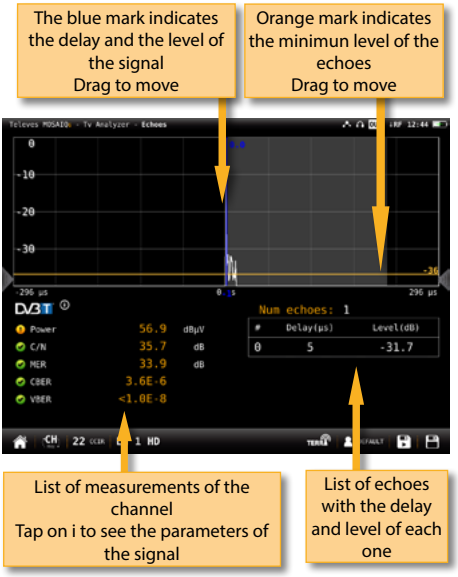
  Goto: recovers one of the 8 positions for the antenna that has been previously stored

-SCR (only satellite band): Selects the SCR parameters (multiswitch, standard and slots) When a slot is enabled (for example slot 3, freq. 1210MHz), the meter will tune into the slot frequency (1210MHz) and will set the slot with the meter parameters: frequency, band (powering), and DiSEqC. In addition, a SCR icon will be shown in the bar at the top (SCR3) to indicate that the slot is enabled. While the slot is enabled, all the setting changes of the meter, will be applied to the currently slot (SCR3).

6.4.6.- Echoes

This feature you allows to visualize the echoes of the received signal, helping the installer to minimize them as much as possible for optimal signal reception.

6.4.6.1.- Main window



6.4.6.2.- Options context menu:

•Min. Level: allows to indicate the level from which the meter must take account of the echoes. You can also change this level by dragging the horizontal orange level.

•Zoom: OFF, 2x, 4x, 8x, 16x. You can also Spread/pinch on the screen.

•Units: us, Km.

•Quality profile: allows to select the quality profile

•Powering:

- VDC: Selects the preamplifier powering.
- DiSEqC (only satellite band): selects the DiSEqC parameter (Sat A, Sat B, Sat C, Sat D).
- Positioner (only satellite band): makes it possible to control the DiSEqC motors used to move mobile parabolic antennas. This function is available in satellite mode and when the equipment is powering the LNB.

  Halt: This command stops the motor movement.

  East: Allows to move the motor in the EAST direction. Each click corresponds to one step in the movement of the motor (pitch motors). By holding the key down, successive movement sequences will be executed until the key is released.

  West: Motor movement in the WEST direction. Each click corresponds to one step in the movement of the motor (pitch motors). By holding the key down, successive movement sequences will be executed until the key is released.

  Store: 8 storage positions are available to store at up to 8 antenna positions . This command allows one of 8 positions to be chosen where the current position of the antenna will be stored.

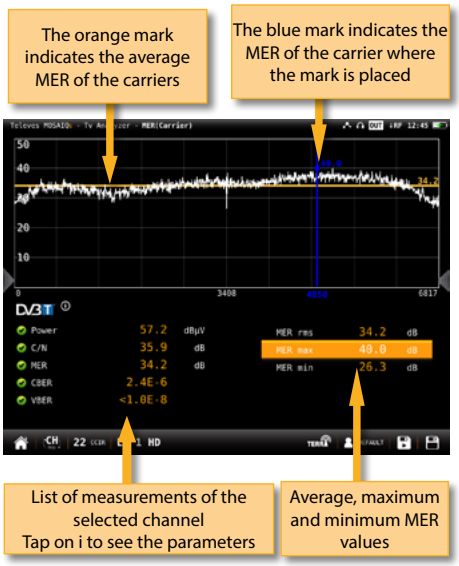
  Goto: recovers one of the 8 positions for the antenna that has been previously stored
- SCR (only satellite band): Selects the SCR parameters (multiswitch, standard and slots) When a slot is enabled (for example slot 3, freq. 1210MHz), the meter will tune into the slot frequency (1210MHz) and will set the slot with the meter parameters: frequency, band (powering), and DiSEqC. In addition, a SCR icon will be shown in the bar at the top (SCR3) to indicate that the slot is enabled. While the slot is enabled, all the setting changes of the meter, will be applied to the currently slot (SCR3).

6.4.7.- MER/carrier

This feature represents MER value for each carrier of the DVB-T signal. This is pretty useful to detect if there is any interference inside the channel that makes the quality signal to get worse and that is

invisible for a traditional spectral analysis.

6.4.7.1.- Main window

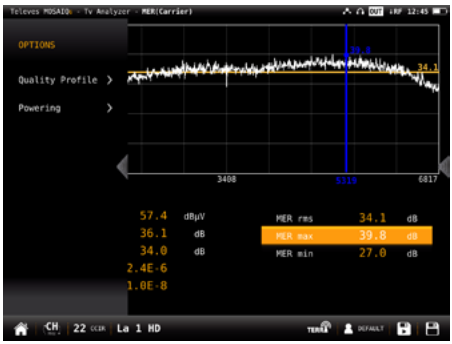


•MER RMS: Average MER of the DVB-T signal.

•MER max: Maximum MER value of the DVB-T signal. In parentheses the number of carrier with this maximum valuer of MER. If you tap on this measurement, the blue mark will move to the carrier with the maximum MER, and will be moving searching the carrier with maximum MER each time.

•MER min: Minimum MER value of the DVB-T signal. In parentheses the number of carrier with this minimum valuer of MER. If you tap on this measurement, the blue mark will move to the carrier with the minimum MER, and will be moving searching the carrier with minimum MER each time.

6.4.7.2.- Options context menu



•Carrier: allows you to select the carrier where you want to measure the MER, placing the blue marker on the graph.

•Quality profile: allows to select the quality profile

•Powering:

- VDC: Selects the preamplifier powering.

6.4.8.- Uncorrected packets

This feature makes an uncorrected packet analysis during a timer interval selected by the user.

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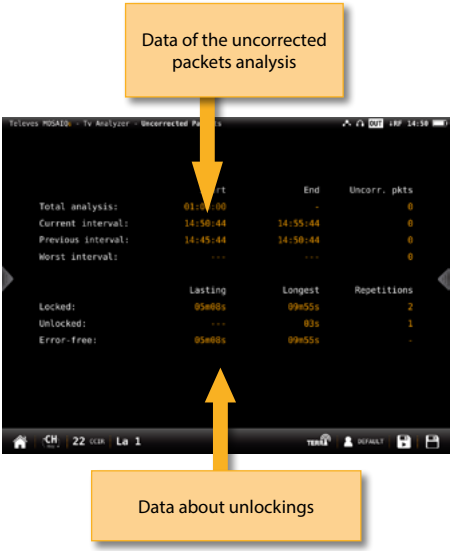
6.4.8.1.- Main window



Total analysis: Start and end time of the analysis, and number of uncorrected packets in all the intervals analysed.
Current interval: Start and end time of the current interval, and number of uncorrected packets.
Previous interval: Start and end time of the previous interval and number of uncorrected packets.
Worst interval: Start and end time of the interval with more uncorrected packets, and number of uncorrected packets in the worst interval of analysis since it was started.

Locked: Time gone by since the demodulator locked to the digital signal the last time, longest time the digital signal was locked, and number of locking.
Unlocked: Time gone by since the demodulator unlocked to the digital signal the last time, longest time the digital signal was unlocked, and number of unlocking.
Error-free: Time gone by since last uncorrected packet, and longest time gone by since last uncorrected packet.

6.4.8.2.- Options context menu:

•Restart: restart the uncorrected packets analysis

•Interval: Change the analysis interval time. The interval is configurable between 1 minute and 1 hour.

•Powering:

- VDC: Selects the preamplifier powering.
- DiSEqC (only satellite band): selects the DiSEqC parameter (Sat A, Sat B, Sat C, Sat D).
- Positioner (only satellite band): makes it possible to control the DiSEqC motors used to move mobile parabolic antennas. This function is available in satellite mode and when the equipment is powering the LNB.

  Halt: This command stops the motor movement.

  East: Allows to move the motor in the EAST direction. Each click corresponds to one step in the movement of the motor (pitch motors). By holding the key down, successive movement sequences will be executed until the key is released.

  West: Motor movement in the WEST direction. Each click corresponds to one step in the movement of the motor (pitch motors). By holding the key down, successive movement sequences will be executed until the key is released.

  Store: 8 storage positions are available to store at up to 8 antenna positions . This command allows one of 8 positions to be chosen where the current position of the antenna will be stored.

Goto: recovers one of the 8 positions for the antenna that has been previously stored

- SCR (only satellite band): Selects the SCR parameters (multiswitch, standard and slots) When a slot is enabled (for example slot 3, freq. 1210MHz), the meter will tune into the slot frequency (1210MHz) and will set the slot with the meter parameters: frequency, band (powering), and DiSEqC. In addition, a SCR icon will be shown in the bar at the top (SCR3) to indicate that the slot is enabled. While the slot is enabled, all the setting changes of the meter, will be applied to the currently slot (SCR3).

7. Spectrum analyser

These feature has two screens: spectrum analyser and waterfall. Long swipe to switch between them.

7.1.- Spectrum analyser

This feature shows the spectrum of the input signal.

7.1.1.- Main window

If you tap to enable the marks:

7.1.2.- Options context menu

- Span: 100KHz, 1MHz, 5MHz, 10 MHz, 20 MHz, 50 MHz, 100 MHz, 200 MHz, 500 MHz, 1.0GHz, 2.0GHz, 3.3GHz, Other.
- Reference level: Auto, 50dBµV – 130dBµV
- RBW: 500 HzW – 5MHzW

•VBW: 100Hz – 1MHz

•Advanced: Access to spectrum advanced features:

- Hold: enables/disables max. hold & min. hold features. Tapping on Clear button to restart hold trace.
- Trigger: enables/disables the trigger by level feature. To select the level, tap on the label and a popup keyboard appears.
- Fill: enables/disables the spectrum graph filled.

•Quality profile: allows to select the quality profile

•Powering:

- VDC: Selects the preamplifier powering.
- DiSEqC (only satellite band): selects the DiSEqC parameter (Sat A, Sat B, Sat C, Sat D).
- Positioner (only satellite band): makes it possible to control the DiSEqC motors used to move mobile parabolic antennas. This function is available in satellite mode and when the equipment is powering the LNB.

  Halt: This command stops the motor movement.

  East: Allows to move the motor in the EAST direction. Each click corresponds to one step in the movement of the motor (pitch motors). By holding the key down, successive movement sequences will be executed until the key is released.

  West: Motor movement in the WEST direction. Each click corresponds to one step in the movement of the motor (pitch motors). By holding the key down, successive movement sequences will be executed until the key is released.

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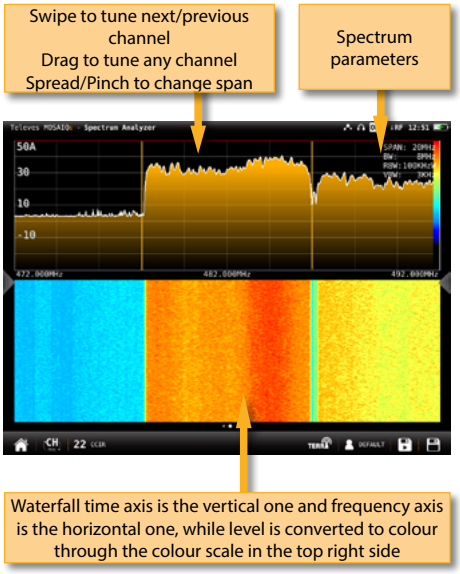
  Goto: recovers one of the 8 positions for the antenna that has been previously stored
- SCR (only satellite band): Selects the SCR parameters (multiswitch, standard and slots) When a slot is enabled (for example slot 3, freq. 1210MHz), the meter will tune into the slot frequency (1210MHz) and will set the slot with the meter parameters: frequency, band (powering), and DiSEqC. In addition, a SCR icon will be shown in the bar at the top (SCR3) to indicate that the slot is enabled. While the slot is enabled, all the setting changes of the meter, will be applied to the currently slot (SCR3).

7.2.- Waterfall

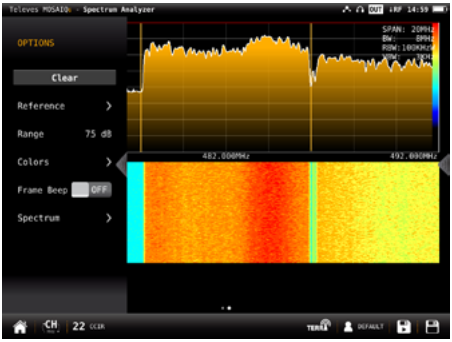
The waterfall diagram is a three-dimensional representation of the signal spectrum. Signal levels are converted to colours and displayed along a time axis.

7.2.1.- Main window



Every spectrum trace in the top half generates a new waterfall line in the bottom half.

7.2.2.- Options context menu:



•Clear: It clears the waterfall display.

•Reference: it changes the level of the highest colour in the colour scale. Signal levels above this reference will be displayed in this colour.

•Range: it changes difference in dB between the highest and the lowest colour of the colour scale on the waterfall display.

•Colours: it changes the colour palette. Different colour combinations can be selected for the waterfall representation (Jet, Hot and BlueHot).

•Frame beep: when this option is ON, a beep sounds each time the waterfall screen fully refreshes, so there is no need to look at the screen continuously. Looking at the screen just when the beep sounds guarantees not missing any waterfall information.

•Spectrum: accesses to the spectrum options context menu (see section *7.1.- Spectrum analyser*).

8. Radio Analyser

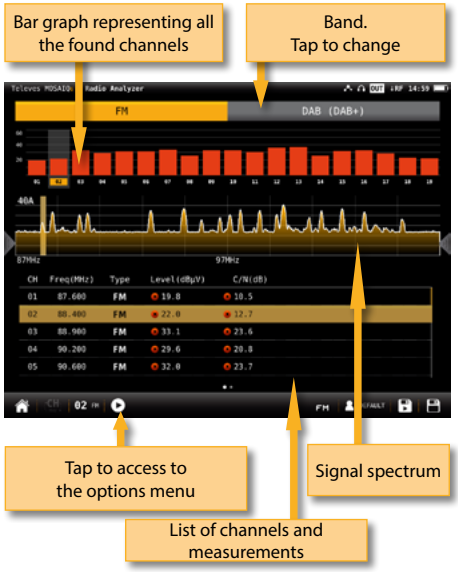
This feature is similar to TV Analysis in the radio band. So it has two screens: scan and mosaiq 3+1. Long swipe to switch between them.

8.1.- Scan Radio

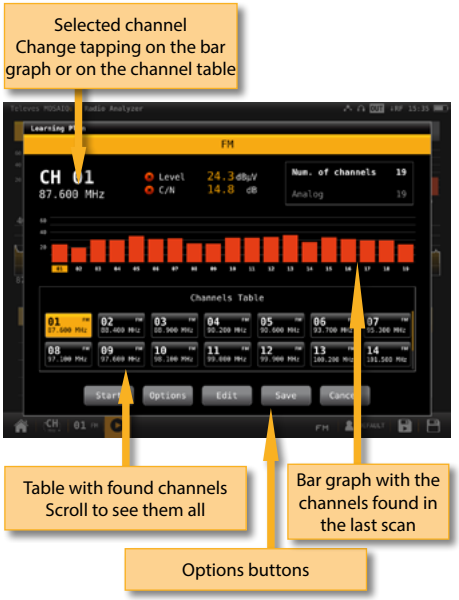
This features scans the FM and DAB band.

The scan measurement leverages the location based thresholds to clearly show whether or not signal levels comply with the cable system's specifications with their green, yellow and red bar.

8.3.1.- Main window



Tapping on icon a popup window will appear:



•Start: Starts a new system scan

•Options:

- Fast: ON/OFF. When the fast scan is enabled (ON), the meter will not make CBER and MER measurements for DAB channels. So, only power and C/N measurements will be shown.
- Wide outlet: ON/OFF. Enable this option when the outlet in your installation has both terrestrial and satellite bands. So, both bands will be scanned consecutively. If this options is disabled, only the selected band will be scanned.
  Note: Note that if the selected user profile does not allow to make measurements in some bands, the scan will not be done in that band.

•Edit: Allows to add/delete channels from the plan. If the channel is selected (orange coloured), when you tap on it, it will be deselected. Otherwise, if the channel is unselected (grey coloured), when you tap on it, it will be selected.

•Save: Saves a new plan with the found channels.

•Cancel: Closes the options window

8.3.2.- Options context menu

•Fast: ON/OFF. When the fast scan is enabled (ON), the meter will not make CBER and MER measurements for DAB channels. So, only power and C/N measurements will be shown.

•Wide outlet: ON/OFF. Enable this option when the outlet in your installation has both terrestrial and satellite bands. So, both bands will be scanned consecutively. If this options is disabled, only the selected band will be scanned.

Note: Note that if the selected user profile does not allow to make measurements in some bands, the scan will not be done in that band.

•Show all: ON/OFF. When show all is ON, all the measurements of all the channels are shown. When it is OFF, you can only see the measurements of the channel that is being measured in that moment.

•Span full: ON/OFF. When Span full ins ON you can see all the bars corresponding to all the found channels. When this option is OFF, only 24 bars are shown, so it is necessary to scroll to see them all.

•Tilt: ON/OFF. When the tilt option is ON, this function measures the tilt between the channels indicated in the labels CH A and CH B. Then you can see a white line between these two channels and the tilt measurement on it.

•Attenuation: ON/OFF. When the attenuation option is ON, the Mosaiq6 measures the attenuation

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of the installation relative to a reference point, usually the head-end output. So, the first thing you must do is connect the meter to the reference point and tap on the Calibrate button. In this way, the equipment will measure and save the level of all the channels.

Then you must go to all the pints of the installation where we want to measure and connect the meter, taking care to have this function ON. The Mosaiq6 will measure the levels of all the channels comparing them with the reference ones.

When this option is ON, the bars of the graphic don't represent the level or the power of the channels, but the attenuation of each one of them. The list shows power (or level) and C/N. In addition, a green trace is shown in the spectrum. This trace indicates the levels in the reference point.

•Quality profile: allows to select the quality profile .

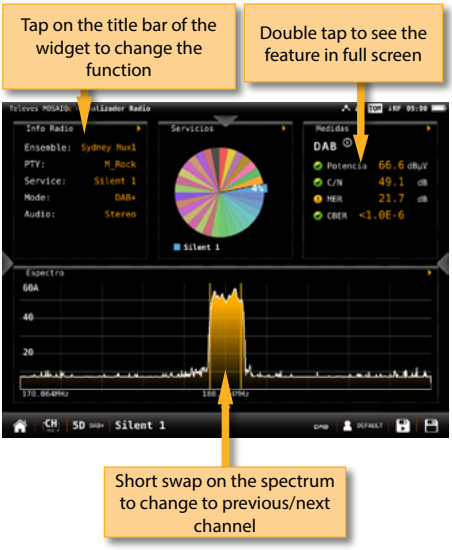
•Powering:

- VDC: Selects the preamplifier powering.

8.2.- Mosaiq 3+1

This screen has 4 widgets, 3 in the top of the screen and one in the lower part of the screen. Theses widgets ares user-configurable, that is, the user can select the function he or she wants to visualize in each widget.

8.2.1.- Main Window



The available features are explained in section *8.3.- Radio features.*

8.2.2.- Options context menu

•Quality profile: allows to select the quality profile .

•Powering:

- VDC: Selects the preamplifier powering.

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8.3.- Radio features

This section explains all the features available to visualize in the widgets of the Mosaiq 3+1 mode.

8.3.1.- Info radio

This feature shows the information of the tuned channel.

If it is a FM channel, the information shown is: RDS, PS name, PTY, PI, TP & radio text.

If it is a DAB channel, the information shown is: Ensemble, PTY, Service, Mode, Audio.

8.3.1.1.- Main Window

8.3.1.2.- Options context menu

•Quality profile: allows to select the quality profile .

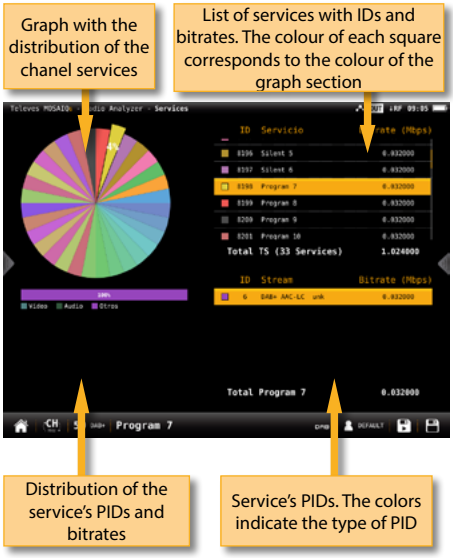
•Powering:

- VDC: Selects the preamplifier powering.

8.3.2.- Services (only for DAB channels)

This feature shows a graph representing the services distribution. Tapping on a section, you can see the name of the corresponding service.

8.3.2.1.- Main Window



8.3.2.2.- Options context menu

•Quality profile: allows to select the quality profile .

•Powering:

- VDC: Selects the preamplifier powering.

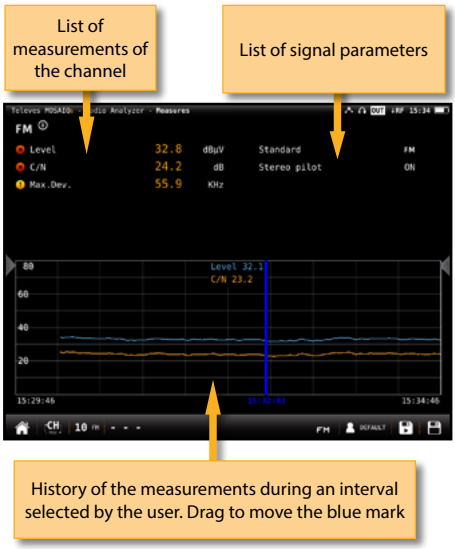
8.3.3.- Measurements

This feature shows the measurements of the selected channel. The measurements depends on the type of channel:

FM: Level, C/N

DAB: Power, C/N, BER and MER

8.3.3.1.- Main window



8.3.3.2.- Options context menu

•Clear: restarts the graph.

•Last: 5 min, ½ hour, ½ day, 1 day, 1 week. Allows select the time interval shown in the graph

•Quality profile: allows to select the quality profile

•Powering:

- VDC: Selects the preamplifier powering.

10. Wi-Fi Analyser

The **MOSAIQ6** is able to perform a full analysis of the Wi-Fi band in both 2,4GHz, and 5GHz bands. To change the band selection, tap on the corresponding icon placed in the bottom bar.
When you access to this feature, the **MOSAIQ6** activates the Wi-Fi automtically and, if it has been connected to an available Wi-Fi network before, the **MOSAIQ6** has saved the password, so it will connect to the same network again automatically.

The screen corresponding to this feature is Mosaiq3+1 type. This configuration has 4 widgets, 3 square ones in the top and a rectangular in the botton. The top widgets are user-configurable.

10.1.- Main window

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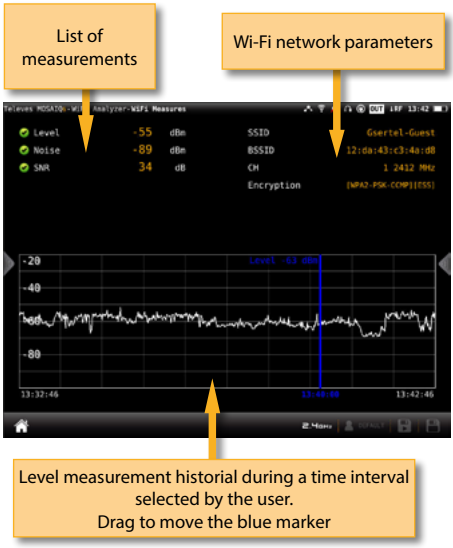
10.2.- Features

This section explains all the features available to visualize in Wi-Fi analyser function.

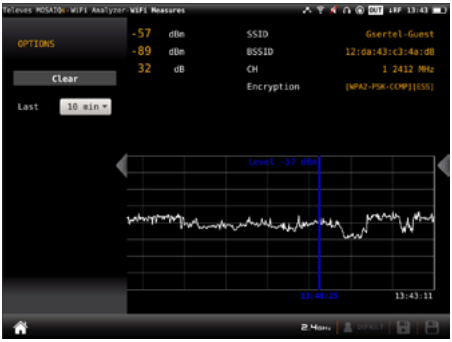
10.2.1- Wi-Fi measurements

This feature shows all the measurements of the Wi-Fi network wich the **MOSAIQ6** in currently connected to.

10.2.1.1.- Main window



10.2.1.2.- Contextual options menu

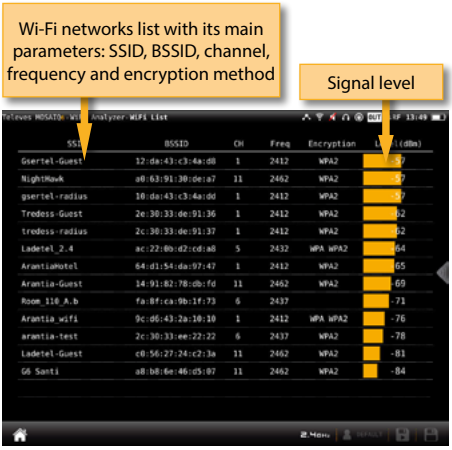


- Clear: resets the chart.
- Last: 10 min, ½ hour, ½ day, 1 day, 1 week. Allows you to select the time interval shown in the chart.

10.2.2- Wi-Fi List

This feature shows a list with all the Wi-Fi networks detected by the **MOSAIQ6**.

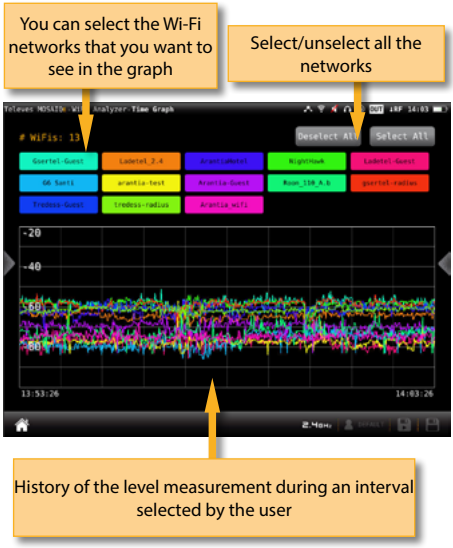
10.2.2.1.- Main window



10.2.3- Time graph

This feature shows a graph with the level measuremet historical of allt he Wi-Fi networks detected by the **MOSAIQ6**.

10.2.3.1.- Main window



10.2.3.2.- Contextual options menu

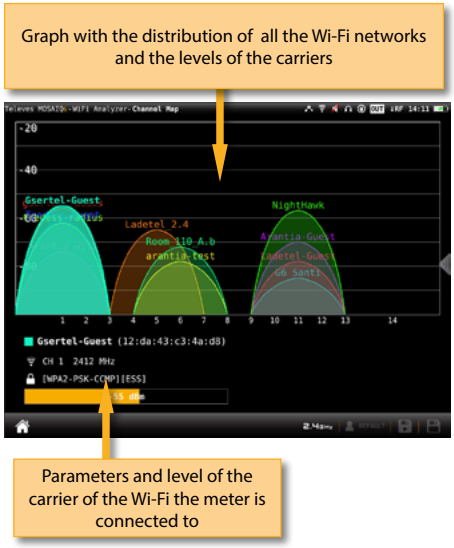
•Clear: resets the graph.

•Last: 10 min, ½ hour, ½ day, 1 day, 1 week. Allows select the time interval shown in the graph.

10.2.4- Channel map

This feature shows a graph with the distribution of all the Wi-Fi networks detected byt the **MOSAIQ6**.

10.2.4.1.- Main window



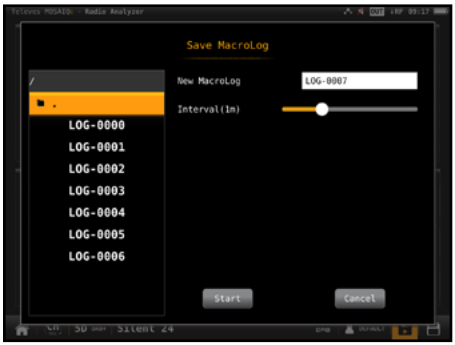
9. LOGS

The Mosaiq6 saves two types of measurements files: LOGs and MacroLOGs.

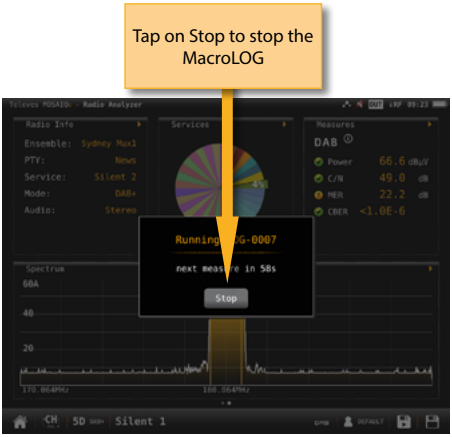
A **LOG** saves all the measurements on the screen , as well as a screenshot. To save a LOG, tap on the icon in the bottom bar.

A **MacroLOG** is a scheduled measurement that the meter repeats automatically in a time interval selected by the user.
To schedule a MacroLOG tap on icon in the bottom bar.

Then a popup window will be open, where you can select the time interval. Then tap on the Start button:



The meter makes and saves the measurements in each specified time interval until the user taps on Stop button.



The LOGs feature allow us to see all the LOGs and MacroLOGs stored in the meter.

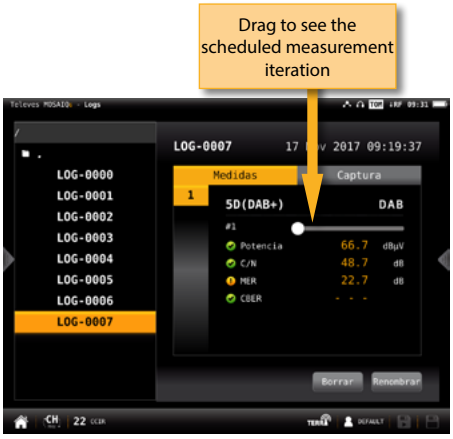
9.1.- Main window

For each LOG, there are two views:

•Measurement: shows a list with all the measurements

•Screenshot: shows a screenshot of the meter exactly as it is at the measurement time.

If you select a MacroLOG, you can also select the measurement iteration:



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Web application

To access you Mosaiq6 web application, you must type the IP of you meter in the address bar of your web browser (Chrome recommended).

To know the IP of your meter, you must access to the top menu and select Network feature (see section *Settings* in *Top menu*).

The first time that you access to the web application you must use the following user and password:

User: admin

Password: admin

Then the web application will be open, showing the Resume window:

1.- Measurements

This feature shows all the LOGs and MacroLOGs stores in the meter.
There are two display modes:

•Calendar: the measurements are shown grouped by date in a calendar:

•List:

Once the LOG is selected, we see a window with all the information:

Using the buttons placed at the top right os the screen, you can remove the selected LOGs or download them to your computer in .xls format (it will be generated a .xls file for each LOG and they all will be downloaded together in a .zip file).

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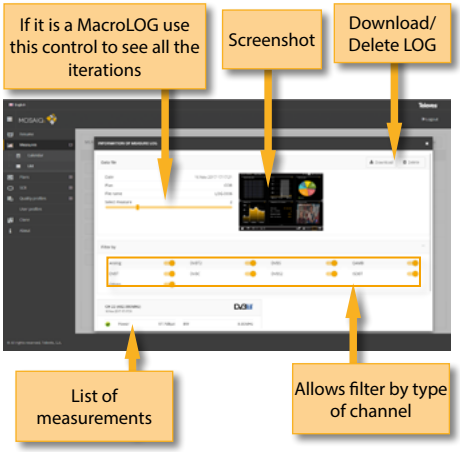
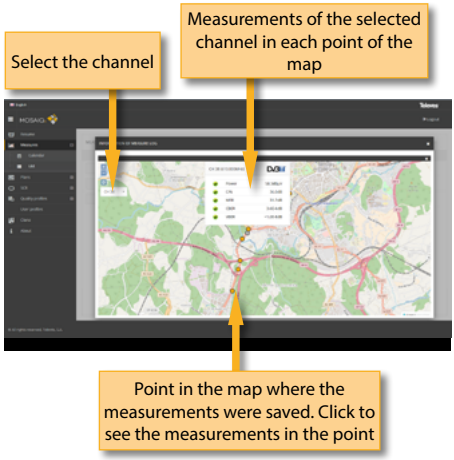


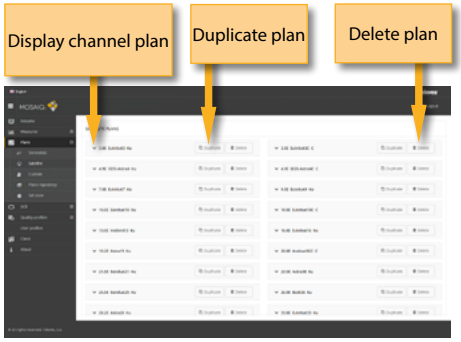
If the MacroLOG has, in addition, GPS information, you can see all the measurements iterations placed in a map in the position where they was made, so you have a detailed mapping and coverage analysis.



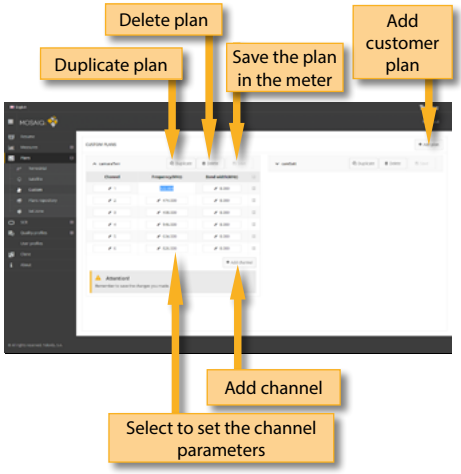
2. Plans

In this window, you can see all the channel plans of your H30FLEX.
They are grouped in three categories: Terrestrial, Satellite and Customer.

The Terrestrial and Satellite channel plan are the standard channel plans of the corresponding band. These plans can be removed from the meter, but they can not be edited. However, you can make a copy of one of them to build a new customer channel plan from it.
The duplicated plans will appear in the Customer list automatically..

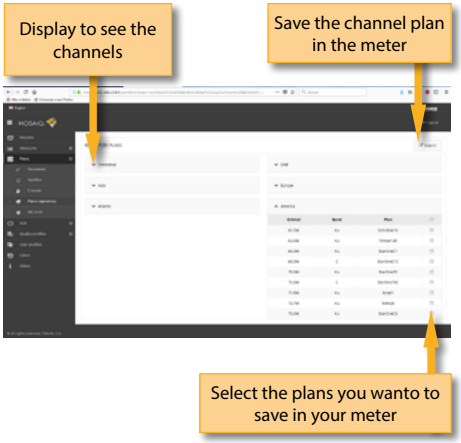


Customer channel plans can be edited:



The application also allows to configure the channel plans according to the geographic area you will use the meter.

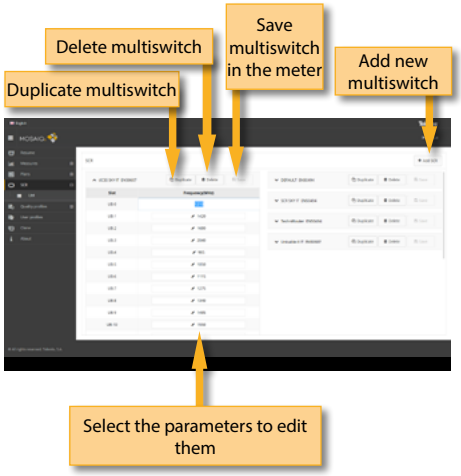
The user can select the channel plans using the feature Repository. In this window you can see all the channel plan grouped by zones.



You can also upload to your meter the channel plans of a geographical zone automatically. To do that use the feature Set zone. In this window you can see a map of the world, and you can select the area where you will use the meter by clicking on it. With this and considering the language selected in your meter, the Mosaiq6 will select automatically the channel plans both in terrestrial and satellite bands.

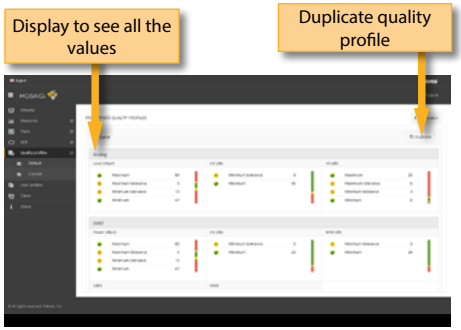
3. SCR

In this window, you can setup the multiswitches. The H30FLEX includes a list of multiswitches by default, but you can add more or edit any of the existing ones.



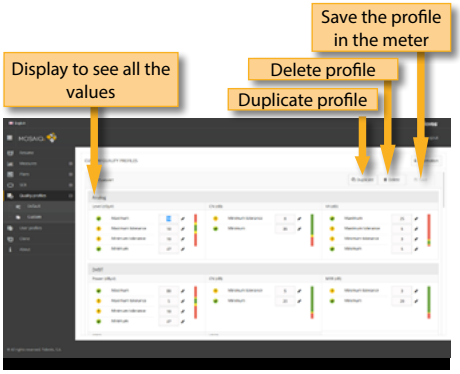
4. Quality profiles

Using the web application you can add new quality profiles. The Mosaiq6 has two predefined quality profiles (head-end and outlet) that can not be edited, but they can be duplicated. The duplicated quality profiles are saved in the custom quality profiles, and the custom quality profiles can be edited.



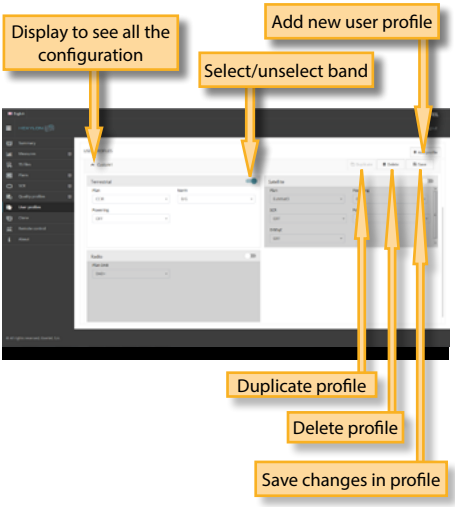
EN

Custom quality profiles can be edited:



5. User profiles

Using the web application you can add new user profiles. The Hexylon has one pre-defined user profile (named Default) that is configured automatically acording to the geographical area selected by the user.
For each user profile, the user must select the band (or bands) thar he or she wants to use in that profile, as well as the channel plan for each band other appropriate parameters, depending on the band.



6. Clone

Using this feature it is very easy to have the same configuration in all your Hexylon meters.
You only have to export the configuration of the Hexylon that you wanto to copy, using the Export feature. So, the configuration will be saved in a file on you computer.
Then, connect other Hexylon where you want to copy the configuration to and select the Import feature.

7. Licenses

Please contact the agents of our comercial network to purchase the license you wisht at any moment.
You will receive an e-mail with an attached file that you must save in yur computer.
Then select this feature to activate the license by dragging the file into the corresponding box that is shown on the screen, or find the file in your computer.
Finally click on the Update button, the license will be activated in your **MOSAIQ6**.

8. Remote control

Using this feature you can control your Hexylon remotely. For this to work, it is necessary that the Hexylon and the computer are connected to the same LAN.
To access to this feature you must enter the password admin in the right top part of the window. Then you will see the screen of the Hexylon in your computer:

Using the mouse you can control the Hexylon as with the hands, except the pinch/spread gestures.

9. Configuration

This feature allows you to restore the factory settings of your MOSAIQ6.
When you do that, all the measurements, TS recordings, channel plans, quelity and user profiles stored in your meter will be deleted.

Error messages

LOW BATTERY
Indicates that the battery is about to finish. The battery icon is red now. It is recommended to connect the meter to the external power source.

LOW BATTERY
Shutting down Some time after the LOW BATTERY message appears (time varies depending on the functions used), it will appear this message. If the meter is not connected to the external power source, it will switch off.

BAD POWER
Unplug power source This message appears when the meter is connected to an external power source that does not supply it the right power. Please, use only the power source provided with the H30FLEX.

SHORT-CIRCUIT
Check installation
This message appears when the meter detects a short-circuit at the RF input. It is recommended to check the installation to find out why the short circuit is produced.

DC OUTPUT LIMIT EXCEED
Switch DC OUTPUT off
This message appears when the meter detects an excessive consumption from the device that is being powered. It is recommended to turn off the powering feature of the Mosaiq6.

DC AT RF INPUT
Check installation
This message appears when the meter detects DC at the RF input that is not generated by the Mosaiq6. It is recommended to check the installation.

Maintenance

Always disconnect the unit before cleaning. Use only a mild solution of detergent and water applied with a soft damp cloth. Dry thoroughly before use.

Do not use aromatic hydrocarbons or chlorinated solvents. These products may damage the unit.

Do not use alcohol or alcohol based products on the front panel, especially the display.

These products may damage the unit.

Technical support

For any questions, contact Technical Support at

www.televes.com

Before contacting Technical Support for repair, read the manual to ensure proper use and attempt to RESET the unit to clear any problems.

Repair service

Do not return the unit without first contacting Televes Technical Support.

If the unit needs to be returned, Televes will arrange for free shipping. The unit will need to be appropriately packed for shipping.

In compliance with IATA Regulations, when using our shipping service follow these instructions:

- Label the package.
- The equipment should fit as snugly as possible in the box. It is recommended to use the original packing materials.
- Attach the precaution label to the package.

Failure to comply with these shipping requirements may result in the shipping agent rejecting the package.

Warranty

Televes warrants, only to the original Purchaser, for a period of one (1) year from the date of original purchase, unless otherwise specified.

For the battery, due to the nature of the product, the warranty period is six (6) months.

Keep the purchase invoice to determine the warranty start date.

During the warranty period, Televes S.A. assumes any defect in materials or workmanship.

This warranty excludes any inoperability resulting from improper use, wear, service or repair performed by any third party not authorized, catastrophes or any cause unrelated to Televes S.A.

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