

Televés®



H30FLEX

**Refs. 593301, 593302
593303, 593304
593360**

EN Digital processing handheld DVB Meter / Analyzer

Instruction Manual

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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 open the meter. Risk of electric shock**
- **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 weather 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.
- **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. Do not attempt to service this product or remove covers other than the battery cover. 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 (including amplifiers) that produce heat.
- **Maximum in the power connector**
 - Ensure that the voltage applied to the power connector does not exceed 15V. Higher voltages could damage the equipment
- **Maximum current consumed by the meter: 2A**
- **Battery**
 - Battery must be replaced by qualified personnel.
 - If the battery is replaced, the new one must have the same features.
 - Battery features:
 - Li-Ion
 - 2600mAh 7.26V 19 Wh

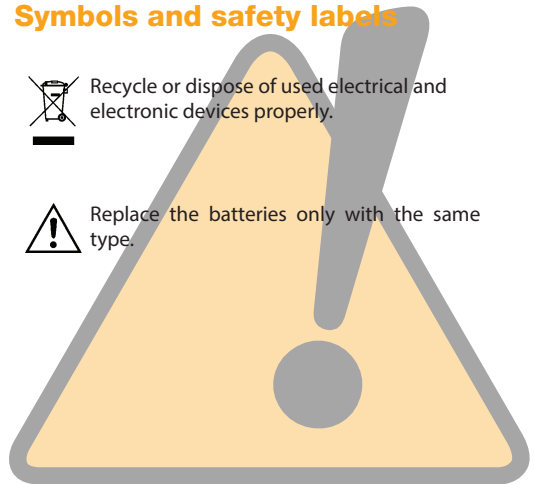
Symbols and safety labels



Recycle or dispose of used electrical and electronic devices properly.



Replace the batteries only with the same type.



Overview

Introducing the H30FLEX.

New from Televés, a go-to meter designed with the needs of a DVB installer in mind.

The **H30FLEX** is a light weight, rugged unit, packed with all the features needed to install and troubleshoot a television system using DVB-S/S2, DVB-T/T2, DVB-C (Annex A/C) and QAM (Annex B) digital modulation as well as analog signals.

Available for the first time in such a portable and affordable package, its real time digital processing engine gives the installers a great precision measurements needed in today's fulfilment environment.



Key Features

- **User friendly**, handheld DVB meter.
- Complete portfolio of Analog/Digital measurements with easy-to-read **pass/fail indicators**.
- **Quick and easy to use interface** with features such as Channel measurements, System Scans, Constellation Diagram, Spectrum Analyzer, Echoes, Datalogger, and more.
- Rugged, light weight, fully automatic, fast, and accurate.
- **Easy updates**.
- **1 GHz spectrum range** with selectable span.
- **PASS/FAIL Indicators**: Icons indicate if a measurement is good, bad, or in the warning zone for quick and easy status checks. Reduce installer entry errors and improve decision making.
- LNB powering, and SCR and DiSEqC parameters setup
- MPEG image visualization

General Specifications

Display	2.8" TFT 400 x 240 full colour
Weight	510g (12.12lb)
Dimensions	175 x 100 x 52 mm / 6.9 x 3.9 x 2 in (H x W x D)
AC Adaptor	Input: 100-240V~ 50-60Hz Output: 12VDC, 2A
Battery	Lilon smart battery (7.2VDC, 2300mAh)
Operating Time	Up to 4 hours
Operating Temperature	23°F to 104°F (-5°C to 45°C)
Storage Temperature	-4°F to 158°F (-20°C to 70°C)
Humidity	5% to 95% non-condensing
Ruggedness	Survives 1 m (3 ft) drop to concrete on all sides
Communication Interfaces	USB 2.0 to download Datalogs and software updates
Storage	400 MB (internal) for measurements
Power up time	< 10 seconds

Technical Specifications

Frequency	
Range	50 - 880 MHz and 950 - 2200 MHz
Resolution	125 kHz
Tuning	Frequency or channel
Input	
Impedance	75Ω F-type connector
Spectrum Analyzer	
Span	5, 10, 20, 50, 100, 200, 500 and Full span
Scale	5 and 10 dB/div
Auto and manual reference level	✓
Digital Measurements DVB-T (ref.593301, 593302, 593304 and opc.593231)	
MPEG image	✓
Modulations	CFDM (QPSK, 16QAM, 64QAM)
Power	45-110dBuV (25-120dBuV opt.593235)
CBER	9.9E-2 - 1.0E-6
VBER	1.0E-3 - 1.0E-8
MER	Up to 35dB
C/N	Auto
Echoes	✓
Constellation	✓
Digital Measurements DVB-T2 (ref.593302, 593304 and opc.593232)	
MPEG image	✓
Modulations	COFDM (QPSK, 16QAM, 64QAM and 256QAM)
Power	45-110dBuV (25-120dBuV opt.593235)
LDPCBER	9.9E-2 - 1.0E-6
BCHBER	1.0E-3 - 1.0E-8
Link Margin	Up to 30dB
MER	Up to 35dB
C/N	Auto
Echoes	✓
Constellation	✓
Digital Measurements DVB-C (ref.593303, 593304 and opc.593233)	
MPEG image	✓
Modulations	16QAM, 32QAM, 64QAM, 128QAM and 256QAM
Power	45-110dBuV (25-120dBuV opt.593235)
CBER	1.2E-2 - 1.0E-8
MER	Up to 38dB
C/N	Auto
Constellation	✓
Digital Measurements QAM-B [ITU J.83-B] (ref.593360)	
MPEG image	✓
Modulations	64QAM and 256QAM
Power	45-110dBuV (25-120dBuV opt.593235)
Pre-BER y Post-BER	1.0E-3 - 1.0E-8

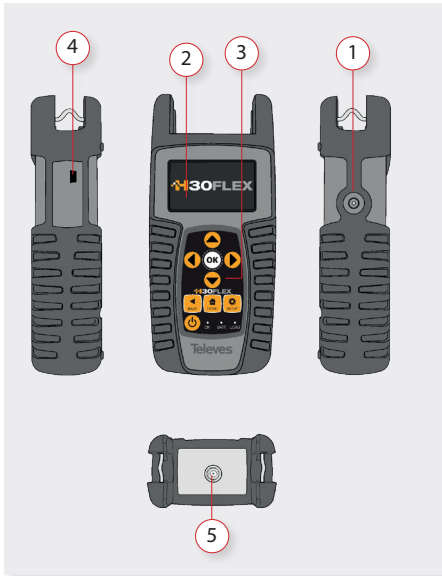
MER	Up to 38dB
C/N	Auto
Constellation	✓
Digital Measurements (DVB-S)	
MPEG image	✓
Power	45-110dBuV (25-120dBuV opt.593235)
CBER	9.9E-2 - 1.0E-6
VBER	1.0E-4 - 1.0E-8
MER	Up to 20dB
C/N	Auto
Constellation	✓
Digital Measurements (DVB-S)	
MPEG image	✓
Modulations	QPSK, 8PSK
Power	45-110dBuV (25-120dBuV opt.593235)
Link Margin	Up to 10dB
MER	Up to 20dB
LDPCBER	9.9E-2 - 1.0E-6
BCHBER	9.9E-2 - 1.0E-8
Constellation	✓
Analog Measurements	
Level	25 - 125dBuV
V/A	✓
C/N	✓
Features	
Terrestrial channel plans	CCIR, CCIR + LTE, OIRT, KBW, FCC, DAB, SIM
Satellite channel plans	68E INTEL C, 68E INTEL, 42E TURK, 39E HELLAS, 33E EUTEL, 28E EUTEL, 28E ASTRA, 26E BADR, 25E EUTEL, 23E ASTRA, 21E EUTEL, 19E ASTRA, 16E EUTEL, 13E HOTB, 10E EUTEL C, 10 EUTEL, 9E EUTEL, 7E EUTEL, 4E ASTRA, 1W THORS, 1W THOR6, 5W EUTELC, 5W EUTEL, 7W NILE, 30W HISPAN, 48W AMZC, 48W AMAZ, SIM.
User channel plans	✓
Units	dBuV, dBmV, dBm
Preamp powering	13, 18, 24Vdc (max. current 475, 370, 140mA)
LNB powering	13, 18Vdc (max. current 475, 370mA)
LNB tone	22KHz
SCR (EN 50494) dCSS (EN 50607)	✓ Opt.593234
DiSEqC	✓

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Specifications are subject to change without notice.

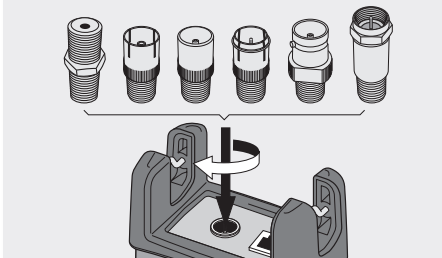
Description of equipment components

Connectors and controls








1. External power connector (12VDC).
2. LCD display.
3. Keyboard and LED indicators
4. USB connector
5. RF F-connector (see options below).

F-connector options



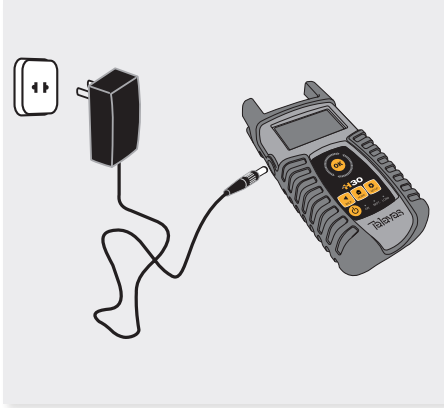
Keyboard



1.  **Device On/Off button:** To turn the equipment off, press and hold for approximately 3 seconds.
2.  **Back button:** Return to the previous menu or close a parameter entry window.
3.  **Home button:** Return to the main menu.
4. **Navigation buttons:** Used to scroll through options.
5.  **OK Button:** To confirm selection.
6.  **Setup button:** Parameter window for the current function.
7. **LED Powering:** Indicates if the equipment is powering an external load.
8. **LED Charging Battery:** LED flashes while the battery is charging.
9. **LED Power ON:** Illuminated when the equipment is on.

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.

The icon shows 5 states representing the approximate battery charge:

-  - Battery charge less than 5%.
-  - Battery charge between 5% and 25%.
-  - Battery charge between 25% and 50%.
-  - Battery charge between 50% and 75%.
-  - Battery charge greater than 75%.

From a fully discharged state, a full charge takes approximately 8 hours and a 3 hour charge will provide approximately a 75% charge.

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

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Battery Recommendations

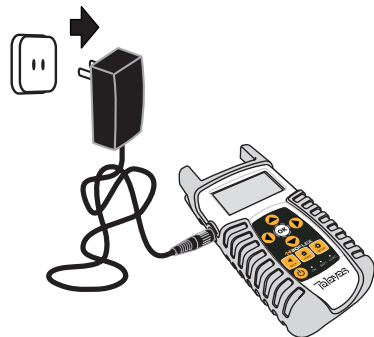
To maximize battery life:

- ▶ Avoid fully discharging the battery.
- ▶ The battery should always be charged with the battery pack attached to the device and using the supplied DC adapter or applying a constant voltage within the specified range (12-15VDC).
- ▶ For long term storage, keep the unit at room temperature, or about 25° C. Start with a charged battery and re-charge the battery every 2 to 3 months.

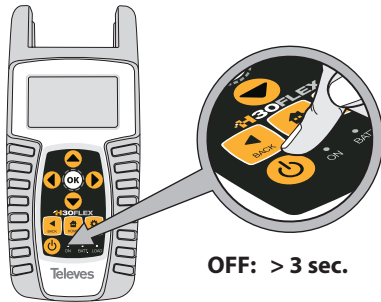
Battery replacement:

It is recommended that the replacement of the battery is carried out by qualified personnel following the following instructions:

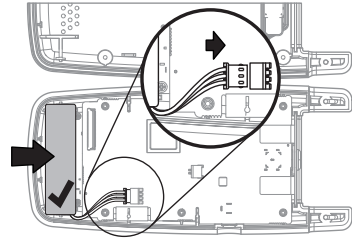
- ▶ Disconnect the meter from the power supply:



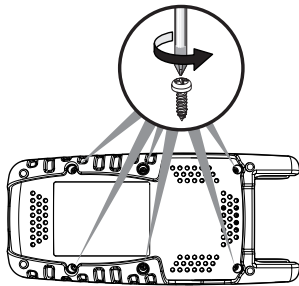
- ▶ Turn the H30FLEX off



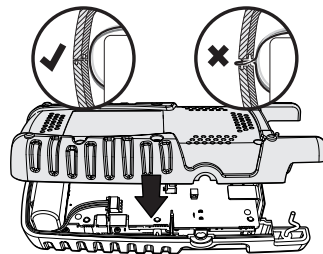
- ▶ Place the new battery and then connect it to the power board



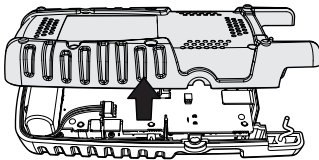
- ▶ Remove the screws from the backside



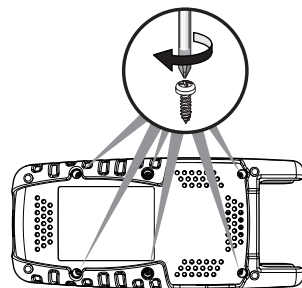
- ▶ Replace the back cover of the meter. Make sure that the cable is not trapped between the two covers



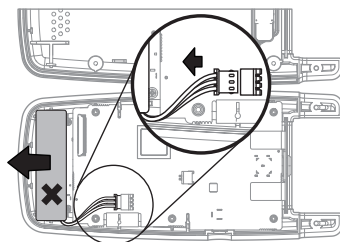
- ▶ Open the back cover



- ▶ Replace the screws of the back cover





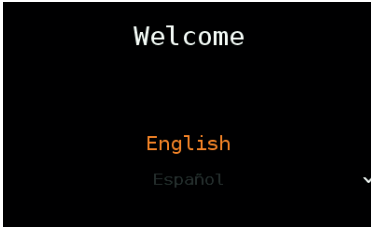
- ▶ The battery is located at the bottom of the meter. Carefully remove the connector from the power board, and then remove the battery



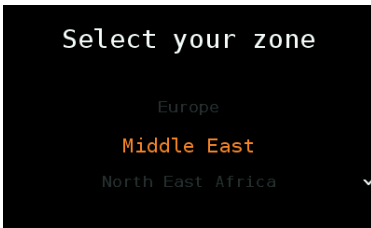
Before starting

The first time you turn your H30FLEX on, please follow the next steps for a proper configuration:

- 1.- Select the language using  and 



- 2.- Select the geographical area, so the proper channel plans will be enabled:

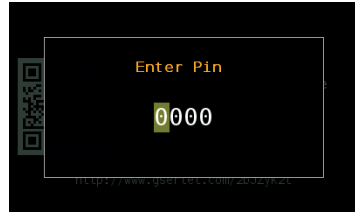


- 2.- Register your H30FLEX:

- 2.1.- Read the QR code using your mobile phone or tablet. Or enter the web url shown at the bottom of the screen in the address bar of your computer:



- 2.2.- Register your H30FLEX in our web. Once the process is completed, you will get a PIN code. Enter the PIN in your H30FLEX:



- 2.3.- If the PIN is OK, you have finished the registration process.

NOTE: Options 593234 (dCSS) and 593235 (Extended terrestrial input level range) will be activated automatically in your H30FLEX whenever you register it within 30 days after you turn it on for the first time.

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Product operation



1. Channel Info

Analog and digital channels are very different in terms of signal content and power distribution and thus require the advanced SLM techniques provided in the Televés **H30FLEX**.

In analog mode, video and audio levels, V/A and Carrier to Noise (C/N) are measured.

In digital mode measurements depend on the modulation:

DVB-S: Power, C/N, MER, CBER, VBER

DVB-S2: Power, C/N, MER, LDPCBER, BCHBER

DVB-T (Ref. 593301, 593302, 593304 and Opt. 593231): Power, C/N, MER, CBER, VBER

DVB-T2 (Ref. 593302, 593304 and Opt. 593232): Power, C/N, Link Margin, LDPCBER, BCHBER

DVB-C (Ref. 593303, 593304 and Opt. 593233): Power, C/N, CBER, MER

QAM-B [ITU j.83-B] (Ref. 593360): Power, C/N, CBER, MER


1.1. Main window

Below is a capture of a Channel Info window with a brief explanation of its features.

The screenshot shows the Channel Info window with the following callouts:

- Channel Change using:** Indicated by left and right arrow buttons.
- Frequency:** Points to the frequency value '786.0000 MHz'.
- Channel plan:** Points to the 'FCC STD' label.
- List of measurements with pass/fail indicators:** Points to the list of metrics: Power (-2.8 dBmV), C/N (41.6 dB), MER (34.4 dB), and CBER (<math><1.0E-8</math>).
- Bar graph of main measurement. Color according to checkmarks:** Points to the bar graph on the right side of the window.

1.2. Setup

Press  to change the Channel Info options.

The screenshot shows the 'Channel Info - Setup' menu with the following options:

- Tuning:** Channel (dropdown)
- A/D:** Digital (radio button)
- Parameters:** (radio button)
- Save datalog:** SAVE (radio button)

- **Tuning:** Channel, Frequency
- **A/D:** Auto, Analog, Digital
- **Band:** Ter, Sat
- **LNB**
- **Save datalog:** Saves the current measurements. You can see the datalogs using the remote control application.



2. Spectrum

Real-time processing speeds ensure capture of any fast, intermittent plant impairments.

Due to the accuracy and level of detail provided by this spectrum analyzer, the **H30FLEX** is the ideal tool for identifying and locating noise, interference, ingress and other waveforms that may be affecting cable services quality.

2.1. Main window

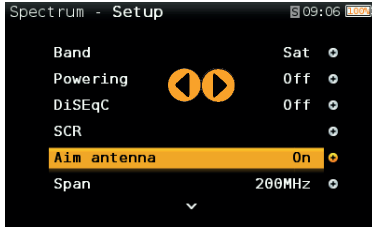
Below is a capture of a Spectrum window with a brief explanation of its features:

The screenshot shows the Spectrum window with the following callouts:

- Selected channel Change using:** Indicated by left and right arrow buttons.
- Span User can change it using:** Indicated by 'BACK (+)' and 'OK (-)' buttons.
- List of measurements with pass/fail indicators:** Points to the list of metrics: Pwr (-1.7 dBmV) and C/N (38.9 dB).
- Reference level Change:** Indicated by up and down arrow buttons.

2.2. Setup

Press  to change Spectrum options.



- **Band:** Terrestrial/Satellite
- **Powering:** Selects the LNB powering
- **DiSEqC (only satellite band):** Selects DiSEqC parameter (Sat A, sat B, sat C, sat D)
- **SCR (only satellite band):** Selects the SCR parameters (multiswitch, standard and slots)
- **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

- **Span:** 5MHz, 10MHz 20MHz, 50MHz, 100MHz, 200MHz, 500MHz, Full.

Set the span of the spectrum. To easily change the span, use the **OK** Button to decrease the span and the Back Button to increase the span.

- **Ref. Level:** Select the reference level of the spectrum graph
- **dB/div:** 5 dB/div, 10 dB/div
- **Tuning:** Channel, Frequency
- **A/D:** Auto, Analog, Digital.
- **Save datalog:** Saves the current scan measurements. You can see the datalogs using the remote control application.



3. MPEG

The **H30FLEX's** MPEG feature will show the image of the selected service.

3.1. Main window

Below is a capture of a MPEG Info window with a brief explanation of its features:



4. System Scan

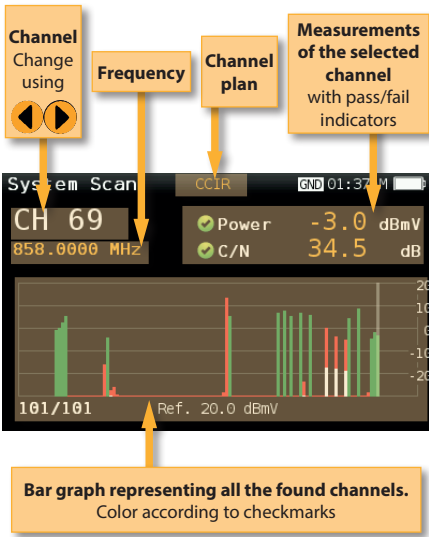
This function scans the selected channel plan and detects every existing analog and digital channel in real time to determine the overall frequency response of the system.

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.


This gives an easy-to-understand real-time view of the system, including the BER and MER values of the selected channel.

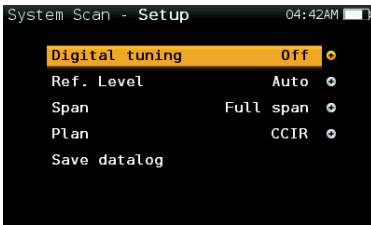
4.1. Main window

Below is a capture of a System Scan window with a brief explanation of its features:



4.2. Setup

Press  to change the System Scan options.



- **Digital tuning:** If it is ON, allows to see MER and CBER measurements when a digital

channel is selected and the user presses Ok button.

- **Ref. Level:** Select the reference level of the bar graph
- **Span:** Select the number of channels showed in the bar graph
- **Band:** Terr, Sat
- **LNB**
- **Save datalog:** Saves the current scan measurements. You can see the datalogs using the remote control application



5. Satellite Test

This function checks that the input signal corresponds to the selected satellite, and at the same time checks the proper reception of the selected transponders (from 1 to 4 transponders). To do that, the meter performs all the measurements on those transponders.


First of all the user must select the channel plan of the satellite towards which the antenna is oriented.

Then the user must select the transponders on which you want to carry out the measurements (see Setup section of this function).

The information necessary to verify the satellite is extracted from these channels, and the measurements of the selected transponders are displayed.

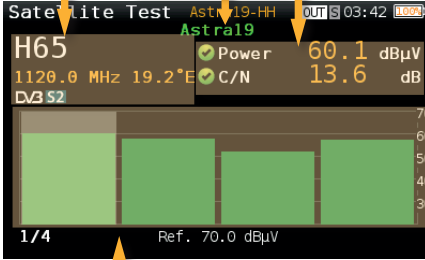
5.1. Main window

Selected channel
Change using




List of measurements
with pass/fail indicators
Press OK to see all the measurements

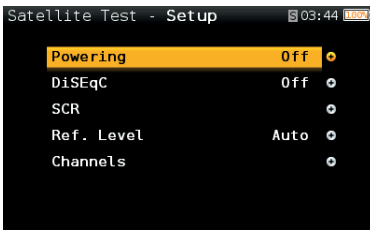
Satellite checked



Bar graph representing the selected channels
Color according to checkmarks

5.2. Setup

Press  to change the Ssatellite Test options.



- **Powering:** Select the powering of the LNB if needed.
- **DiSEqC:** Select the SAT of the DiSEqC command.
- **SCR:** Select all the parameters needed to setup the SCR command.
- **Ref. Level:** Select the reference level of the bar graph.
- **Channels:** Select the number of channels as well as the channels from the channel plan.



6. Learning plan

Analyzes the input signal to the meter and automatically detects all channels.

This feature automatically identifies the channels as either analog or digital and performs measurements on each.

A bar graph is displayed with the height representing the power for digital channels and the level of the video carrier for the analog channels.


The measurements made for analog channels are video carrier level and V/A. For digital channels the measurements are power and C/N.

The analog channels will have an extra, smaller white bar indicating the level of the audio carrier.

6.1. Main window

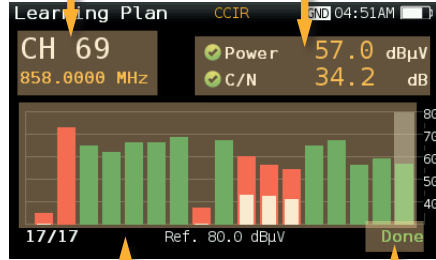
Below is a capture of a Learning Plan window with a brief explanation of its features:

Selected channel
Change using




List of measurements
with pass/fail indicators

Learning Plan



Bar graph representing found channels
Color according to checkmarks

Indicates that the scan is finished.
Press  to save the plan



7. Constellation

Digital video often does not show signal impairment until it is too late due to the small margin between acceptable quality and failure.

Constellation diagrams are an indispensable tool to help detect the presence of noise, phase jitter, interference, and gain compression, all of which impact overall signal quality and thus reduce Modulation Error Ratio (MER).

Ideally, each of the symbols in a constellation diagram should display a clean dot indicating a perfect signal.

The **H30FLEX's** real time constellation, allows the installer to assess the size and shape of the build up of dots indicative of problems which contribute to bit errors leading to service disruption

7.1. Main window

Below is a capture of a Constellation window with a brief explanation of its features:

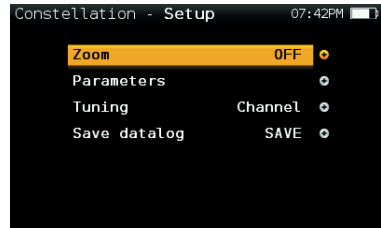
The screenshot shows the 'Constellation' window with the following data and features:

- Selected channel:** CH 60, 786.0000 MHz. Callout: "Selected channel Change using" with left and right arrow icons.
- Modulation:** QAM64 6108. Callout: "Modulation".
- List of measurements with pass/fail indicators:**
 - Pwr: 8.3 dBmV
 - C/N: 41.5 dB (with green checkmark)
 - MER: 36.0 dB (with green checkmark)
 - CBER: 1.0E-8 (with green checkmark)
- Constellation diagram:** A grid of 64 points representing the modulation scheme. Callout: "Constellation diagram".

7.2. Setup



Press  to change Constellation options.



- **Zoom:** OFF, 1st, 2nd, 3rd, 4th.

Select a quadrant of the constellation to be represented for more detailed view. Select Zoom OFF for the full constellation.

- **Tuning:** Channel, Frequency

- **Band:** Terr, Sat

- **LNB**

- **Save datalog:** Saves the current scan measurements. You can see the datalogs using the remote control application.



8. Echos

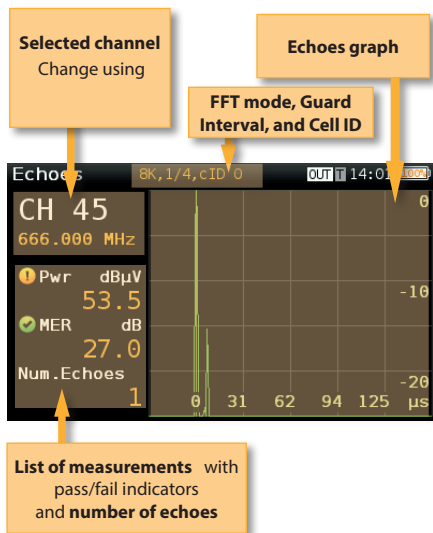
It is important to check that no echoes can cause problems in the reception of DVB-T and DVB-T2 signals.

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.

In addition to the echoes graph, this function shows the channel power and MER measurements, as well as the FFT mode, the guard interval, and the Cell ID.

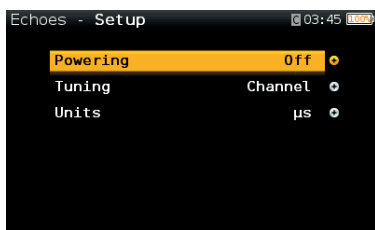
8.1. Main window

Below is a capture of a Ecos window with a brief explanation of its features:



8.2. Setup

Press  to change Echoes options.

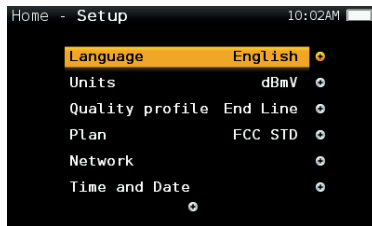


- **Powering:** Off, 13V, 18V, 24V.
- **Tuning:** Channel, Frequency
- **Units:** us, Km



9. Setup

Change main configuration settings:



- **Band:** Terr, Sat
- **Ter. Network:** Aerial, Cable
- **Terr Plan:** FCC STD, FCC RETURN, FCC IRC, FCC HRC, FCC OFFAIR, CCIR, and customers plans
- **Sat Plan:** F68E INTEL C, 68E INTEL, 42E TURK, 39E HELLAS, 33E EUTEL, 28E EUTEL, 28E ASTRA, 26E BADR, 25E EUTEL, 23E ASTRA, 21E EUTEL, 19E ASTRA, 16E EUTEL, 13E HOTB, 10E EUTEL C, 10 EUTEL, 9E EUTEL, 7E EUTEL, 4E ASTRA, 1W THOR5, 1W THOR6, 5W EUTELC, 5W EUTEL, 7W NILE, 30W HISPA, 48W AMZC, 48W AMAZ, SIM, and customers plans
- **Sat. Freq.:** IF, real Freq.
- **Sat. LNB:** Universal, C Band, Other.
If Other is selected, you must enter the frequency.
- **Language:** English, Español.
- **Units:** dBµV, dBmV, dBm
- **Quality profiles:** Trunk, Tap, End Line, Ground.
Different thresholds are available for different testing locations.
- **Analog Standard:** Selects the standard for the analog channels and changes automatically the audio carrier to a value according to the selected standard.
- **Audio Carrier:** 4.5 MHz, 5.5 MHz, 6.0 MHz, 6.5 MHz.
- **Volume**
- **Time and Date:**
Set current time (hour and minutes) and date (day of the month, month and year).
- **Energy:**
Auto suspension

Auto shutdown

- **USB Storage:** Connect your H30FLEX to your computer using the USB connector and turn USB Storage ON, so you can use your H30FLEX as a storage unit.

- **Update firmware:** See section *Firmware update*

- **Reset configuration:** Resets the H30FLEX to factory settings

- **Licenses:** Shows a list with all the licenses included in your H30FLEX

- **About SW**

- **About HW**

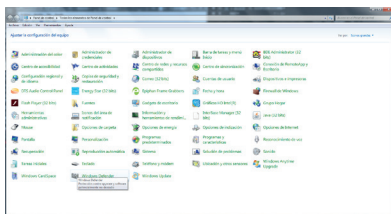
Driver Installation

1. Connect your **H30FLEX** to your computer using the USB

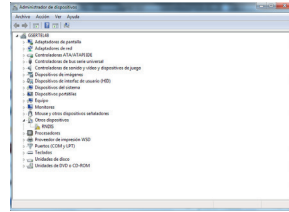
2.- Depending on your Windows versión and configuration, it may happen that your computer installs automatically the corresponding driver.

3.- If it does not occur, you must follow the next steps:

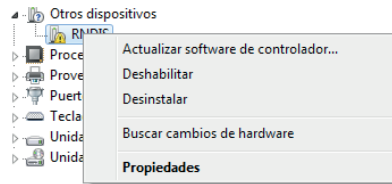
3.1.- Open the *Control panel*



3.2.- Select *Device Manager*



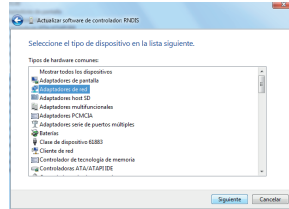
3.3.- Select *Other devices* and right-click on it



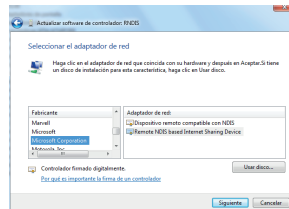
3.4.- Select *Update driver*

3.5.- Select the option that allows you to find the driver in your computer.

3.6.- Select *Network adapters* from the list



3.7.- Select *Microsoft Corporation* from the list of manufacturers and *Remote NDIS based Internet Sharing Device* from the list of network adapters:



3.8.- Wait until the driver is installed

Web Application

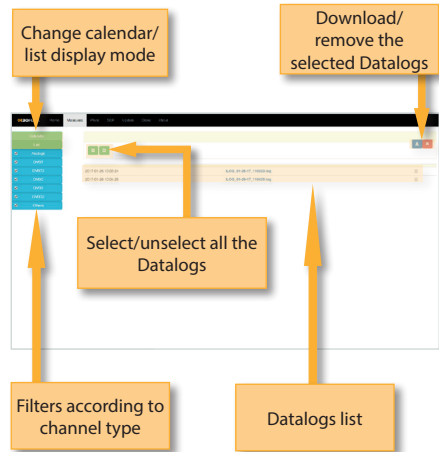
Once you have installed the corresponding driver, open a web browser in your computer (Chrome recommended).

Type **http://h30.flex** in the address bar of your web browser and press Enter.

Then you can see the home window of the **H30FLEX** web application:



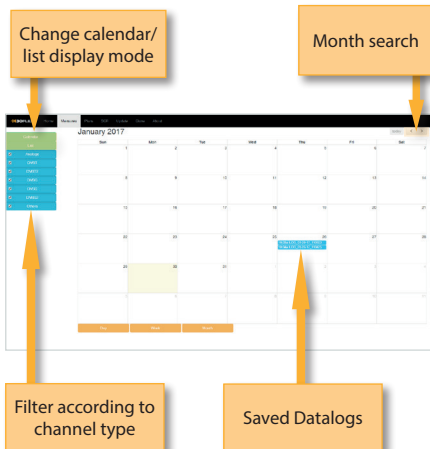
To change the display mode from calendar mode to list mode, just click on the corresponding button placed at the top of the left button panel:



EN

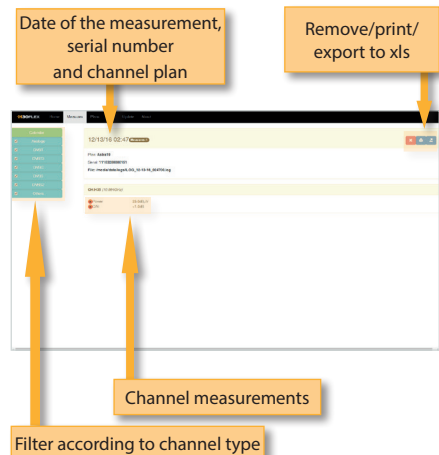
1. Measurements

In this window, you can see all the datalogs saved in your H30FLEX. They are grouped by date in a calendar:



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

Clicking on a Datalog of the list, the measurements of that Datalog will be displayed:



2. Plans

In this window, you can see all the channel plans of your H30FLEX.

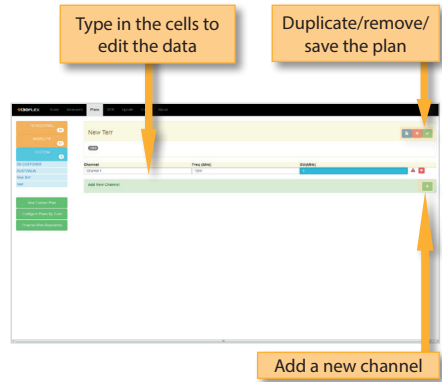
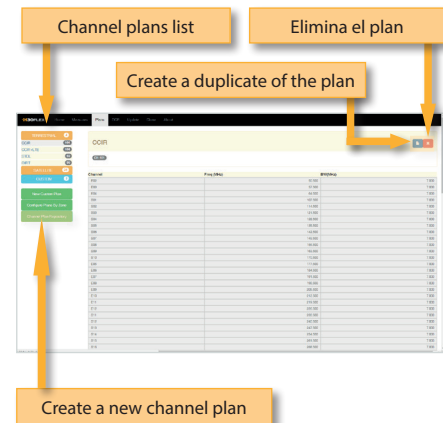
They are grouped in three categories: Terrestrial, Satellite and Customer.

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.

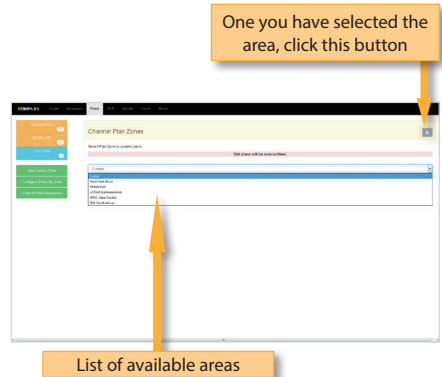
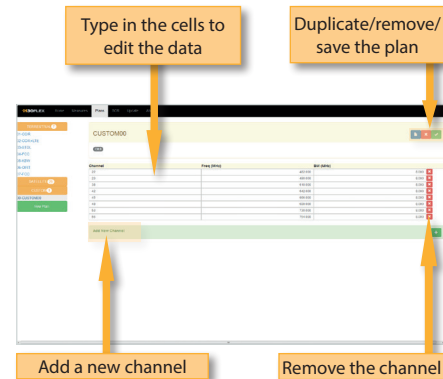
The duplicated plans will appear in the Customer list automatically.

You can create a new channel plan from an existing one by clicking on the corresponding button. Or you can start from scratch, by clicking on the "New custom plan" button:



The application also allows to configure the channel plans according to the geographic area you will use the meter. When you turn the meter on for the first time, you must select the language and the, you must select the geographic area. So, the channel plans corresponding to that area will be available in your H30FLEX. Using the function "Configure plans by zone", you can change the geographic area whenever you want:

The customer channel plans can be edited:



When you change the area, all the plans of your H30FLEX will be removed and the new channel plans corresponding to the selected area, will be upload to your meter.

In addition to the channel plans corresponding to the selected area, it is possible to add other standard channel plans corresponding to other geographic areas (this is specially helpful for those places located near the frontier between two areas). To do that, click on the "Channel plan repository" button:

List of areas

Once you have selected the channel plans, click this button to upload them to the meter

Check the plans you want to upload to your meter

Unfold to see the list with the channel plans corresponding to the area

The screenshot shows a 'Channel Repository' window with a sidebar listing geographical areas: Terrestrial, Asia, Europe, Atlantic, and America. The 'America' section is expanded, showing a table of channel plans with columns for Plan, Band, and Status.

The channel plans added from the repository will be uploaded to your H30FLEX, but none of the channel plans in your meter will be removed.

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.

List of multiswitches of your H30FLEX

Delete or save the multiswitch

Add a new multiswitch

The screenshot shows a 'MULTISWITCH' configuration window with a table of existing multiswitches. Callouts point to the table, a '+ Add' button, and a 'Delete' button.

4. Update

In this section you can update the firmware of your H30FLEX.

The first thing that you must do is download the update file from the web of Televes and save it in your computer.

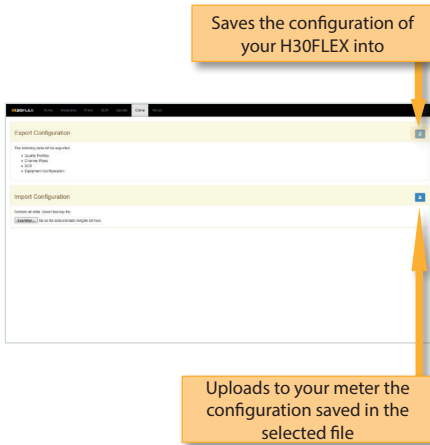
Then, click on the Browse button of this window and select the corresponding file.

Then click on the Update button:

The screenshot shows an 'Update Firmware' window with an 'Important information' section and an 'Update' button.

5.- Clone

This feature allows you to have several H30FLEX meters with the same configuration:



Saves the configuration of your H30FLEX into

Uploads to your meter the configuration saved in the selected file

Firmware update

There are two ways to update the firmware of your meter.

The first one is using the web application, explained in the paragraph 4. *Update* of the section *Web Application*

The second one is using the USB Storage feature of the Setup Menu (see section 9. *Setup* of the point *Product Operation*).

To update the firmware using this procedure, follow the next indications:

- 1.- The first thing that you must do is download the update file from the web of Teledes and save it in your computer.
- 2.- Turn your H30FLEX on
- 3.- Press the Home button to go to the Main menu
- 4.- Select Setup
- 5.- Select USB Storage
- 6.- Turn USB Storage ON
- 7.- Connect your H30FLEX to your computer using the USB connector
- 8.- Then find the unit called **H30FLEX** in your computer and open the folder. You'll see a folder called *updates*

9.- Copy the two files corresponding to the update (*updater* and *version*) to the *updates* folder in the H30FLEX unit.

10.- Unmount the H30FLEX unit in your computer

11.- Select the **USB Storage** feature in the *Setup* menu of your **H30FLEX** to turn it off

12.- Select the **Firmware update** feature in the menu of your **H30FLEX** and press the OK button to confirm.

13.- Then a message will appear indicating that the **H30FLEX** is being updated. Wait until the **H30FLEX** resets automatically

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 **H30FLEX**.

DC AT RF INPUT

Check installation

This message appears when the meter detects DC at the RF input that is not generated by the **H30FLEX**. 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

- A) Televs warrants, only to the original Purchaser, all Products be free from any defect in materials or workmanship for a period of one (1) year, six (6) months for the battery, from the date of original purchase, unless otherwise specified.
- (B) Televs shall, free of charge and in its sole discretion, either repair, replace with a new or factory reconditioned equivalent, or refund the purchase price of the Product(s), that has been determined by Televs to be defective in material or workmanship, subject to the limits of this warranty.
- (C) This warranty excludes any inoperability resulting from:
- (I) use or installation that is not in strict compliance with the written instructions and specifications;
 - (II) any modification or alteration performed by any third party not authorized in writing by Televs;
 - (III) service or repair performed by any third party not authorized in writing by Televs;
 - (IV) misuse, abuse, intentional harm, or lack of reasonable care;
 - (V) fire, ice, snow, rain, wind, water, volcano, excessive heat or cold, lightning, flood, power surge, earthquake, or any other acts of God;
 - (VI) war, crime, strike, riot, electro-magnetic pulse, or any other acts beyond the control of Televs;
 - (VII) shipping.
- (D) All claims under the terms of this warranty must be made in writing, by the original Purchaser, within fourteen (14) days of the defect being known to the Purchaser. Such claims shall be accompanied by a description of any material facts related to the claimed defect and the invoice or other proof of original purchase date and price. If Televs so requests, the Purchaser shall, at Purchaser's expense, deliver the claimed Product(s) to Televs, within 14 days of the date of the return authorization. Under no circumstances shall the Product(s) be returned to Televs without a return authorization.
- E) Any refund to the Purchaser, shall be limited to the purchase price of the Product(s), excluding any applicable taxes, duties, freight costs, removal costs, installation costs, or any other charges incident to the purchase of the product.
- (F) Any damage caused by shipper shall be claimed with the shipper in accordance with the shipper's policies and procedures.
- (G) Televs shall in no event and under no circumstances be liable or responsible for any consequential, indirect, incidental, punitive, direct or special damages based upon breach of warranty, breach of contract, negligence, strict tort liability or otherwise or any other legal theory, arising directly or indirectly from the sale, use, installation or failure of any product acquired by Purchaser from Televs.
- (H) This limited warranty extends to the original Purchaser and cannot be assigned or transferred to any other party without the prior express written permission of Televs, which permission Televs may withhold for any reason or for no reason at all.
- (I) Televs will not assume any liabilities for any other warranties, whether statutory, express or implied, made by any other person.
- (J) Televs reserves the right to modify or discontinuethiswarrantyatTelevs'sole discretion without notification. No other warranties are expressed or implied.

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