



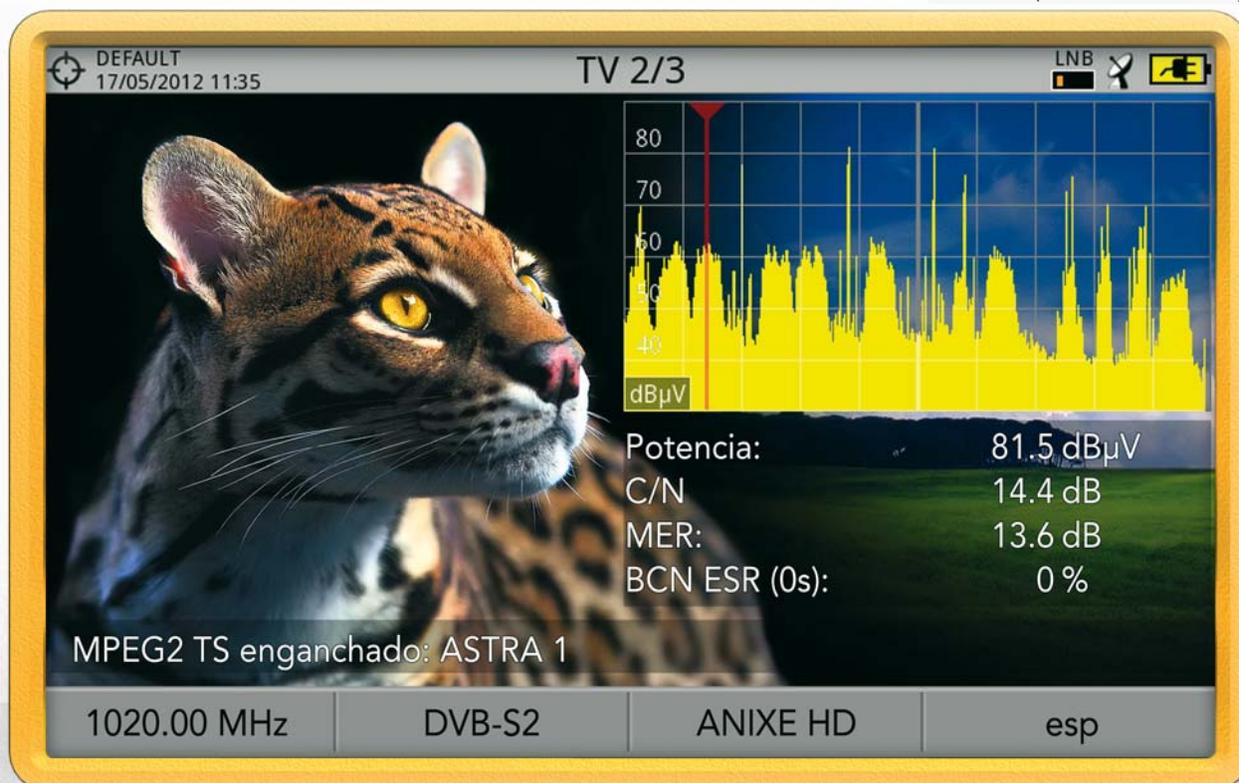
HD RANGER +

*Evolution? **NO. Revolution!***

“**The SIXTH
GENERATION
field meter FROM
PROMAX**”



ACTUAL SIZE - 7" SCREEN (APPROX. 155 x 93 mm)



Revolutionising the market. Again

The largest and brightest display

HD RANGER+ 7" display is the brightest and largest used in any similar meter with excellent performance even under direct sun light.

This high resolution display allows functions such as the triple split display to be practically useful for all data and can be read clearly and easily.

New mechanical design

The ergonomic handle, tripod coupling and the special mix of plastics used for the chassis are just some of the mechanical innovations in the **HD RANGER+**.

The tripod coupling for example opens the door to the use of various accessories that can be easily found in the market to use the meter in a static position or attached to an object for complete hands-free use.

Smart battery control

The **HD RANGER+** uses a high quality, long operating time Li+ battery and a special control system that shows the remaining battery time. This is also useful to know at any instant what the exact battery charge situation is before we go out for our next work.





Span: 100 MHz

Scan me! 



Ultra FAST spectrum
90 ms sweep time



Ultra fast spectrum analyser

90 ms sweep time in ALL SPANs

The **HD RANGER+** spectrum analyser sweep time is 90 ms per scan regardless of the frequency band or span select.

That's all we can tell on printed paper but we encourage you to check the **video in our website** to see how fast that is or even better to go and find a real **HD RANGER+** as soon as you can.

In addition it comes with special functions such as markers or max hold.

StealthID

There is a general consensus that the TV EXPLORER **AutoID** has been an outstanding function and extremely useful in a number of applications.

The **HD RANGER+** takes it to the next level by **not requiring the user to press the green button!** The **HD RANGER+** instantly identifies the required parameters while you are tuning the signal.

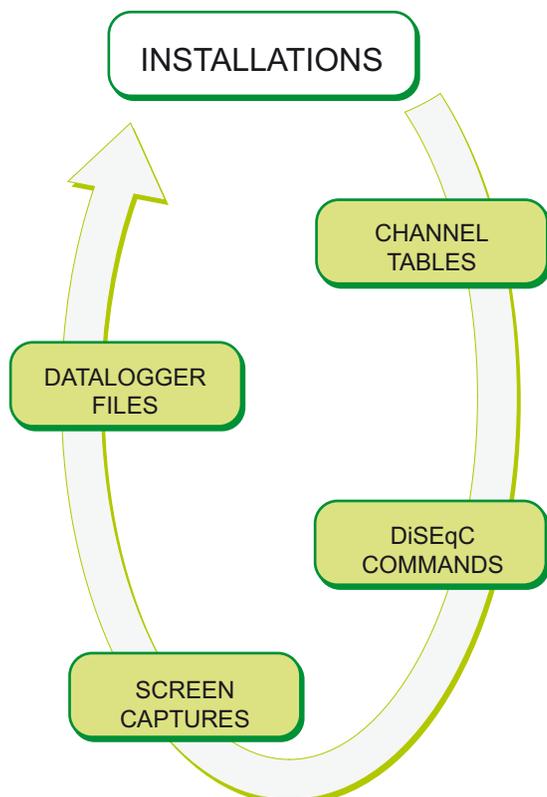


Evolution? No. Revolution





Intelligent data management



Installations management

The **installations management** is a new concept introduced in the **HD RANGER+**. This innovative data files classification allows you to have all the information related to a specific installation or maintenance work conveniently classified together in the same folder.

Create a container file for each installation and associate with it all the measurements, screen captures, channel tables, etc.

The **HD RANGER+** has a USB interface as well. Files corresponding to an installation can also be copied to any USB mass storage device using the file management options available in the **INSTALLATIONS** menu.

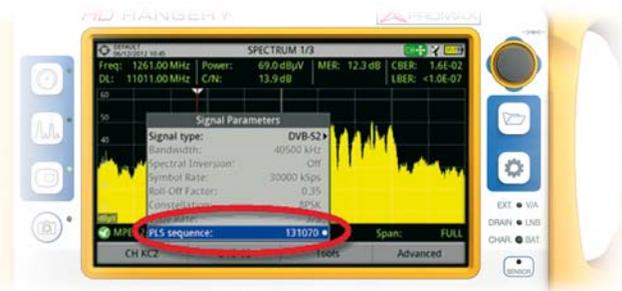
This information can be shared among various **HD RANGER+**, which can be interesting for companies operating large work crews. All this data can be downloaded on a PC at a later stage to be included in printed reports or for signal analysis purposes.

A one of a kind field meter

PLS - Physical Layer Scrambling

Physical Layer Scrambling or **PLS** is used in DVB-S2 as a way to improve data integrity. A number called the "scrambling sequence index" is used by the modulator as a master key to generate the uplink signal. This same number must be known by the receiver so that demodulation is possible.

Most satellite transponders use **PLS 0** as a default value but there are some transponders that use other values.



HD RANGER+ are compatible with this type of signals. In order to certify the proper reception of the digital service, the user only needs to specify the PLS sequence to work with, so the analyser can decode the image.

SNG, VSAT applications and BEACON

The **HD RANGER+** includes a brand new spectrum analyser function that makes it easy for technicians working in SNG vans and field VSAT applications to set up their satellite transmission-reception systems.



Although this field analyser has different no-error satellite identification functions, technicians working with these systems are often requested by the satellite operators to search for the "Beacon" signal as a mean of satellite identification.

Detecting a "Beacon" signal requires high resolution, high sensitivity and fast sweep times which are all readily available in the **HD RANGER+** product.

Datalogger

The datalogger (automatic measurements acquisition and storing) is a classic function available in high end meters now taken to the next level in **HD RANGER+**.

The datalogger function is integrated as part of the installations management. The user is guided through the whole process by an on-screen wizard that will help to specify a datalogger name and to select the channel tables. Later, it is possible to add test points, run measurements under each one of them, display the results, etc.

Measuring and decoding DVB-S2 multistream

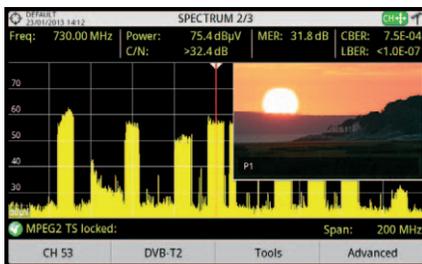
As part of the GSE (Generic Stream Encapsulation) protocol adopted in **DVB-S2**, **DVB-C2** and **DVB-T2** standards it is possible to aggregate **independent transport streams** into one single radiofrequency carrier that is commonly referred to as **multistream**. Each individual transport stream is identified by its ISI (Input Stream Identifier) and can be recovered transparently on the receiver side.

It is now possible to measure and decode multistream channels with **HD RANGER+**. In order to do so the **ISI FILTERING** must be enabled under the signal parameters menu of the analyser as shown on the picture below.

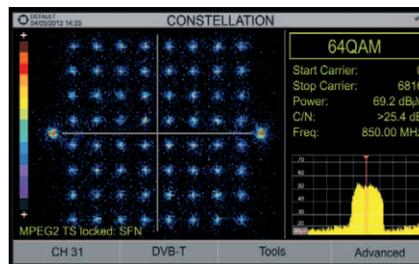


We can then enter a **specific stream identifier** that will be used by the analyser to recover the corresponding transport stream, service list and programmes data.

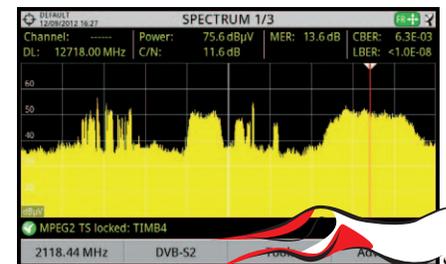
HIGH DEFINITION FIELD STRENGTH METER



Triple split display:
Spectrum, Measurements and Picture in a single screen



Constellation diagram for all
second generation DVB systems (DVB-T2 / C2 / S2)



Ultra fast spectrum analyser:
90 ms sweep time for All SPANs

- ✓ Video decoding: MPEG-2 and MPEG-4 H.264 for 1080i, 720p and 576i
- ✓ Audio decoding: Dolby Digital Plus, AAC, MPEG-2, MPEG-1 and FM RDS
- ✓ Video formats: SD (standard definition) and HD (high definition)
- ✓ Formatos de pantalla 16:9 y 4:3
- ✓ Ultra fast spectrum analyser: 90ms sweep time
- ✓ Second generation DVB: DVB-T2, DVB-T2 *lite*, DVB-C2, DVB-S2 (it also includes DVB-T/C/S)
- ✓ Dynamic echoes analysis
- ✓ PLS-compatible under DVB-S2
- ✓ LTE filter for detecting interferences of 4G transmissions



HIGH DEFINITION FIELD STRENGTH METER

SPECIFICATIONS	HD RANGER+
GENERAL Digital frequency synthesis Tuning modes Channel plan Resolution Analogue and digital signal identification	From 5 to 1000 MHz (terrestrial) and from 950 to 2150 MHz (satellite) Channel or frequency (IF or downlink at satellite band) Configurable on demand 10 kHz Automatic, with no user intervention
VIDEO Digital modulations Resolutions Video formats SI/PSI data Colour system TV standard Aspect ratio	DVB-T2, DVB-T2 <i>lite</i> , DVB-S2, DVB-C2, DVB-T, DVB-S, DVB-C 1080, 720, 576. Progressive or interlaced MPEG-2 (MP@HL), MPEG-4 AVC H.264 Service list and main PIDs PAL, NTSC, SECAM M, N, B, G, I, D, K and L 16:9, 4:3
DIGITAL AUDIO CODECS	MPEG-1, MPEG-2, HE-AAC, Dolby Digital, Dolby Digital Plus
RF INPUT Maximum signal Maximum input voltage DC to 100 Hz 5 MHz to 2150 MHz	Universal connector with BNC or F adapter, 75 Ω 130 dBμV 50 V rms (powered by the AL-103 power charger) 30 V rms (not powered by the AL-103 power charger) 140 dBμV (protected at least for 30 seconds)
DIGITAL MEASUREMENTS DVB-T2 (COFDM) DVB-S2 (QPSK/8PSK) DVB-C2 (COFDM) DVB-T (COFDM) DVB-S (QPSK), DSS DVB-C (QAM), J83 Annex C QAM	Numeric and level bar indication Channel power, CBER, MER (up to 35 dB), C/N ratio, LBER, BCH ESR, LDPC iterations, Wrong packets Channel power, CBER, LBER, MER (up to 30 dB), C/N ratio, BCH ESR, Wrong packets, Link margin Channel power, CBER, MER (up to 35 dB), C/N ratio, LBER, BCH ESR, LDPC iterations, Wrong packets Channel power, CBER, VBER, MER (up to 35 dB), C/N ratio, Link margin Channel power, CBER, VBER, MER (up to 30 dB), C/N ratio, Link margin Channel power, BER, MER (up to 35 db), C/N ratio, Link margin
ANALOGUE MEASUREMENTS	Level, V/A ratio, C/N ratio (terrestrial bands) / Level, C/N ratio (satellite bands)
SPECTRUM ANALYSER MODE Measurement range and bandwidth Selectable SPAN Markers Reference level Measurements Analogue channels Digital channels Spectrum range	From 10 dBμV to 130 dBμV. Bandwidth 100 kHz <i>Full span</i> (full band) - 500 - 200 - 100 - 50 - 20 - 10 MHz 1, with frequency and level indication From 65 dBuV to 135 dBuV (5 dB steps) V/A ratio (terrestrial only), Level, C/N ratio Channel power, C/N ratio, MER, BER (according to modulation type) SPAN, Dynamic range and Reference level (available by means of arrow cursors)
TOOLS & ADVANCED FUNCTIONS	Constellation diagram for DVB-T2/S2/C2 and DVB-T/S/C Echoes analyser mode for DVB-T2/C2 and DVB-T Datalogger (automatic measurement acquisition and storage) ⁽¹⁾ LTE ingress for DVB-T2 and DVB-T Attenuation test function (signal distribution network response) ⁽²⁾ DiSEqC™ 1.2 generator ⁽³⁾ . External units supply: 5/12/13/18/24V + 22 kHz signal (depending on band) PLS sequence detector ISI filtering for second generation DVB standards (DVB-T2, DVB-C2, DVB-S2) FM radio with RDS decoder (Radio Data System) Screenshot key USB interface: flash drive mass storage, serial port emulation, CDC "Communicacions Device Class" Signal monitoring, Field strength, Task planner, H.265 detection
CONNECTIONS	USB, Input and output Video/Audio multipole jacks
INCLUDED ACCESSORIES	RCA to multipole jack adaptor cable for Video and Left/Right audio F adapters: F/H to BNC/H, F/H to DIN/H, F/H to F/H
MECHANICAL FEATURES Dimensions Weight	290 (W.) x 185 (H.) x 65 (D.) mm. 1.9 kg.

DESIGN AND SPECIFICATIONS ARE SUBJECT TO CHANGES WITHOUT PRIOR NOTICE. 05/15.

(1) Using NetUpdate software application under Windows PC platform.

(2) Attenuation Test function designed to be used with **RP-110** multiple pilot generator.

(3) DiSEqC™ is a trademark of EUTELSAT.

ORDERING INFO

	HD RANGER+	HD RANGER+ ISDB-T	HD RANGER+ ATSC
DVB-C/S/S2	✓	✓	✓
DVB-T/T2/C2	✓		
DSS	✓	✓	✓
QAM Annex B		✓	✓
QAM Annex C	✓	✓	✓
ISDB-T/T _B		✓	
ATSC			✓

HD RANGER+ - TV and Satellite Analyser.

(Supports: DVB-T/T2/C/C2/S/S2, DSS, QAM-C)

HD RANGER+ ATSC - TV and Satellite Analyser

(Supports: DVB-C/S/S2, DSS, QAM-B/C, ATSC)

HD RANGER+ ISDB-T - TV and Satellite Analyser

(Supports: DVB-C/S/S2, DSS, QAM-B/C, ISDB-T/T_B)