

TV AND SATELLITE ANALYSERS

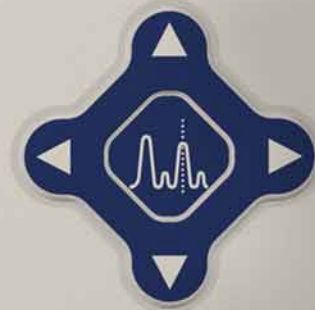




TV EXPLORER *HD+*



HD



- EXT VIDEO •
- DRAIN •
- CHARGER •
- SENSOR •



HD Designed

The new **TV EXPLORER HD**, **HD+** and **HD LE** are the first field strength meters of their kind to incorporate all the measurements and functions necessary to ensure proper reception of **High Definition Television (HD)**. As in the rest of the **TV EXPLORER** products, size, weight and strength continue to be optimal.

They incorporate an **MPEG-2** and **MPEG-4 H.264** video decoder that makes it possible to display high-definition content, in addition to standard definition at all popular video resolutions (1080i, 720p and 576i). The audio is compatible with **Dolby Digital Plus**, **AAC**, **MPEG-2** and **MPEG-1** audio formats (*).

Inputs and outputs incorporate **ASI-TS** (*), plus **HDMI**, for connections that require high speed data transfer.

The **TV EXPLORER HD**, **HD+** and **HD LE** are the first field strength meters that can be proved as true HDTV instruments.



▲ The new **TV EXPLORER HD** and **HD+** preserve the shape & weight characteristics that have made the **TV EXPLORER** products popular around the world. In order to be named True HD meters, on top of being compatible with MPEG-4 H.264, Dolby Digital Plus / AAC audio and 1080i/720p formats, they have ASI-TS input / output connections (*) and HDMI interface as well as CAM module to display encrypted channels.

(*) According to model.

DVB
Digital Video
Broadcasting



There is a **TV EXPLORER** for any need

	TV EXPLORER HD+	TV EXPLORER HD	TV EXPLORER HD LE	TV EXPLORER II+	TV EXPLORER II	TV EXPLORER
LCD size and aspect ratio	6.5" (16:9)	6.5" (16:9)	6.5" (16:9)	6.5" (16:9)	6.5" (16:9)	5.5" (4:3)
Visible LCD under direct sunlight	✓	✓	✓	✓	✓	
DVB-T2 HD Terrestrial	✓	optional	optional			
DVB-S2 HD Satellite	✓	✓	✓	✓	✓	
DVB-T (Terrestrial), DVB-S (Satellite), DVB-C (Cable) & Analogue TV	✓	✓	✓	✓	✓	✓
Constellation Diagram	✓	✓	✓	✓	✓	
Channel MER by carrier	✓	✓	✓	✓		
Merogram and Spectrogram	✓	✓	✓	✓		
AUTO ID (auto identifying) and EXPLORER (band scanning)	✓	✓	✓	✓	✓	✓
Spectrum analyser	5 or 10 dB/DIV	5 or 10 dB/DIV	5 or 10 dB/DIV	5 or 10 dB/DIV	5 or 10 dB/DIV	10 dB/DIV
Automatic reference level for Spectrum Analyser mode	✓	✓	✓	✓	✓	
Reports and Internet automatic updates	✓	✓	✓	✓	✓	✓
Echoes detection	✓	✓	✓	✓	✓	
Echoes dynamic analysis	✓					
IF Satellite test	✓	✓	✓	✓	✓	✓
Cable TV: return path (5 MHz)	✓	✓	✓	✓	✓	
Cable TV: 1 GHz	✓	✓	✓	✓		
Encrypted channels (<i>common interface</i>)	✓	✓	✓	✓		
Video stream recorder and player	✓	✓	✓	✓		
Spectrum / Constellation / Measurements screen captures	✓	✓	✓	✓		
Dolby Digital Plus decoder	✓	optional	optional			
MPEG-4 H.264 decoder	✓	✓	✓			
Input/Output ASI-TS connection	✓	✓				
Output HDMI connection	✓	✓				
Real time clock	✓					
USB <i>on-the-go</i> connection	✓	✓	✓			
NetUpdate 3 software	free	free	free	free	free	free
Transport case	included	included	included	included	included	optional



◀ **Aluminium construction**

It offers a compromise between toughness and weight. Protects the meter against accidental damage and against the effects of corrosion during its lifetime.

◀ **Water resistant front panel**

The keys do not have mechanical parts that can be forced or affected by moisture or accidental knocks.

◀ **Rubber protector**

Protects all corners and sides of the meter, offering additional protection to the mechanical construction of the EXPLORER itself.

◀ **Carrying Case**

Woven nylon, offers extra protection against weather and dust, while facilitating the transport of equipment.

◀ **Size and weight**

The size, weight and the construction of the TV EXPLORER field meters are perfect for use in all areas. They are clearly much lighter than traditional field meters.

The number 1 analysers

PROMAX introduced the first **TV EXPLORER** a few months before the first DTT boom. They soon became the most popular field analysers among professionals. The **TV EXPLORERS** have since then followed a continuous evolution and have positioned themselves as a reference for other manufacturers.



Its simple and intuitive operation has continued since then: **EXPLORER** functions (automatic tuning of all signals in the band) and **AUTO ID** (automatic identification of unknown signals), shortcut keys to the most popular features, dedicated spectrum analyser keys, simultaneous measurements of all parameters, free updates...



All measurements on one screen



◀ The carrying case included in all the meters of the TV EXPLORER family (*) provides extra protection during transport and use. The meter and accessories can be stored inside the hard case, built with exceptionally resistant materials, being protected against shocks and weather hazards.

The case has been built in ABS plastic ▶ ready to withstand heavy impacts. Due to its tightness, the TV EXPLORER is fully protected against dust and moisture. Includes a pressure equalization valve.



(*) Optional carrying case for TV EXPLORER.

The easiest to use!

The **TV EXPLORER** field strength meters series are very intuitive and simple to use. Additionally, they also detect automatically all channels, identifying the type of signal, standard, modulation, symbol rate... without having to enter information about the signals being analysed.

■ **Auto-identification: the magic function**

The **TV EXPLORER** identifies the signal under test. If the channel is analogue, it determines the television standard. When the signal is digital, it analyses the modulation and all parameters associated with it, and tries to lock the signal.

■ **Explorer: click and go!**

The equipment detects all the channels in the band without needing any previous details such as the number of available channels, the type of signals transmitted or their characteristics.



Advanced functions for High Definition



▲ The HDMI connection provides compatibility between HDTV equipment, allowing you to effectively assess the quality of a high definition signal. It is also very useful to check customer's TV, helping to identify potential problems.



MPEG - 4 / H.264 Decoding.

See HD programmes compressed in MPEG-4 / H.264 directly on the meter's display. It can also decode MPEG-2 in both standard definition and high definition.



Echoes Analysis

The use of synchronised transmitters sharing the same frequency (SFN - *Single Frequency Network*) is common in digital terrestrial television. In these cases, an antenna can receive signals from multiple transmitters commonly called echoes (pre-echoes and post-echoes).

It is interesting to know the distance from the measurement point to the origin of the echoes. Thanks to the **COFDM echoes** analysis function (for DVB-T/T2) the installer can realign the antenna to minimize the impact those echoes may have in the reception quality.



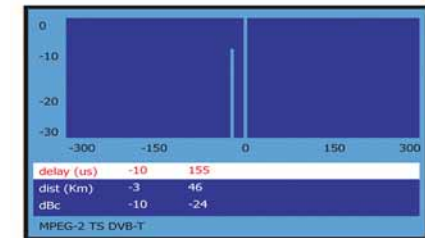
ASI-TS (Input / Output)

ASI-TS connectivity will facilitate the monitoring and analysis of transport streams from other units, or transfer the received transport streams to other equipment.



Link Margin Measurement

Know the safety margin of the received signal before reaching the threshold at which the system is quasi error free (QEF). It is an essential measurement in DVB-S2 to guarantee the quality of an installation.



For Satellite TV, Terrestrial and Cable



High Definition Television begins to be transmitted on **Satellite** and **Cable Television** platforms. And once the terrestrial spectrum is finally released of analog channels, the free bandwidth can be used to broadcast HD channels via **DTT**.

Whatever the case, the **TV EXPLORER HD, HD+** and **HD LE** are ready to facilitate the deployment of HD systems and, as **MPEG-2** was a basic requirement for classic Digital TV, they also include full support for the measurements and decoding of **MPEG-4 H.264**, the de facto method of compression for HD.



The information stored in the meter can be transferred to a PC or saved in an external storage device thanks to the USB port.

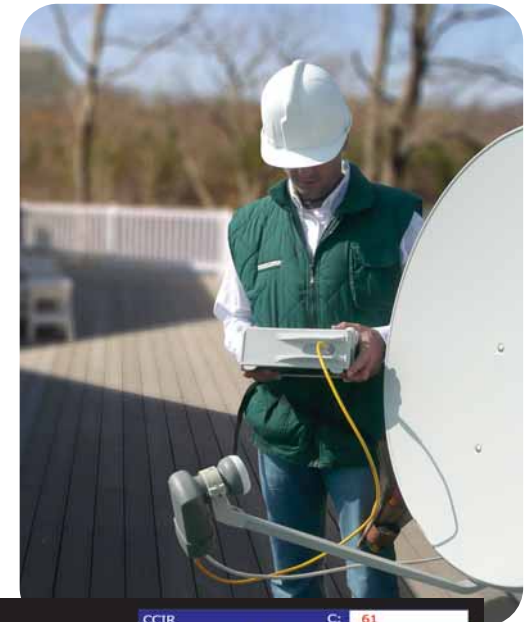
Decode and view encrypted programs, including services encoded in MPEG-4 by the CAM modules adapter

CAM modules adapter

USB connection for PC and memories

Audio / Video HDMI connection

Input / Output ASI-TS



Displaying TV picture including all signal information

Key Details make the difference

The key that has revolutionised the Field Strength Meter



◀ The **TV EXPLORER** detects all the channels in the band without needing any previous details such as the number of available channels, the type of signals transmitted or their characteristics.

The **TV EXPLORER** is then able to determine the nature of the signal and channel bandwidths. You can also automatically identify the movements that occur or are introduced on purpose in the frequency of the channel.

By briefly pressing the "explorer" key, it tries to identify the signal under test: analogue, digital, modulation type and all parameters associated with it, such as the system, symbol rate, code rate, etc.



4 Hours Autonomy

The **TV EXPLORER** family meters are equipped as standard with Lithium Ion batteries that provide a battery operating time longer than 4 ½ hours (depending on usage). An indicator shows charge status at all times.

This type of battery can be recharged at any time and has an exponential charging cycle so a great part of the charge can be recovered in a very short time. It can be charged from the car through the cigarette lighter.



Monitor visible under Sunlight

They also include a 6.5 "transflective" type 16:9 format colour LCD screen. The new transflective technology provides a stunning vision even directly under the sunlight (*).



Spectrum analyser with shortcut keys

Four arrows completely control the spectrum analyser, making it very intuitive: the "UP-DOWN" arrows set the reference level, and "LEFT-RIGHT" arrows expansion. Measuring filters are variable (*) and are automatically selected according to the selected frequency range.

(*) Depending on model.

Do not wait for tomorrow:
the future **is here**



Dolby Digital Plus technology has been developed to allow the viewer to experience the highest quality surround sound available from a variety of sources such as **Blu-Ray Disc™**, High Definition broadcasts and live content online or downloaded from web sites.

The **TV EXPLORER HD+** comes standard with a **Dolby Digital Plus** audio decoder which can certify, in situ, the correct reception of audio in TV broadcasts in High Definition (HD).



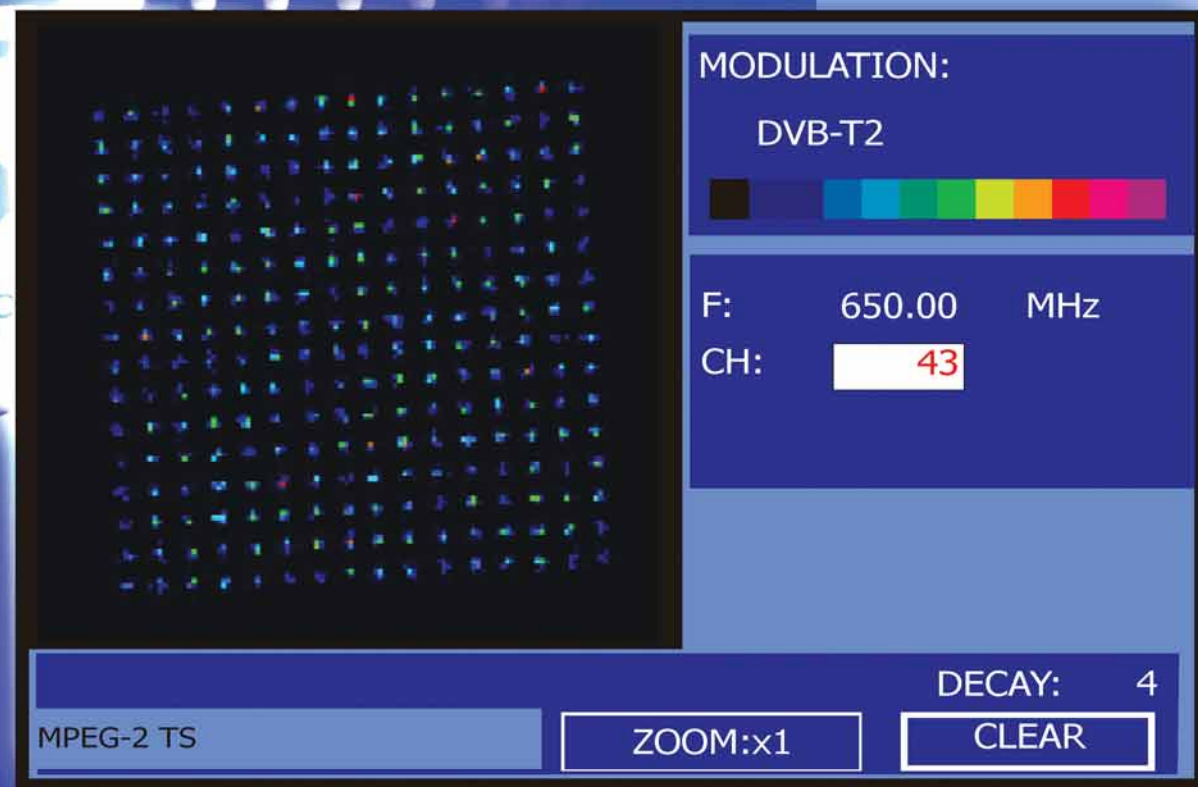
The first **Second Generation DVB-T2 digital terrestrial** television channels are now being broadcast.

The **DVB-T2** standard allows up to 60% more bandwidth than its predecessor **DVB-T**. It is a fact that in the medium term, a field strength meter must be equipped with DVB-T2 **DVB-T2**. The **TV EXPLORER HD+** already includes it.

Every modulation type is represented differently. A DVB-C 16QAM signal is represented on the screen by a total of 16 different zones, and a DVB-C 64QAM is represented on the screen by a total of 64 different zones and so on.

The constellation shows in different colours the density of hits and includes zooming and scrolling possibilities and also a clear button to clean the picture.

Includes DVB-T2 constellation diagram (TV EXPLORER HD+)

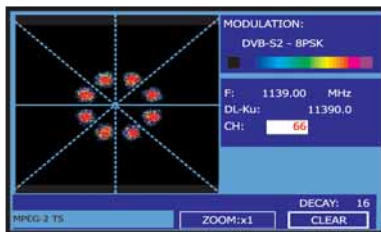


Constellation diagram

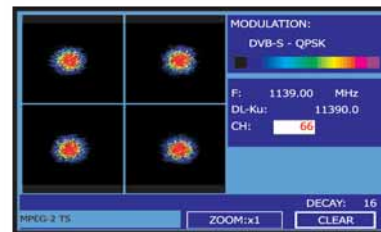
The **constellation diagram** is a graphic representation (called I-Q) of the digital symbols received over a period of time. It is possible to display constellations for DVB-T2, DVB-T, DVB-C, DVB-S2 and DVB-S.

In case of an ideal transmission channel, free of noise and interferences, all symbols are recognised by the demodulator without mistakes. In this case, they are represented in the constellation diagram as well defined points hitting in the same area and forming a clear dot.

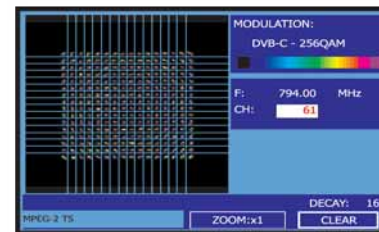
Noise and impairments cause the demodulator to not always read the symbols correctly. In this case the hits disperse and create different shapes that at the end will allow to determine at a glance the **type of noise** in the signal.



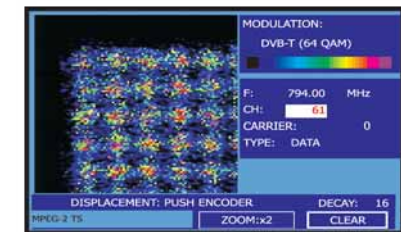
▲ 8PSK constellation (for DVB-S/S2)



▲ QPSK constellation (for DVB-S)



▲ QAM 256 constellation (for DVB-C)



▲ COFDM constellation (for DVB-T)

USB connection for PC

Much more than firmware update!

The NetUpdate software detects ▶ any TV EXPLORER connected to the computer, connects to the Internet and checks if there is a newer firmware version. If so, it suggests to install it and starts an automatic process of updating the equipment. This software is free and is available for download on the PROMAX website

NetUpdate can also be used to transfer screenshots, video, data, standard or customized channel tables and to back up the TV EXPLORER resources. The contents of the meter's memory can be transferred to a PC using an intuitive icon drag and drop.



Custom Channel Plans

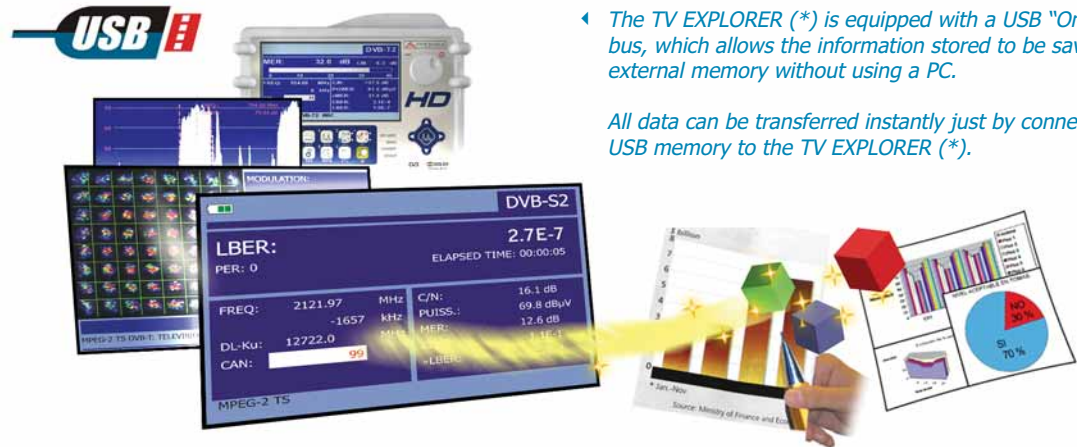


- ◀ Work with Channel Plans, both on your PC and the TV EXPLORER
- ◀ Protect or unprotect plans from accidental erasure
- ◀ Add, delete or change channels
- ◀ Manage advanced settings of the channel (channel spacing, digital parameters, LNB, offset...)
- ◀ Save and read channel tables from the PC

USB On-The-Go

- ◀ The TV EXPLORER (*) is equipped with a USB "On-The-Go" bus, which allows the information stored to be saved in an external memory without using a PC.

All data can be transferred instantly just by connecting a USB memory to the TV EXPLORER (*).



(*) According to model.

Field Strength Meter accessories

SAT & Terrestrial simulator **RP-080**



◀ Handy, versatile and easy to use signal generator to test UHF and satellite buildings coaxial wiring. It generates up to 4 pilots with selectable and independent level (75 to 105 dBμV).

Carrier frequency
85, 750, 1000 and 2150 MHz

IF Simulator (950-2150 MHz) **RP-050**



◀ The RP-050 satellite IF and UHF simulator is a radio frequency pilot generator that allows to test the frequency response of an entire television system prior to having the antennas or the headend installed. It can be used for the test and certification of TV and satellite wiring, headend trouble shooting and many other.

Carrier frequency
500, 1050, 1575 and 2100 MHz

Satellite detector **MS-250**



◀ The MS-250 is a signal detector for the satellite TV intermediate frequency band (from 950 MHz to 2050 MHz) that allows easy and fast alignment of any kind of dish to the desired satellite.

Noise generator **NG-283**

▶ This noise generator can be used as a test signal in a large variety of situations. It covers the frequency range from 1 MHz to 2,2 GHz with an output power of 80 dBμV.



Test pilots generator for coaxial cable **RP-110**



▶ Test signal generator for attenuation measurements in all coaxial cable bands. Six frequency and level agile pilots. It can be used for both SMATV and CATV applications.

Return path

5-10 and 55-100 MHz

Forward path

55-100, 460-540 and 800-1000 MHz

IF SAT band

800-1000, 1450-1750
and 1850-2150 MHz



◀ For terrestrial or satellite TV antennas, PROMAX designed the TVHUNTER and the SATHUNTER+. Both share the same attractive design, with a minimum size and weight.

The TVHUNTER and the SATHUNTER+ have Li-Ion long lasting batteries, backlit display, ABS construction and are fully shielded against dust, humidity or even rain.

They include a CD-ROM with configuration software, carrying case, car lighter adapter, F to BNC/DIN/F adapters, USB cable, shoulder strap and, optionally, a case.

Pocket antenna pointers



The **TVHUNTER** and **SATHUNTER+** are instruments designed for the installation of terrestrial (DVB-T) and satellite (DVB-S/S2) reception systems respectively. They are fully automatic and easy to use. Simply aim the antenna and the instrument will display the identification of the selected broadcaster or satellite when they will be detected. The instrument reads the information offered by the service provider and displays it all together at any time.

Once the signal has been found it is possible to confirm unambiguously that the received signal corresponds to the desired one, thanks to the PC pre-programmed test points. The machine configuration can be changed with a PC via USB and the supplied software.

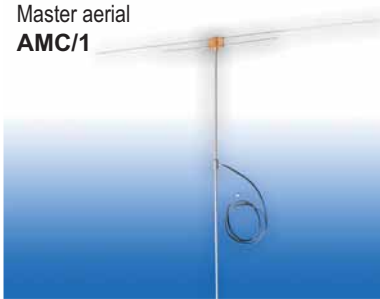


Thanks to the belt, the user has complete freedom to work and view the data on screen.

PROMAX Field Strength Meter Accessories



Master aerial
AMC/1



- ◀ *Connected to any PROMAX TV & SAT Analyser it is able to measure the electric field strength in any location.*

5.8 or 2.4 GHz band converters
CV-589 / CV-245



- ◀ *RF converter to visualise and measure the Wireless signals (2.4 and 5.8 GHz) using a spectrum analyser in the SAT band.*

Optical Adapter for Field Strength meters
CV-100



- ◀ *Optical to RF converter. It allows the PROMAX field strength meters to measure in those applications where optical fibre is used as a means of signal transport. It is specially focused in the new applications using optical LNBs.*

Carrying bags
Hard carrying cases



- ◀ *They offer extra protection during transport and use. They are included as standard (depending on model) and also available on request when the carrying bag or case are damaged, broken or lost.*

Monitoring software
RM-204



- ◀ *Designed for monitoring and massive data acquisition used as a TV EXPLORER meter. Allows you to store data, generate graphs, generate documents MS Excel and MS Access, etc. and generate alarm SMS messages*

Monitoring software
RM-404



- ◀ *It allows monitoring of all measurements obtained with the TV EXPLORER II / II + and storing them on a PC. It can also generate alarms, reports and send warning emails.*

Please visit www.promaxelectronics.com to get more information or contact our distributor:

TV EXPLORER® is a registered trademark of PROMAX Electronica S.A.



PROMAX ELECTRONICA, S. A.

Francesc Moragas, 71 * 08907 HOSPITALET * ESPAÑA

Tel: (+34) 93 184 77 02 * Fax: (+34) 93 338 11 26

<http://www.promaxelectronics.com> * promax@promaxelectronics.com