



**We changed the way
measurements are made!**

North American edition

One model for every need

Select yours

	US TV EXPLORER	US TV EXPLORER II
LCD size	5.5	6.5
LCD aspect ratio	4:3	16:9
Transflective LCD		✓
Cable QAM annex B (ITU J.83 64/256)	✓	✓
Cable QAM annex A (DVB-C 16/32/64/128/256 BW 6MHz)		✓
Terrestrial 8VSB	✓	✓
Satellite DVB-S	✓	✓
Satellite DVB-S2		✓
Satellite DSS	✓	✓
Analog NTSC	✓	✓
FM radio demodulation		✓
Spectrum analyzer	(10 dB/div)	(5 and 10 dB/div)
Automatic reference level		✓
QAM constellation diagram		✓
DVB-S/S2 constellation diagram		✓
Auto identification	✓	✓
Explorer function	✓	✓
Automatic measurements	✓	✓
Reports	✓	✓
Automatic Internet updates	✓	✓
Satellite IF test	✓	✓
Cable TV: return path (5 MHz)		✓
Cable TV: 1 GHz		✓
Screen capture		✓
Video stream recorder and player		✓
Storage capacity	768 KB	1 GB
PkTools software	Optional	Included
Transport case	Optional	✓



US TV EXPLORER



US TV EXPLORER II

Digital TV:

It is switch-over time!



*"I waited for the right time to invest in a new analyzer. I chose the **US TV EXPLORER** because it is meant to be a meter for digital and analog.*

But, I found out that it is much more than that. It has all the features I would have ever dreamt of to make my work faster and more reliable.

*It is really **helping me** out to develop my **business**."*



Transflective LCD

From darkness to bright sunlight ★

▶ The **US TV EXPLORER II** incorporate a transflective 6.5" color LCD with a 16:9 aspect ratio. The new transflective technology combines the advantages of the transmissive and reflective displays.

The transmissive ones are those illuminated from behind the screen, with good vision in the darkness. The reflective ones use the reflection of the external light in the back of the display.

The result is an **stunning** vision in darkness and by the direct sunlight.

The big 6.5" panoramic color screen allows to extend the area to display the measurements and make readings easier.

With the 16:9 aspect ratio the instrument can test any television signal independently of the receiver available.

The temperature range for the LCD is extended from 80° C to -40°C allowing its use in very **extreme conditions** away from the operating limits of other components.



★ according to model

6.5" panoramic color 16:9 LCD

Large display, compact size ★



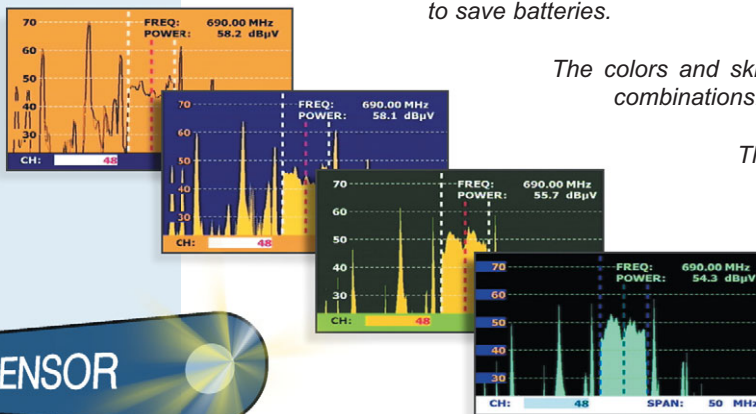
Select colors and skins:

Automatic adjustment

▶ The **US TV EXPLORER** includes a light **sensor** that selects the contrast and luminosity of the display according to the environmental conditions. This feature helps to save batteries.

The colors and skins are user-selectable and there are **several** combinations.

This feature can help to improve the LCD viewing experience in certain light conditions specially when working with spectrum graph.






★ according to model

Easy to use

Setting a new standard

➤ The **US TV EXPLORER** is been designed for the installation, maintenance and surveillance of terrestrial, satellite and cable TV systems.

It provides complete information about the channels available in a network and their quality. This includes:

-  Measurements
-  Spectrum analyzer
-  Signal decoding

The main difference with all instruments available until now is that it is easier to use. It can detect the type of signal, standard, modulation type, symbol rate... and just display the results. In other words, it does not require any preliminary information about the signals to be analysed.

The **US TV EXPLORER** has set new standards in the way installers make and understand measurements. It includes an impressive new range of functions developed to easy measurements and to detect impairments in both digital and analog systems.

The **US TV EXPLORER's** compact and rugged construction and its large color LCD, makes it ideal for field use. With the **US TV EXPLORER** it is possible to take measurements automatically, to store the results and print reports.

From now on, your analyzer will be a much more intelligent and easy to use tool!



Small and light: *In the palm of your hands*



➤ The **US TV EXPLORER** has changed the concept for this type of product. It is **easier** to use, has **advanced** functions and... it is **small**.

It has an amazing shape factor, making compatible a very large display area with a really small size. It **fits** within the palm of your hands.

The **US TV EXPLORER** is been designed for outside use. The classic PROMAX strong aluminium construction and an original **anti-shock** rubber cover, ensures highest protection to your investment. Depending on the model, it weights 2 - 2.5 kg (5.5 lbs).

The front panel is been designed with **flat keys** that avoid accidental water ingress.

The instrument comes with a **strap** to hang it to the neck or to fasten it around the waist. In this way, both hands are free to take the measurements, make adjustments, etc.

It can also be used within the **carrying bag** that protects the instrument from the weather conditions. A transparent **plastic cover** allows the operation of the keyboard even under the light rain.

The **US TV EXPLORER II** is delivered with a heavy duty **transport case**.

Lithium-ion batteries: *The best solution available*



➤ The **US TV EXPLORER** is fitted with Lithium-Ion batteries. These batteries provide a high operating time, with an estimated duration of **more than 4 ½ hours** (depends on the type of use).

This type of batteries can be **recharged** at any time and have an exponential charging cycle so that it can recover a large portion of the charge back in a very short time. It can be charged from the car through the lighter.

Battery charge indicator () shows the status of the charge at any time.

Auto-identification: *The magic key!*

➤ The **US TV EXPLORER** has been specially designed to satisfy the measurement needs in terrestrial, satellite and cable TV during the transition period to the analog switch off. For this reason it is equipped with functions to measure both analog and digital signals.

When pressing the “**explorer**” key briefly, it identifies the signal under test. First it recognises whether the channel is analog or digital.

When the signal is digital, it analyses the modulation type: **QAM / QPSK / 8PSK (*) / 8VSB** and all the associated parameters such as the system, the symbol rate, the code rate, etc and it tries to lock the signal.

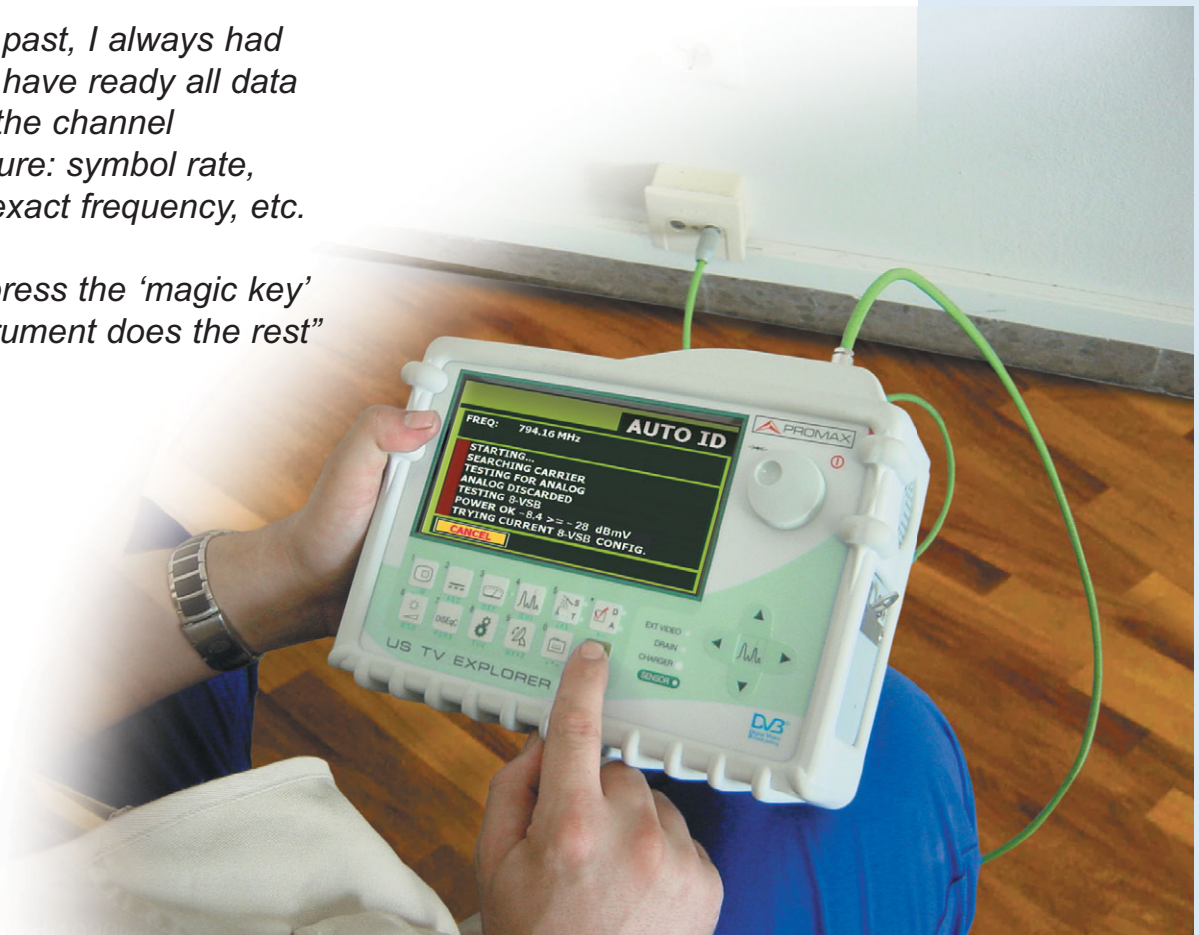
In this way, the **US TV EXPLORER** becomes a **fully automatic** and agile instrument, able to detect and to identify all of the channels in a television system. When the conditions of the signal to be identified are too poor, the equipment allows to use the manual configuration.



Auto identification screen

➤ *“In the past, I always had to strive to have ready all data of the channel to measure: symbol rate, code rate, exact frequency, etc.*

Now I just press the ‘magic key’ and the instrument does the rest”



★ according to model

Explorer: *One key and go!*



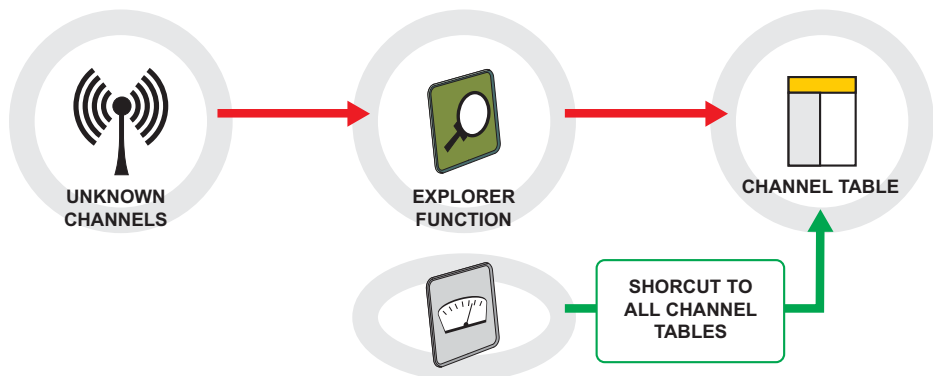
Explorer function screen

When the “explorer” key is pressed for a few seconds, a new spectrum exploration session begins. The **US TV EXPLORER** makes a dynamic exploration of the spectrum, detecting all the channels in the swept band and identifying all its parameters to lock the signal.

This new measurement concept sets a **radical change** in the way to understand and to use the meter. The analyzer is no longer a passive unit, that only measures the channels. It is the analyzer on its own that begins by locating all the channels available in the band.

The **US TV EXPLORER** detects all the channels in the band with no need for any previous details such as, the number of channels available, the type of signals transmitted or their characteristics.

The **US TV EXPLORER** is then able to determinate the nature of the signal -analog or digital- (patented function) and the channel bandwidth. It can also automatically identify channel shifts that the instrument will automatically detect.



With the data collected after each exploration, it creates a register that contains tables of channels that can be independent for each area or system. Each of these tables can be saved with a different name.

At any time, the stored sessions can be retrieved and the pattern used for a new sweep. This is specially useful in countries with MFN Digital Terrestrial Television networks where the design of channel plans can be complex.

This feature can help to reduce measuring times dramatically

Fast channel plan selection



Selecting the active channel table

The **US TV EXPLORER II** allows to work with **multiple channel tables**. The use of channel tables facilitates the measurements. The selection of the active channel table is easily made by means of a direct access window.

The activation of this function is through a long push of .



Measurements:

Including DVB-S2 for HDTV Satellite ★

➤ In the **US TV EXPLORER** all the measurements are displayed simultaneously on the same screen. Whenever the Measurement function is selected the instrument shows the different parameters that define the quality of the signal under test.

Digital terrestrial 8VSB:

- Power
- C/N
- MER
- SER
- VBER
- Noise margin

Digital satellite DSS QPSK:

- Power
- C/N
- MER
- CBER
- VBER
- Noise margin

Digital satellite DVB-S QPSK:

- Power
- C/N
- MER
- CBER
- VBER
- Noise margin

Digital satellite DVB-S2 8PSK (only **US TV EXPLORER III**):

- Power
- C/N
- MER
- CBER
- LBER

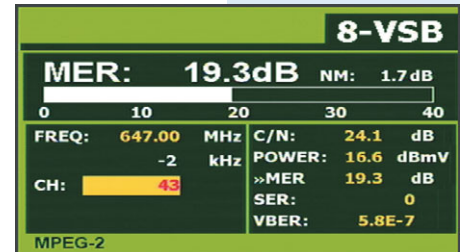
Digital cable QAM:

- Power
- C/N
- MER
- BER
- Noise margin

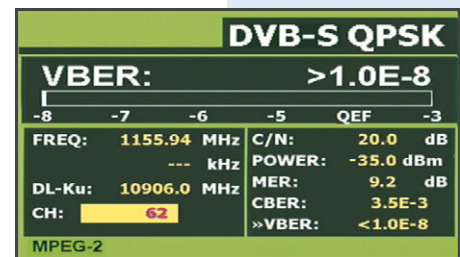
In case of an analog channel:

- Level
- V/A
- C/N

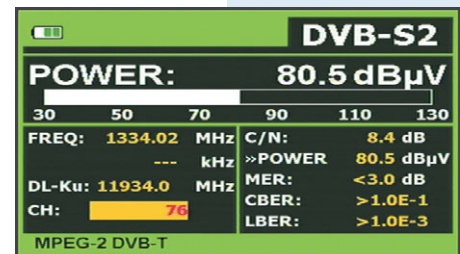
One of the measurements can be selected as a preferred and then it will be highlighted and a graphic bar for this particular measurement displayed in a preferential position. The analyzer adapts to the user preferences.



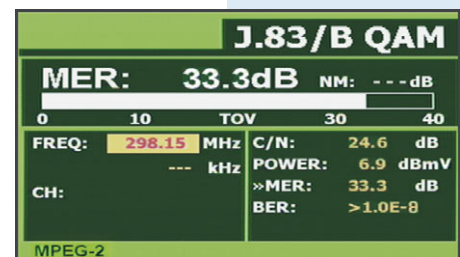
Digital terrestrial (8VSB) measurements



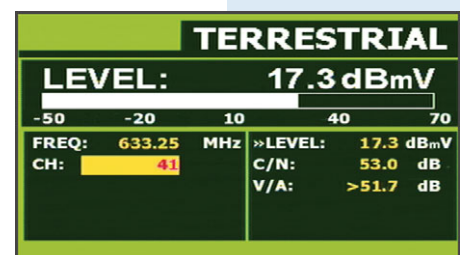
Digital satellite (QPSK) measurements



Digital satellite (8PSK) measurements



Digital cable (QAM) measurements



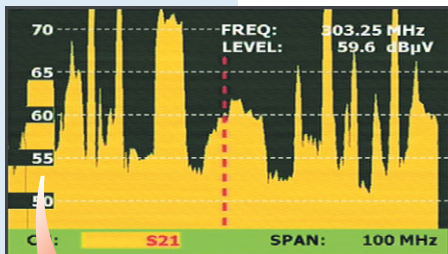
Analog measurements

★ according to model



Spectrum analyzer:

Direct keys, more intuitive



Spectrum analyzer

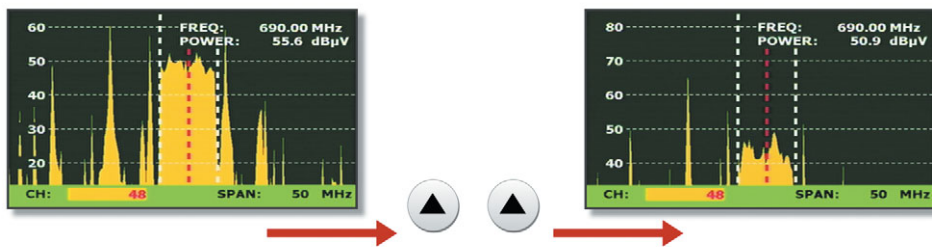
5 / 10 dB/DIV
(US TV EXPLORER II)

➤ The **US TV EXPLORER** presents an **innovative** spectrum analyzer. **Four arrows** control completely the system making it very intuitive.

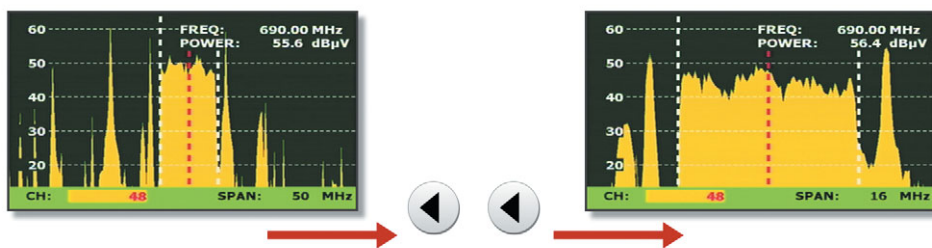
The “**UP-DOWN**” arrows set the reference level, so that when pressing the “**UP**” arrow reference level is increased by 5 or 10 dB. When pressing the “**DOWN**” arrow, the reference level is reduced by 5 or 10 dB allowing to check signals of lower level.

The “**LEFT-RIGHT**” arrows allow to select the span or expansion, so that when “**RIGHT**” is pressed the margin of frequencies in display can be increased up to full span and when “**LEFT**” is pressed the zone around the cursor can be analysed with more detail.

On the **US TV EXPLORER II** the measuring filters are variable and selected automatically depending on the span used.



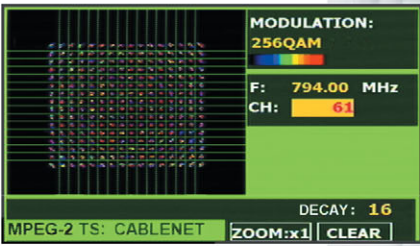
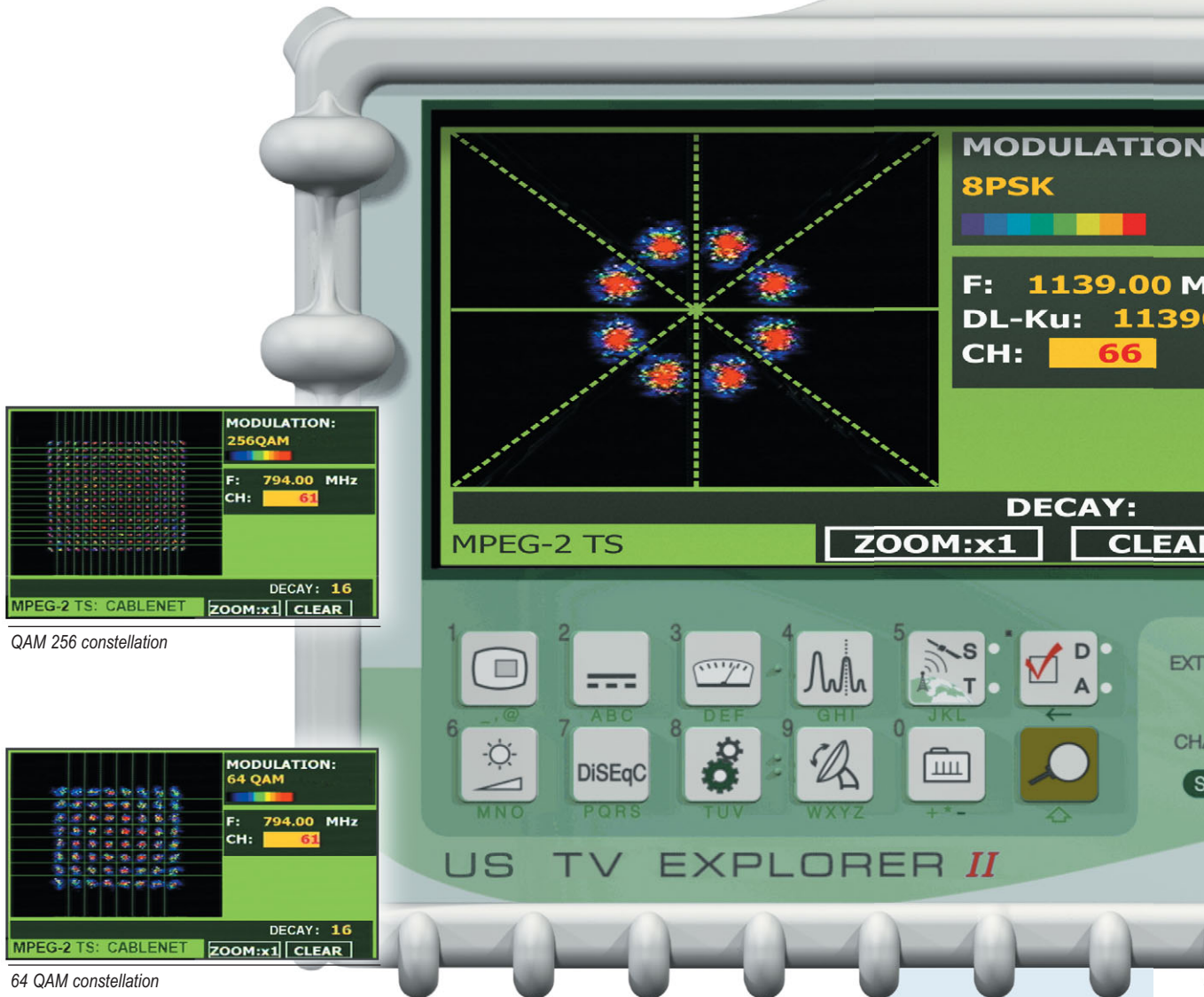
By pressing UP key twice, the instrument sets the reference level from 60 to 80 dBµV



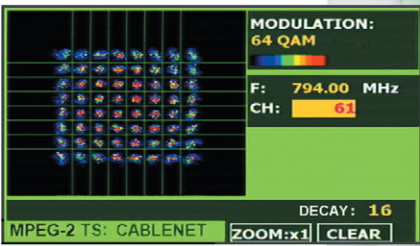
By pressing LEFT key twice, the instrument sets the SPAN from 50 to 16 MHz

Constellation diagram:

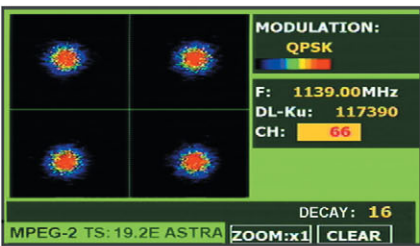
Detecting impairments at a glance ★



QAM 256 constellation



64 QAM constellation



QPSK constellation

➡ "This function is helping me a lot."

By just looking at the shapes, I learned to read the quality of the systems."

★ according to model



➤ The **constellation diagram** is a graphic representation (called I-Q) of the digital symbols received over a period of time.

There are different types of constellation diagrams for the different modulation modes. With the **US TV EXPLORER II** it is possible to display constellations for QAM, DVB-S and DVB-S2 signals.

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.

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

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





Decoding: MPEG-2 picture

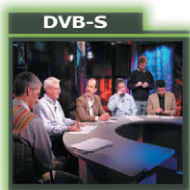
➤ In this mode the signal will be decoded according to its standard.

When decoding an analog channel (cable or terrestrial only), the **US TV EXPLORER** shows with the video and audio, information about the channel on tune, the name of the channel plan and the TV system.

If the signal is digital, it is possible to display the **SERVICE LIST** and it shows all the programs and services available within the tuned channel. Selecting one particular program or service becomes **very intuitive** using the encoder and/or the arrow keys to show all the data related to the program.



TV Explorer decoding a DVB-S program



Signal type and decoded MPEG-2 image.



Type (TV, radio, data), OSD (ON-OFF), encrypted or free, MHP

ASTRA-VH CHANNEL: 100
F: 1922.00 MHz DL: 125220

Channel plan, frequency, channel and downlink frequency.

VIDEO:
MPEG-2 2797 kb/s
MP@ML 720x480i 4:3
VPID: 111 TSID: 97 25Hz

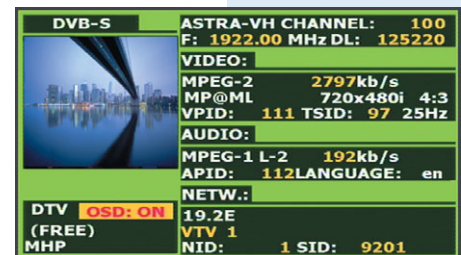
Video Stream type, bitrate, profile&level, frame size, aspect ratio, frequency, video PID, transmitter ID

AUDIO:
MPEG-2 L-2 192kb/s
APID: 112 LANGUAGE: en

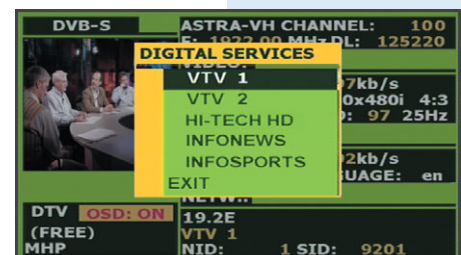
Audio stream type, bitrate, audio PID and coded language

NETW.:
12.9E
VTV 1
NID: 1 SID: 9201

Network name, service name and network & service identifiers



Complete details on the channel



Other DVB-S services on the multiplex

If the program selected uses MPEG-2 compression, the picture and audio appear together with the program data for a few seconds and then using the whole screen.

SCART, RCA and USB interface

... for signal and data ★



➤ Through the RCA/SCART adaptor connector the **US TV EXPLORER** can be connected to a television set so that measurements, spectrum, picture, etc can be displayed in a larger screen. This is very useful in applications such as monitoring or education.

In the same way, the SCART/RCA connector can be used to input signal from cameras, High Resolution receivers, etc.

The USB interface allows the connection of the instrument to a PC. With the software provided it is possible to always keep the **US TV EXPLORER II** updated with the latest firmware version. The USB also allows handling channel tables, dataloggers, downloading of information to print reports, etc.



★ according to model

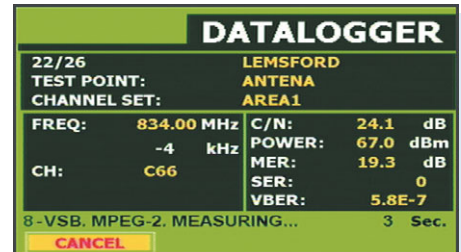
Automatic measurements

Datalogger

Run a datalogger

The process is simple, just run the application and the instrument takes all the measurements.

When running the datalogger, the **US TV EXPLORER** starts a **sweep** of all the channels in the active channel plan and stores all the measurements: channel power, carrier/noise, BER, MER, etc.



Datalogger taking automatic measurements

One Logger, several Test points

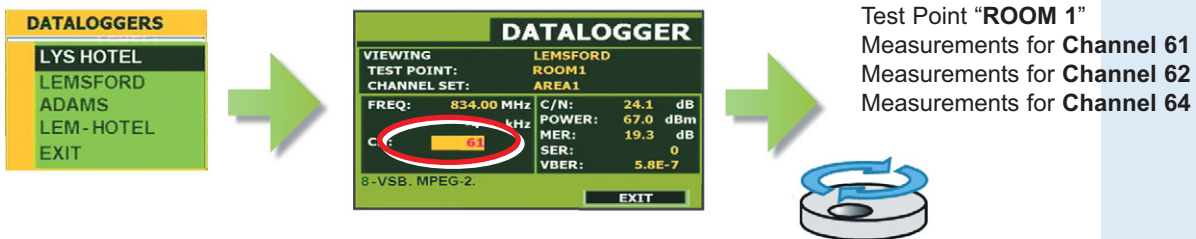
Every acquisition becomes in fact a **Test Point** inside a **Logger** and both the Logger and the Test Point can be personalised.

For instance, the **Logger** can be given the **name of the site**, building or installation and the **Test Point**, the **specific place** where test is made, for instance bedroom, kitchen, etc.

View all channels on a Test Point

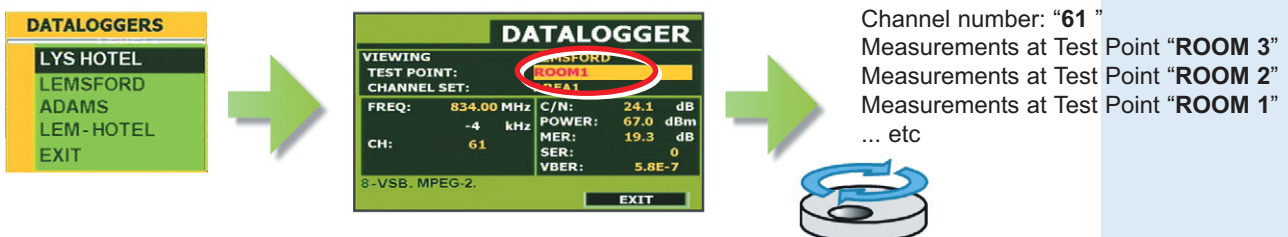
All the data previously acquired can be checked using the **view datalogger**. If the cursor is set over the channel, you can view the measurements of all channels on the present Test Point.

This function is very useful to **check** the channel equalisation.



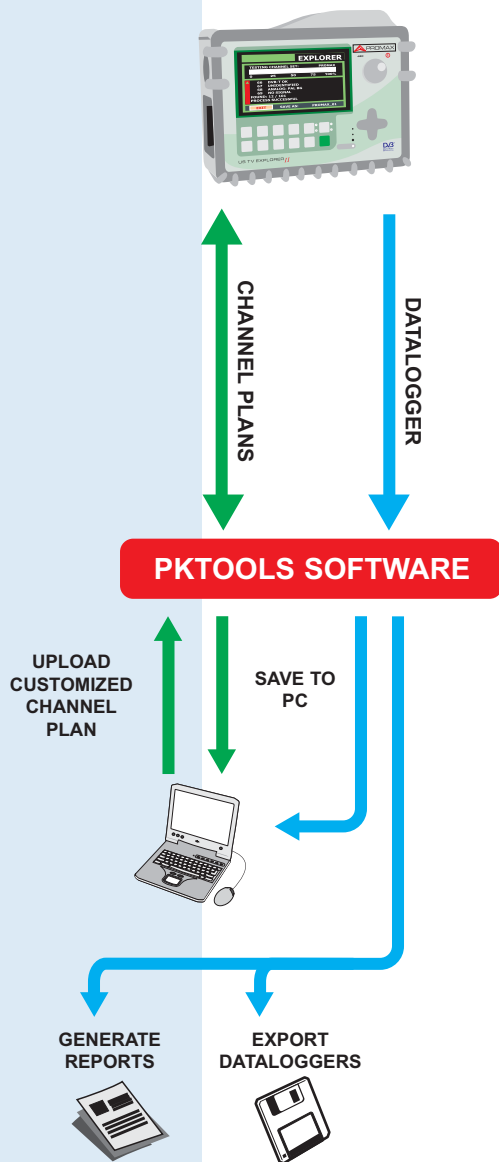
View one channel in each Test Point

If the cursor is set over the Test Point when turning the encoder you can view the measurement of the present channel in all the test points. This function is specially useful to check the signal drop along the system.



PkTools:

Printing reports, channel table set up...



➤ **PKTools** software (ordering reference: **RM-104**) was developed to work with all PROMAX analyzers including the **US TV EXPLORER** range.

The instrument connects directly to the USB or RS-232C interface in your PC, the **PKTools** software identifies it and automatically sets all configuration parameters required so that the user can easily access to the data stored in the **US TV EXPLORER** memory.

➤ Working with channel plans

A **channel plan editor** allows to modify channel tables saved in the meter's memory which can be *STANDARD* or *MODIFIABLE* (generated automatically using the **EXPLORER** function). The **PKTools** software offers the following possibilities:

- Create or delete channel tables
- Add or remove delete-protection
- Add, delete or modify channels
- Edit advanced channel settings (channel spacing, digital parameters, LNB settings, offset,...)
- Save or retrieve channel tables from the PC
- Edit channel tables stored in the PC or in the meter's memory
- Upload channel tables to the **US TV EXPLORER** memory

➤ Data acquisition: view, save and print reports

It is very easy to make measurements and data acquisition sessions with **US TV EXPLORER**. In the same way **PKTools** helps you to process and print the information in different formats.

Using **PKTools** software you will be able to transmit to computer in an easy and fast way all measurements stored and required by the different authorities and legal applications, therefore you can **automatically generate the measurement tables** to be included on the installation certificate of compliance.



Data can also be **exported** to CSV files, a format compatible with most of the data bases, spreadsheets and many other software applications. In this way the user can create tailored data reports, generate graphs, etc.

Cable test

Certify the installation

➤ The **IF TEST** function allows to check buildings cabling system before the antennas and head-end systems are operative. For this application PROMAX has specially designed **RP-050**, **RP-080** and also **RP-250** signal generators.

The main difference is the RP-050 covers **satellite IF** while the RP-080 covers also the **terrestrial** band. The RP-250 is an **agile signal generator** with selectable frequency and level across the 5-2500 MHz band.

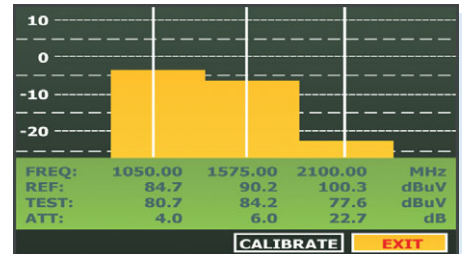
The procedure allows to evaluate the frequency response across the whole TV signals distribution network by means of two steps.

➤ Step 1: Calibrating with US TV Explorer

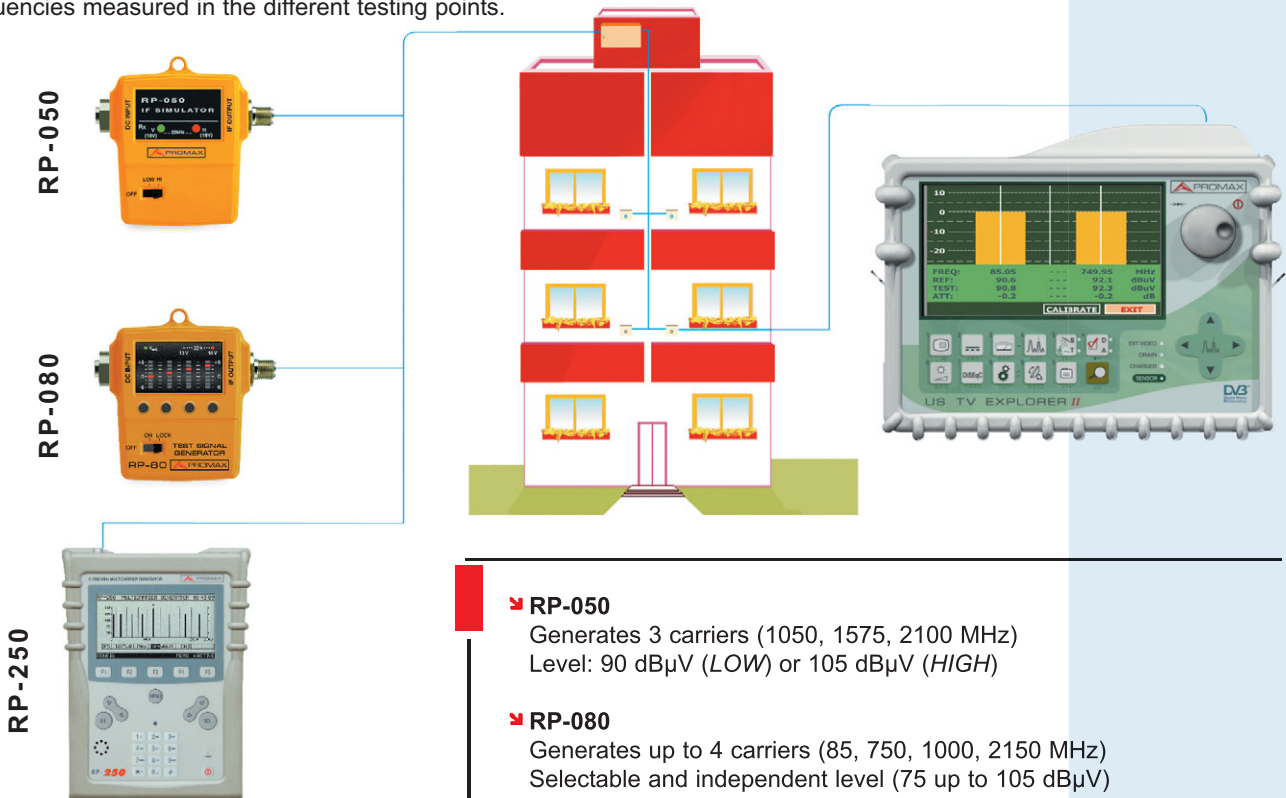
Connect the generator directly to the **US TV EXPLORER** and calibrate. The instrument compensates all the cable and connector drops and sets signals at the detected frequencies as the **reference**.

➤ Step 2: Measure pilots throughout the network

Once calibrated, start to make level measurements in each outlet. On the screen will appear the attenuation values for the pilot frequencies measured in the different testing points.



IF test using RP-050



➤ RP-050

Generates 3 carriers (1050, 1575, 2100 MHz)
Level: 90 dB μ V (*LOW*) or 105 dB μ V (*HIGH*)

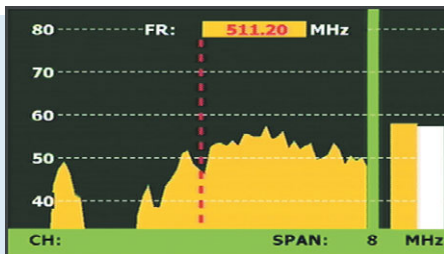
➤ RP-080

Generates up to 4 carriers (85, 750, 1000, 2150 MHz)
Selectable and independent level (75 up to 105 dB μ V)

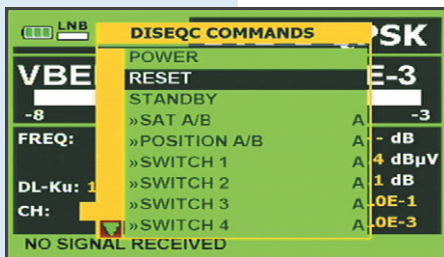
➤ RP-250

Generates up to 8 carriers (UHF, VHF, sub band, ISM, SAT)
Selectable and independent level (90 up to 110 dB μ V)

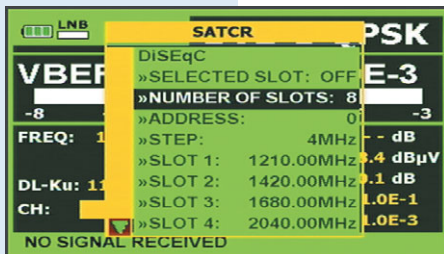
Antenna installation



Antenna alignment screen



Some of the DiSEqC™ commands available



Some of the SaTCR commands available

➤ The **US TV EXPLORER** has been designed to make compatible different types of measurements that require of very different working configurations.

A specific function has been developed to **easy antenna alignment**. In this mode, the instrument configures itself to offer a very fast sweep time in spectrum analyzer mode. At same time, it shows a high sensitivity graphic bar that allows the fine adjustment of signal peaks, necessary to optimise antenna alignment.

➤ Supply voltage

The **US TV EXPLORER** incorporates the supply voltage for amplifiers and LNBS, including the 5 V for indoor antennas.

➤ DiSEqC™

DiSEqC™ is an open communications protocol created by Eutelsat. It consists of control commands overlapping the supply voltage that are recognised by receivers and other devices. They are used to switch polarities, bands, move motors, etc.

➤ SaTCR commands

The **US TV EXPLORER** includes SaTCR commands as well.

Automatic detection of saturation

Adjust easily maximum gain



Adjusting the head-end

➤ This function is very useful to identify problems related to the distortion or excess of amplification of the analog channels, that can occur in the mast, system or distribution amplifiers.

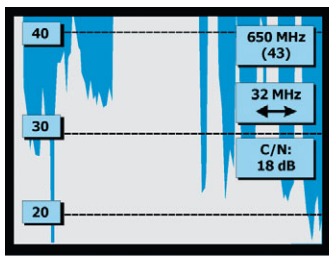
When the gain in the head-end of a distribution system is too high, it can cause saturation. If the signal that arrives at the **US TV EXPLORER** suffers saturation, the “detection of saturation” symbol appears on the screen. This function is very useful to find the **maximum gain** adjust of analog channel amplifiers.

DiSEqC™ is a trademark of EUTELSAT

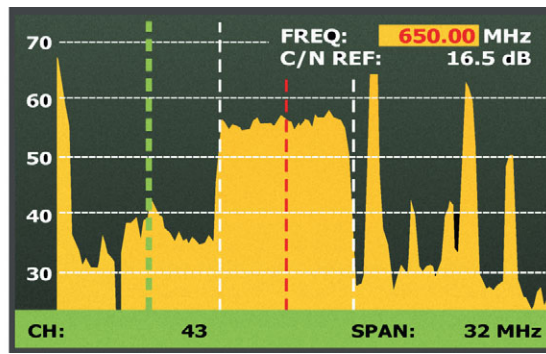
Spectrum analyzer automatic scale search: *One step ahead in automation*

➤ **TV EXPLORER** users have considered that the control of the spectrum analyzer based in the four arrow keys is a very valuable innovative function. The goal was to add as much automation as possible in the meter's user interface to make technicians job faster.

Continuing on with this philosophy PROMAX wanted to offer more in **US TV EXPLORER II**. The **reference level** in the spectrum analyzer function is initially set automatically to **the best value** based on the power of the signal shown.



With other meters



With a **US TV EXPLORER II**

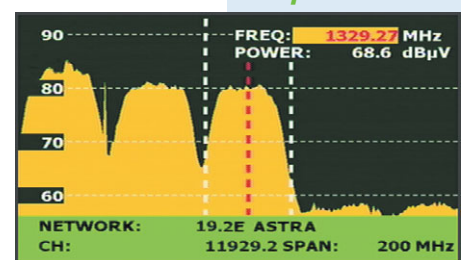
The reference level is instantly adjusted by the **US TV EXPLORER II** as we enter the spectrum analyzer function. The graphic shown is then ready to be analysed with all its ups and downs with no additional key strokes.

What satellite is this?

"... another world's exclusive on the US TV Explorer"

➤ When using "AUTO-IDENTIFICATION" function from spectrum analyzer or antenna alignment modes the **US TV EXPLORER** provides information about the origin of the signal. If in Satellite mode, the information shown is the **orbital position** and the **satellite**.

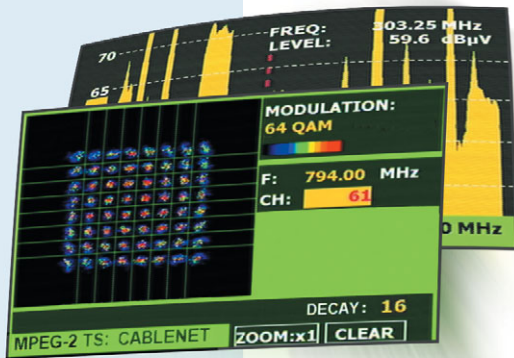
This is also valid for digital channels on DTT or Cable TV



Spectrum showing signal identifier

Screen capture:

Watch on the meter and download to PC



➤ The **US TV EXPLORER II** comes with **1 GB** of internal memory that is exclusively available for user data.

The **US TV EXPLORER II** offers beside the video stream recording feature the possibility to take screen shots of the following functions:

- Spectrum analyzer
- Constellation diagram

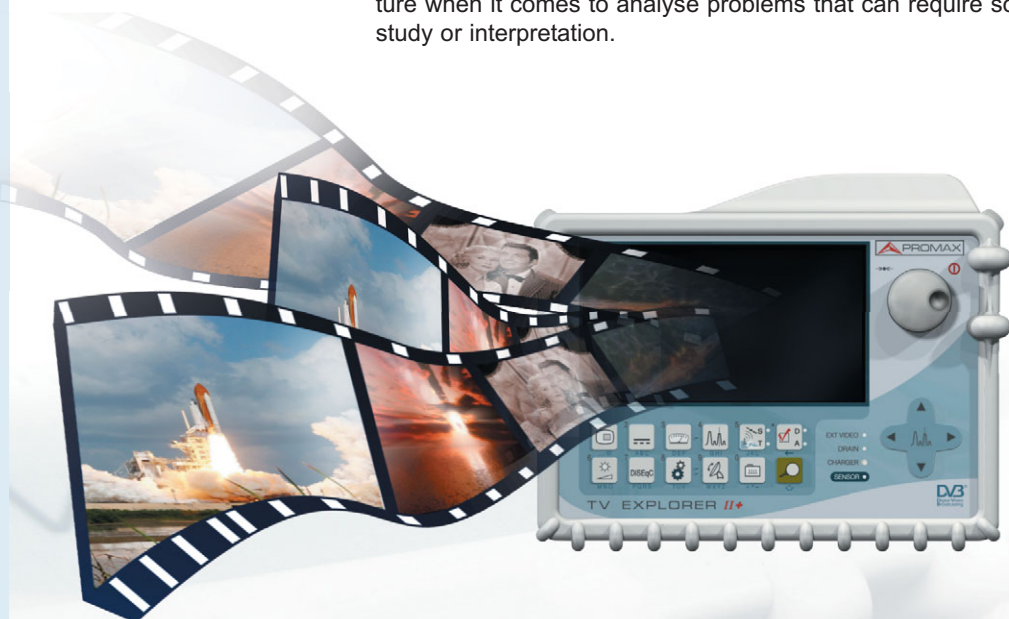
It is very easy to use. Users only need to select this option and the file with the screen capture will be saved in the **US TV EXPLORER II** internal memory.

The file can be retrieved and shown on the meter's display or can be saved to a PC to be included in measurement reports or to be processed using software applications, etc.

Recording video streams

Keep trace on the video impairments

➤ The **US TV EXPLORER II** includes a function that allows to **record** video streams in the field and **play** them. This is a very interesting feature when it comes to analyse problems that can require some further study or interpretation.

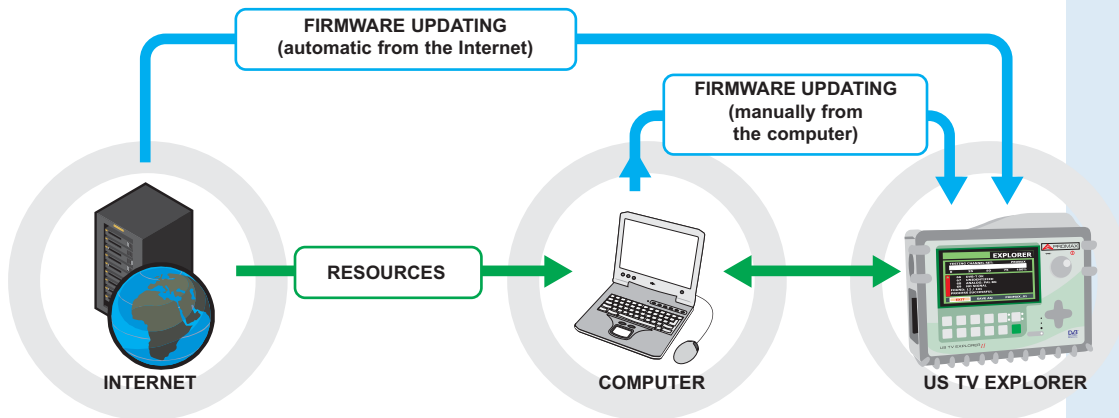


NetUpdate:

Much more than just updating firmware

➤ **Updating the firmware** of your analyzer had never been as simple as with the **NetUpdate**.

This software application detects any **US TV EXPLORER** connected to the computer, it **connects to Internet** and it checks if a more recent version of firmware exists. If this is the case, it suggests the installation and it begins an **automatic update process**. This software is freeware and available at the PROMAX site.



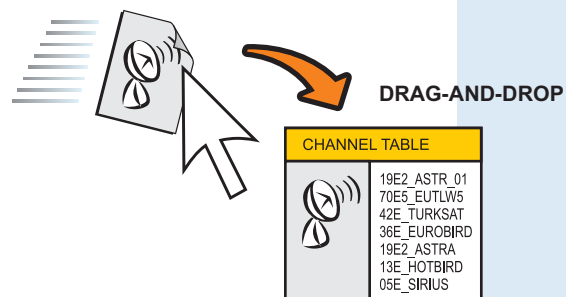
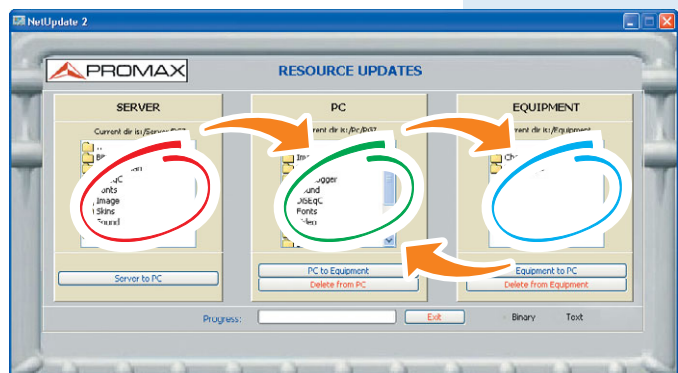
➤ US TV EXPLORER resource updates

New **resources** for the **US TV EXPLORER** are made available in the PROMAX server from time to time. The satellite channel tables for all satellites are included among these resources.

➤ Data transfer and backup

The NetUpdate can also be used to transfer dataloggers, captured screens, video etc and to **make backups** of the **US TV EXPLORER** resources. The memory contents can be downloaded to the computer using the “drag-and-drop” technique:

- Dataloggers
- Screen captures
- Video streams
- Standard or tailor made channel plans
- Other resources



Accessories

DC-229 Transport case

This heavy duty suitcase is included with **TV EXPLORER II** and **TV EXPLORER II+**. It is ideal for extra protection during transport.



DC-267 Carrying bag

This soft carrying bag is adequate for external use. It is specially recommended for working under wet weather conditions.



NG-281 / NG-282 Noise generators

- NG-281: from 5 to 1000 MHz
Level 70 dB μ V, flatness ± 2 dB
- NG-282: from 20 to 2000 MHz
Level 50 dB μ V, flatness ± 3 dB
- Power supply: batteries or external power adaptor



RP-250 Multicarrier generator

- 5 to 2500 frequency range
- Generates up to 8 carriers (3x UHF / VHF, 3x SAT, 1x Sub Band, 1x ISM)
- Levels: 90 to 110 dB μ V



RP-050 IF satellite generator

- Generates three pilots at 1050, 1575 and 2100 MHz for testing satellite TV networks prior to signal being available.
- RF levels: 90 & 105 dB μ V
- Power supply included



RP-080 SAT & Terrestrial simulator

- Generates four pilots at 85, 750, 1000 and 2150 MHz with selectable level for testing TV and SAT networks prior to signal being available.
- Levels: 75 to 105 MHz



CV-245 / CV-589 2.4 / 5.8 GHz band converter

- Converts signals from ISM 2.4 GHz or 5.9 GHz (depending on model) to IF satellite band
- Supply from the signal level meter



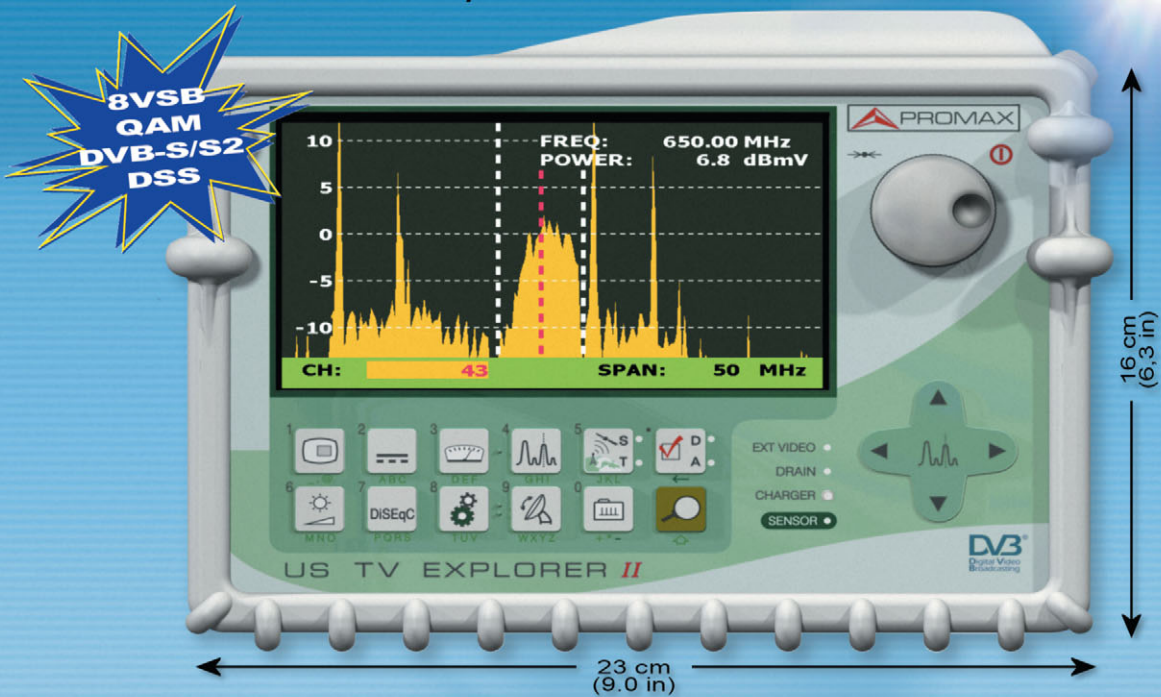
AMC/1 Master aerial

- Connected to any field strength meter is able to find the intensity of the electric field in any location.



US TV EXPLORER II

Handheld analyzer for broadcast, cable and satellite



6.5" widescreen LCD with excellent visibility in bright sunlight



MPEG-2 and Analog video



On-Screen display



Constellation diagram



8-VSB measurements



DVB-S/S2 and DSS measurements



QAM measurements

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