



TV EXPLORER



Digital and analogue image demodulation

All measurements simultaneously

Professional spectrum

Full automatic operation

Autonomy of 4½ h.

Weight less than 2 kg.

the TV Explorer: *setting new standards*



- The **TV EXPLORER** is been designed for the installation, maintenance and surveillance of terrestrial, satellite and cable TV systems.
- The **TV EXPLORER** provides you automatically with all the information about the channels available in the network and their quality. It does not require any preliminary information about the signals to be measured, so that it can detect the type of signal, the standard, the modulation type, symbol rates, etc.

This instrument is setting new standards in the way installers make and understand measurements. The **TV EXPLORER** has an impressive new range of functions developed to easy measurements and detection of impairments in both digital and analogue systems.

The **EXPLORER's** compact and rugged construction makes it ideal for field use. A 5" colour LCD shows all the measurements and the picture of analogue and digital channels.

It includes a high resolution spectrum analyser function with a new intelligent way to directly control the display of signals on the screen.

It is ideal to be used in this transition period from analogue to digital, as it covers a wide range of standards, **PAL / SECAM / NTSC** in analogue and **COFDM / QPSK / QAM** in digital.

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



highlights



The highlights of the **EXPLORER** are its reduced dimensions and weight, its low cost and its incredible specifications:

- Coverage of satellite, cable and television.
- Tuning by channel and frequency (IF or direct in the case of satellite)
- Automatic channel search with the possibility to create channel plans for each new session.
- Automatic identification of the type of signal.
- Multistandard analogue measurements: Level, Video-Audio, C/N.
- Digital measurements: Power, C/N, Channel Identification.
 - COFDM 2k/8k: MER, VBER, CBER
 - QPSK: CBER, VBER, MER.
 - QAM 16/32/64/128/256: BER, MER.
- Simultaneous display of all the measurements and main associated parameters.
- MPEG decoding.
- List of services and PID's.
- TFT Monitor (320 candles/cm²).
- Li-ion batteries: 4 1/2 hours use and recharge to 80% in 1 hour.
- Dimensions: 230 x 161 x 76 (total volume: 2814 cm³).
- Weight: 1.9 kg (without protector).
- DiSEq 1.2.



Easy to use *engineered for you*





Just press **S/T** (satellite / terrestrial) key and **D/A** (digital / analog) key to change between modes



Pressing the key shortly will start the **AUTO ID** function or the **EXPLORER** function if the user keeps pressing

The **EXPLORER** is above all, **easy to use**. A *menu free* control system and a symbol-based keyboard allows direct access to most of the functions.




The instrument guides you through the functions and at all times the instrument indicates the type of measurement that is being made. I. e. **Terrestrial / Satellite** () and **Analogue / Digital** ().

The **TV EXPLORER** includes two new innovative functions designed to make operation easy.

- **AUTO-IDENTIFICATION:** to analyse a channel.
- **EXPLORER:** sweeps the band and detects all channels.

The **TV EXPLORER** will become a friendly partner in the analysis of networks and its contents.

The basic functions to analyse any signal are:

-  Measurements
-  Spectrum analyser
-  Signal demodulation

Switching through these three functions will provide you with all of the information about the signal under test.



Auto-identification: *the magic key*



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

When pressing the '**explorer**' key briefly, it searches and identifies the signal under test. First it recognises whether the signal is an analogue channel or a digital one.

If the channel is analogue, it determines the television standard of the signal (PAL/SECAM/NTSC).

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

In this way, the **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.

Explorer: *one key and go!*



When the '**explorer**' key is pressed for a few seconds, a new spectrum exploration session begins. Unlike any other meter currently on the market, the **EXPLORER** makes a dynamic exploration of the spectrum, detecting all the channels in the swept band. This applies to the terrestrial and satellite television bands.

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

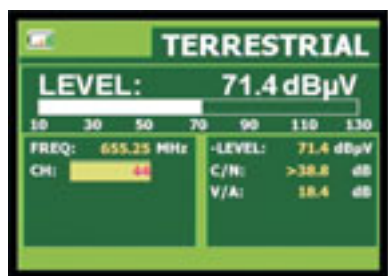
The **EXPLORER** detects all the channels in the band with no need for any previous details such as, the number of channels available, the type of signals transmitted or their characteristics. The **EXPLORER** is then able to determinate the nature of the signal (analogue or digital) and the channel bandwidths. It can also automatically identify digital channel shifts that the instrument will display.

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.

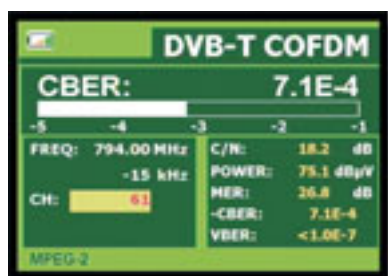
At any time, the stored sessions can be retrieved and the pattern used for a new sweep that will then be very fast. This feature can be very useful, for instance in countries with a MFN network.



Measurements: *all in one screen*



Analog terrestrial TV measurements



Digital terrestrial TV (DVB-T) measurements



Digital cable TV (QAM) measurements

In the **EXPLORER** all the related measurements are displayed simultaneously on the same screen. Therefore, whenever the Measurement function is selected the instrument shows the different parameters that define the quality of the signal under test.

In case of an analogue channel:

- Level
- V/A
- C/N

For a digital terrestrial **COFDM** or a digital satellite **QPSK** channel:

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

For a digital cable **QAM** channel:

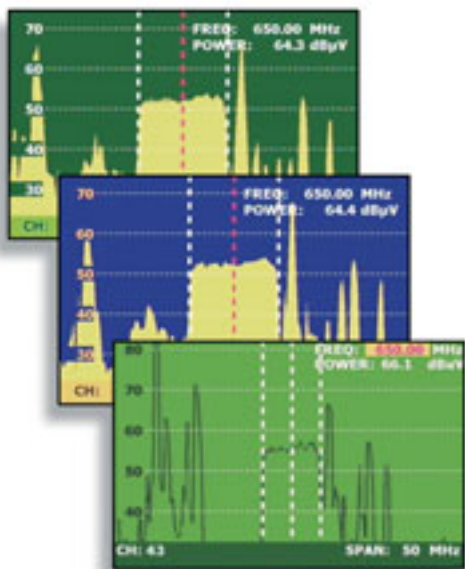
- Power
- C/N
- MER
- BER

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 preferent position.

When pressing the measurement key, the highlighted measurement is switched to the next in the row. In this way the instrument adapts to the diverse preferences of the user.



Spectrum analyser: *direct keys* *new more intuitive control system*



One of the features that has been most carefully studied in the instrument design has been the **spectrum analyser**.

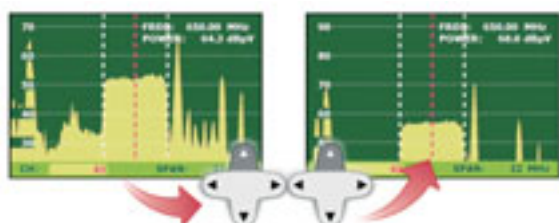
The spectrum function is been designed keeping on target the simplicity but, noting that specifications like accuracy, resolution, sensitivity and sweep time can make of the a spectrum analyser a very useful tool or a completely useless instrument. The **EXPLORER** is well designed to meet the diverse needs and applications a telecommunications installer has to undertake.

The **TV EXPLORER** comes with several user-selectable color models or "**skins**", so it becomes a customizable interface. There are a number of combinations or colors and lines. Skins can help to improve the LCD viewing experience in certain light conditions, specially when working with spectrum graph.

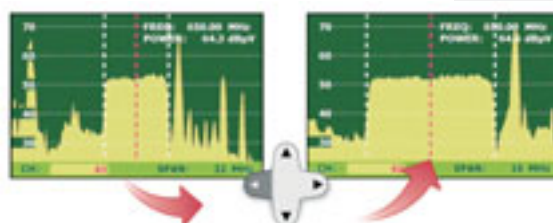
Back to the **spectrum analyser** function, the **TV EXPLORER** presents an innovative control system, based on four arrows, that makes the use of the spectrum analyser very intuitive.

The '**UP-DOWN**' arrows set the **reference level**, so that when pressing the 'UP' arrow reference level is increased by 10 dB. When pressing the "DOWN" arrow, the reference level is reduced by 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.



By pressing UP key *twice*
the instrument sets the reference level from 70 to 90 dBµV.



Starting from a SPAN of 32 MHz,
we press LEFT key and we reduce view to 16 MHz.

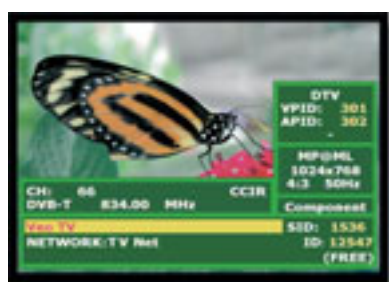


Signal demodulation: *analogue and MPEG-2 digital*



Switching to this mode will **demodulate** the signal according to the standard for both **analog** (except for satellite) and **digital** signals.

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



*PRODIG-5 while decoding a digital DVB-T channel.
Related information appears on the screen*

If the signal is digital (cable, satellite or terrestrial), the instrument shows for a few seconds, all the data related to the channel:

- Channel number and channel plan
- MPEG-2 detection flag
- Service
- Network Identification
- Video PID
- Audio PID
- Picture format
- SID
- ID
- Free or Encrypted
- Type of signal (DVB-T / C / S)



DVB services for a digital channel

At any time it is possible to display the **SERVICE LIST**, by pushing Encoder button, and show all the programs and services available within the tuned channel. Selecting one particular channel or service becomes **very intuitive** using the encoder and/or the arrow keys.



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



The **EXPLORER** has changed many concepts for this type of product: **easier** to use, many **functions** and... **small**. It has an ideal size to fit within the palm of your hands.

Weight is also optimised. The instrument **weights less than 2 kg** with batteries, this is less than half from any other similar model.



PROMAX's original **anti-shock** cover protects the instrument and makes it most suitable for outside use.

As usual with PROMAX equipment, the front panel is been designed with keys that avoid accidental water ingress.



The instrument is delivered with a **carrying bag** that protects it from the weather conditions. A transparent plastic cover allows the operation of the keyboard even under the light rain.

The carrying bag has a strap to allow instrument to be used hanging from the neck or hold to the waist for even more comfort. Both hands are free to hold or adjust any device while reading the measurements in a large 5", high resolution, high brightness LCD display.



Antenna installation: *versatility*



Antenna alignment screen

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

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

The **EXPLORER** incorporates the **supply voltage** for amplifiers and LNB, including the 5 V for DVB-T indoor antennas.

It does also include commands to program **DiSEqC 1.2** devices.

Lithium batteries: *the best solution available*



The **EXPLORER** is fitted with Lithium batteries. These batteries provides a maximum operating time, with an estimated duration of **more than 4 ½ hours** for the **EXPLORER**.

When PROMAX started to supply this type of batteries some years ago, they were made available as an option given the extremely high cost they had.

It is now proven that the advantage of using such batteries is not matched by any other technology. Not only they are smaller and lighter for the same capacity but also they can be recharged at any time.

Another advantage from this type of batteries is that they have an exponential charging cycle and a good portion of the battery can be recharged in very short time. From one job to another the instrument can be charged from the car lighter.

Battery time charge indicator () is displayed at any anytime in the top left corner.

Color LCD display: *large and light*



*Automatic LCD adjusting
for direct sunlight and bad illumination conditions*



The **EXPLORER** incorporates a high quality 5" TFT - LCD display.

In the past, colour LCDs have not been recommended by us due to their low resolution, the low contrast & brightness that made it very difficult to use on sunlight conditions and the limited temperature range.

Nowadays, the technology is been improved and the characteristics of this particular LCD (320 candels per square centimeter) warrants **excellent resolution** and an **amazing contrast and brightness** that makes it now recommendable for outside use and more suitable than monochrome CRTs. The temperature range for this industrial model, is also been extended, allowing both the use at high and low temperatures. Though the instrument is protected with an automatic switch-off system, the internal fan allows to use the instrument even at high temperatures of 40° C/ 104 °F.

The instrument includes a **light sensor** that activates the contrast and luminosity of the display according to the environmental conditions. This feature helps to save batteries at the same time.





TV EXPLORER

TERRESTRIAL TV

SATELLITE TV

CABLE TV

MPEG DECODER

DVB-C

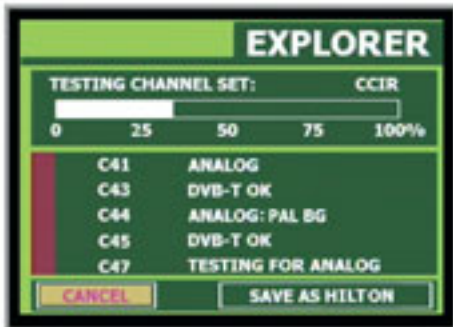
DVB-S

DVB-T

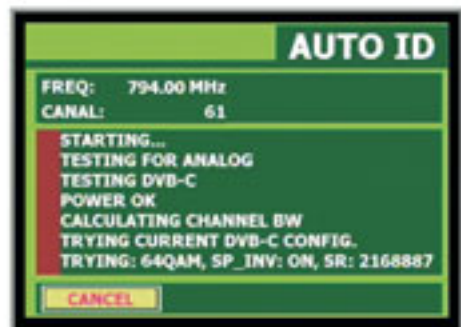


explore...

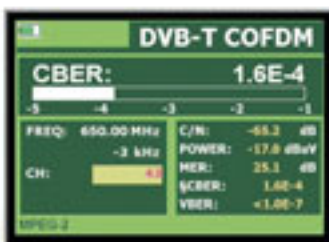
identify...



... all channels in the band!



... signals automatically!



Shows all measurements simultaneously



Shows picture, service list, PID's,...



Direct adjusting of spectrum, without menus