



## THE TELEVISION EXPLORER

*The evolution of the field strength meter: **PRODIG-5***

**PROMAX** continues to revolutionise the television field strength meters market.

*The **PRODIG-5** is a new meter that is going to change the way users make and understand signal measurements.*

### A new concept

**PROMAX** leads the television installation and maintenance test equipment market. With the launching of the **EXPLORER**, the equipment concept has changed and from now on it is never going to be the same again.

We are introducing a new instrument that has a new concept. In the design we have exploited the possibilities that new digital design techniques are offering to produce an instrument that is above all, easy to use.

The **EXPLORER** is innovative both in the functional aspects and in those related to ergonomics.

Any television systems installer expects from a meter functions that allow for installation and maintenance in the fastest and most comfortable way.

At the same time, he wishes the instrument can really establish a reference before determining problems of the input signal, in the distribution components or with the reception equipment.

Due to the extremely compact design, the technical specifications and the low cost, the **EXPLORER** is going to become the benchmark instrument for installers.

## An avalanche of functions

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

- \* Coverage of satellite 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.
- \* 5" TFT Monitor (320 candles/m2).
- \* Total precision:
  - 1.5 dB terrestrial.
  - 2.5 dB satellite.
- \* 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.



## Channel Identification

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

When pressing the 'identification' key, 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.

When the signal is digital, it analyses for each modulation type QAM / QPSK / COFDM all the associated parameters such as the modulation system (2k-8k), the symbol rate, the code rate and determines the value of the signals under test.

## Simultaneous measurements

The operation of the **EXPLORER** is extremely easy.

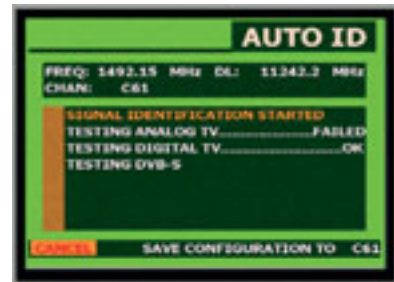
A symbol based keyboard allows the direct access to the various functions and the measurements are displayed simultaneously.

In this way, the **EXPLORER** becomes a fully automated and agile instrument, able to detect and to identify practically all of the channels in a television system.

Even in adverse situations, when the conditions of the signal to be identified are very poor or when the characteristics of the signal do not comply to any of the algorithms for their identification, the equipment allows a manual configuration.

## Signal detection

When the same 'identification' key is



pressed for a few seconds, a new spectrum exploration session begins.

The **EXPLORER** is able to determine channel bandwidths and digital channel shifts.

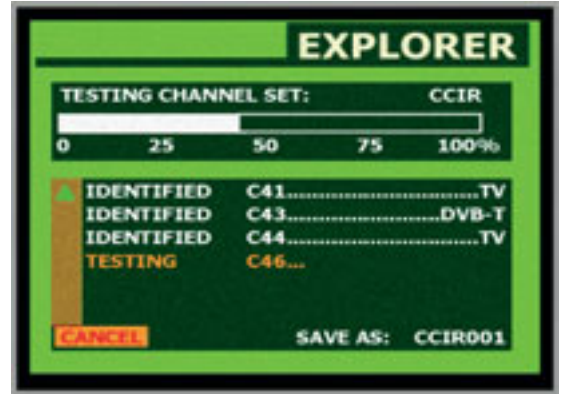


### The Explorer

Unlike the meters currently on the market, the **PRODIG-5** makes a dynamic exploration of the spectrum, detecting all the channels in the explored band, this applies for the terrestrial and satellite television bands.

This measurement concept marks a radical change in the way to understand and to use the meter. The meter is no longer a passive equipment, that only allows to measure the state of a series of channels, but it is the meter on its own that begins by locating the channels and collecting them in a data base.

The meter locates all the channels in the spectrum with no need of any previous information about the number of channels, the type of signals transmitted or their characteristics.



The **PRODIG-5** discerns analogue and digital signals. With the data collected after each exploration, it creates a register that contains tables of channels that can be independent for each system or installation. These tables of channels can

be personalised by assigning them a name. At any time, the measurement sessions using only the pre-tuned channels can be repeated. In this way it is possible to optimise the measurement process.



## Speed of process

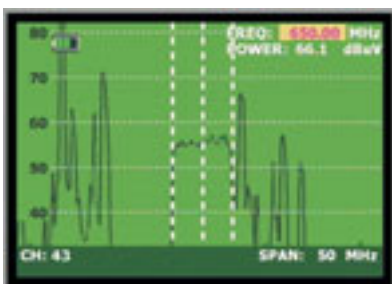
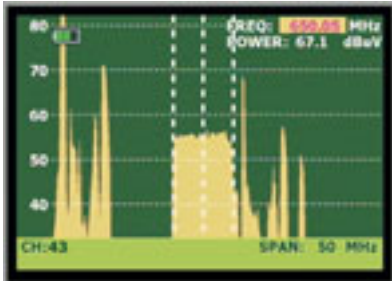
Time is a limited resource

By increasing the equipment's intelligence, devices have been incorporated that allow to increase the speed of processing. The final result is much shorter measurement times than those equipments with traditional designs existing until now.

## Display

The **PRODIG-5** incorporates a high quality 5" TFT- LCD display that allows optimal resolution.

A light sensor activates the contrast and luminosity of the display according to the environmental conditions.



## Indication of status

At all times the instrument indicates the type of measurement that is



being made i.e. Terrestrial / Satellite and Analogue / Digital.

## Ergonomics

The **EXPLORER** has an ideal size to hold with a hand. The instrument can be held to the body with the carrying bag which at the same time protects it from the rain.



Another detail that has been taken into account, especially considering its outdoors use, has been the anti-shock protector that completely covers the instrument.

The front panel does not have any



keys nor gaps to avoid accidental water ingress.

The weight without the anti-shock protector is less than 2 kg!

## Li-ion Batteries

The instrument is fitted as standard with Li-ion batteries. These batteries are the type that provides a maximum operating time and a minimum charging time. In level measurement mode, the estimated duration is

more than 4 1/2 hours.

It is possible, at any time, to check status of the battery.

A sensor initiates adjustment of the contrast and brightness of the display.



This extends battery operation time.

## Video output

On some occasions, it is convenient to display the measurements of the spectrum analyser in a larger format. The equipment has a video output that provides a signal to a bigger screen or a projector.



## Transport case (option)

Optionally, the instrument can be supplied with a strong transport case.



### Antenna installation

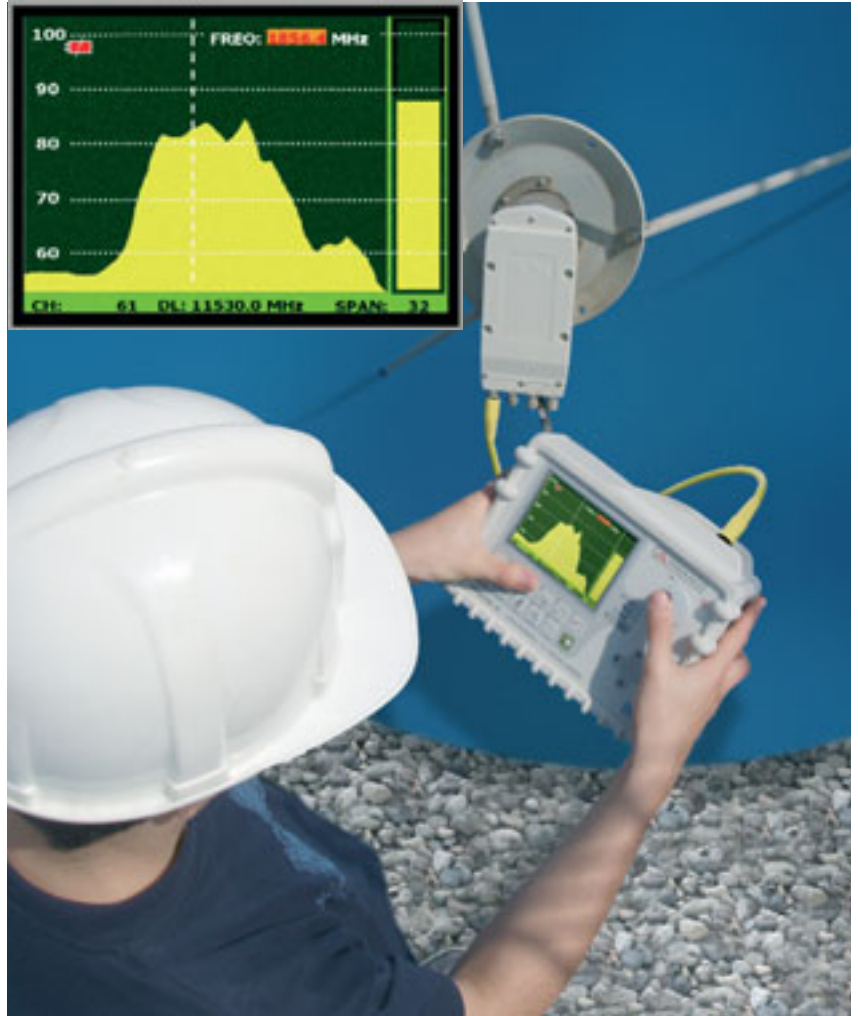
The **EXPLORER** has been designed to make compatible type of measurements that require of very different working configurations.

A specific function has been developed for easy antenna alignment. When selecting...



the instrument configures itself to offer a very fast sweep time of the spectrum and a high sensitivity graphical bar 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 Diseq 1.2 devices.



### Selection of measurement

All the related measurements are displayed simultaneously on the screen.

When pressing the measurement key, a main measurement is selected, so that the one that appears emphasised in the display can be selected.



Which means the instrument adapts to the diverse preferences of the user without adding any complication during familiarisation or operation.



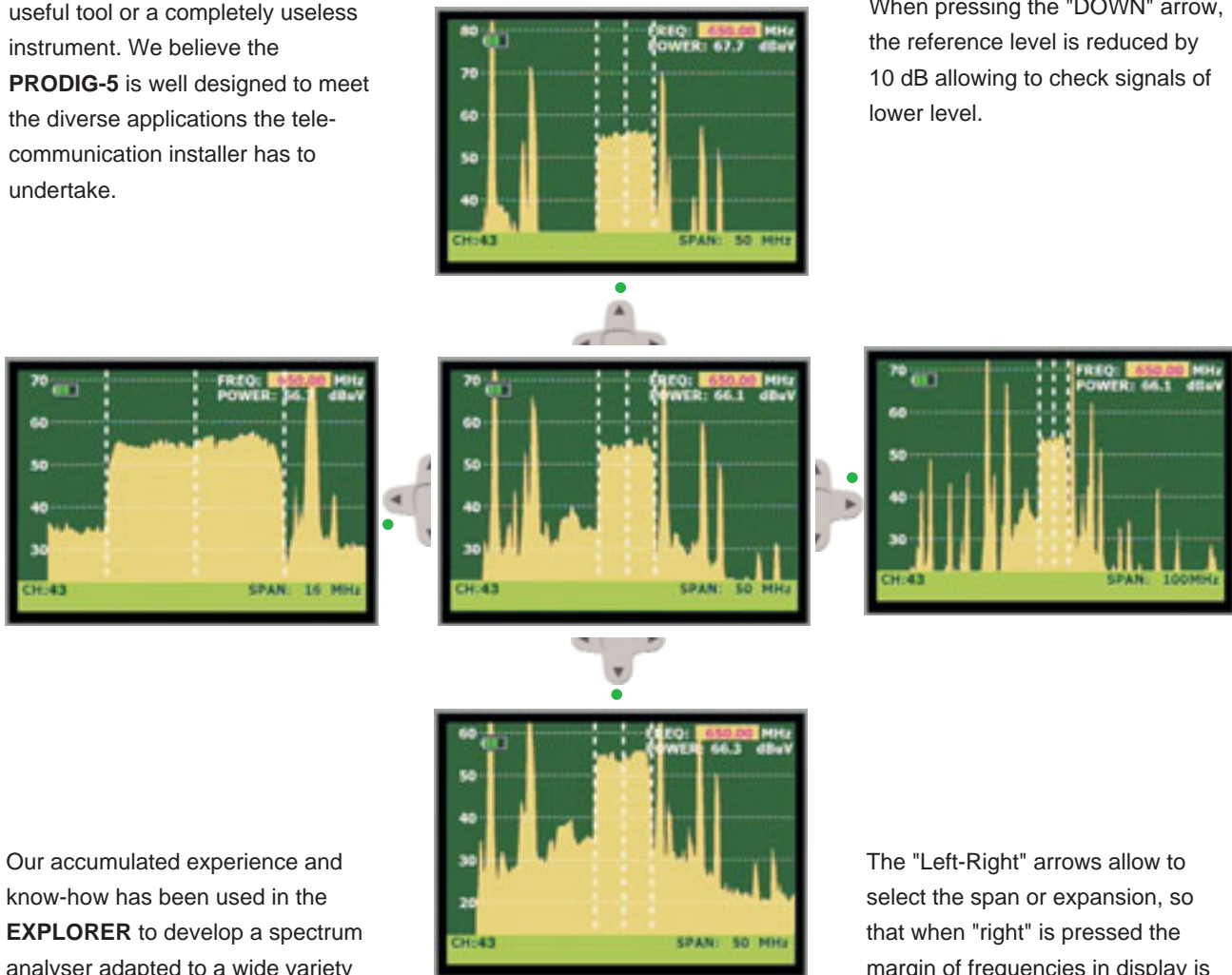
## Spectrum analyser

One of the features that has been most carefully studied in the instrument design has been the spectrum analysis functions.

Features like accuracy, resolution, sensitivity and sweep time can make a spectrum analyser a very useful tool or a completely useless instrument. We believe the **PRODIG-5** is well designed to meet the diverse applications the telecommunication installer has to undertake.

The **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 in a dynamic margin of 10 dB/division). When pressing the "DOWN" arrow, the reference level is reduced by 10 dB allowing to check signals of lower level.



Our accumulated experience and know-how has been used in the **EXPLORER** to develop a spectrum analyser adapted to a wide variety of measurement requirements, from the installation of the antenna to the detection of complex impulsive noise events. While all advanced control possibilities have been incorporated, a new system to simplify its use has been implemented.

The "Left-Right" arrows allow to select the span or expansion, so that when "right" is pressed the margin of frequencies in display is increased and when "left" is pressed the zone around the cursor can be analysed with more detail.

By means of the rotating button any frequency or channel that needs to be tuned can be selected.