

CABLE TV ANALYSERS



PROMAX-10 *Premium*

- * BER & MER ON QAM DIGITAL SIGNALS
- * MULTISTANDARD ANNEX A / B / C
- * ANALOGUE CHANNELS
- * DIGITAL CHANNELS
- * SCAN
- * C/N, CSO, CTB
- * TRANSIENT DETECTOR
- * MAX AND MIN HOLD
- * CHANNEL POWER BY INTEGRATION
- * TILT
- * DATALOGGER
- * PRINTING
- * CONNECTION TO PC



Analogue and digital

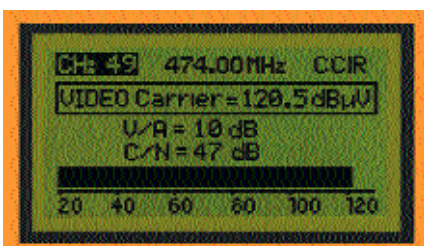
PROMAX-10 *Premium* is a multi purpose CATV Analyser ideal for all size MSO's and contractors as a service and installation tool. The most outstanding feature of this unique meter is its capability to measure MER and BER on QAM digital channels but it is not missing any of the measurements a meter of its class must have.

As a signal level meter it can be tuned by frequency or by channel. Various channel tables are available on board and they are all customer definable. Operating via a customized channel table can offer several advantages such as:

- Automatic selection of analog or digital measurement mode
- Faster tuning via rotating tuning knob
- No need to type-in channel number or frequencies
- Combined multi-measure display (video, video/audio, carrier/noise)

Multifunctional Display

The **PROMAX-10 *Premium*** displays with each of the measurements all the information required for the evaluation of the quality of signal under test. It has a GRAPHIC BAR for the interpretation, adjustment and convenient optimization of any cable television system, microwave link or terrestrial aerial.



It is also possible to tune the audio carrier, allowing demodulation to listen to the sound via a built-in loudspeaker.

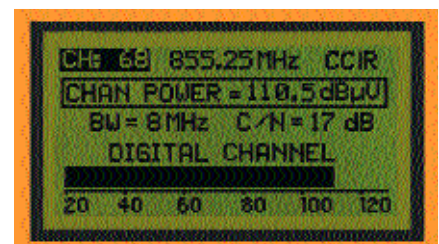
Carrier to Noise (C/N)

To evaluate the signal quality, the Carrier / Noise Ratio is an important parameter both in analogue and digital transmission. In the menu this C/N ratio is displayed together with Signal Level or Channel Power, Audio Level and Video / Audio Ratio.

Digital channel power

To correctly measure the power of a digital channel, independently of the type of modulation (QAM, QPSK, COFDM) or application

(Digital Television, CATV modems), we cannot assume that the digital channel has uniform spectral distribution within its band-



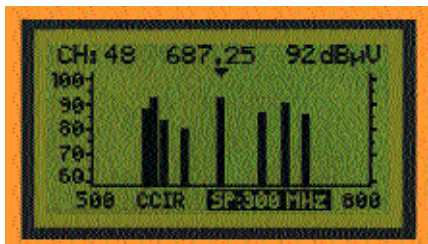
width as, in practice, it is distorted by undesired effects such as impedance matching, incorrect frequency response, etc. **PROMAX-10 *Premium*** integrates thus avoiding such traps.

PROMAX-10 *Premium*

Scan

In this mode we can see all the channels of the selected channel plan graphically represented with their associated signal levels. A MARKER can be placed on any of the channels displayed on the screen in order to find their frequency or their signal level.

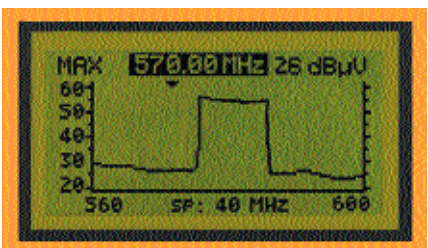
The SPAN and the REFERENCE LEVEL can be changed in order to adapt the presentation to the users test requirements.



Spectrum Analyser

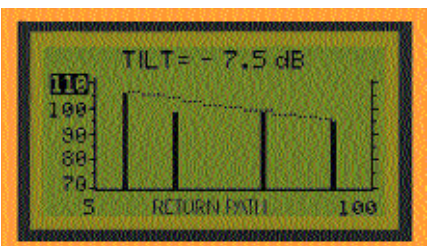
It can be very helpful for interference and noise troubleshooting both in the forward and return bands. It can be essential to solve cable modem related problems.

It is provided with a HOLD function to maintain maximums and minimums, this is of great value for identifying interfering signals, for example, in the return band.



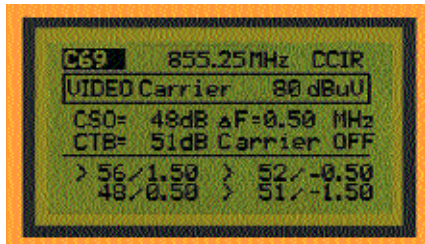
Tilt

The Tilt function provides a graphic and numeric representation of the absolute level of any 4 defined pilot frequencies and the difference between two of them. An interesting application is found in the return path where the PROMAX-10 *Premium* together with the RP-100, Pilot Generator, will permit to evaluate the frequency response in a graphical and comfortable mode.



Intermodulation (CTB/CSO)

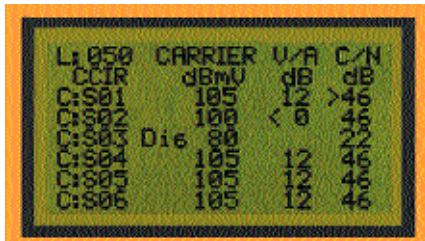
The Composite Triple Beat (CTB) and Composite Second Order (CSO) are an indication of the level of interference in the television channel generated by intermodulation of signals from other channels. Usually, other channels from the same system. Over certain level CTB and / or CSO the interference becomes visible on the television signal.



Data Logger

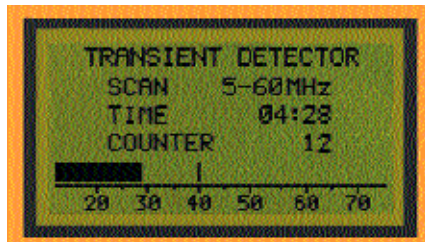
In this mode of operation the PROMAX-10 *Premium* can acquire the measurements that are required and can memorize them for a subsequent review, for printing or transfer to a PC.

Carrier levels, digital channel powers, V/A or C/N ratios can be saved in the PROMAX-10 *Premium* without the need for any external device. The channels to be analysed by the data logger can be selected from the channel plan by means of the configuration.



Transient detector

The function of transient detector in the PROMAX-10 *Premium* enables it to count how many of these pulses have exceeded a limit level predefined by the user.



Language

It can be selected among English, French, German and Spanish.

Leakage

PROMAX-10 *Premium* is not a leakage meter but many users find it useful for that application too.

The frequencies used for leakage detection can be manually tuned or programmed as part of the channel tables

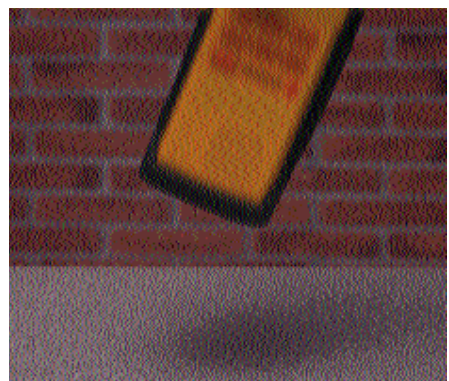
Input connector

The input connector is a frequent point of breakdown in field instruments. Therefore we have designed a replaceable F/F adapter.



Robustness

Both units were designed according to the recommendations of IEC standard on mechanical robustness. Their construction with a mixture of ABS and Polycarbonate provides them both with resistance and elasticity. The PROMAX-10 *Premium* is supplied with a rubber shock-absorption protector (DC-284) to ensure maximum protection.



Power supply

The instrument can be supplied from its internal rechargeable batteries or from an external DC source. When connected to the mains or to the car lighter adapter it is possible to simultaneously operate the instrument while charging the batteries.

MULTIFUNCTION

PROMAX-10 *Premium*

Data processing

RM-010 software package is a perfect complement to the **PROMAX-10 *Premium***.

This program has three main functions:

a) Datalogger: Allows to open stored Data Loggers in the **PROMAX-10 *Premium*** (up to a maximum of 55) or to transfer a Data Logger acquisition from the **PROMAX-10 *Premium*** to the PC.



b) Config: Allows to transmit, receive, save and modify all the Configuration Parameters of the **PROMAX-10 *Premium***.

c) Upgrade: Allows to upgrade the **PROMAX-10 *Premium*** internal control software (firmware) to newer versions.



PROMAX-8 *Premium*

PROMAX-8 *Premium* does the same as **PROMAX-10 *Premium*** but without the BER and MER QAM signals measurement capabilities.

SPECIFICATIONS	PROMAX-10 <i>Premium</i> / PROMAX-8 <i>Premium</i>	Accuracy		
TUNING Tuning range Tuning mode Channel plan Resolution Indication	From 5 to 862 MHz. By channels or by frequency Selectable 10 kHz Graphic display with backlight	Analogue channels	± 2 dB (de 0 to 40 °C) Negative video modulation	
		Digital channels	± 3 dB (de 0 to 40 °C) For 8 MHz channel bandwidth	
LEVEL MEASUREMENT Measurement Analogue Channels Digital Channels Measurement range Maximum input level From 5 to 862 MHz DC to 60 Hz Reading	Signal level measurement on video carrier Channel power measurement by integration through channel bandwidth From 25 to 120 dB μ V (De -35 dBmV to 60 dBmV) 120 dB μ V (60 dBmV) 60 V DC or RMS Digital in dB μ V, dBmV or dBm and analogue by Graphic display with backlight. 1 dB resolution.	Digital measurements (PROMAX-10 <i>Premium</i> only)		
		MER BER	From 22 dB to 34 dB for 64 QAM Before Reed-Solomon	
		Locking range Symbol rate Channel bandwidth	-10 dBmV to 60 dBmV 1 to 7 Msym/s 16/32/64/128/256 QAM ITU J1 annex A/B/C 6/8 MHz	
		Mechanical features Dimensions Weight		
		W. 70 (90 at display) x H. 218 x D. 50 mm 825 g.		