

PROMAX NEWSLETTER

N° 23



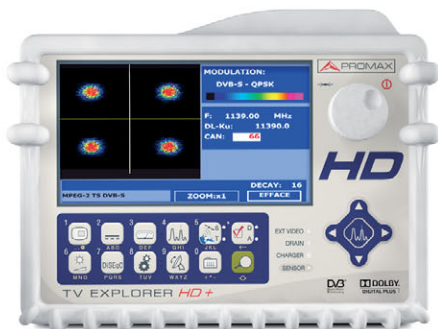
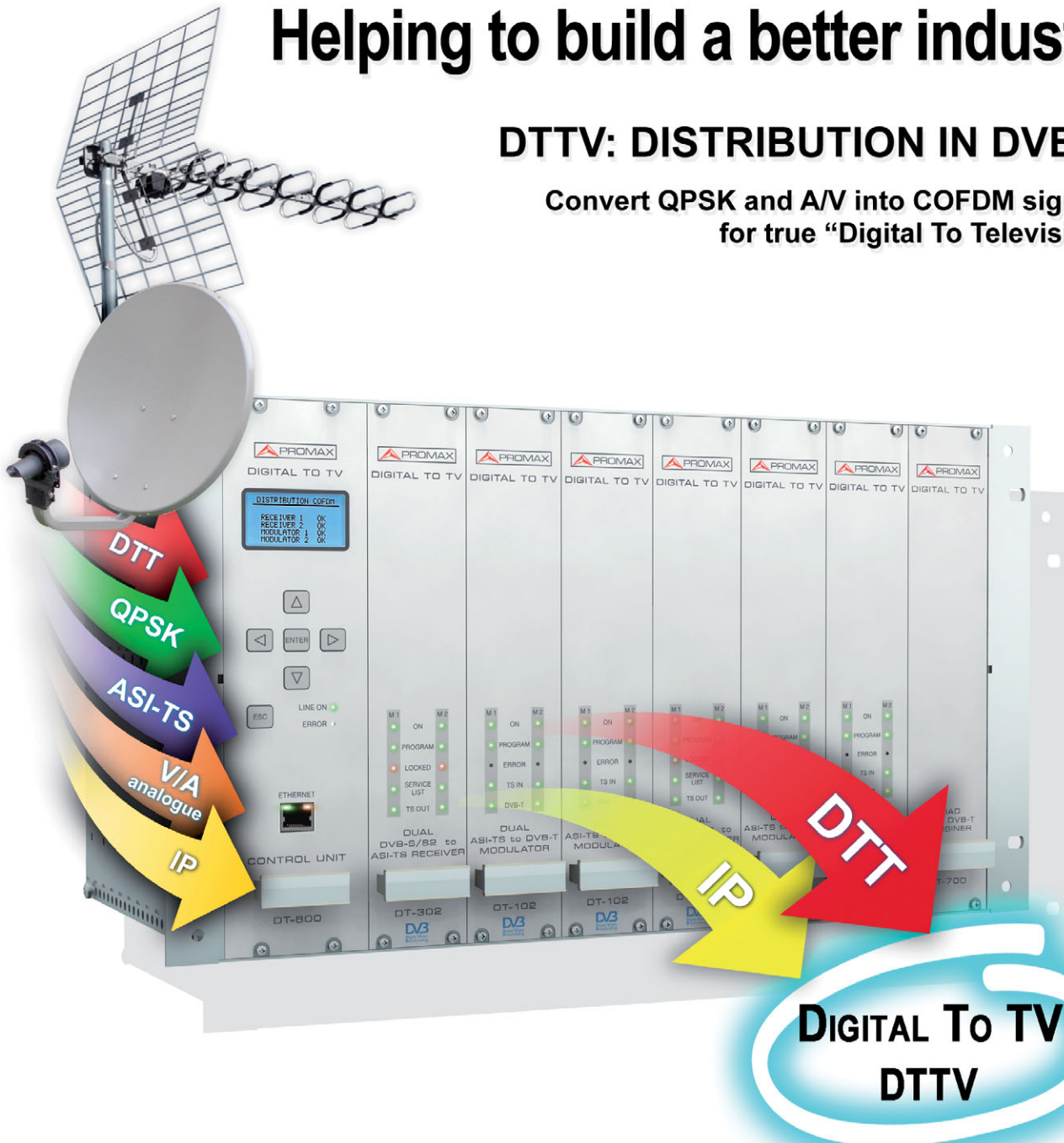
- ✓ **TV EXPLORER HD+**: Dolby Digital Plus and DVB-T2
- ✓ **CV-100**: Optical LNB adapter for TV & Satellite Analysers
- ✓ Optical modules for **TV EXPLORER HD**, **HD LE** and **HD+**
- ✓ Using **DIGITAL TO TV** for IPTV Distribution
- ✓ **PROLITE-67**: Selective Optical Power Meter for FTTH-xPON
- ✓ **PROLITE-105**: Triple Wavelength Laser Source
- ✓ **RP-110**: Test Signal Generator for Coaxial Cable
- ✓ **EN-106**: Home Digital DVB-T Modulator
- ✓ **PROMAX-8/10 SE**: QAM CATV Analysers



Helping to build a better industry

DTTV: DISTRIBUTION IN DVB-T

Convert QPSK and A/V into COFDM signals
for true "Digital To Television"



TV EXPLORER HD+

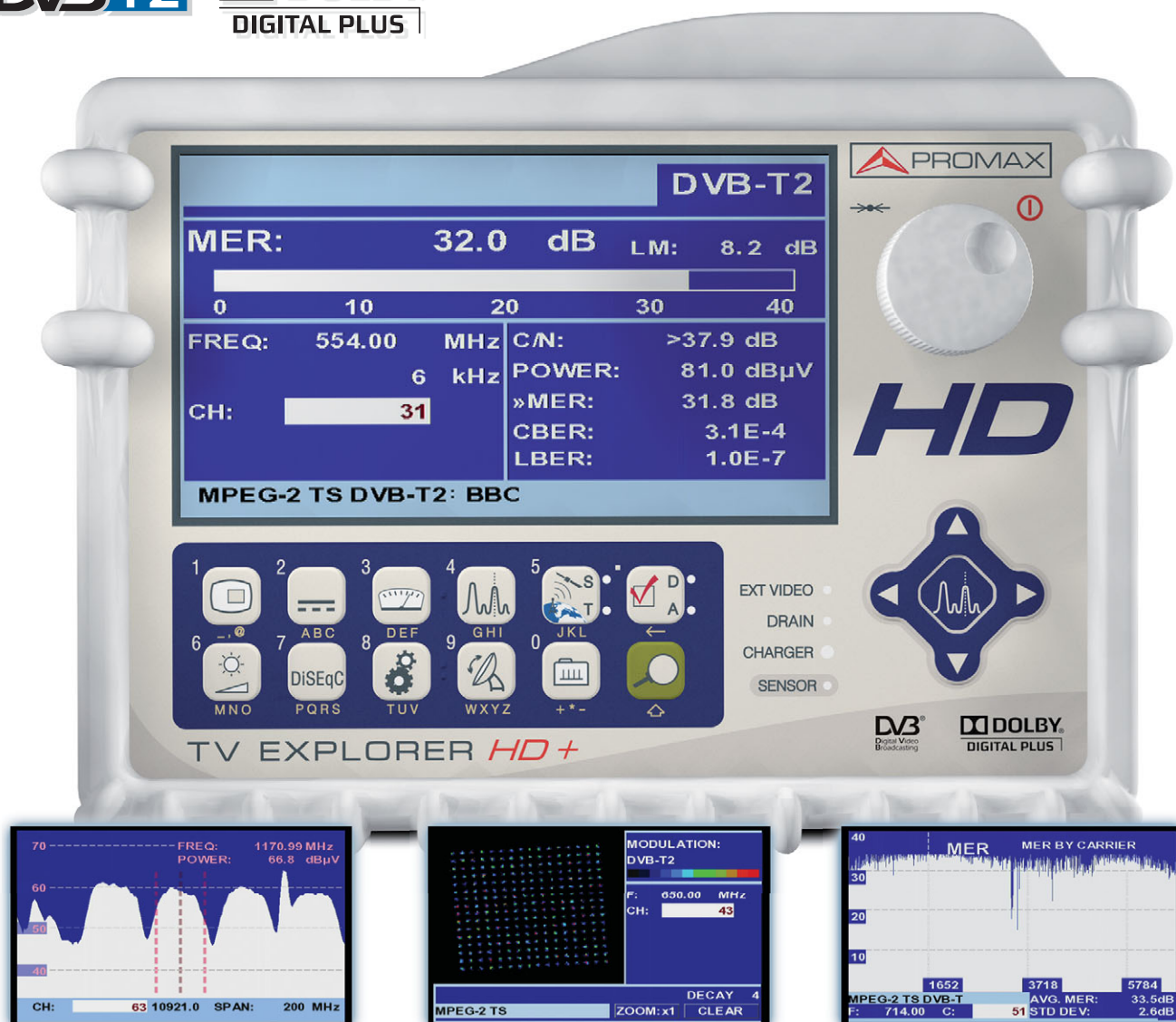
High definition satellite (DVB-S2) & Mobile TV (DVB-H)
Encrypted channels decoding (Patented)
Automatic signals identifying
Automatic channel tables
Fast, automatic reports
Spectrogram and Merogram (Patent Pend)
Minimum size & weight



SATHUNTER

Fast and accurate dish installation
Light, compact and easy to use
Displays Power, MER, BER and service list
Customizable through software and USB port

High Definition TV Analyser *TV EXPLORER HD+*



- ✓ Video decoding: MPEG-2 and MPEG-4 H.264 for 1080i, 720p and 576i
- ✓ Audio decoding: Dolby Digital Plus, AAC, MPEG-2 and MPEG-1
- ✓ Video formats: SD (standard definition) and HD (high definition)
- ✓ Screen formats: 16:9 and 4:3
- ✓ HDMI output
- ✓ DVB-T2, DVB-T/H, DVB-C and DVB-S/S2
- ✓ CAM module (Conditional Access) for encrypted channels
- ✓ TS-ASI input and output

New Technologies



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

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** decoding capabilities. The **TV EXPLORER HD+** already includes it.

USB On-The-Go

The **TV EXPLORER HD/HD+** are equipped with a "USB On-The-Go" interface that allows the USB port to behave as a master or slave device.

This new function is designed so that these analysers can not only be connected to a PC in the office but also to a USB pendrive as a convenient data storage option in the field.



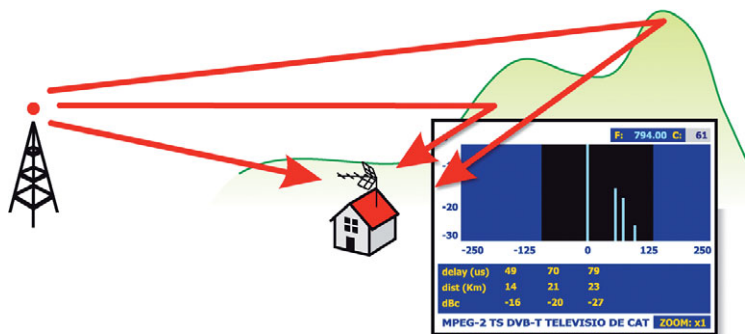
TV EXPLORER HD/HD+ can also be connected to a computer so the user can download or upload information to the instrument by means of the **NetUpdate 3** software. This software is completely free and can be downloaded from **PROMAX** web site.

NetUpdate 3 also allows the user to edit channel plans, make backups, etc.

Dynamic Echoes Analysis

There are many situations in which the presence of echoes can degrade or severely affect reception of DTT.

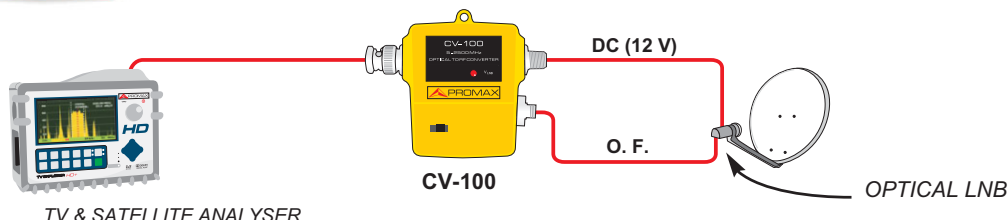
The dynamic analysis of echoes, made in the way the **TV EXPLORER HD+** does, happens to be nowadays an essential function. This function helps identifying and avoiding the post-echoes and pre-echoes both in MFN and SFN networks.



Optical LNB Adapter for TV EXPLORER CV-100



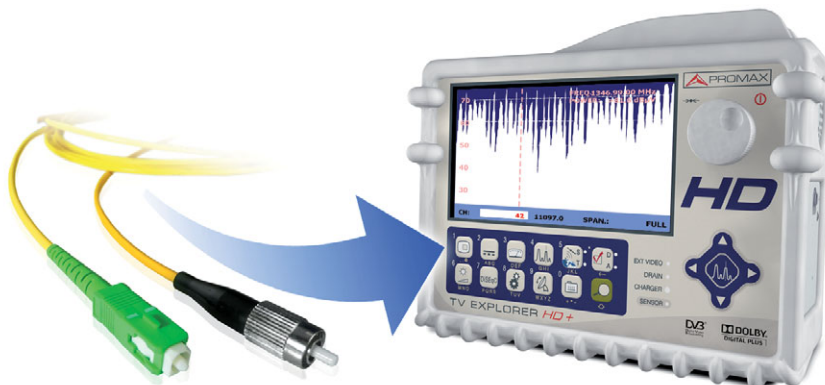
- DC output for optical LNB supply
- Selectable 20 dB RF attenuator (High/Low)
- Wavelength input range from 1100 to 1600 nm
- It allows optical LNB antenna alignment
- It can also be used for optical applications in CATV



Optical Modules for TV EXPLORER **HD**, **HD LE** and **HD+**

Measurements on fibre optics applications are now possible for **TV EXPLORER HD**, **HD LE** and **HD+** owners thanks to the new optional optical modules.

This option is installed in exchange of the TS ASI IN-OUT in **TV EXPLORER HD** and **HD+** and it is available both at the time of purchase or at a later stage.



Converted RF band:
Cable TV and optical DTT:
Optical satellite IF:
Optical input:
RF output:
Optical power measurements:

From 50 to 1000 MHz
From 950 to 5450 MHz (Optical LNBs)
From 1200 to 1600 nm
From 50 to 2150 MHz
Available in all bands

Application 1: Optical LNBs

- Connecting the meter directly to an optical LNB you can perform the alignment of the satellite dish, use spectrum analyser, digital measurements such as MER or constellation diagram, signal decoding, etc...

In other words you can work with optical LNBs like with conventional ones.

Application 2: Selective optical power measurements

- It includes a selective optical power meter for FTTH networks certification in combination with our triple laser source **PROLITE-105**.

Typical wavelengths use for these applications are 1310, 1490 and 1550 nm.

Application 3: Optical to RF conversion for optical CATV or DTT links

- Thanks to the use of state-of-the-art technology in the design of this new optional modules, it is possible to enjoy all functions of TV EXPLORER **HD** meters in CATV and DTT optical links with bandwidths up to 1 GHz.



Using DIGITAL TO TV for IPTV distribution



DT-324

IP receiver to ASI-TS output

The DT-324 module can receive multiple IP-encapsulated streams and deliver them in up to 4 TS-ASI outputs. Factory configuration setups range from direct stream transfer for MPTS feeds, to multiplexed streams with PSI/SI table addition for SPTS feeds.

In case of SPTS, there are two 4 to 1 TS multiplexer units with automatic PAT, PMT, NIT and SDT creation and insertion. Protocols supported are Multicast UDP/RTP and IGMPv2 (others on demand).



DT-421

IP Streamer. ASI-TS input to IP output

The DT-421 module (IP streamer module) can receive up to 4 TS-ASI transport streams and convert them to IP Multicast streams so that they can be distributed over an Ethernet network.

All received TS are converted to IP "as is" regardless of being MPTS or SPTS. It is also possible to select specific programmes from the TS inputs and convert them to SPTS IP streams. Output IP streams protocol can be set to UDP or RTP. Other protocols or configurations are available upon request.

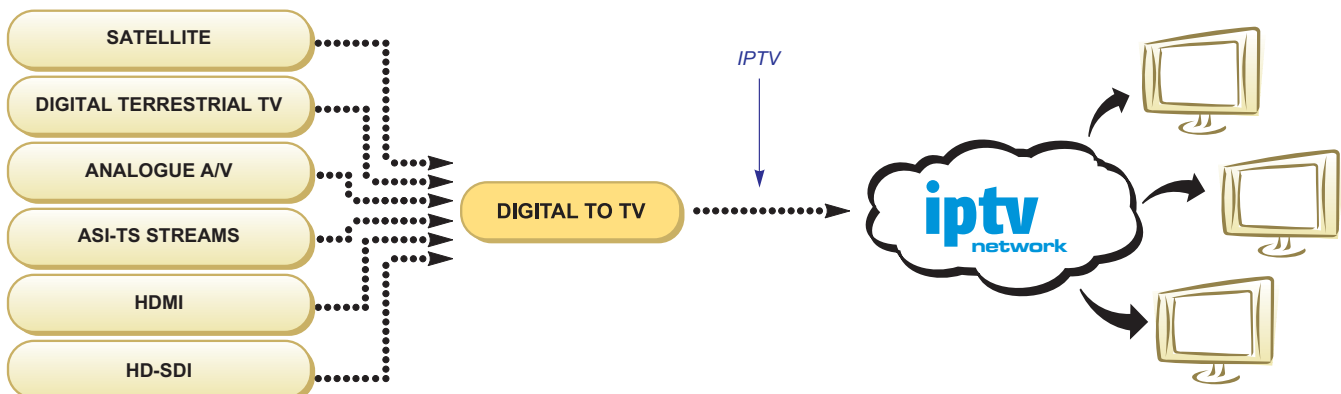


ip.tv

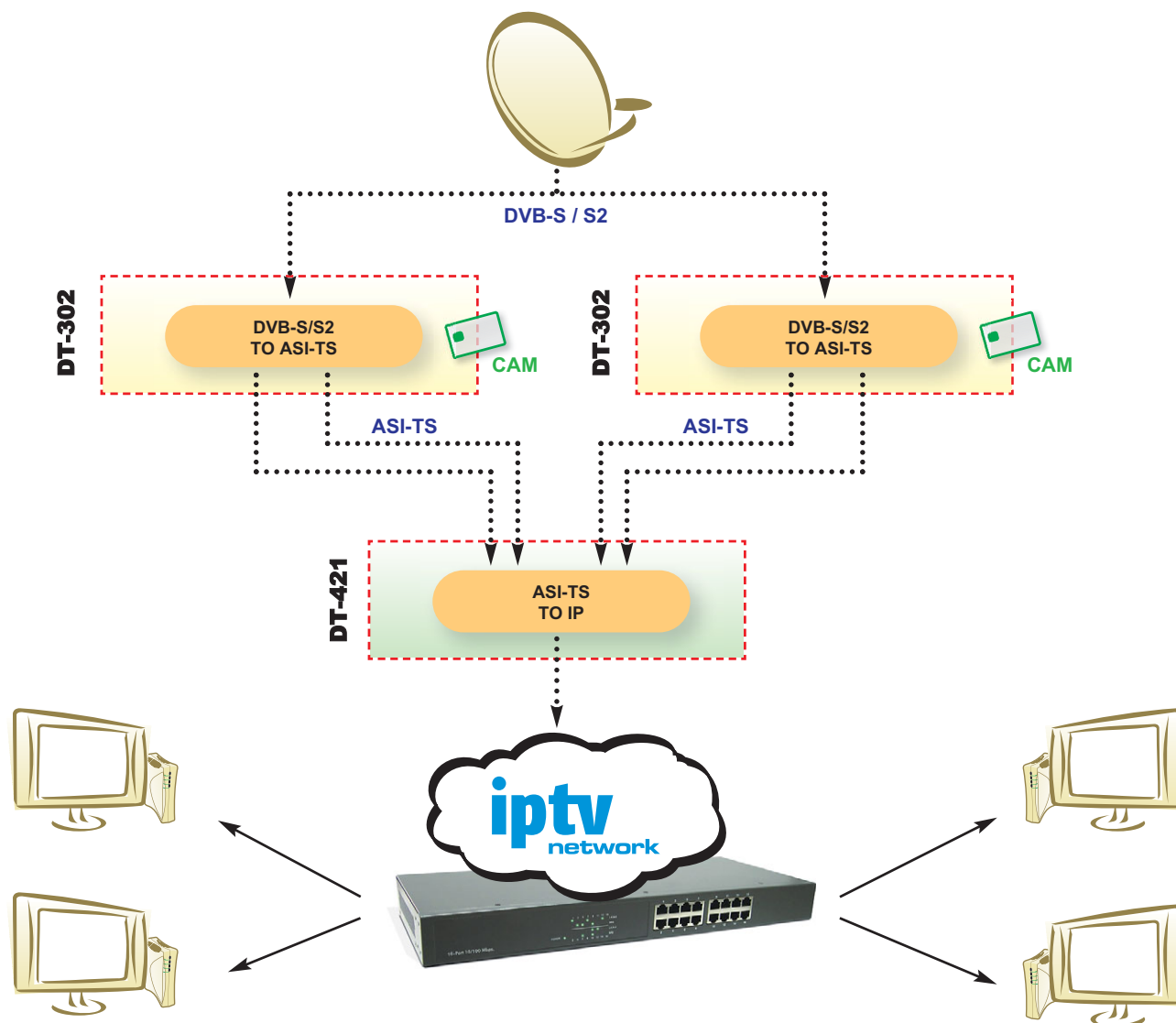
IPTV as a mean of transport for TV programmes



IPTV as a TV distribution platform



Using DIGITAL TO TV for *IPTV* distribution



DVB-S/S2 to DVB-T Transmodulation of Encrypted Channels



DT-232

Dual **DVB-S/S2**
to **DVB-T**
transmodulator
with **CAM**

This new module has just been introduced in the DTTV product range. It can be tuned to two DVB-S/S2 satellite transponders and delivers two DVB-T muxes with the desired mix of selected programmes. It includes two CAM module slots for applications including encrypted programmes.



Selective Optical Power Meter for FTTH-xPON **PROLITE-67**

Measurement
on three wavelengths
simultaneously

Attenuation test compatible with
PROLITE-105 LASER source



- **MODE 1: Wavelength selective measurements**
 - Simultaneous measurements for the three wavelengths (1310/1490/1550 nm)
 - Power level analysis with Pass / Fail indication
- **MODE 2: Optical power measurements on active networks xPON and RFoG**
 - Attenuation test
 - Visual fault locator: red laser at 650 nm with universal connector
 - User interface in several languages
 - USB connection for PC

Triple Wavelength Laser Source **PROLITE-105**

The **PROLITE-105** is a triple laser source that can be used for testing FTTx networks. It generates 1310 nm for the Upstream channel and 1490 and 1550 nm for the Downstream. These light sources could be modulated for wavelength identification purposes with tones of 270 Hz in the case of 1310 nm, 1 kHz on 1490 nm and 2 kHz for 1550 nm.



- Triple laser source for FTTx
- Wavelengths of 1310, 1490 and 1550 nm available simultaneously
- Wavelength identification tones
- Simultaneous and sequential modes for measurements with non selective power meters like PROLITE-65
- 1310, 1550 and 1625 nm as an option

Fiber Optics Installation Certification with **PROMAX** Equipment



The **PROLITE-105** triple laser source is connected at the input of the house or apartment complex.

The three wavelengths can be generated simultaneously (if we will use a selective power meter such as **PROLITE-67**) or in a sequence (for non selective power meters like **PROLITE-65**).

Using **PROLITE-67** (selective) or **PROLITE-65** (non selective) at the various test points in the building we can measure the optical power and determine if the attenuation at the three wavelengths is within the margins accepted.

RP-110B Test Signal Generator for Coaxial Cable



The **RP-110B** is a test signal generator for networks certification in all the bands used for coaxial cable: CATV and SMATV.

Attenuation test compatible with
TV EXPLORER field meters

- Six pilots with selectable frequency and level
- Pilots frequency range from 5 to 2150 MHz
- Upstream, Downstream (CATV/UHF) and IF Sat
- Output level independent for each pilot and variable from 80 to 110 dBμV in 1 dB steps
- Frequency resolution: 25 kHz
- User interface in several languages
- USB to PC connection for firmware updating and to configure frequencies and levels

EN-106 Home Digital DVB-T Modulator

The **EN-106** home modulator sends video and stereo audio signal from TV satellite receivers, closed-circuit television cameras (CCTV) or video players to a TV which uses DVB-T (Digital Terrestrial Television) standard.

The selection of an output channel for the modulated signal is done easily via keyboard and display. It also provides connection to the PC via USB.



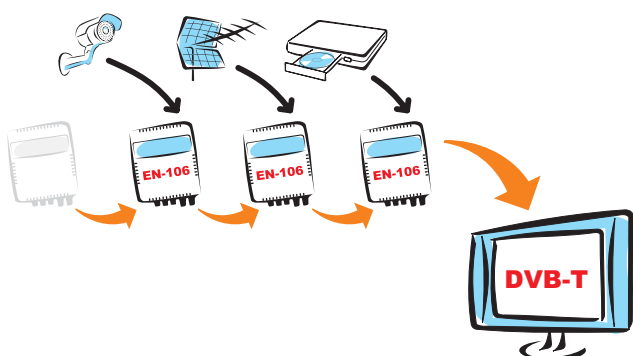
Audio/Video
analogue input

DVB-T output

Stereo audio

DVB-T®

- Provides a DVB-T multiplex (Terrestrial Digital Television) in the VHF / UHF band from any audio / video source: TV satellite receivers, security cameras, video players, computer video outputs, etc
- Connection to PC via USB
- RF Combiner with an antenna signal and other passive modulators works even when it is off
- RCA input connectors
- Compact and small, 40 mm high
- Stereo sound, MPEG-2 SD video
- RF programmable output level
- LCN programmable
- DVB tables generation



The **EN-106** includes an RF combiner on which a channel modulated from existing antenna signals can be added easily. It is a passive combiner that works even if the modulator is off.

It can also be used in series with other **EN-106** modulators and with any other RF signal so the number of channels in the coaxial cable on the SMATV system can be increased as desired.

PROMAX-10 SE & PROMAX-8 SE QAM CATV Analyser



The QAM CATV Analysers **PROMAX-8 Premium** and **PROMAX-10 Premium** are multi purpose CATV Analysers ideal for all size MSO's and contractors as a service and installation tool.

The **PROMAX-8/10 Premium**, in production for more than 10 years, are probably the most popular CATV meters in the market.

We are now introducing **PROMAX-10 SE** and **PROMAX-8 SE** "Special Edition", both renewed with a brand new display, with higher resolution and brighter backlight.

- BER & MER on QAM Digital Signals
- Multistandard Annex A / B / C
- Analogue Channels
- Digital Channels
- Broadband Power Detection
- SCAN
- C/N, CSO, CTB
- Transient Detector
- MAX and MIN hold
- Channel Power by Integration
- TILT
- Datalogger
- Printing
- Connection to PC

Cable TV analyser with IPTV & VoIP QoS PROMAX-27

The **PROMAX-27** includes all the functions of its predecessors, adding longer battery operating time thanks to the use of new Li+ battery technology, and offering brand new features to help cable TV installers to better perform challenging installation and maintenance works in modern networks.

- Network optimisation: QoS
- DOCSIS / EuroDOCSIS protocols
- Dedicated menus for UGS, rtPS, nrtPS
- MAX HOLD function
- Integrated Spectrum Analyser
- High Cable Modem Output Power
- TILT Function
- Wide MER Measuring Range
- Constellation Diagram



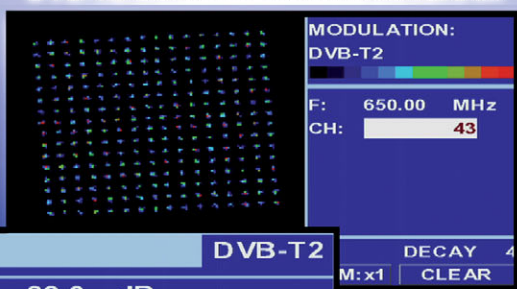


TV EXPLORER **HD+**

DVB-T2

DOLBY
DIGITAL PLUS

DVB-T2 CONSTELLATION DIAGRAM



DVB-T2			
MER:	32.0 dB	LM:	8.2 dB
0 10 20 30 40			
FREQ:	554.00 MHz	C/N:	>37.9 dB
	6 kHz	POWER:	81.0 dBμV
CH:	31	»MER:	31.8 dB
		CBER:	3.1E-4
		LBER:	1.0E-7
MPEG-2 TS DVB-T2: BBC			

DVB-T2 MEASUREMENTS



PROMAX

PROMAX ELECTRONICA, S. A.

Francesc Moragas, 71 * 08907 HOSPITALET * SPAIN

Tel: (+34) 93 184 77 02 * Fax: (+34) 93 338 11 26 * e-mail: promax@promaxelectronics.com * <http://www.promaxelectronics.com>