PROMAX

HEVC H.265 TV ANALYSER

HD RANGER 3

HEVC H.265 field strength meter and TV Analyser

INTRODUCING THE WORLD'S FIRST

HEVC H.265 METER & TV ANALYSER

Digital terrestrial TV is at the dawn of a new transformation driven by the need to release yet further spectrum in the so called second dividend and by the demand for more content and higher resolution.

On the other hand broadcasters need to expand their commercial offers to compete with unconventional video deliverysystems and optimise their costs.

This is difficult to do with the current H.264 standard. The adoption of H.265 HEVC DVB-T2 HD format for the new digital terrestrial TV offers the extra bandwidth and flexibility required to allocate new content with resolutions up to 1080p.

HD **RANGER 3** is the first TV Analyser of its kind to offer HEVC signal demodulation compatible with this new broadcast signals now on air.

HD RANGER 3

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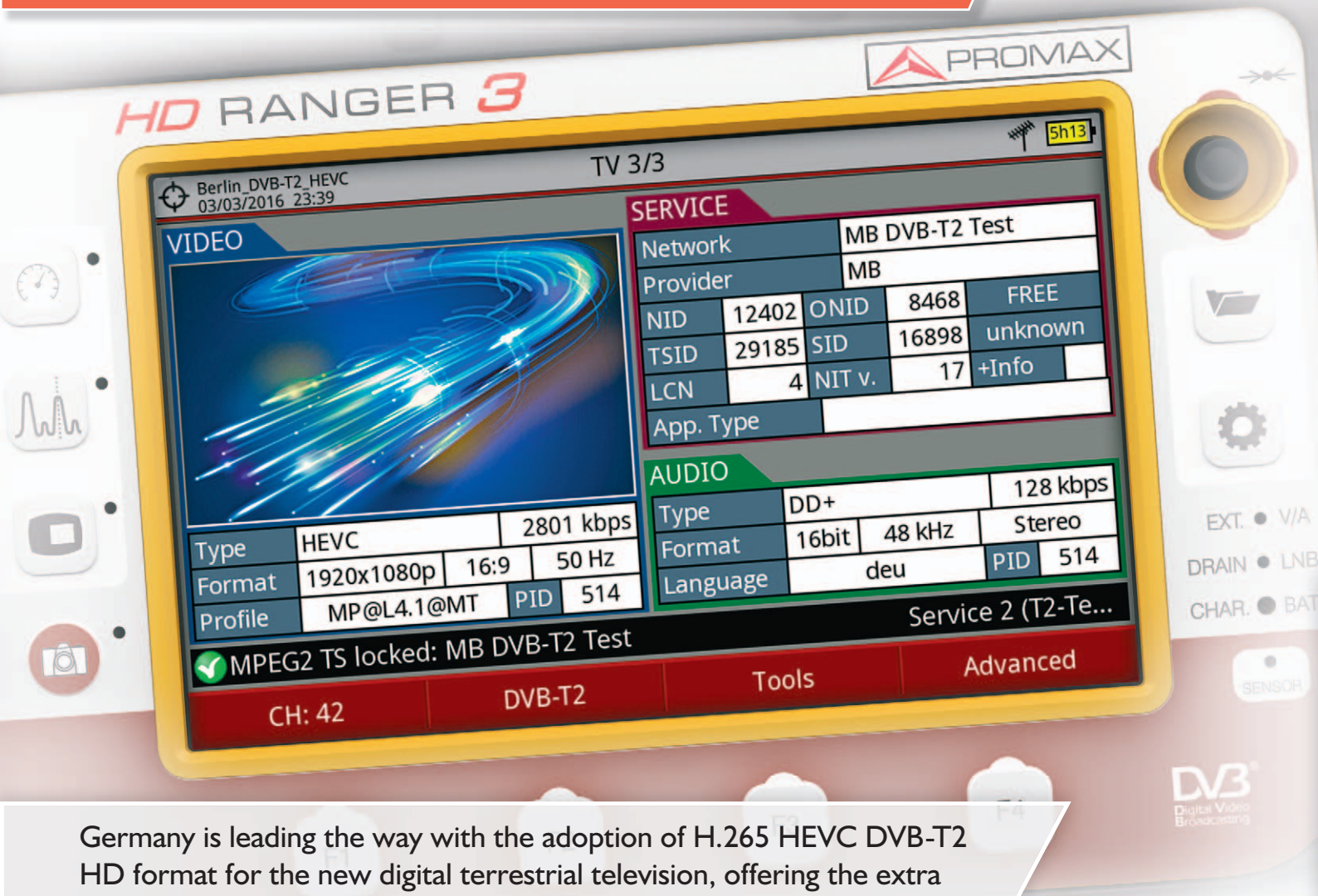
HEVC DECODING

high efficiency video coding

***HD* RANGER 3** is the first field strength meter and TV analyser of its kind to offer HEVC signal demodulation compatible with the new DVB-T2 broadcast signals now on air.



Germany is leading the way with the adoption of H.265 HEVC DVB-T2 HD format for the new digital terrestrial television, offering the extra bandwidth and flexibility required to allocate new content with resolutions up to 1080p.

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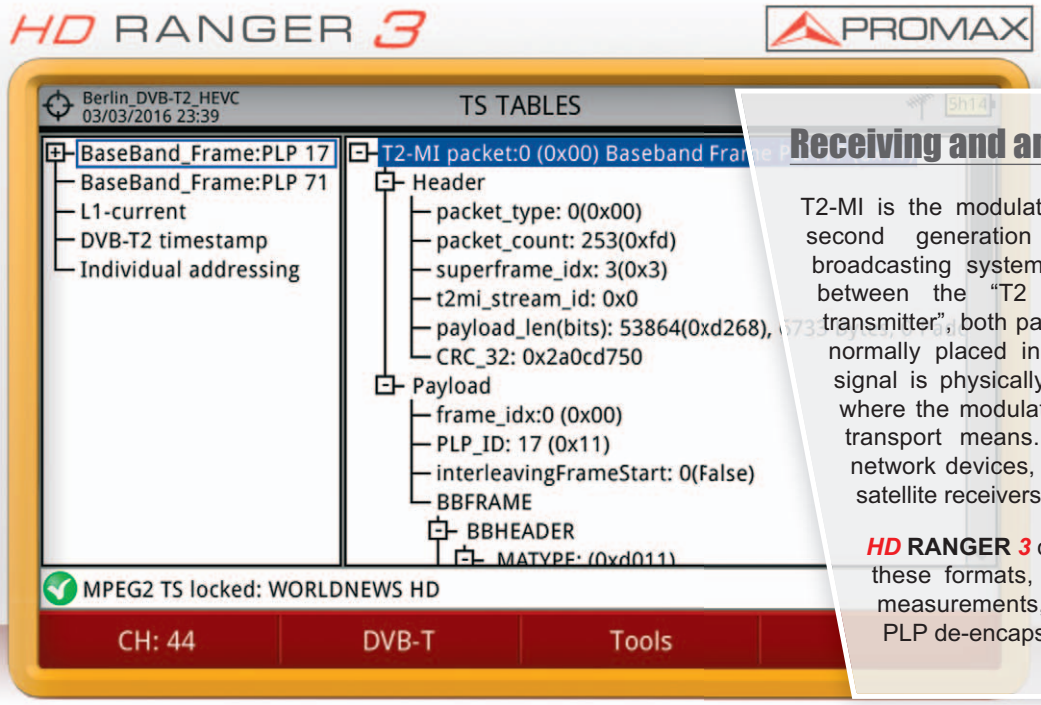
T2-MI PACKET ANALYSIS



Receiving and analysing T2-MI signals

T2-MI is the modulator interface signal used in the second generation digital terrestrial television broadcasting system. It is used in the connection between the "T2 Gateway" and the "DVB-T2 transmitter", both parts of the TV transmitter network normally placed in different locations. The T2-MI signal is physically transported to the TV towers, where the modulators are located, using IP or RF transport means. It is accessible via different network devices, switches, routers, microwave or satellite receivers in the form of ASI or IP signals.

HD* RANGER *3 can receive a T2-MI signal in both these formats, performing IP transport quality measurements, T2-MI packet analysis and PLP de-encapsulation.

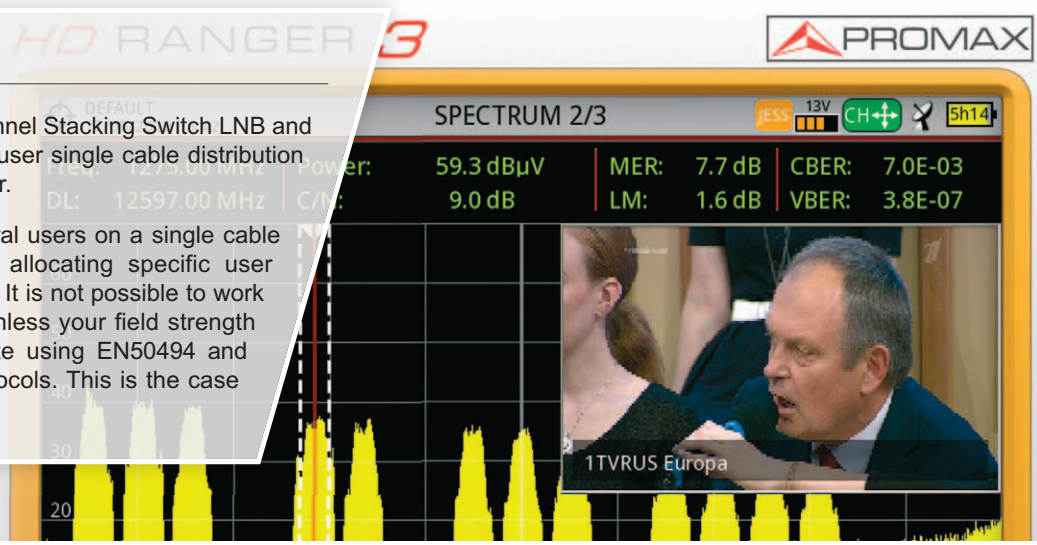
dCSS LNBs

Digital Channel Stacking Switch satellite LNB

dCSS LNBs

It stands for Digital Channel Stacking Switch LNB and they come to take multiuser single cable distribution systems one step further.

They can support several users on a single cable distribution system by allocating specific user bands for each of them. It is not possible to work with this type of LNB unless your field strength meter can communicate using EN50494 and EN50607 standard protocols. This is the case of ***HD* RANGER *3***.



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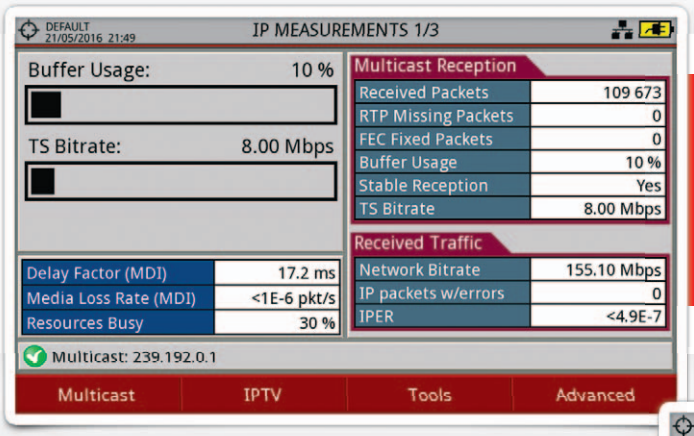
EXTENDED IP FUNCTIONS

the future of content delivering

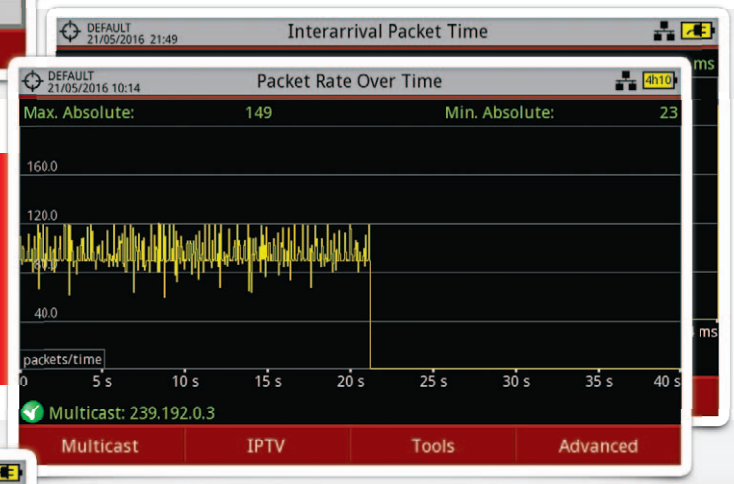


Network bitrate

The network bitrate gives you an indication of the network load and possibility of overload.

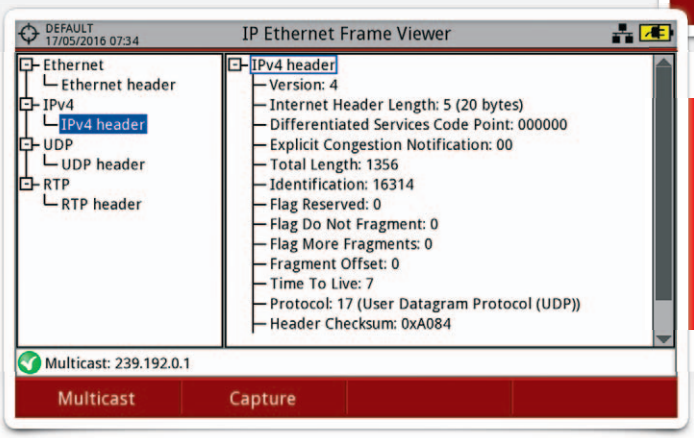
Media Delivery Index

A key quality measurement formed by the Delay Factor and the Media Loss Rate.



PING, Trace, Average packet delay and IPDV

They are very useful to identify the reasons for communication problems, anything from complete service interruptions to uncontrolled delays which can be as important in terms of service performance.



IP Ethernet frame viewer

IP Ethernet frame viewer captures a multicast packet displaying all its frame details, for example Time-To-Live (TTL), all fields of RTP protocol, etc... It is very helpful to study IPTV signalisation problems.

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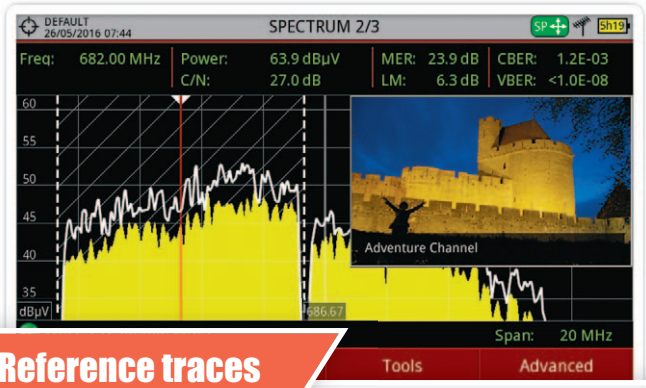
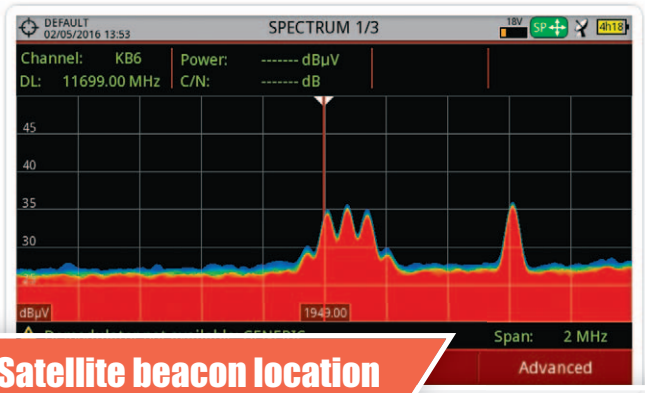
PROFESSIONAL SPECTRUM ANALYSER



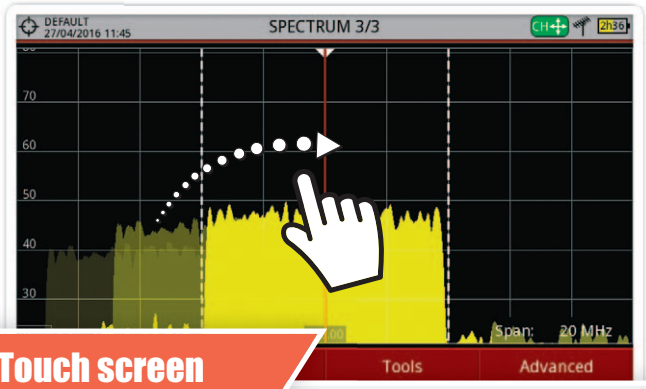
Reference traces

Freeze the spectrum graph and compare it with the running trace.



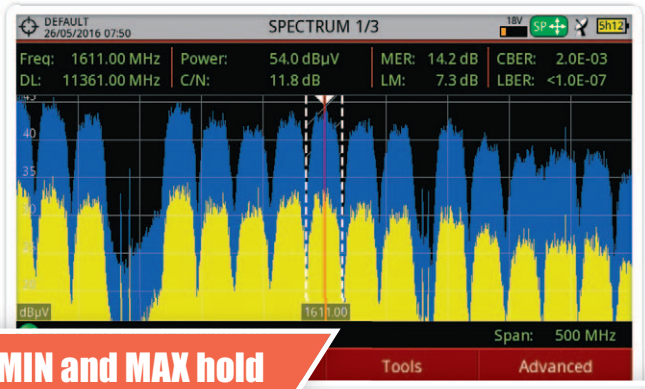
Satellite beacon location

Crystal-clear satellite beacon display thanks to the high resolution filtering.



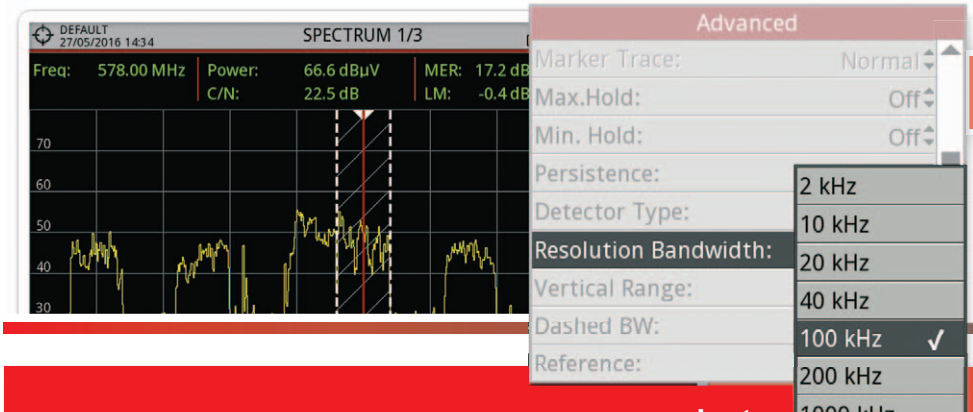
Touch screen

Place the marker on any channel and move the trace using your finger.



MIN and MAX hold

Display them separately or simultaneously along with the current spectrum trace.



High resolution filters

Having the proper resolution filters is critical in some applications. *HD* RANGER *3* includes a very narrow 2 kHz filter.

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ETHERNET CONNECTIVITY

remote control and web server

Ethernet and IP protocols are now the gold standards for remote control applications and ***HD* RANGER *3*** offers this functionality. Besides remote control the IP interface can be used to save or retrieve data from a PC, copy channel tables or installation information, dataloggers, copy transport stream files, screen shots, etc.

MORE INTERNAL MEMORY

up 7 GB for user data

There is more data a ***HD* RANGER *3*** can store in the internal memory every time, dataloggers, screen shots, signal monitoring files, etc... However it is the transport stream recording what uses up memory faster.

Even though the information can be downloaded to a PC or even copied to a memory stick in the field, the 7 GB of internal memory in the ***HD* RANGER *3*** are far from negligible.

HEVC H.265 TV ANALYSER

H.265 HEVC analyser and decoder

7GB Fast-storage 7 GB capacity for user data

T2-MI de-encapsulation and analysis

Transport stream recording and analysis

HD RANGER 3

Webserver control via Ethernet port

Optional DAB and DAB+digital radio

Optional optical power meter and RF converter

Common Interface slot for encrypted channels

Digital Channel Stacking Switch LNB (dCSS)

Optional GPS for signal coverage analysis

Extended IPTV functions

Optional 5 GHz RF input

2x USB ports

HEVC H.265 TV ANALYSER

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SPECIFICATIONS	*HD* RANGER *3*
GENERAL	Hybrid operation: Touch screen (7") or conventional keyboard
DIGITAL STANDARDS	DVB-T, DVB-T2, DVB-T2 lite, DVB-T2 H.265, DVB-T2-MI (Gateway to Modulator) DVB-C, DVB-C2, J83 Annex C QAM DVB-S, DVB-S2, DVB-S2 Multistream, DSS DAB, DAB+ (optional)
AUDIO CODECS	MPEG-1, MPEG-2, HE-AAC, Dolby Digital Plus
INPUTS AND OUTPUTS	Universal RF connector ASI-TS input and output IPTV Input for Measurements and Decoding HDMI output IP input for remote control Analogue Video/Audio input and output Common Interface module for slot for CA-modules 2 USB connectors for data tranferring and GPS module
FUNCTIONS	Merogram and Spectrogram Constellation diagram for all DVB standards LTE filters Dynamic echoes analysis StealthID (instant identification of tuning parameters) DVB-S2 multistream PLS (Physical Layer Scrambling) Ultra fast spectrum analyser (90ms sweeping time) with peak hold FM RDS radio measurements and decoding Signal monitoring Field strength Task planner H.265 detection, measurements and decoding Screenshots and Datalogger for measurement reports
OPTIONS	Optical measurements Band extension up to 5 GHz GPS DAB / DAB+ digital radio measurements and decoding
OPTICAL MEASUREMENTS (optional)	Built-in Optical to RF converter Built-in selective optical power meter
TS-ASI INPUT AND OUTPUT	Real-time Transport Stream analyser with TS tables display
IPTV INPUT	Ethernet 100/1000 Mbps RJ45 connector UDP or RTP/UDP protocol
INTERNAL STORAGE	7 GB for measurement protocols, screenshots and transport stream recordings Output format: Decimal or hexadecimal, user selectable
PC CONNECTION (via ethernet interface)	NetUpdate 4 (free software) Free and automatic firmware updates Remote control (webserver) User customised channel plans Measurement reports and screenshots

PROMAX ELECTRONICA, S. L.
Francesc Moragas, 71 * 08907 L'HOSPITALET DE LLOBREGAT * BARCELONA * SPAIN
Tel: (+34) 93 184 77 02 * Fax: (+34) 93 338 11 26 * e-mail:promax@promaxelectronics.com * http://www.promaxelectronics.com