

H45 Digital Processing 3.3 GHz Spectrum Analyzer



- ✓ Digital processing
- ✓ Combo mode display
- ✓ Advanced spectrum analyzer
- ✓ UAL (Universal Auto Log) and Scan&Log functions
- ✓ Ergonomic design.
- ✓ Compact, lightweight and user friendly
- ✓ Upgrading and Scalability



The Televés H45 Meters
are based on Digital Processing
as the engine for its features,
as well as the key to be lightweight,
fast and scalable.

DIGITAL PROCESSING

The H45 meter has been designed to obtain all the information instantaneously from the signal by the development of mathematical algorithms. Up to 20 MHz digitally captured in less than 10 ms. That simple, yet that dramatically important and difficult to develop. Only Televés could be the first to do it in a small Field Strength Meter.

A total revolution:

Real-Time sweeping speeds - Unprecedented preciseness -
Unthinkable versatility.

Televés H45 with Digital Processing. Because revolution is not making a smaller meter.....Revolution is making a Digital Processing meter in a smaller format.

H45 scalable range

RF METERS

5990	H45 Compact
599001	H45 Compact Full HD
599002	H45 Compact Full HD + CI
5992	H45 Advance
599201	H45 Advance Full HD
599202	H45 Advance Full HD + CI

RF & OPTICAL METER

599003	H45 Compact with Optical Receiver
599004	H45 Compact Full HD + Optical Receiver
599203	H45 Advance with Optical Receiver
599204	H45 Advance Full HD + CI + Optical Receiver
599205	H45 Advance Full HD + CI+ Selective Optical Receiver

VIDEO AND AUDIO

- HD digital signals: MPEG-4 or MPEG-2 (1)
- SD digital signals: MPEG-2
- Digital audio: AAC, EAAC, AC3 and EAC3 (1)

HSUITE

Software application to generate reports

- Instant Log function
- Check quality marks management
- Data Log function
- Graph logger (1)

AUTONOMY

- **More than 4 hours**
- Proprietary Firmware that manages optimum battery recharge
- Battery status indicator

MEASUREMENTS

- Level: from -15 to 130dBμV
- C/N (automatic and referenced)
- BER and MER in QPSK, QAM and CA QAM
- Link Margin in DVB-S2 and DVB-T2 measurements (1)
- Service identification (with their resolution)
- Echoes

SPECTRUM ANALYSER

- Adjustable reference level
- Saturation alarms
- Max hold and marks
- Noise representation
- Automatic satellite identification
- Real time sweeping

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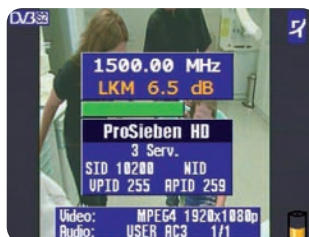
KEEP YOUR METER UPDATED TO THE LATEST
TECHNOLOGY, NO MATTER WHEN YOU PURCHASE IT

UPGRADING OPTIONS:

Ref.	Description
5991	H45 HD measurements option*
5997	H45 MPEG - 4 option (Requires option ref. 5991)
5998	H45 C.I. option (Requires options ref. 5991 and ref. 5997)
598901	H45 DVB - T2 option (Requires options ref. 5997 and ref. 5998). H45 Advance exclusive
598902	H45 frequency range extension (5 - 3.300MHz) option. H45 Advance exclusive
5999	H45 Optical Receiver option
5994	H45 Upgrade Compact to Advance (Requires option ref. 5991)

* HD measurements = DVB-S2, DVB-T and DVB-C constellation, DVB-S2 measurements and demodulation + Echoes.

Full HD = HD measurement + MPEG-4.



FULL HD PICTURES

MPEG4 H.264: 576i, 720p, 1080i, 1080p.

For services up to 1080p.

Compatible with all the digital audio standards: AAC, EAAC, AC3 and EAC3.



COMMON INTERFACE MODULE

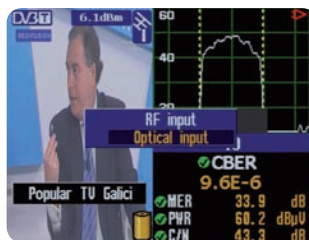
Compatible with DVB-CI.

The Meter incorporates a slot for a Conditional Access Module (CAM), which, combined with the corresponding smart card, allows to watch encrypted TV channels.



OPTICAL RECEIVER

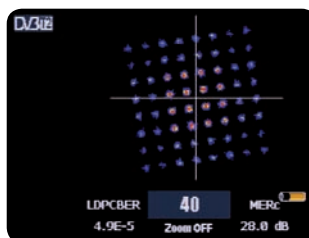
Full Optical Network RF analysis, including specific Fiber Optics power measurements.



OPTICAL SIGNAL MEASUREMENTS

Analysis in three windows: 1310, 1490 y 1550 nm.

It measures the optical power as well as all TV signal quality parameters like (Level, V/A, C/N, BER, MER,...)



DVB-T2 OPTION

Constellation, measurements, demodulation and DVB-T2 visualization.

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MODEL		COMPACT					ADVANCE				
References		5990	599001	599002	599003	599004	5992	599201	599202	599203	599204
GENERAL CHARACTERISTICS	Digital Processing Technology			✓					✓		
	Scan & Log with Automatic Channel Identification	Terrestrial		✓					✓		
		Satellite			✓					✓	
	U.A.L. Technology (Universal Auto Lock) DVB-T, DVB-C, DVB-S & DVB-S2			✓					✓		
	Q.A.L. (QPSK Auto Lock) Technology			✓					✓		
	Interfaces			USB & SCART					SD card		
	SW upgrading through USB port			✓						✓	
	HW & SW upgrading to the latest technology			✓						✓	
	Faster and more precise Navigation via Capative Knob Technology			✓						✓	
	Satellite Frequency Selection								IF, Real RF, Channel and Memory		
	Measuring Units								dBμV, dBmV, dBm, dBμV/m		
	Programmable Automatic Shut-down (1- 59 min.)			✓						✓	
	Programmable Automatic Suspend (1- 59 min.)			✓						✓	
	Languages			English, German, Spanish, French, Italian, Portuguese, Russian and Polish							
	Menu and Measurements Presentation								On-Screen-Display (OSD)		
	Teletext								Analog and Digital		
	All measurements in one screen			✓						✓	
	Quality Checkmarks			✓						✓	
	Real-Time COMBO Mode (3 windows, spectrum, all measurements and video image)			✓						✓	
	Dynamic Margin	Terrestrial			50 dB					60 dB	
Satellite				45 dB					55 dB		
OPTICAL Receiver			Option 5999		✓		Option 5999			✓	
HDMI		-	✓	✓	-	✓	-	✓	✓	-	✓
ANALYSER Mode	SPAN	Terrestrial	5, 10, 20, 50, 100, 200, 500 MHz and FULL				100, 200, 500 KHz; 1, 2 MHz; 1, 1.5 & 2 GHz and FULL				
		Satellite	5, 10, 20, 50, 100, 200, 500 MHz and FULL				100, 200, 500 KHz; 1, 2 MHz; 1, 1.5 & 2 GHz and FULL				
	RBW	Terrestrial	100, 200, 800 and 3200 KHz User selectable: NO Automatic depending on SPAN: YES				Configurable from 300 Hz to 6.4 MHz				
		Satellite	200, 800 & 3200 KHz User selectable: NO Auto based on SPAN: YES								
	B.E.R. Measurement in Spectrum			-					✓		
	Vertical Reference Level			configurable, 5 & 10 dB					configurable 1, 2, 5, 10 dB		
	Saturation Warning Signal (Vertical Reference Level colour change)			✓					✓		
	Real-time Sweep			< 250 ms					< 10 ms		
	Screen Refreshing Rate			< 250 ms					< 100 ms		
	Hold	Maximums Minimums		✓					✓		
			2					Up to 3			
Spectrum ZOOM within same screen			-					✓			
Visualisation of 2 Configurable Traces (max. and min.)			-					✓			
Event Triggers to detect Pulsing Signals			-					✓			
Represents Background Noise			✓					✓			
Configurable Detectors for Sampling Digital Signals			-					✓			
VBW Variable			-					✓			
Satellite Identification according to the trace visualised			✓					✓			
PROGRAMMED Measurements	Memories		250					1000			
	Macros							100 macros with 250 memories each macro			
	Datalogs		✓					✓			
	Stored Measurements Capacity							Up to 30,000			
	Download Datalogs into SD card		-					✓			
	Outlet type selection when executing automatic measurements		✓					✓			
	Classification of Datalogs by Installation or Outlets		✓					✓			
	Instant Log		✓					✓			
Hsuite PC applications	Graphs Logger		-					✓			
	Data Logger		✓					✓			
	Check Quality Marks		✓					✓			

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BANDS	Return Channel (5-47 MHz)												
	Measurement and Demodulation of Analog Channels, DVB-T and DVB-C												
	Terrestrial (47-880 MHz)												
	DVB-T, DVB-C, DVB-H and Analog Channels Demodulation												
	FM Radio (80-110 MHz) Measurements and Demodulation						Continuous Band (without gaps)						
	GSM (880-950 MHz) Measurements in Spectrum Mode						from 5 to 2500 MHz						
ANALOG Signal Measurements	Satellite (950-2220 MHz)												
	Measures Analog Satellite. Measurements and Demodulation of DVB-S & DVB-S2	DVB S2 HD Option ref. 5991		DVB S2 HD Option ref. 5991									
	WiFi (2220-2500 MHz) Measurements in Spectrum Mode												
	Extended Spectrum (2500 - 3300 MHz)						Option 598902						
	Level with Colour-coded Level Scale representing Signal State												
	Audible Signal according to Level and C/N												
	V/A and C/N (without losing video visualisation)						C/N 45 dB						
	Sync Impulse: Real representation						✓ (Terrestrial)						
	Video Line Representation (user defined, with off-set and zoom)												
	Automatic C/N												
DIGITAL Signal Measurements	Line C/N												
	TV Norms						PAL B/G, D/K, I, SECAM B/G, D/K, L, NTSC						
	Measure Margin						-15 to 130 dBµV						
	Power						-15 to 130 dBµV						
	Automatic C/N												
	Referenced C/N						in spectrum mode						
	Audible signal according to Power and C/N												
	Impulse Channel Response in COFDM (Echoes)	HD Option ref. 5991		DVB S2 HD Option ref. 5991									
	Constellation QAM, DVB-S2 (BPSK or QPSK), COFDM (with manual carrier selection)	HD Option ref. 5991		DVB S2 HD Option ref. 5991									
	Packet Error Rate												
	NICAM												
	DVB - T2						Option 598901						
	QAM	BER						9.9E - 2 to 1.0E - 8					
		MER						> 38 dB					
		Att. Auto.											
		PWR						40 - 125 dBµV					
		Symbol Rate						AUTO, (700 - 7200 Kbaud)					
		COFDM	cBER						9.9E - 2 to 1.0E-6				
			vBER						1.0E - 4 to 1.0E-8				
			MER						> 35 dB				
PWR								40 - 125 dBµV					
QPSK (with Q.A.L.technology)		Auto Offset Detection											
		cBER						1.0E - 2 to 1.0E - 6					
		vBER						1.0E - 4 to 1.0E - 8					
	MER						> 35 dB						
8PSK - DVB S2	PWR						40-120 dBµV						
	Symbol Rate						AUTO, from 1 to 45 Mbaud						
	Code Rate						AUTO, 2/3, 3/4, 5/6, 7/8, 1/2						
	Link Margin						(- 8.3) to 20 dB						
MPEG	cBER						1.0E-2 to 1.0E-8						
	BCH BER						5.0E-2 to 1.0E-8						
	MER												
	Att. Auto.												
	PWR						40 - 120 dBµV						
	Symbol Rate						AUTO, 1 - 30 Mbaud						
	Code Rate						AUTO (supports 1/4, 1/3, 2/5, 3/5, 1/2, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10)						
	Decodes Free-to-Air MPEG-2 with Standard Resolution												
	Decodes Free-to-Air MPEG-4 Resolution up to 1920x1080p - Full HD	Option 5997	✓	✓	Option 5997	✓	Option 5997	✓	Option 5997	✓	Option 5997	✓	
	Number of Services, Service Selected, Service Audios												
NID, VPID, APID, SID (with Network Descriptor)													
Video Resolution, Audio Type and Language													
HD Identification													
Conditional Access Module (only MPEG-2)	Option 5998	✓	Option 5998	Option 5998	✓	Option 5998	✓	Option 5998	✓	Option 5998	✓		
LNBS Powering	Voltage, Extra burst (14 V, 19.5V to compensate cable losses)						13/18/24 V - 13 + 1/18 + 1/24 V (Extra Burst)						
	22 KHz tone												
	DISEqC and SCR												
	Motor Control												
Battery	Type / Autonomy						Lithio-ION (more than 4 hours in Low Consumption mode)						
	Advanced Energy Management: Normal, Low Power and Auto												
	Battery Status Indicator (icon and tone)												