

HD TOP MEASURING INSTRUMENTS & SPECTRUM ANALYZERS for: SAT, TV & CABLE

1 BROADCAST ANALYZERS for: DVB-T2 / C2 / S2 & ATSC / ISDB-T / GB20600



HD PROTAB



HD PRO

SAT: QPSK-8PSK

TV: COFDM

CATV: QAM

OPTICS: FTTX

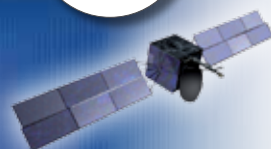
IP-TV: TCP/IP



HD TOUCH



HD FLASH



V.3.2 28-8-2013

MORE THAN 40 YEARS of INNOVATION

DESIGNED & MADE IN ITALY



ISO 9001



ISO 14001



OHSAS 18001

CE DVB MPEG DOLBY APPROVED

1972 > 2012 >> 40° YEARS
A STEP AHEAD IN DIGITAL TELEVISION

THE PROFESSIONAL & ACCURATE ANALYZER

mod. HD FLASH STCO



- **DVB-T2** opt.
- **OPTIC INPUT** opt.
- **FULL MPEG2 & 4 SD & HD**
- **REAL TIME SPECTRUM**
with **MAX HOLD**
- **LCN PROGRAM CODE**
- **MER Versus CARRIERS MEASUR.** opt.

- **TOUCHSCREEN** opt.
- **ECHOES, MICROECHOES & PREECHOES** in REAL TIME
- **Auto/Manual "LTE" FILTERS** opt.
- **CONDITIONAL ACCESS**
- **8h LI-ION POL. BATTERIES**

RIGHT SIDE



- 1 = Remote Power Supply switch - DC at RF IN ON/OFF
- 2 = IF/RF input connector, type "F" 75 Ω interchangeable
- 3 = Optic Input connector, TC-ST & SC interchangeable (opt.)
- 4 = Common Interface Slot for CAM module

LEFT SIDE



- 5 = Power Supply Input (12 V DC - 3A)
- 6 = Analog Audio / Video Input connector
- 7 = Analog Audio / Video Output connector
- 8 = HDMI output connector
- 9 = USB OTG micro connector for SW upgrades and memory stick

HD FLASH MAIN FEATURES

DVB-S & S2 DVB-T/H (T2 M-PLP opt.)/DVB-C/(C2 opt.), Analog Radio TV & DOCSIS D.S.

COMBINED HD PROFESSIONAL ANALYZER, 4-2.250 MHz, for SAT QPSK/8PSK - TV COFDM & CATV QAM signals, with MPEG-2/4 H264 decoder and Analog TV Pictures & Radio

- Pre-memorized SAT transponder navigation, can be upgraded but not cancelled, all the main satellite and TV channel plans worldwide
- Assisted satellite dish pointing, double input (DUAL LNB) and sat finder functions
- All DiSEqC commands, SCR with automatic search, USALS motor protocol
- MEASUREMENTS: MER, PER, LDPC, BCH, aBER, bBER, EVM, ECHOES, Noise Margin, Level/Power, Real time spectrum analyzer and constellation visualization
- CATV MEASUREMENTS: DOCSIS downstream, INGRESS mode, LEAKAGE mode, BARS SCAN and TILT
- Optional: ATSC 8VSB for USA, or GB20600-2006 single and multicarriers for CHINA, or ISDB-T for JAPAN and BRAZIL, etc.
- **HW upgrades in factory: DVB-C2 (up to 31.12.2013)**

HD FLASH MEASUREMENT EXAMPLES



DVB-T2 rotated Constellation 256 QAM mod., on the right relative modulation parameters & M-PLP



DVB-S2 Constellation 8PSK mod., on the right relative modulation parameters



ECHO MEASUREMENT in SFN networks, with impulse response in real time, green area shows the guard interval



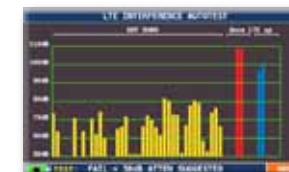
MICROECHO MEASUREMENT in SFN networks, with impulse response in real time and relative guard interval



Spectrum in real time, fast and super-fast with memory peak. **Detects and memorizes all the details for you.**



All the measurements, A/V PID, the picture and settings on one screen



LTE Interference Autotest (opt.)



MER Versus CARRIER
MER measurement for carriers (optional)

HD FLASH MAIN FUNCTIONS

For technical specifications see product cross reference table

- TV and CATV TUNER, extended band, 4-1000 MHz
- SAT TUNER, extended band, 930-2250 MHz
- GSM extended band, 860-1000 MHz for telephone repeater installation, (see application note in our web-site)
- **LTE FILTER, manual or automatic opt.**
- Exclusive patented **ROVER AUTODISCOVERY** system: auto-matically detects and selects analog and digital COFDM/QAM TV signals in both measurement and spectrum mode
- Spectrum in real time, fast and super fast with memory peak
- Dual spectrum, Single and Multichannel simultaneously opt.
- **Detects, measures and SHOWS pictures of MPEG 2 and 4 H264 HD High Definition programs**
- **All the measurements, program lists, A/V PIDs, NET ID, LCN, settings and pictures on one screen**
- **Automatic quality analysis: FAIL-MARG-PASS and ITU Q1/Q5 opt.**
- HELP function automatically identifies all the signals with any digital modulation SAT, TV and CATV
- **Barscan TV and CATV function from 10 to 100 channels on one screen**
- Automemory, Manual memory and Datalogger functions
- TV & IF SAT test ICT FENITEL Spain
- **Stereo, Audio AAC supplied, DOLBY optional**
- New 7" TFT display, 16:10, high resolution
- **Audio Video Input/Output (analog)**
- **Slot for Conditional Access Common Interface**
- **CAM for C.I. plus opt.**
- Weighs only 2.5 kg, dim: H 11.5 x L 24.5 x D 18 cm
- **LI-ION-POLIMER 10A battery with 8 hour battery capacity**
- Battery test function, to regenerate and measure the batteries and calibrate the battery indicator
- Supplied with transport padded bag, accessories, mains and vehicle battery chargers, USB-OTG and Audio Video cables
- Free SW upgradeable on-line (USB-2 OTG socket)

Code	HD FLASH "HW" OPTIONS
HD FL. TOUCH	HW and SW for TOUCH-SCREEN function for mod. HD FLASH
HD OPTIC INPUT	HW and SW for TV & SAT optic input with interchangeable "FC", "ST", "SC" connectors for optic power measurements and spectrum
HD "LTE" FILTER	HW and SW for built-in and selectable rejection filters to select and attenuate "LTE" Telecom TX
HD MULTIMEASURES TV	HW and SW for simultaneous representation of: MEASUREMENT, PICTURES, SPECTRUM, CONSTELLATION, ECHOES
HD CAM Plus	HW, CAM for C.I. Plus (only for some standards)
HD AUDIO DOLBY +	HW and SW for Dolby AC3-AC3E-DD+ and "AAC" Audio
HD DVB-C2	HW and SW for DVB-C2, factory upgrade
HD ATSC USA	HW and SW for 8VSB USA, specify when ordering *
HD GB20600 CHINA	HW and SW for CHINA Single and Multicarriers, specify when ordering *
HD ISDB-T JAPAN BRASIL	HW and SW for Standards in Japan and Brazil, specify when ordering *

* Specify one standard when ordering, only one TV standard per country

Code	HD FLASH "APP" (SW) OPTIONS
HD SATEXPERT FUNCTION	APP, To point a satellite dish in 1 second
RIGHTS-SMART-1	APP for Authorization code for the SMART PRO. SW, PC management SW, to create plans & download measurements
DVB-T2	APP for DVB-T2. Demodulator for second generation Terrestrial TV
HD MER versus CARRIER	APP for MER measurement for DVB-T & T2

FEATURES FUNZIONI FUNKTIONEN FUNCIONES FONCTIONS		HD PROTAB STCOI	HD PRO STCOI	HD TOUCH STCO	HD FLASH STCO	
						
EXCLUSIVE ROVER INSTRUM. FUNCTIONS	COMPLETE, SIMPLE, EASY-TO-USE (TOUCH)	•	•	•	opt.	
	16:10 LED TFT DISPLAY, HIGH BRIGHTNESS (1400 c x 2m)	10,2" HD	7" HD	7" HD	7" HD	
	"LI-ION-POLIMER" 10A BATTERIES, 6 hours capacity	6 h	8 h	8 h	8 h	
	DUAL COMMANDS: TOUCH (excludible) & KEYS	COMBINED	COMBINED	ALL TOUCH	COMBINED	
	MAXIMUM ERGONOMICS and OPERATING SAFETY	•	•	•	•	
	SIX SELECTABLE LANGUAGES: UK-IT-FR-ES-DE-PO other on request	•	•	•	•	
	MULTI MEASUREMENTS: Spect, Meas, Picture, Echoes, Constell.	opt.	opt.	opt.	opt.	
	AUTODISCOVERY Analog./Digital and TV/CATV CHs	•	•	•	•	
	AUTOQUALITY Fail-Marginal-Pass	•	•	•	•	
	AUTOMEMORY Automatic memorization TV and CATV	•	•	•	•	
	MANUMEMORY Mixed Memoriz., SAT-TV-CATV and RD	•	•	•	•	
	HELP FUNCTION with Auto lock in SAT, CATV and SPECTRUM	•	•	•	•	
	SAT-TV-CATV DIRECT SELECTION	3 KEYS	3 KEYS	3 ICONS	3 KEYS	
	TV & CATV SEPARATE CHANNEL PLANS	•	•	•	•	
	DVB-S/S2 AUTOMATIC SELECTION SINGLE & MULTISTREAM	•	•	•	•	
	AUTO SYMBOL RATEDVB-S, S2, C, C2	•	•	—	—	
	DVB-T/T2 AUTOMATIC SELECTION	•	•	•	•	
	SEPARATE MENUS for EACH FUNCTION	•	•	•	•	
	DRIVE ALL LNB's & MULTISWITCHES DiSEqC & SCR	•	•	•	•	
	ALL MAIN WORLDWIDE SATELLITES & TRANSPONDERS PRE-STORED	•	•	•	•	
BANDS	SATEXPERT FUNCTION, SAT pointing in 1 sec.	opt.	opt.	opt.	opt.	
	ALPHANUMERICAL KEYBOARD for CH, TR, FREQ. selection	KEYS & ICONS	KEYS & ICONS	ICONS	KEYS & ICONS	
	DISPLAY BACKGROUND COLOR SELECTION	•	•	•	•	
	SHOCK-PROOF & RAIN-PROOF ALLUMINIUM HOUSING with transport bag	Bag & Case	Bag & Case	Bag	Bag	
	Extended SAT BAND - MHz	930 – 2.250	930 – 2.250	930 – 2.250	930 – 2.250	
BANDS	TV & RD BAND - MHz	41 – 887	41 – 887	41 – 887	41 – 887	
	CATV extended BAND & return path - MHz	4 – 1.000	4 – 1.000	4 – 1.000	4 – 1.000	
	GSM TELECOM BAND - MHz	860 – 1.000	860 – 1.000	860 – 1.000	860 – 1.000	
	LTE FILTERS	790 – 862 opt.	790 – 862 opt.	790 – 862 opt.	790 – 862 opt.	
RF CONNECT	RF CONNECTOR INPUT	DUAL:"N"50Ω & "F"75Ω	DUAL:"N"50Ω & "F"75Ω	"F" 75 Ω	"F" 75 Ω	
OPTICS	OPTICAL INPUT, FC, ST, SC INTERCHANGEABLE CONNECTOR	opt.	opt.	opt.	opt.	
WORLD STANDARDS	SAT					
	DVB-S	•	•	•	•	
	DVB-S2	•	•	•	•	
	DVB-S2 MULTISTREAM with ISI selection	•	•	—	—	
	T					
	DVB-T	•	•	•	•	
	DVB-T2 with multi PLP Selection	•	•	•	opt.	
	ATSC USA on request	opt.	opt.	opt.	opt.	
	GB20600 CHINA on request	opt.	opt.	opt.	opt.	
	ISDB-T JAPAN & BRAZIL on request	opt.	opt.	opt.	opt.	
CATV	ANALOG TV WW STANDARD "CCIR" B-G-D-K-L-M-N	•	•	•	•	
	DVB-C & annex A	•	•	•	•	
	DVB-C & annex B	opt.	opt.	opt.	opt.	
	DVB-C2	opt.	opt.	opt.	opt.	
VIDEO	MPEG 2 SD	•	•	•	•	
	MPEG 2 & 4 HD	•	•	•	•	
	HDMI OUTPUT	•	•	•	•	
	ANALOG VIDEO INPUT	•	•	•	•	
	ANALOG VIDEO OUTPUT	•	•	•	•	
AUDIO	"AAC" AUDIO	•	•	•	•	
	"DOLBY+" AUDIO	•	•	opt.	opt.	
	ANALOG AUDIO INPUT	•	•	•	•	
	ANALOG AUDIO OUTPUT	•	•	•	•	
TRANSP. STREAM	T.S. ASI INPUT	•	•	opt.	—	
	T.S. ASI OUTPUT (Decoded via C.I.)	•	•	opt.	—	
	T.S. READER/RECORDER via LAN/PC	opt.	opt.	opt.	—	
	INTERNAL ETR 101-290 T.S. ANALYZER	opt.	opt.	opt.	—	
	C.I. DESCRAMBLER	•	•	•	•	
GPS & REFEREN.	GPS RECEIVER USB	opt.	opt.	opt.	—	
	10 MHz from GPS INPUT	opt.	opt.	—	—	
	1 PPS from GPS INPUT	opt.	opt.	—	—	
LAN. IP	LAN, IP to ASI & ASI to IP	opt.	opt.	—	—	
OTHERS	USB On The GO for MEMORY STICK	•	•	•	•	
	Free SW UPGRADES	•	•	•	•	
	BATTERY TEST FUNCTION	•	•	•	•	
	BATTERY SAVE FUNCTION	•	•	•	•	
	DiSEqC, SCR, USALS MOTOR DIVERS	•	•	•	•	

MEASUREMENTS MISURE MASSNAHMEN MEDIDAS MESURES		HD PROTAB STCOI 	HD PRO STCOI 	HD TOUCH STCO 	HD FLASH STCO 	
EXCLUSIVE ROVER INSTRUM. MEASUREMENT	MAXIMUM MEASUREMENT SPEED & CHAN/FREQ. SELECTION	•	•	•	•	
	REAL TIME SPECTRUM with MAXHOLD MEMORY PEAK	•	•	•	•	
	MULTI MEASUR.: Spect, Meas, Picture, Echoes, Constell. & Service	opt.	opt	opt	opt	
	AUTOMATIC MEASUREMENTS: DIG. Power/ANALOG Level	AUTO Selection	AUTO Selection	AUTO Selection	AUTO Selection	
	NUMERICAL MEAS & LINEAR with BARS and with MEMORY PEAK	•	•	•	•	
	BARSCAN & TILT, LEVEL BAR CHART from 1 to 100 Channels	•	•	•	•	
	MAX READING CLARITY of MEASUREMENT PARAMETERS	•	•	•	•	
	ANALYSIS of LOSSES in DISTRIBUTION NETWORKS SAT-TV-CATV	•	•	•	•	
	PROFESSIONAL MEAS for BROADCASTERS & MANUFACTURERS	•	•	—	—	
	ECHOES-PREECHOES-MICROECHOES in real time	•	•	•	•	
	LTE Interference AUTOTEST with REJECTION FILTER	opt	opt	opt	opt	
	CATV MEASUREMENTS: LEAKAGE, INGRESS, RETURN PATH	•	•	•	•	
MER / BER MEASUREMENT	REFLECTOMETER MEAS. for COAX CABLES (Interruption Distance)	opt.	opt.	opt.	opt.	
	DVB-S/S2 MULTISTREAM with ISI SELECTION	up to 25 dB ± 1	up to 25 dB ± 1	up to 25 dB ± 1	up to 25 dB ± 1	
	DVB-T/T2 with MULTI PLP SELECTION	up to 42 dB ± 1	up to 42 dB ± 1	up to 38 dB ± 1	up to 36 dB ± 1	
	DVB-C/C2 opt.	up to 40 dB ± 1	up to 40 dB ± 1	up to 40 dB ± 1	up to 38 dB ± 1	
	MER versus CARRIERS in DVB-T & T2	•	•	•	opt.	
	bBER (pre) - aBER (Post Error Correction) MEASUREMENT	•	•	•	•	
	CONTINUOUS ERROR COUNTER	•	•	•	•	
	NOISE MARGIN MEASUREMENT, SAT, TV & CATV	•	•	•	•	
	AUTOMATIC QUALITY MEASUREMENT (Fail, Marginal, Pass)	AUTOQUALITY	AUTOQUALITY	AUTOQUALITY	AUTOQUALITY	
	CONSTELLATION REPRESENTATION with ZOOM	•	•	•	•	
	ECHOES-PREECHOES-MICROECHOES REPRESENTATION in real time	•	•	•	•	
	NET ID, CID, NID, TSID & LCN TABLES	•	•	•	•	
DVB (S-T-C) MEASUREMENT	PER (packet error ratio)	•	•			
	LDPC (post error correction)	•	•	•	•	
	BCH (pre error correction)	•	•	•	•	
	CONTINUOUS ERROR COUNTER	•	•	•	•	
	AUTOMATIC QUALITY MEASUREMENT (Fail, Marginal, Pass)	AUTOQUALITY	AUTOQUALITY	AUTOQUALITY	AUTOQUALITY	
	DVB-S2 ISI SELECTION	•	•	•	•	
	MULTI PLP (T2) SELECTION	•	•	•	opt	
	LEVEL MEASUREMENT, Simultaneous with Picture & digital Meas	up to 126 dBμV	up to 126 dBμV	up to 126 dBμV	up to 126 dBμV	
	Average POWER MEASURE, Simultaneous with Picture & digital Meas	up to 126 dBμV	up to 126 dBμV	up to 126 dBμV	up to 126 dBμV	
	REAL TIME SPECTRUM with MEMORY PEAK and AUTORANGING	up to 126 dBμV	up to 126 dBμV	up to 126 dBμV	up to 126 dBμV	
LEVEL- POWER MEASUREMENT	SELECTABLE SPECTRUM SPEED (Sweep Rate)	•	•	•	•	
	POSSIBILITY of STORING SAT, TV & CATV SPECTRUMS	•	•	•	•	
	DYNAMIC RANGE TV SPECT 60 dB, SELECT. 1-2-5-10 dB/DIV.	•	•	•	•	
	SAT/TV/CATV SEPARATE SPAN VALUE	•	•	•	•	
	SPECTRUM VIEW SELECTION: Full or Contours	•	•	•	•	
	SPECIAL FUNCTIONS Δ MRK & BW for Filter Calibration	•	•	•	•	
	OPTIC POWER MEASUREMENTS	opt	opt	opt	opt	
	OPTIC LOSS AUTOMATIC CALCULATION	opt	opt	opt	opt	
	OPTIC/ELECTRIC CONVERTER for Spect & Meas, SAT & CATV	opt	opt	opt	opt	
	INTERCHANGEABLE FC-ST-SC OPTICAL CONNECTOR	opt	opt	opt	opt	
	T.S. ANALYZER/READER with ASI IN/OUT opt.	opt. via LAN	opt. via LAN	opt. via LAN	—	
	INTERNAL ETR 101-290 T.S. ANALYZER (FPGA)	opt	opt	—	—	
TRANSPORT STREAM	Video & Audio RATE & Contents	•	•	•	•	
	LCN	•	•	•	•	
	LCN program numbers list	•	•	•	•	
	LAN-IP	•	•	•	•	
	IP to ASI & ASI to IP Encapsul. & Measurements	opt	opt	—	—	
	Network Delay in "SFN" Network	opt	opt	—	—	
	Signal Coverage Quality (GPS opt.)	opt	opt	—	—	
	ITU Q1 to Q5 Radio Electric quality	opt	opt	—	—	
	GPS	•	•	•	•	
	ANTENNA Quality Test	opt	opt	—	—	
	Dilution Quality Measur.	opt	opt	—	—	

"HD FAMILY" SAT-TV-CATV & OPTIC METER - Technical Specifications

MAIN SPECIFICATIONS	SIZE (mm) H-L-D		60x323x175	115x245x180	115x245x180	115x245x180	240x140x40	225x130x65	165x225x80	165x225x80	165x225x80	165x225x80
	WEIGHT (Kg)		3	2.5	2.5	2.5	1.6	1.6	1.4	1.2	1.2	1.2
	Soft Bag Protection		●	●	●	●	●	●	●	●	●	●
	Battery Duration (hours)		6 hours	8 hours	8 hours	8/10 hours	4 hours	4 hours	4 hours	4 hours	4 hours	4 hours
	Graphics Display Multi-language		●	●	●	●	●	●	●	●	●	●
	TFT Color Display		10" Color 16:10 TOUCH SCREEN	7" Color 16:10 TOUCH SCREEN	7" Color 16:10 TOUCH SCREEN	7" Color 16:10	7" Color 16:9	4,3" Color 16:10	3,45" Color 4:3			
	MEMORY	Total Logger	99 ITC FENITEL APPROVED	99 ITC FENITEL APPROVED	99 ITC FENITEL APPROVED	99 ITC FENITEL APPROVED	99 ITC FENITEL APPROVED	99 ITC FENITEL APPROVED	99 ITC FENITEL APPROVED	99 ITC FENITEL APPROVED	99 ITC FENITEL APPROVED	99 ITC FENITEL APPROVED
		PROGS per PLAN	199	199	199	199	199	199	199	199	199	199
		Total PLANS	99	99	99	99	99	99	99	99	99	99
	Tuning System and NAVIGATION		Transp./ Ch./ Freq./ Prog. in Meas and Spect	Transp./ Ch./ Freq./ Prog. in Meas and Spect	Transp./ Ch./ Freq./ Prog. in Meas and Spect	Transp./ Ch./ Freq./ Prog. in Meas and Spect	Transp./ Ch./ Freq./ Prog. in Meas and Spect	Transp./ Ch./ Freq./ Prog. in Meas and Spect	Transp./ Ch./ Freq./ Prog. in Meas and Spect	Transp./ Ch./ Freq./ Prog. in Meas and Spect	Transp./ Ch./ Freq./ Prog. in Meas and Spect	Transp./ Ch./ Freq./ Prog. in Meas and Spect
Level Accuracy (dB)		1.5 Typ. SAT 1.0 Typ. TV	1.5 Typ. SAT 1.0 Typ. TV	1.5 Typ. SAT 1.0 Typ. TV	1.5 Typ. SAT 1.0 Typ. TV	1.5 Typ. SAT 1.0 Typ. TV	1.5 Typ. SAT 1.0 Typ. TV	1.5 Typ. SAT 1.0 Typ. TV	1.5 Typ. SAT 1.0 Typ. TV	1.5 Typ. SAT 1.0 Typ. TV	1.5 Typ. SAT 1.0 Typ. TV	
Dynamic Range dBuV-(dBmV-dBm)		30 - 126 SAT 5 - 126 TV	30 - 126 SAT 5 - 126 TV	30 - 126 SAT 5 - 126 TV	30 - 126 SAT 5 - 126 TV	30 - 126 SAT 5 - 126 TV	30 - 115 SAT 5 - 115 TV	30 - 115 SAT 5 - 115 TV	30 - 115 SAT 5 - 115 TV	30 - 115 SAT 5 - 115 TV	30 - 115 SAT 5 - 115 TV	
SPECIAL FUNCTIONS	USB & SW Upgrades via Internet		● USB2 O.T.G.	● USB2 O.T.G.	● USB2 O.T.G.	● USB2 O.T.G.	● USB2	● USB2	● USB2	● USB2	● USB2	● USB2
	NAVIGATION ENCODER & NUMERIC KEYPAD		●	●	●	●	●	●	●	●	●	●
	TRANSPONDER DIRECT NAVIGATION		●	●	●	●	●	●	●	●	●	●
	NETWORK DATA & PROGRAM. NAMES		●	●	●	●	●	●	●	●	●	●
	TV PROGRAMS AUTOMEMORY		●	●	●	●	●	●	●	●	●	●
	DRIVER for LNB S.C.R.		●	●	●	●	●	●	●	●	●	●
	DiSeqC a-b-c-d & USALS MOTOR		●	●	●	●	●	●	●	●	●	●
	Dual LNB SAT POINTER		●	●	●	●	●	●	●	●	●	●
	SAT EXPERT		● opt.	● opt.	● opt.	● opt.	● opt.	● opt.	● opt.	● opt.	● opt.	● opt.
	REMOTE POWER SUPPLY VOLTAGES		●	5V-12V-18V-24V	5V-12V-18V-24V	5V-12V-18V-24V	5V-12V-18V-24V	5V-12V-18V-24V	5V-12V-18V-24V	5V-12V-18V-24V	5V-12V-18V-24V	5V-12V-18V-24V
	BARSCAN and TILT		●	●	●	●	●	●	●	●	●	●
	INGRESS and LEAKAGE		●	●	●	●	●	●	●	●	●	●
AUDIO-VIDEO	CVBS & HDMI		●	●	●	●						
	DIRECT CONDIT. ACCESS SYSTEM		●	●	●	●						
	AN. TV SOUND and RADIO		●	●	●	●	●	●				
	ANALOG TV PICT		●	●	●	●	●	●	●	Network Id PROG & PID only	Network Id PROG & PID only	Network Id PROG & PID only
	MPEG2 & 4 HD DECODER		●	●	●	●	●	●	●	Network Id PROG & PID only	Network Id PROG & PID only	Network Id PROG & PID only
	MPEG2 DECODER		●	●	●	●	●	●	●			
MEASUREMENTS	SPECTRUM ANALYSIS with MEMORY PEAK		● REAL TIME	● REAL TIME	● REAL TIME	● REAL TIME	● REAL TIME	● REAL TIME	● REAL TIME	● REAL TIME	● REAL TIME	● REAL TIME
	DIGITAL QUALITY FAIL-MARG-PASS		●	●	●	●	●	●	●	●	●	●
	CONSTELLATION & REAL TIME ECHOS		●	●	●	●	●	●	●	●	● Constellation	●
	DEMODULATED M.E.R.-B.E.R.-PER-SNR-EVM NOISE MARGIN	Optical IN & IPTV	● opt. Optic	● opt. Optic ● opt. IPTV	● opt. Optic	● opt. Optic						
		QAM	●	●	●	●	●	●	●	●	●	
		COFDM	● T2 ON BOARD	● T2 ON BOARD	● T2 ON BOARD	● T2 opt.	●	● T2 opt.	● T2 opt.	● T2 opt.		● T2 opt.
		8PSK	●	●	●	●	●	●	●	●	●	
		QPSK	●	●	●	●	●	●	●	●	●	
INPUT CONNECTOR		"N" 50 Ω	"N" 50 Ω	F - BNC - IEC	F - BNC - IEC	F - BNC - IEC	F - BNC - IEC	F - BNC - IEC	F - BNC - IEC	F - BNC - IEC	F - BNC - IEC	
FREQUENCY RANGE	BAND	SAT	930-2.250 MHz	930-2.250 MHz	930-2.250 MHz	930-2.250 MHz	930-2.250 MHz	930-2.250 MHz	930-2.250 MHz	930-2.250 MHz		
		TV	4-1.000 MHz	4-1.000 MHz	4-1.000 MHz	4-1.000 MHz	4-1.000 MHz	4-1.000 MHz	4-1.000 MHz	4-1.000 MHz		40-1.000 MHz
		CATV	4-1.000 MHz	4-1.000 MHz	4-1.000 MHz	4-1.000 MHz	4-1.000 MHz	4-1.000 MHz	4-1.000 MHz	4-1.000 MHz		
		RADIO	4-1.000 MHz	4-1.000 MHz	4-1.000 MHz	4-1.000 MHz	4-1.000 MHz	4-1.000 MHz	4-1.000 MHz			
MODEL			HD PRO TAB STC01	HD PRO STC01	HD TOUCH STC01	HD FLASH STC01	HD TAB 7 STC	HD COMPACT STC	HD LIGHT STC	HD ONE STC	HD SAT	HD TV

"STANDARD" SAT-TV-CATV & OPTIC METER - Technical Specifications

MAIN SPECIFICATIONS		SIZE (mm) H-L-D	115x245x180	115x245x180	195x225x80	165x225x80	165x225x80	165x225x80	165x225x80	65 x 226 x 105	65 x 226 x 105	215 x 125 x 60	
		WEIGHT (Kg)	2.5	2.5	1,4	1.2	1.2	1.2	1.1	1.1	1.1	1.3	
		Soft Bag Protection	●	●	●	●	●	●	●	●	●	●	
		Battery Duration (hours)	2 to 3 hours	2 to 3 hours	4 hours	4 hours	4 hours	4 hours	4.5 hours	2.5 hours	2.5 hours	4 hours	
		Graphics Display Multi-language	64 x 128 high brightness			64 x 128 high brightness	64 x 128 high brightness	●	64 x 128 high brightness	64 x 128 high brightness	64 x 128 high brightness		
		TFT Color Display	4.5" Color	6.5" Color 16:9 TOUCH SCREEN	3,1" LIGHT 3,5" LIGHT PLUS							3.5" Color	
		MEMORY	Total Logger	99 ITC FENITEL APPROVED	99 ITC FENITEL APPROVED	99 ITC FENITEL APPROVED	99 ITC FENITEL APPROVED	99 ITC FENITEL APPROVED	99 ITC FENITEL APPROVED	99 ITC FENITEL APPROVED	99	99	99
			PROGS per PLAN	199	199	199	199	199	199	199	1	199	199
			Total PLANS	99	99	99	99	99	99	99	9	99	99
		Tuning System and NAVIGATION	Transp./ Ch./ Freq./ Prog. in Meas and Spect	Transp./ Ch./ Freq./ Prog. in Meas and Spect	Transp./ Ch./ Freq./ Prog. in Meas and Spect	Transp./ Ch./ Freq./ Prog. in Meas and Spect	Transp./ Ch./ Freq./ Prog. in Meas and Spect	Transp./ Ch./ Freq./ Prog. in Meas and Spect	Chan./ Freq./ Prog. in Meas and Spect	Chan./ Freq./ Prog. in Meas and Spect	Chan./ Freq./ Prog. in Meas and Spect	Chan./ Freq./ Prog. in Meas and Spect	Chan./ Freq./ Prog. in Meas and Spect
Level Accuracy (dB)	1.5 Typ. SAT 1.0 Typ. TV	1.5 Typ. SAT 1.0 Typ. TV	1.5 Typ. SAT 1.0 Typ. TV	1.5 Typ. SAT 1.0 Typ. TV	1.5 Typ. SAT 1.0 Typ. TV	1.5 Typ. SAT 1.0 Typ. TV	1.0 Typ.	1.0 Typ.	1.0 Typ.	1.0 Typ.			
Dynamic Range dBuV-(dBmV-dBm)	30 - 126 SAT 5 - 126 TV	30 - 126 SAT 5 - 126 TV	30 - 126 SAT 5 - 126 TV	30 - 126 SAT 5 - 110 TV	5-110 dBμV	30 - 115 SAT 5 - 115 TV	5-110 dBμV	5-110 dBμV	0-126 dBμV	0-126 dBμV			
SPECIAL FUNCTIONS		USB & SW Upgrades via Internet	● USB2	● USB2	● USB2	● USB2	●	● USB2	● USB2	●	● USB2	● USB2 O.T.G.	
		NAVIGATION ENCODER & NUMERIC KEYPAD	●	●	●	●	●	●	●		Numeric KEYPAD	Numeric KEYPAD	
		TRANSPONDER DIRECT NAVIGATION	●	●	●	●	●	●					
		NETWORK DATA & PROGRAM. NAMES	●	●	●	●	●	●	●				
		TV PROGRAMS AUTOMEMORY	●	●	●	●	●	●	●		●	●	
		DRIVER for LNB S.C.R.	●	●	●	●	●	●					
		DiSeqC a-b-c-d & USALS MOTOR	●	●	●	●	●	●					
		Dual LNB SAT POINTER	●	●	●	●	●	●					
		SAT EXPERT	●	● opt.	● opt.	● opt.	● opt.	● opt.					
		REMOTE POWER SUPPLY VOLTAGES	5V-12V-18V-24V	5V-12V-18V-24V	5V-12V-18V-24V	5-12V-18V-24V	5-12V-18V-24V	5V-12V-18V-24V					
		BARSCAN and TILT	●	●	●	●		●	●	●	●	●	
		INGRESS and LEAKAGE	●	●	●	●		●	●	●	●	●	
		AUDIO-VIDEO		CVBS & HDMI	●	●	CVBS						
DIRECT CONDIT. ACCESS SYSTEM	●			●									
AN. TV SOUND and RADIO	●			●	●	●			●	●	●	●	
ANALOG TV PICT	● SAT and TV Analog Picture			●	●			Network Id PROG & PID only					
MPEG2 & 4 HD DECODER	●					Network Iden. PROGS & PID only	Network Iden. PROGS & PID only	Network Id PROG & PID only	Network Iden. PROGS & PID only				
MPEG2 DECODER	●			●	●	Network Iden. PROGS & PID only	Network Iden. PROGS & PID only		Network Iden. PROGS & PID only				
MEASUREMENTS		SPECTRUM ANALYSIS with MEMORY PEAK	●	●	●	●	●	● REAL TIME	●	●	●	●	
		DIGITAL QUALITY FAIL-MARG-PASS	●	●	●	●	●	●	●	●	●	●	
		CONSTELLATION & REAL TIME ECHOS	●	●	●	●		●	●	●	●	●	
		DEMODULATED M.E.R.-B.E.R.-PER-SNR-EVM NOISE MARGIN	Optical IN & IPTV	Opt. Optical input & IPTV									● Optical IN
			QAM	●	●	●	●		●	●	●	● QAM & CABLE MODEM DOCSIS 2.0	● QAM & CABLE MODEM DOCSIS 3.0
			COFDM	● T2 opt.									
			8PSK	●	●	●	●	●					
		QPSK	●	●	●	●	●						
INPUT CONNECTOR		F - BNC - IEC	F - BNC - IEC	F - BNC - IEC	F - BNC - IEC	F - BNC - IEC	F - BNC - IEC	F - BNC - IEC	F	F	F		
FREQUENCY RANGE		BAND	SAT	930-2.250 MHz	930-2.250 MHz	930-2.250 MHz	930-2.250 MHz	930-2.250 MHz					
			TV	4-1.000 MHz	4-1.000 MHz	4-1.000 MHz	4-1.000 MHz		40-1.000 MHz	47-1.000 MHz	4-1000 MHz	4-1000 MHz	4-1000 MHz
			CATV	4-1.000 MHz	4-1.000 MHz	4-1.000 MHz	4-1.000 MHz		4-1.000 MHz	4-1.000 MHz	4-1000 MHz	4-1000 MHz	4-1000 MHz
			RADIO	4-1.000 MHz	4-1.000 MHz	4-1.000 MHz	4-1.000 MHz			4-1.000 MHz	4-1000 MHz	4-1000 MHz	4-1000 MHz
 MODEL		ATOM HD 	DIGICUBE 	ATOM LIGHT/+ 	MASTER 	MASTER SAT 2 	HD CABLE 	MASTER CABLE 	FAST-C 	OMNIA-7 	OMNIA-10 		

HOW TO FIND US: in Sirmione, Lake Garda, Italy

Lake Garda is in the north of Italy, near the borders of Austria, Switzerland and Germany and is in the foothills of the Alps. Lake Garda has a micro-climate, tropical in summer and temperate in winter, and where palms, olives, lemons, oranges, bouganville and even banana trees can grow. Exploited by the Romans as long ago as 350 a.C., it is now one of the most important lakeside, spa and tourist resorts in Europe. Please find below photographs of some of the most important tourist attractions in the area.

Sirmione Castle, 1500 a.C.



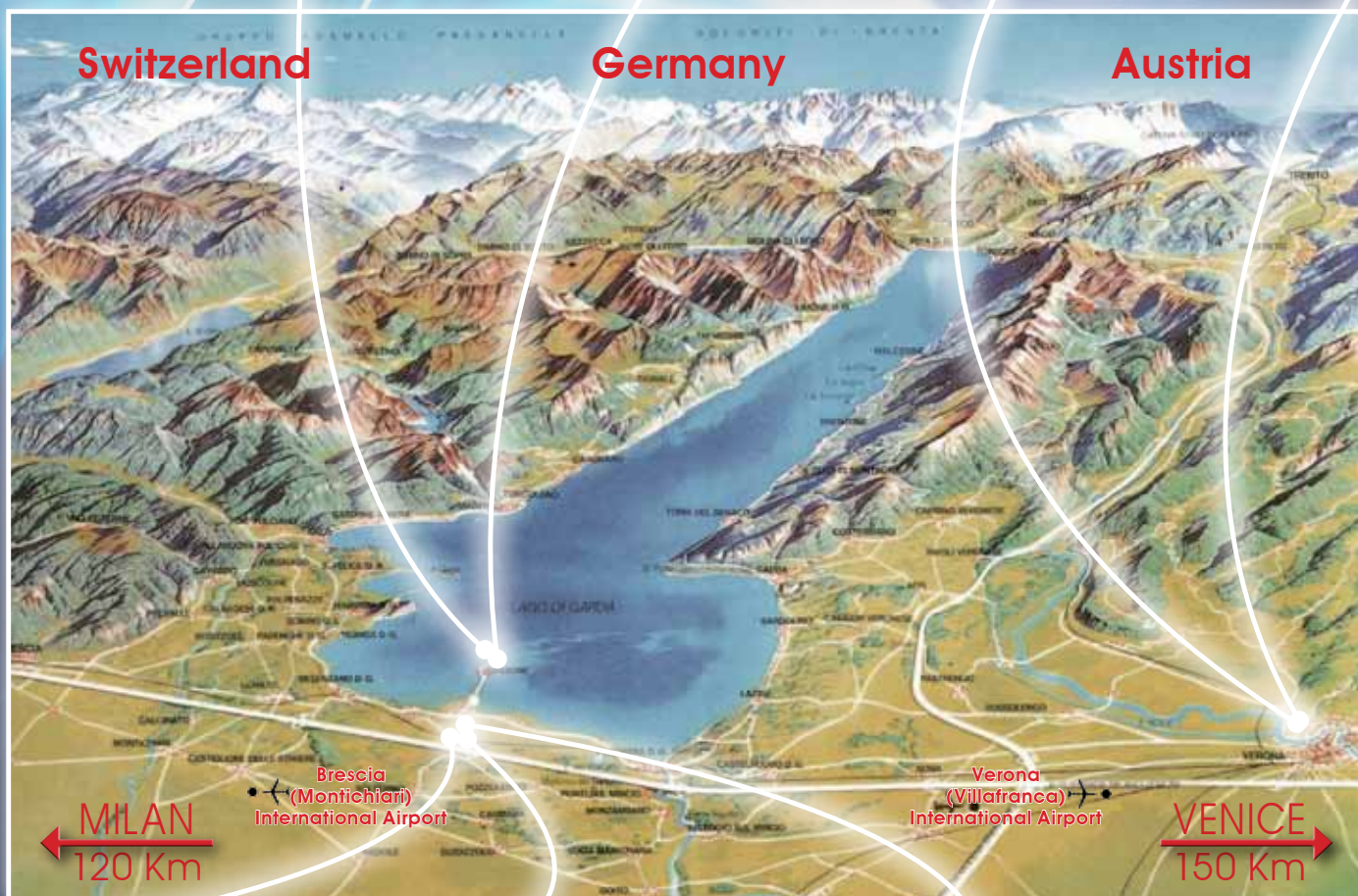
Catullus Roman ruins, 350 b.C.



Verona Roman Arena, 120 b.C.



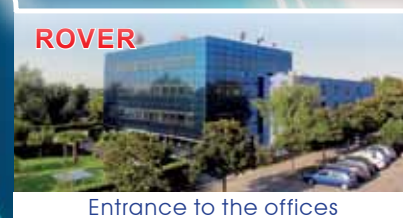
Verona, Juliet's balcony



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