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

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

HD PROTAB
SAT: QPSK-8PSK
TV: COFDM
CATV: QAM
OPTICS: FTTX
IP-TV: TCP/IP

HD PRO

HD TOUCH

HD FLASH

MORE THAN 40 YEARS of INNOVATION
DESIGNED & MADE IN ITALY

MORE THAN 40 YEARS of INNOVATION
DESIGNED & MADE IN ITALY

1972 > 2012 >> 40° YEARS
A STEP AHEAD IN DIGITAL TELEVISION
THE PROFESSIONAL & ACCURATE ANALYZER

mod. HD FLASH stco

Automatic, Fast

DUAL COMMANDS:
- Mechanical
- Touch (excludable)

• 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, ISV, EVM, ECHOES, Noise Margin, Level/Power, Real time spectrum analyzer and constellation visualization
- CATV MEASUREMENTS: DOCSIS downstream, INGRESS mode, LEAKAGE mode, BARSCAN, SCAN & 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**

- 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 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: automatically 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.
- Spectrum in real time, fast and super fast with memory peak. Detects and 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
- Autormemory, Manual memory and Datalogger functions
- TV & IF SAT test ICT FENIET 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)

**HD FLASH “HW” OPTIONS**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HD FL. TOUCH</td>
<td>HW and SW for TOUCH-SCREEN function for mod. HD FLASH</td>
</tr>
<tr>
<td>HD OPTIC INPUT</td>
<td>HW and SW for TV &amp; SAT optic input with interchangeable “FC”, “ST”, “SC” connectors for optic power measurements and spectrum</td>
</tr>
<tr>
<td>HD “LTE” FILTER</td>
<td>HW and SW for built-in and selectable rejection filters to select and attenuate “LTE” Telecom TX</td>
</tr>
<tr>
<td>HD MULTIMETERS TV</td>
<td>HW and SW for simultaneous representation of: MEASUREMENT, PICTURES, SPECTRUM, CONSTELLATION, ECHOES</td>
</tr>
<tr>
<td>HD CAM Plus</td>
<td>HW, CAM for C.I. Plus (only for some standards)</td>
</tr>
<tr>
<td>HD AUDIO DOLBY</td>
<td>HW and SW for Dolby AC3-AC3E-DD+ and <em>AAC</em> Audio</td>
</tr>
<tr>
<td>HD DVB-C2</td>
<td>HW and SW for DVB-C2, factory upgrade</td>
</tr>
<tr>
<td>HD ATSC USA</td>
<td>HW and SW for 8VSB USA, specify when ordering *</td>
</tr>
<tr>
<td>HD GB20600 CHINA</td>
<td>HW and SW for CHINA Single and Multicarriers, specify when ordering *</td>
</tr>
<tr>
<td>HD ISDB-T JAPAN BRASIL</td>
<td>HW and SW for Standards in Japan and Brazil, specify when ordering *</td>
</tr>
<tr>
<td>* Specify one standard when ordering, only one TV standard per country</td>
<td></td>
</tr>
</tbody>
</table>

**HD FLASH “APP” (SW) OPTIONS**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HD SATEXPERT FUNCTION</td>
<td>APP. To point a satellite dish in 1 second</td>
</tr>
<tr>
<td>RIGHTS-SMART-1</td>
<td>APP for Authorization code for the SMART PRO. SW, PC management SW, to create plans &amp; download measurements</td>
</tr>
<tr>
<td>DVB-T2</td>
<td>APP for DVB-T2. Demodulator for second generation Terrestrial TV</td>
</tr>
<tr>
<td>HD MER versus CARRIER</td>
<td>APP for MER measurement for DVB-T &amp; 12</td>
</tr>
</tbody>
</table>
**FEATURES**

**FUNZIONI**

**FUNKTIONEN**

**FUNCIONES**

**FONCTIONS**

**COMPLETE, SIMPLE, EASY-TO-USE (TOUCH)**
- 16:10 LED TFT DISPLAY, HIGH BRIGHTNESS (1400 c x 2m)
- "LI-ION-POLIMER" 10A BATTERIES, 6 hours capacity
- DUAL COMMANDS: TOUCH (excludible) & KEYS
- MAXIMUM ERGONOMICS and OPERATING SAFETY
- SIX SELECTABLE LANGUAGES: EN-IT-FR-ES-DE-PO other on request!
- MULTI MEASUREMENTS: Spect, Meas, Picture, Echoes, Constell.
- HELP FUNCTION with Auto lock in SAT, CATV and SPECTRUM
- SAT-TV-CATV DIRECT SELECTION
- TV & CATV SEPARATE CHANNEL PLANS
- DVB–S/S2 AUTOMATIC SELECTION SINGLE & MULTISTREAM
- AUTO SYMBOL RATED VB–S, S2, C, C2
- DVB–T AUTOMATIC SELECTION
- SEPARATE MENUS for EACH FUNCTION
- DRIVE ALL LNB's & MULTISWITCHES DiSEqC & SCR
- ALL MAIN WORLDWIDE SATELLITES & TRANSPONDERS PRE-STORED
- SATEXPERT FUNCTION, SAT pointing in 1 sec.
- ALPHANUMERICAL KEYBOARD for CH, TR, FREQ. selection
- DISPLAY BACKGROUND COLOR SELECTION
- SHOCK-PROOF & RAIN-PROOF ALLUMINUIM HOUSING with transport bag
- Extended SAT BAND - MHz
- TV & RD BAND - MHz
- CATV extended BAND & return path - MHz
- GSM TELECOM BAND - MHz
- REJECTION FILTERS for "LTE" BAND - MHz
- RF CONNECTOR INPUT
- OPTICAL INPUT, FC, ST, SC INTERCHANGEABLE CONNECTOR
- "AAC" AUDIO
- ANALOG AUDIO OUTPUT
- T.S. ASI INPUT
- T.S. ASI OUTPUT (Decoded via C.I.)
- T.S. READER/RECORDE via LAN/PC
- C.I. DESCRAMBLER
- GPS RECEIVER USB
- 10 MHz from GPS INPUT
- GPS & REFERENCH
- USB On The GO for MEMORY STICK
- LAN, IP to ASI & ASI to IP
- OTHERS

---

**HD PROTA8** | **HD PROTO9** | **HD TOUCH** | **HD FLASH**
---|---|---|---
16:10 LED TFT DISPLAY, HIGH BRIGHTNESS (1400 c x 2m) | * | * | * opt.
10,2" HD | 7" HD | 7" HD | 7" HD
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.
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 RATED VB–S, S2, C, C2 | * | * | * | *
DVB–T AUTOMATIC SELECTION | * | * | * | *
SEPARATE MENUS for EACH FUNCTION | * | * | * | *
DRIVE ALL LNB's & MULTISWITCHES DiSEqC & SCR | * | * | * | *
ALL MAIN WORLDWIDE SATELLITES & TRANSPONDERS PRE-STORED | * | * | * | *
SATEXPERT FUNCTION, SAT pointing in 1 sec. | * | * | * | *
ALPHANUMERICAL KEYBOARD for CH, TR, FREQ. selection | KEYS & ICONS | KEYS & ICONS | ICONS | KEYS & ICONS
DISPLAY BACKGROUND COLOR SELECTION | * | * | * | *
SHOCK-PROOF & RAIN-PROOF ALLUMINUIM 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
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 | REJECTION FILTERS for "LTE" BAND - MHz | 790 – 862 opt. | 790 – 862 opt. | 790 – 862 opt. | 790 – 862 opt.
RF CONNECTOR INPUT | DUAL:"N"50Ω &"F"75Ω DUAL:"N"50Ω &"F"75Ω | DUAL:"N"50Ω &"F"75Ω | DUAL:"N"50Ω &"F"75Ω | DUAL:"N"50Ω &"F"75Ω
RF CONNECT. | DUAL:"N"50Ω &"F"75Ω | DUAL:"N"50Ω &"F"75Ω | DUAL:"N"50Ω &"F"75Ω | DUAL:"N"50Ω &"F"75Ω
DVB–C & annex A | * | * | * | *
DVB–C & annex B | * | * | * | *
DVB–C2 | * | * | * | *
MPEG 2 SD | * | * | * | *
MPEG 2 & 4 HD | * | * | * | *
HDMI OUTPUT | * | * | * | *
ANALOG VIDEO INPUT | * | * | * | *
ANALOG VIDEO OUTPUT | * | * | * | *
"AAC" AUDIO | * | * | * | *
"DOLBY** AUDIO | * | * | * | *
ANALOG AUDIO INPUT | * | * | * | *
ANALOG AUDIO OUTPUT | * | * | * | *
T.S. ASI INPUT | * | * | * | *
T.S. ASI OUTPUT (Decoded via C.I.) | * | * | * | *
T.S. READER/RECORDE via LAN/PC | opt. | opt. | opt. | *
INTERNAL ETR 101-290 T.S. ANALYZER | opt. | opt. | opt. | *
C.I. DESCRAMBLER | * | * | * | *
GPS & REFERENCH | GPS RECEIVER USB | opt. | opt. | opt. | *
10 MHz from GPS INPUT | opt. | opt. | opt. | *
1 PPS from GPS INPUT | opt. | opt. | opt. | *
LAN, IP | LAN, IP to ASI & ASI to IP | opt. | 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

<table>
<thead>
<tr>
<th>MASSNAHMEN</th>
<th>MEDIDAS</th>
<th>MESURES</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAXIMUM MEASUREMENT SPEED &amp; CHAN/FREQ. SELECTION</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>REAL TIME SPECTRUM with MAXHOLD MEMORY PEAK</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>MULTI MEASUR. : Spect. Meas. Picture, Echoes, Constell. &amp; Service</td>
<td>opt</td>
<td>opt</td>
</tr>
<tr>
<td>AUTOMATIC MEASUREMENTS: DIG. Power/ANALOG Level</td>
<td>AUTO Selection</td>
<td>AUTO Selection</td>
</tr>
<tr>
<td>NUMERICAL MEAS &amp; LINEAR with BARS and with MEMORY PEAK</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>BARS &amp; TILT, LEVEL BAR CHART from 1 to 100 Channels</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>MAX READING CLARITY of MEASUREMENT PARAMETERS</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>ANALYSIS of LOSSES in DISTRIBUTION NETWORKS SAT-TV-CATV</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>PROFESSIONAL MEAS for BROADCASTERS &amp; MANUFACTURERS</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>ECHOES-PREECHOES-MICROECHOES in real time</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>LTE Interference AUTOTEST with REJECTION FILTER</td>
<td>opt</td>
<td>opt</td>
</tr>
<tr>
<td>CATV MEASUREMENTS: LEAKAGE, INGRESS, RETURN PATH</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>REFLECTOMETER MEAS. for COAX CABLES (Interruption Distance)</td>
<td>opt</td>
<td>opt</td>
</tr>
<tr>
<td>DVB-S/S2 ISI SELECTION</td>
<td>up to 25 dB ± 1</td>
<td>up to 25 dB ± 1</td>
</tr>
<tr>
<td>DVB-C/C2 opt.</td>
<td>up to 40 dB ± 1</td>
<td>up to 40 dB ± 1</td>
</tr>
<tr>
<td>DVB-S2 ISI SELECTION</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>DVB-C/C2 opt.</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>DVB-S2 ISI SELECTION</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>DVB-C/C2 opt.</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>LEVEL MEASUREMENT, Simultaneous with Picture &amp; digital Meas</td>
<td>up to 126 dBµV</td>
<td>up to 126 dBµV</td>
</tr>
<tr>
<td>REALTIME SPECTRUM with MEMORY PEAK and AUTORANGING</td>
<td>up to 126 dBµV</td>
<td>up to 126 dBµV</td>
</tr>
</tbody>
</table>

### SPECTRAL ANALYSIS

| DYNAMIC RANGE TV SPECT 60 dB, SELECT. 1-2-5-10 dB/DIV. | • | • | • |
| SAT/TI/CAPATE SPAN VALUE | • | • | • |
| SPECTRUM VIEW SELECTION: Full or Contours | • | • | • |
| SPECIAL FUNCTIONS & MMK & 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 |
| TRANSPORT STREAM T.S. ANALYZER/READER with ASI IN/OUT opt. | opt | via LAN | opt | via LAN |
| INTERNAL ETR 101-290 T.S. ANALYZER (FPGA) | opt | opt | — | — |
| Video & Audio RATE & Contents | • | • | • |
| LCN | LCN program numbers list | • | • | • |
| LAN-1P | IP to ASI & ASI to IP Encapsul. & Measurements | opt | opt | — | — |
| Network Delay in “SN” Network | opt | opt | — | — |
| Signal Coverage Quality (GPS opt.) | opt | opt | — | — |
| TV Q1 to Q5 Radio Electric quality | opt | opt | — | — |
| GPS ANTEANA Quality Test | opt | opt | — | — |
| Dilution Quality Measurement | opt | opt | — | — |

The features, functions & measurements are subject to change without notice.

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**HD BROADCAST FAMILY**

The HD BROADCAST FAMILY is equipped with a wide range of measurement and analysis tools for various broadcasting and satellite applications. From advanced spectral analysis to signal quality measurement, these instruments cater to the needs of professional broadcasters and manufacturers. Each model offers a unique set of measurement capabilities, tailored to optimize performance in DVB-S/S2, DVB-C/C2, and DVB-T/T2 environments. Key features include real-time spectrum analysis with memory peak, automatic measurements for power and analog levels, and comprehensive analysis of losses in distribution networks. With options for echoes, pre-echoes, and micro-echoes in real-time, these instruments provide high clarity and accuracy in measuring parameters. The HD BROADCAST FAMILY is designed to meet the stringent requirements of broadcasters and manufacturers, ensuring reliable and efficient operations in various transmission systems. **Opt:** Optional.
<table>
<thead>
<tr>
<th>HD FAMILY</th>
<th>SAT-TV-CATV &amp; OPTIC METER - Technical Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SIZE</strong></td>
<td>60x32x23x175</td>
</tr>
<tr>
<td><strong>WEIGHT</strong> (Kg)</td>
<td>3</td>
</tr>
<tr>
<td>Soft Bag Protection</td>
<td></td>
</tr>
<tr>
<td><strong>Battery Duration (Hour)</strong></td>
<td>6</td>
</tr>
<tr>
<td><strong>Graphics Display Multi-language</strong></td>
<td></td>
</tr>
<tr>
<td><strong>TFT Color Display</strong></td>
<td>10” Color 16:10</td>
</tr>
<tr>
<td><strong>TFT Color Display</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Total Memory</strong></td>
<td>96</td>
</tr>
<tr>
<td><strong>USB &amp; SW Upgrades via Internet</strong></td>
<td>USB2 O.T.G.</td>
</tr>
<tr>
<td><strong>NAVIGATION ENCODER &amp; NUMERIC KEYPAD</strong></td>
<td></td>
</tr>
<tr>
<td><strong>TRANSPODER DIRECT NAVIGATION</strong></td>
<td></td>
</tr>
<tr>
<td><strong>TV PROGRAMS &amp; PROGRAMS NAME</strong></td>
<td></td>
</tr>
<tr>
<td><strong>DRIVER FOR UNI S.C.A.L</strong></td>
<td></td>
</tr>
<tr>
<td><strong>DDiG&amp; a-b-c-d &amp; USALS MOTOR</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Dual USB ON BOARD</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Level Accuracy (dB)</strong></td>
<td>1.5 Typ. SAT</td>
</tr>
<tr>
<td><strong>BARSCAN and TILT</strong></td>
<td></td>
</tr>
<tr>
<td><strong>INGRESS &amp; LEAKAGE</strong></td>
<td></td>
</tr>
<tr>
<td><strong>DIRECT CONDIT. ACCESS SYSTEM</strong></td>
<td></td>
</tr>
<tr>
<td><strong>ANL TV SOUND and RADIO</strong></td>
<td></td>
</tr>
<tr>
<td><strong>ANALOG TV PICT</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Network Id PROG &amp; PID only</strong></td>
<td></td>
</tr>
<tr>
<td><strong>SPECTRUM ANALYSIS with MEMORY PEAK</strong></td>
<td>REAL TIME</td>
</tr>
<tr>
<td><strong>DIGITAL QUALITY FAIL-MARG-PASS</strong></td>
<td></td>
</tr>
<tr>
<td><strong>CONSTELLATION &amp; REAL TIME ECHOS</strong></td>
<td>Constellation</td>
</tr>
<tr>
<td><strong>MEASUREMENTS</strong></td>
<td></td>
</tr>
<tr>
<td><strong>TV</strong></td>
<td>4-1.000 MHz</td>
</tr>
<tr>
<td><strong>CATV</strong></td>
<td>4-1.000 MHz</td>
</tr>
<tr>
<td><strong>AUDIO-VIDEO</strong></td>
<td></td>
</tr>
<tr>
<td><strong>MEASUREMENTS</strong></td>
<td></td>
</tr>
<tr>
<td><strong>INPUT CONNECTOR</strong></td>
<td></td>
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<tr>
<td><strong>TV</strong></td>
<td>4-1.000 MHz</td>
</tr>
<tr>
<td><strong>CATV</strong></td>
<td>4-1.000 MHz</td>
</tr>
<tr>
<td><strong>RADIO</strong></td>
<td>4-1.000 MHz</td>
</tr>
<tr>
<td><strong>MODEL</strong></td>
<td>HD PRO TV 3500</td>
</tr>
<tr>
<td><strong>MODEL</strong></td>
<td>HD PRO TV 3500</td>
</tr>
</tbody>
</table>
**Main Specifications**

<table>
<thead>
<tr>
<th>Model</th>
<th>ITC FENITEL APPROVED</th>
<th>ITC FENITEL APPROVED</th>
<th>ITC FENITEL APPROVED</th>
<th>ITC FENITEL APPROVED</th>
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<th>ITC FENITEL APPROVED</th>
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<tbody>
<tr>
<td>PROS per PLAN</td>
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<td>199</td>
<td>199</td>
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<td>199</td>
<td>199</td>
<td>199</td>
<td>199</td>
<td>199</td>
</tr>
<tr>
<td>Tuning System and Navigation</td>
<td>Transp./ Ch./ Freq./ Prog. in Meas and Spect</td>
<td>Transp./ Ch./ Freq./ Prog. in Meas and Spect</td>
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<td>Level Accuracy (dB)</td>
<td>1.5 Typ. SAT</td>
<td>1.0 Typ. TV</td>
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**Special Functions**

- DIRECT NAVIGATION
- TV PROGRAMS AUTOMEMORY
- DRIVER for LNB S.C.R.
- Dual LNB SAT POINTER
- SAT EXPERT
- BLUE LIGHT/+ STC
- TRANSPORTER
- DIGITAL QUALITY FAL-MARG-PASS
- CONSTELLATION & REAL TIME ECHOES
- OPTICAL IN & IP/TV
- QAM
- COFDM
- 8PSK
- QPSK
- AUTO LIGHT/+ STC

**Audio-Video**

- USB & SW Updates via Internet
- NAVIGATION ENCODER & NUMERIC KEYPAD
- TV & PROGRAM SCALES
- DRIVER for LNB S.C.R.
- Dual LNB SAT POINTER
- OPTICAL IN

**Measurements**

- SPECTRUM ANALYSIS with MEMORY/PSK
- DIGITAL QUALITY FAL-MARG-PASS
- QAM
- COFDM
- 8PSK
- QPSK

**Input Connector**

- F - BNC + IEC

**Frequency Range**

- SAT
  - 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
  - 4-1,000 MHz
  - 4-1,000 MHz
  - 4-1,000 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

- RADIO
  - 4-1,000 MHz
  - 4-1,000 MHz
  - 4-1,000 MHz
  - 4-1,000 MHz
  - 4-1,000 MHz

- MASTER 100

- FAST-C

- CW-2 MODES

- CW-2 MODES
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.

**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.

**Lake Garda**

- **Sirmione Castle, 1500 a.C.**
- **Catullus Roman ruins, 350 b.C.**
- **Verona Roman Arena, 120 b.C.**
- **Verona, Juliet’s balcony**

**Map of Lake Garda**

- **Milan**: 120 Km
- **Venice**: 150 Km
- **Switzerland**
- **Germany**
- **Austria**

**Rover Instruments**

- **Laboratories and offices**
- **Goods entrance and production**
- **Entrance to the offices**

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Tel. +39 030 9198 1 • Fax +39 030 990 6894
info@roverinstruments.com • www.roverinstruments.com

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**A STEP AHEAD IN DIGITAL TELEVISION**