

# ROVER INSTRUMENTS

INSTRUMENTS DIVISION:  
SAT TV CATV OPTIC IP-TV Measurement Instruments

**PRELIMINARY:**  
Specifications  
subject to change.

V7 12-7-16

*Made  
to Measure*



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DOCSIS  
CATV

75Ω  
"F"  
CONNECTOR

50Ω  
"N"  
CONNECTOR

DAB+

S2M

C2

T2



# INSTRUMENTS



ASI T.S.  
ANALYZER

T2 MI  
ANALYZER

IPTV  
ANALYZER

OPTIC  
ST/SC/FC



DOLBY  
APPROVED



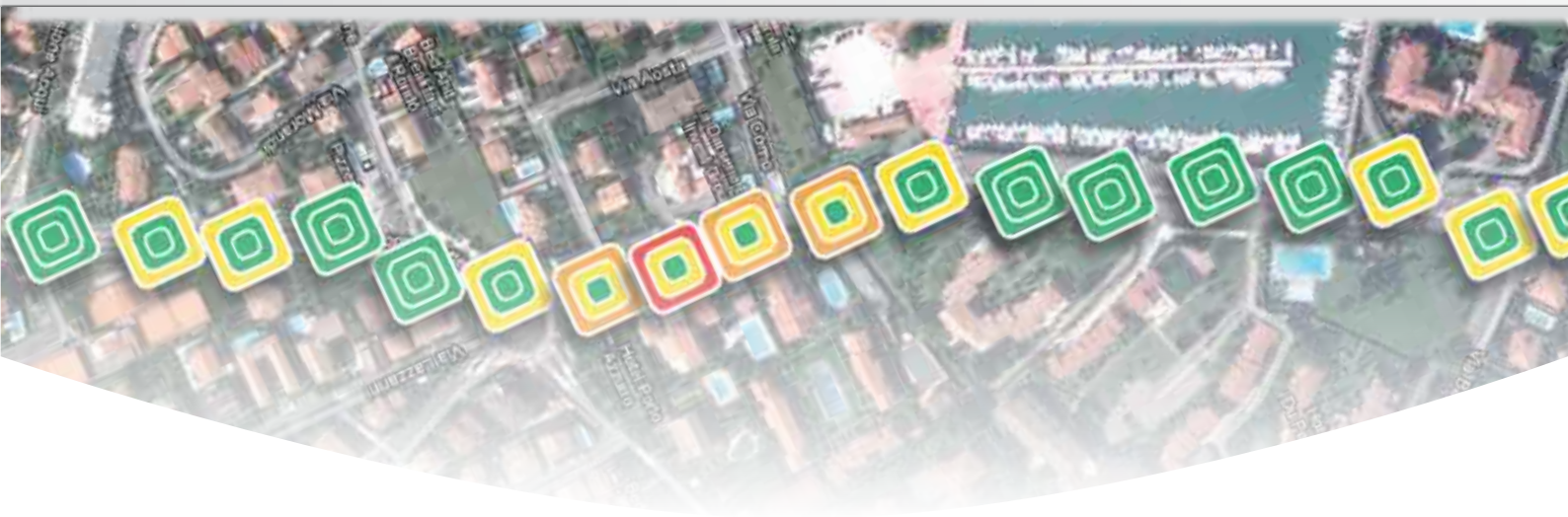




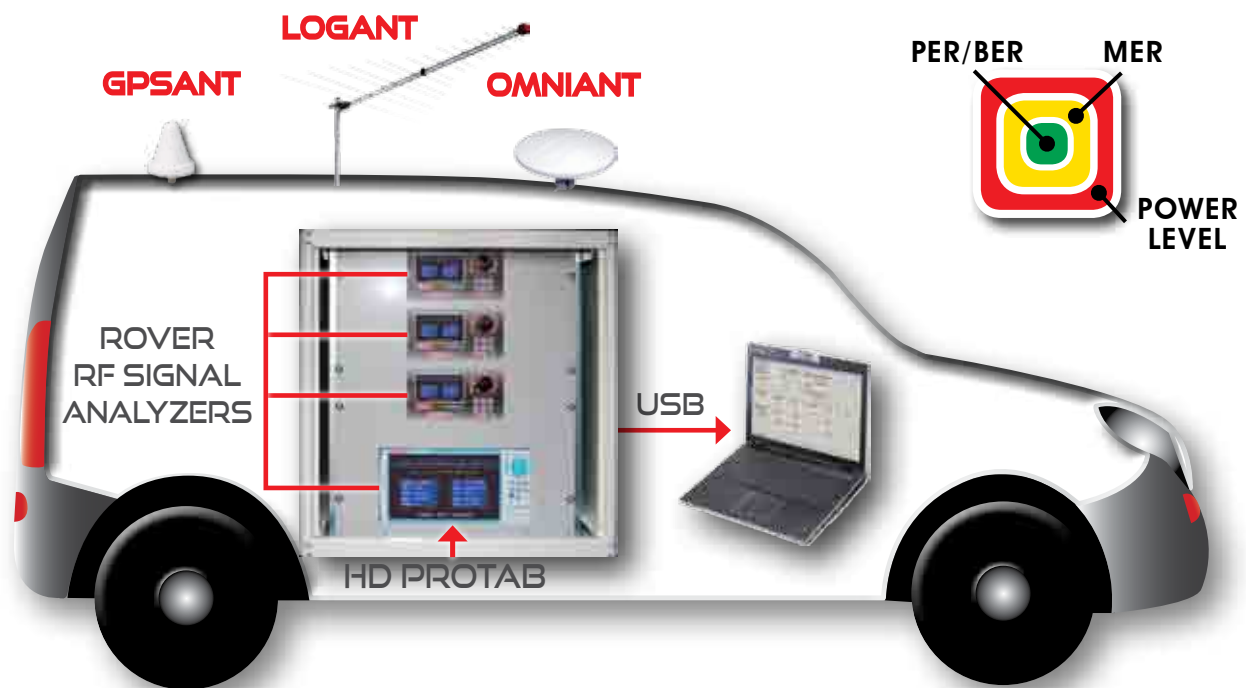
# TOTAL CONNECTIVITY







## MOD. HD PRODRIVE TEST



Efficient Broadcast DRIVE TEST solution for cost effective, fast & accurate, terrestrial Broadcast networks coverage analysis.

**EXCLUSIVE KIT for DVB-T2 Lite mobile & stationary MULTICHANNEL measurements.**



<30	Field Strength Power dBμV	>50
<15	MER dB	>25
>10-2	PER	<10-7

# & EFFICIENT "QoS" REMOTE MONITORING

## MOD. HD PROBE & NMS

Highly reliable, easy **Network Management System** to check 24 h **Quality of Service** for Radio, TV & SAT signals through multiple HD ROVER meters/probe placed in your distribution network.





## NETWORK DELAY

The Network Delay measurement is indispensable when operating in DVB-T SFN networks. It measures the Transport Stream Network Delay and checks that it does not exceed the TS MIP packet maximum value.



## ETR 101 290 T.S. ANALYZER

The meter has a built-in TS analyzer that provides complete ETR101290 priority 1-2-3 alarms monitoring. It analyses the transport streams, either demodulated from one of the RF inputs, injected via the ASI input connector or received via the GbE interface.





## GPS



The meter has an internal GPS receiver. It allows you to carry out the analysis of a GPS reception antenna quality. It also provides time reference for the Network Delay function and location data when performing on-field measurement loggers when driving in a car or standing on . This is practical for Network Operators because it allows signal verification coverage in specific areas and simultaneous comparison of several signals.



## BARSCAN LEVEL GRAPH

Simultaneously check the level/power of all analog & digital channels. In TV standard canalization the meter displays the level/power of all channels as a bar graph. In AUTOMEMORY or MANUMEMORY PLAN the meter displays only the memorized channels and distinguishes Analog and Digital signals using two different colours (shows audio level).

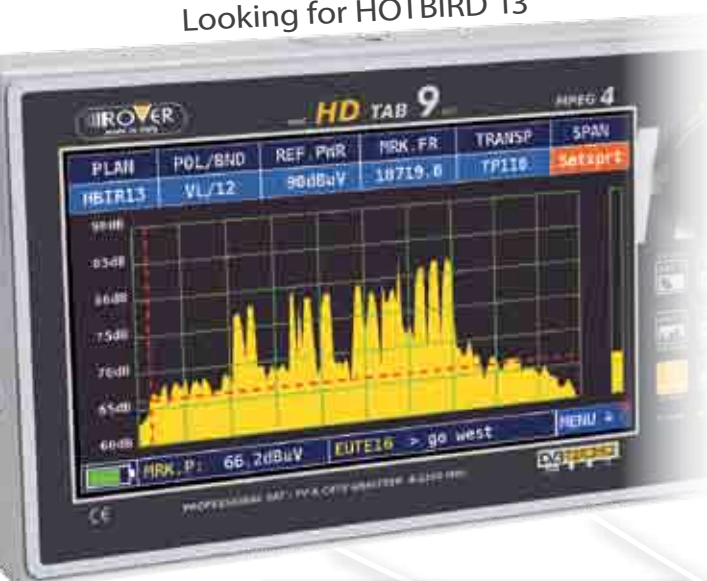
## MER VS CARRIER

The MER measurement, performed for every single carrier in a DVB-T & T2 COFDM mux, is an indispensable tool to spot the impairments on the received digital signal.



MER vs CARRIER Reverse visualization.

Looking for HOTBIRD 13°



## SAT EXPERT FUNCTION

The "SATEXPERT SW" function, is a valuable aid for a fast satellite antenna pointing to a wanted satellite.

Through text messages, which appear from time to time on the screen, the measuring instrument will indicate in which direction to move the satellite dish, to the east or to the west, until you reach the wanted satellite.

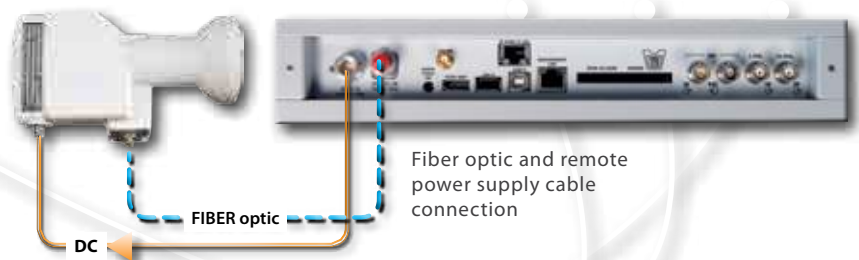


Example pointing Hot Bird 13 ° East  
The tool informs you that the dish is oriented on the correct satellite via the message HBT13 FOUND!



## OPTIC

The meter has an internal optical to RF converter. Can measures the OPTICAL POWER and OPTICAL ATTENUATION, carries out RF measurements (from the optical input), decodes the services and visualizes the spectrum.



### INTERCHANGEABLE OPTICAL CONNECTOR

FC



ST



SC



Measurements and pictures



Spectrum visualization

## LONG TERM CHANNEL LOGGER OR QoS

Record the Quality of Service (QoS) using the WEEKLY CHANNEL LOGGER SW application (supplied with the ROVER HD Series).

This useful tool monitors and records the trend of the main parameters of a digital signal over time (from 30 minutes to 7 days): TV, Cable, Satellite, Radio or FM (DAB option available for specific models).

It is excellent for reception problems that occur occasionally.

The application allows you to measure, store and display (locally or remotely\*) the parameters of the digital signals under test: DVB-S/T/C = Power, MER, ERROR, bBer, aBer; DVB-S2/T2/C2 = Power, MER, ERROR, aBer, Lber, PER, Ldcp.

Each recorded parameter is graphically represented on the display using different colors for easy identification.





	HD TAB 4 <i>Easy</i>	HD TAB 4 <i>Touch</i>	HD TAB 7 <i>Lite</i>	HD TAB 7 <i>Evo</i>	HD TAB 9	HD PROTAB
STANDARD T/T2/T2 LITE/S/S2/C/C2	• (no C2/T2/T2 LITE)	• (no C2)	• (no C2)	• (C2 opt.)	• (C2 opt.)	• (C2 opt.)
DAB	-	-	-	opt.	opt.	opt.
CAM C.I.	-	-	-	-	•	•
LTE ANALYSIS	-	-	•	•	•	•
OPTICAL INPUT	-	-	opt.	•	opt.	opt.
SAT EXPERT	-	-	•	•	•	•
TS ANALYZER	-	-	-	-	opt.	opt.
MER VS CARRIER	-	-	opt.	•	•	•
MER	•	•	•	•	•	•
CONSTELLATION	• ONLY SAT	•	•	•	•	•
DiSeqC - DCSS - SCR	•	•	•	•	•	•
REFLECTOMETER	-	-	opt.	•	•	•
MINISPECTRUM	-	-	-	-	opt.	opt.
ECHOES	-	-	•	•	•	•
ANALOG TV	MEAS only	MEAS & PICT	MEAS only	MEAS & PICT	MEAS & PICT	MEAS & PICT
WAVE FORM MONITOR ANALOG TV	-	-	-	-	opt.	opt.
GPS	-	-	-	-	opt.	opt.
NOISE GRAPH	-	-	•	•	•	•
IPTV	-	-	-	-	opt.	opt.
ASI IN OUT	-	-	-	-	opt.	•
REMOTE MONITORING	-	-	-	•	•	•
DRIVE TEST	-	-	-	-	opt.	opt.
DOLBY AC3DD +	opt.	opt.	opt.	opt.	opt.	opt.
VIDEO IN RCA (CVBS)	-	•	•	•	•	•
HDMI OUT	-	-	-	•	•	•
USB	B	B	A + B	A + B	A + B	A + B
TFT	4,3 "	4,3 " Touch	7 " Touch	7 " Touch	9 " Touch	10 " Touch high brigh.
TOUCH SCREEN	-	•	•	•	•	•
WEIGHT & DIMENSIONS	1 Kg / 12 x 18 x 4,5 cm 2 A h	1 Kg / 12 x 18 x 4,5 cm 2 A h	2 Kg / 14 x 24 x 4 cm 2 A h	2 Kg / 14 x 24 x 4 cm 4 A h	2,6 Kg / 32 x 17 x 6,4 cm 6 A h	3,2 Kg / 34 x 18 x 7 cm 6 A h
BATTERY	EASY BAG	EASY BAG	RUGGED BAG	RUGGED BAG	RUGGED BAG	RUGGED BAG
BAG						



# PROFESSIONAL & BROADCAST ANALYZERS

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## PROFESSIONAL BROADCAST HD ANALYZER FROM 4 TO 2.250 MHz

**AUTOMATIC, FAST & EASY TO USE**

**10.2"**  
**SUPER HIGH**  
**BRIGHTNESS**  
**16:10 DISPLAY**



**FULL TOUCH**  
Excludable

**EXCLUSIVE DUAL**  
**COMMANDS**

**MECHANICAL**  
Keys & Encoder

50Ω  
"N"  
Connector

**RF IN**

75Ω  
"F"  
Connector

**ASI T.S.**

- FREQ. RANGE 4-2.250 (2.700 opt.) MHz
- DVB-S/S2 MULTISTREAM
- DVB-T/T2/T2 LITE & C/C2
- ISDB-T (6/8 MHz)-ATSC-GB20600
- ANALOG TV
- FM RADIO
- **DAB & DAB +**
- REAL TIME SPECTRUM (4-2.700 MHz)
- MINI SPECT. WITH PICTURES
- GSM BAND
- LTE FILTER
- ITU QUALITY COVERAGE
- **PRODRIVE TEST SW**
- **LTE ANALYZER**
- **WAVE FORM MONITOR**
- **T2 MI ANALYZER**
- ASI INPUT/OUTPUT
- **DVB-T SFN Network Delay Meas**
- **ETR 101-290 T.S. ANALYZER**
- RECORD/READER

**IP TV**

- IP TO ASI DENCAP.
- ASI TO IP ENCAP.
- IPTV ANALYZER

**LAN**

- T.S. LIVE STREAMING
- T.S. RECORDING
- REMOTE CONTROL
- **SNMP & HTTP**

**OPTIC**

FC-ST-SC  
INTERCHANGEABLE  
CONNECTOR

- POWER METER
- POWER LOSS
- POWER GRAPH
- SAT & CATV SPECT & MEAS

**GPS**

- POSITION LOGGING
- 10 MHz & 1 PPS TIME REFERENCE
- **GPS ANTENNA QUALITY TEST**

**MONITORING**

- 7 DAYS CHANNEL MONITORING
- LOGGER WITH GPS
- REMOTE PC/TABLET CONTROL
- USB ON THE GO FOR LONG TERM LOGGING
- PRODRIVE TEST
- **QOS 24 H WITH NMS**

NOTE: check for the supplied and optional APPs.



## MAIN FUNCTIONS

### SPECIAL FUNCTIONS

- **ETR 101-290 T.S. Analyzer (opt.)**
- **Exclusive patented ROVER AUTODISCOVERY system:** auto-matically detects and selects analog and digital COFDM/QAM TV signals in both measurement and spectrum mode.
- **HELP function:** automatically identifies all the signals with digital modulation SAT, TV and CATV.
- **Automatic Assistant:** Signal Quality analysis, Channel Scan memorization.
- **Barscan TV & CATV function from 10 to 100 channels on one screen.**
- **Buzzer & Noise Margin real time graph for digital signals microinterruptions.**
- **Reflectometric measurements APP**
- **PRODRIVE TEST:** Single or multiple CHs measurements acquisition with GPS logging and mapping (opt.)
- **REMOTE MONITORING and LOGGING:** TS, measurements, spectrum, thumbnails (opt.)
- **Optical Input signals (opt.)**
- **SATELITE:** SAT SCR, DiSEqC, SCR & DCSS, Motorized antenna, Dual LNB, SAT FINDER, SAT EXPERT
- **Custom Channel Plans:** 25 (199 ch. per plan), Programmable TV, SAT (or combined TV/SAT) by PC or Local Keyboard.
- **Loggers:** TV, SAT & combined with stop & go function.
- **SAT Memory Plan:** More than 2.000 transponders prememorized for world wide Satellite.
- **Free SMART PC interface program and FW upgrades.**
- **AVAILABLE OPTIONAL APPs:** GPS, PRODRIVE TEST SW license, ETR 101-290 T.S. analyzer, DVB-T Network Delay measurement, LAN IPTV/ASI, OPTIC INPUT, TV Minispectrum, LTE filter, DAB+, DVB-C2, Dolby +.

### SPECIFICATIONS: MEASUREMENTS & SPECTRUM ANALYSIS

- **Frequency Range:** TV, CATV & Radio: 4-1000 MHz; SAT: 950 2150 MHz"
- **Frequency Resolution:** TV & CATV 25 KHz; SAT: 5 or 1 MHz selectable"
- **Power range Meas.:** TV 28 to 130 dBμV, SAT 30 to 130 dBμV.
- **Digital Meas:** Digital Power, MER (32 to 42 dB depending on modulation), BER, PER, LDPC, PC, BCH, Noise Margin, MER versus CARRIER.
- **Analog Meas.:** Analog level, V/A ratio, Analog Pictures
- **Measurement Resolution:** 0.1 dB
- **Level Measurement Accuracy:** 1 dB typ. (2 dB max.)
- **Resolution Filter Bandwidth:** TV&CATV: 100 KHz @ -3 dB; SAT: 1 MHz or 5 MHz @ -3 dB selectable"
- **Constellation:** for TV and SAT signals.
- **Spectrum:** Real time, Max Hold and spectrum memorization with real time compare function,
- **Net-id on board:** Net-id, NID, TSID, LCN, SAT Orbit Position.
- **Echoes, Pre-echoes, Micro-echoes:** Representation in real Time.
- **Quality:** Digital Auto quality Test: PASS-MARGINAL-FAIL.
- **TS:** TR 101 290 v1.2.1 ANALYSIS, SI, PMT, bit rate, network delay, MPEG services and tables.
- **IPTV:** measurements and picture decoding (opt)

### OPTICAL MEASUREMENTS

- **FC-ST-SC interchangeable input connectors**
- **Automatic loss calculation**
- **Wavelengths (nm):** 850,1310, 1490, 1550
- **Range:** -25 to 10 dBm
- **Resolution:** 0.1 dB
- **Accuracy:** +/- 0.5 dB
- **Optical to RF conversion**

## COMM. PORTS AND OUTPUTS

- **RF Input** : 75 ohm (interchangeable "F" )
- **LAN**: RJ45 10/100 base Ethernet
- **USB 2.0**: Type B (PC Interface)
- **USB 2.0**: Type A (USB drive)
- **Digital Pictures**: MPEG2-4 SD & HD pictures with Program List, Audio Video PIDs, LCN, Video bit Rate all on one screen.
- **Audio**: AAC supplied, DOLBY opt.
- **Asynchronous Serial Interface (ASI)**: ASI input on 75Ω BNC connector, ASI output on 75Ω BNC connector (opt.)
- **Audio / Video**: Composite A/V input, HDMI output
- **Common Interface**: PCMCIA slot for single/multi-service CAM modules

## GENERAL SPECIFICATIONS

- **10.2" TFT TOUCH display**: 16:9 high resolution and high brightness
- **Power Supply**: Built in LiPoLi-ion battery with up to 6 hours duration & Battery Test function
- **DC voltage at RF input**: 5 - 12 - 18 - 24 V, DiSEqC, SCR.
- **PC Interface**: USB
- **Display**: Color LCD 9" (480 px x 800 px)
- **Front-Panel**: Alpha numeric keypad
- **Power Save**: TFT backlight timer, brightness adj.
- **PC Management**: SMART software
- **Weight**: only 3 Kg with batteries, Size: 323 mm x 175 mm x 60 mm
- **Housing**: Aluminium and Steel and padded bag.

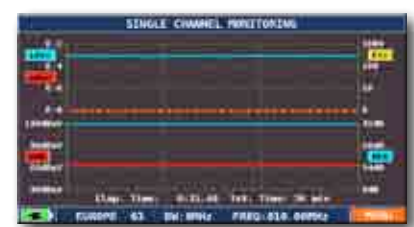
## MEASUREMENT EXAMPLES



MER vs CARRIER: normal visualization



Spectrum SAT 400 MHz span



Single channel monitoring: 30 minutes



Spectrum TV 100 MHz span



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



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



ETR 290 Transport Stream Analyzer



GPS antenna Quality, constellation & Position.



LTE Interference Autotest (opt.)

## UPPER VIEW



## HD PROSLIDE



## MULTI-PURPOSE BAG





## THE PROFESSIONAL & ACCURATE TOUCH SCREEN ANALYZER

**DVB-T2/C2/S2**  
UHD - 4K - HEVC\*



**50Ω "N" Connector**

**RF IN**

**75Ω "F" Connector**

**ASI T.S.**

- FREQ. RANGE 4-2.250 (2.700 OPT.) MHz
- DVB-S/S2 MULTISTREAM
- DVB-T/T2/T2 LITE & C/C2
- ISDB-T (6/8 MHz)-ATSC-GB20600
- ANALOG TV
- FM RADIO
- **DAB & DAB +**
- REAL TIME SPECTRUM (4-2.700 MHz)
- MINI SPECT. WITH PICTURES
- GSM BAND
- LTE FILTER
- ITU QUALITY COVERAGE
- **LTE ANALYZER**
- **T2 MI ANALYZER**
- ASI INPUT/OUTPUT
- **DVB-T SFN NETWORK DELAY MEAS**
- **ETR 101-290 T.S. ANALYZER**
- RECORD/READER

**UHD - 4K HEVC**

\*JANUARY 2017

**IP TV**

**LAN**

**OPTIC**

FC-ST-SC  
INTERCHANGEABLE  
CONNECTOR

**GPS**

**MONITORING**

- H265
- HIGH EFFICIENCY VIDEO CODING
- 4K ULTRA HD
- IP TO ASI DENCAP.
- ASI TO IP ENCAP.
- IPTV ANALYZER
- T.S. LIVE STREAMING
- T.S. RECORDING
- REMOTE CONTROL
- **SNMP & HTTP**
- POWER METER
- POWER LOSS
- POWER GRAPH
- SAT & CATV SPECT & MEAS
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NOTE: check for the supplied and optional APPs.

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- **Reflectometric measurements APP.**
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- **Custom Channel Plans:** 25 (199 ch. per plan), Programmable TV, SAT (or combined TV/SAT) by PC or Local Keyboard.
- **Loggers:** TV, SAT & combined with stop & go function.
- **SAT Memory Plan:** More than 2.000 transponders prememorized for world wide Satellite.
- **Free SMART PC interface program and FW upgrades.**
- **AVAILABLE OPTIONAL APPs:** GPS, PRODRIVE TEST, ETR 101-290 T.S. analyzer, DVB-T Network Delay measurement, LAN IPTV/ASI, OPTIC INPUTS, TV Minispectrum, LTE filter, DAB+, DVB-C2, ASI IN/OUT, Dolby +.

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- **Analog Meas.:** Analog level, V/A ratio, Analog Pictures
- **Measurement Resolution:** 0.1 dB
- **Level Measurement Accuracy:** 1 dB typ. (2 dB max.)
- **Resolution Filter Bandwidth:** TV&CATV: 100 KHz @ -3 dB; SAT: 1 MHz or 5 MHz @ -3 dB selectable"
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- **Spectrum:** Real time, Max Hold and spectrum memorization with real time compare function,
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- **USB 2.0**: Type B (PC Interface)
- **USB 2.0**: Type A (USB drive)
- **Digital Pictures**: MPEG2-4 SD & HD pictures with Program List, Audio Video PIDs, LCN, Video bit Rate all on one screen.
- **Audio**: AAC supplied, DOLBY opt.
- **Asynchronous Serial Interface (ASI)**: ASI input on 75Ω BNC connector, ASI output on 75Ω BNC connector (opt)
- **Audio / Video**: Composite A/V input, HDMI output
- **Common Interface**: PCMCIA slot for single/multi-service CAM modules

## GENERAL SPECIFICATIONS

- **9" TFT TOUCH display**: 16:9 high resolution and high brightness
- **Power Supply**: Built in LiPoLi-ion battery with up to 6 hours duration & Battery Test function
- **DC voltage at RF input**: 5 - 12 - 18 - 24 V, DiSEqC, SCR.
- **PC Interface**: USB
- **Display**: Color LCD 9" (480px x 800px)
- **Front-Panel**: Alpha numeric keypad
- **Power Save**: TFT backlight timer, brightness adj.
- **PC Management**: SMART software
- **Weight**: only 2,6 Kg with batteries, Size: 323 mm x 175 mm x 60 mm
- **Housing**: Aluminium and Steel and padded bag.

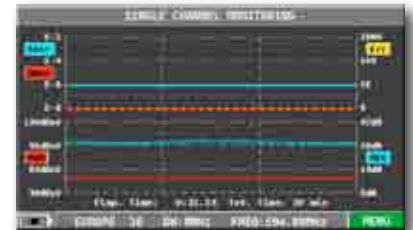
## MEASUREMENT EXAMPLES



MER vs CARRIER: normal visualization



Spectrum SAT 400 MHz span



Single channel monitoring: 30 minutes



Spectrum TV 100 MHz span



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



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



ETR 101290 Transport Stream Analyzer



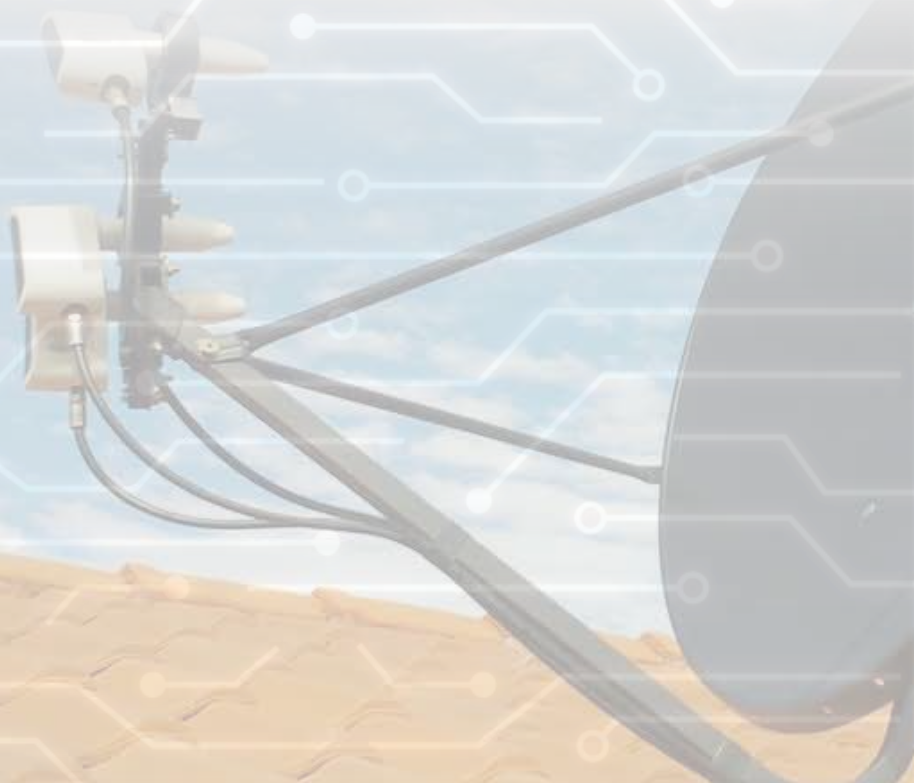
GPS antenna Quality, constellation & Position.



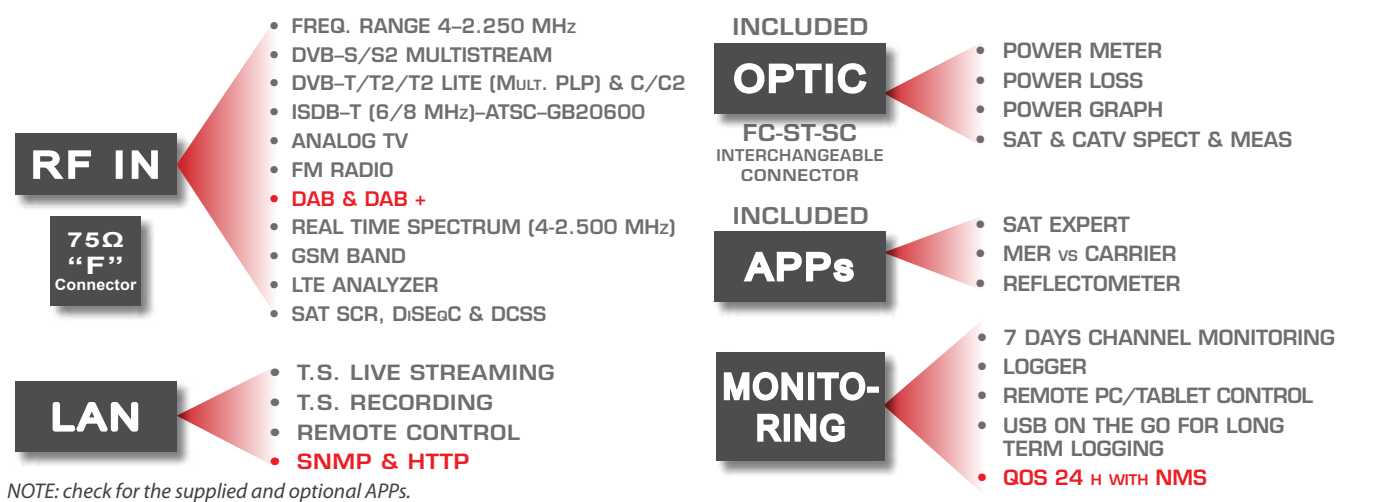
LTE Interference Autotest (opt.)



# COMBINED INSTALLATION ANALYZERS



THE MOST ADVANCED & ACCURATE **TABLET** ANALYZER



## SPECIAL FUNCTIONS

- **Exclusive patented ROVER AUTODISCOVERY system:** automatically detects and selects analog and digital COFDM/QAM TV signals in both measurement and spectrum mode.
- **HELP function:** automatically identifies all the signals with digital modulation SAT, TV and CATV.
- **Automatic Assistant:** Signal Quality analysis, Channel Scan memorization.
- **Barscan TV & CATV function** from 10 to 100 channels on one screen.
- **Buzzer & Noise Margin** real time graph.
- **Exclusive included APP:** SAT Expert.
- **MER versus CARRIER**
- **Reflectometric measurements APP**
- **LAN Interface:** for remote web browser internet Monitoring with opt. APP.

## MAIN FUNCTIONS

### MEASUREMENTS & SPECTRUM ANALYSIS

- **Freq. Range:** TV and CATV TUNER, extended band, 4-1000 MHz; SAT TUNER, extended band, 930-2.250 MHz; GSM extended band, 860-1.000 MHz for telephone repeater installation.
- **Input Impedance:** 75 ohm (interchangeable "F" connector).
- **Digital Meas.:** Digital Power, MER, BER, PER, LDPC, PC, BCH, Noise Margin, MER versus CARRIER (opt.).
- **Analog Meas.:** Analog level, V/A ratio.
- **Power range Meas.:** TV 28 to 130 dBμV, SAT 30 to 130 dBμV.
- **Net-id on board:** Net-id, NID, TSID, LCN, SAT Orbit Position.
- **Fast spectrum with MAX HOLD:** full spect. capabilities with memory peak, variable span and automatic reference level.
- **Constellation:** for TV and SAT signals.
- **Echoes, Pre-echoes, Micro-echoes:** Representation in real Time.
- **Quality:** Digital Auto quality Test: PASS-MARGINAL-FAIL.
- **Digital Pictures:** MPEG2-4 SD & HD pictures with Program List, Audio Video PIDs, LCN, Video bit Rate all on one screen.
- **TV Memory plan:** World Wide countries with related channels plans pre-memorized.
- **SAT Memory Plan:** More than 2.000 transponders prememorized for world wide Satellite.
- **Manual Memory Plan:** Programmable TV, SAT (or combined TV/SAT) by PC or Local Keyboard.
- **Loggers:** TV, SAT & combined with stop & go function.
- **Audio:** AAC supplied, DOLBY opt.
- **Optical Power meter:** with interchangeable FC-ST-SC connector for fiber optic testing (FTTH & FTTX) and troubleshooting.
- **Free SMART PC interface program and FW upgrades.**
- **AVAILABLE OPTIONAL APPs:** LTE filter, DAB+, DVB-C2, DOLBY audio, Remote Control.

### GENERAL SPECIFICATIONS

- **7" TFT TOUCH display:** 16:9 high resolution.
- **DC voltage at RF input:** 5 - 12 - 18 - 24 V, DiSEqC, SCR, DCSS.
- **Battery:** Li-Po battery pack, 4 h duration & Battery Test function
- **Power supply & Battery charger:** 12 Vdc.
- **USB PC Interface:** For SW upgrade on-line and memory plan management.
- **USB PC Interface:** For storage memory stick.
- **Housing:** Metal box and padded bag.
- **Weight:** only 2 Kg. **Size:** H 14 x W 24 x D 4 cm (meter only).

## MEASUREMENT EXAMPLES



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



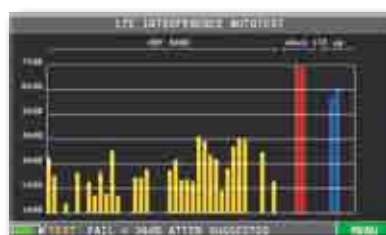
ECHO MEASUREMENT in SFN networks, with impulse response in real time, green area shows the guard interval



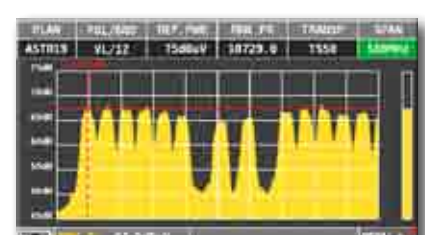
DVB-S2 multistream Constellation 8PSK mod., on the right relative modulation parameters & ISSY



Spectrum TV 100 MHz span



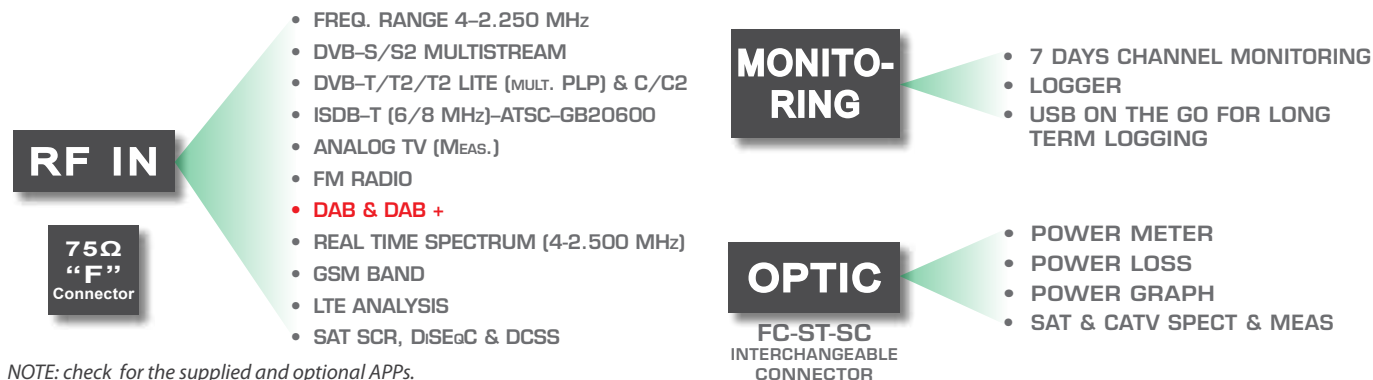
LTE Interference Autotest



Satellite spectrum with 500 MHz SPAN



THE MOST ADVANCED & ACCURATE **TABLET** ANALYZER



## SPECIAL FUNCTIONS

- **Exclusive patented ROVER AUTODISCOVERY system:** automatically detects and selects analog and digital COFDM/QAM TV signals in both measurement and spectrum mode.
- **HELP function:** automatically identifies all the signals with digital modulation SAT, TV and CATV.
- **Automatic Assistant:** Signal Quality analysis, Channel Scan memorization.
- **Barscan TV & CATV function** from 10 to 100 channels on one screen.
- **Buzzer & Noise Margin** real time graph.
- **SAT Expert.**
- **MER versus CARRIER**, Optic input, Audio DOLBY.

## MAIN FUNCTIONS

### MEASUREMENTS & SPECTRUM ANALYSIS

- **Freq. Range:** TV and CATV TUNER, extended band, 4-1000 MHz; SAT TUNER, extended band, 930-2.250 MHz; GSM extended band, 860-1.000 MHz for telephone repeater installation.
- **Input Impedance:** 75 ohm (interchangeable "F" connector).
- **Digital Meas.:** Digital Power, MER, BER, PER, LDPC, PC, BCH, Noise Margin, MER versus CARRIER (opt.).
- **Analog Meas.:** Analog level, V/A ratio.
- **Power range Meas.:** TV 28 to 130 dBμV, SAT 30 to 130 dBμV.
- **Net-id on board:** Net-id, NID, TSID, LCN, SAT Orbit Position.
- **Fast spectrum with MAX HOLD:** full spect. capabilities with memory peak, variable span and automatic reference level.
- **Constellation:** for TV and SAT signals.
- **Echoes, Pre-echoes, Micro-echoes:** Representation in real Time.
- **Quality:** Digital Auto quality Test: PASS-MARGINAL-FAIL.
- **Digital Pictures:** MPEG2-4 SD & HD pictures with Program List, Audio Video PIDs, LCN, Video bit Rate all on one screen.
- **TV Memory plan:** World Wide countries with related channels plans pre-memorized.
- **SAT Memory Plan:** More than 2.000 transponders prememorized for world wide Satellite.
- **Manual Memory Plan:** Programmable TV, SAT (or combined TV/SAT) by PC or Local Keyboard.
- **Loggers:** TV, SAT & combined with stop & go function.
- **Audio:** AAC supplied, DOLBY opt.
- **Optical Power meter opt.:** with interchangeable FC-ST-SC connector for fiber optic testing (FTTH & FTTX) and troubleshooting.
- **Free SMART PC interface program and FW upgrades.**
- **AVAILABLE OPTIONAL APPs:** MER vs CARRIER, Optic Input, LTE filter, DVB-C2, HD DOLBY audio

### GENERAL SPECIFICATIONS

- **7" TFT TOUCH display:** 16:9 high resolution.
- **DC voltage at RF input:** 5 - 12 - 18 - 24 V, DiSEqC, SCR, DCSS.
- **Battery:** Li-Po battery pack, 2 h duration (high power batt. pack 4h opt.) & Battery Test function
- **Power supply & Battery charger:** 12 Vdc.
- **USB PC Interface:** For SW upgrade on-line and memory plan management.
- **USB PC Interface:** For storage memory stick.
- **Housing:** Metal box and padded bag.
- **Weight:** only 2 Kg. **Size:** H 14 x W 24 x D 4 cm (meter only).

## MEASUREMENT EXAMPLES



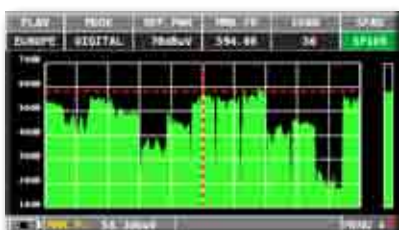
DVB-T2 rotated Constellation 256 QAM mod., on the right relative modulation parameters & M-PLP



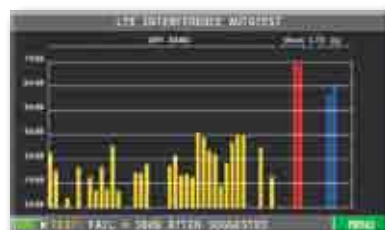
ECHO MEASUREMENT in SFN networks, with impulse response in real time, green area shows the guard interval



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



Spectrum TV 100 MHz span



LTE Interference Autotest



Satellite spectrum with 500 MHz SPAN

THE MOST EASY, ACCURATE & COMPLETE  
COMBINED SAT, TV & CATV FIELD METER TOUCH



- ACCURATE & EASY TO USE
- DVB-S/S2, DVB-T/T2, DVB-C
- ALL DIGITAL MEASUREMENTS
- DISEQC & SCR
- FULL MPEG 2 - 4 SD & HD PICTURES
- ANALOG TV & VIDEO INPUT
- AUTOMEMORY & AUTOQUALITY
- SPECTRUM WITH MEMORY PEAK
- ROBUST METAL HOUSING
- RAIN PROOF BAG
- LONG DURATION LI-PO BATTERIES

NOTE: check for the supplied and optional APPs.



## MAIN FUNCTIONS

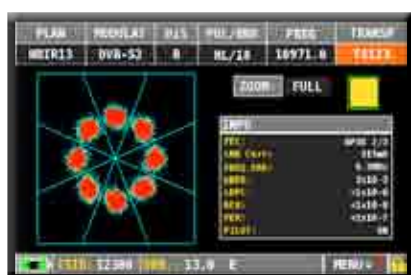
### MEASUREMENTS & SPECTRUM ANALYSIS

- **Frequency Range:** TV 44 to 880 MHz, SAT 930 to 2.150 MHz. Level accuracy: 3 dB.
- **Input Impedance:** 75 ohm (interchangeable "F" connector).
- **Power range Meas.:** TV 10 to 100 dBμV, SAT 28 to 92 dBμV, 120 dBμV with ext. attenuator.
- **Net-id on board.**
- **Fast spectrum with MAX HOLD:** full spect. capabilities with memory peak, variable span and automatic reference level.
- **Constellation:** for TV and SAT signals.
- **Dig. meas:** Digital Power, MER, BER, PER.
- **Analog Meas.:** Analog level, V/A ratio.
- **Quality:** Digital Auto quality Test.
- **Digital Pictures:** MPEG2-4 SD & HD pictures with Service List, LCN & Video bit Rate.
- **Analog Pictures.**
- **TV Memory plan:** World Wide countries with related channels plans pre-memorized.
- **SAT Memory Plan:** More than 2.000 transponders prememorized for world wide Satellite.
- **Manual Memory Plan:** Programmable TV, SAT (or combined TV/SAT) by PC or Local Keyboard.
- **Loggers:** TV, SAT & combined with stop & go function.
- **Dolby:**(optional).
- **Free SMART PC interface program and FW upgrades.**
- **AVAILABLE OPTIONAL APPs:** HD DOLBY audio (specify when ordering), Elite bag.

### GENERAL SPECIFICATIONS

- **4,3" TFT TOUCH display:** 16:9 high resolution
- **DC voltage at RF input:** 5 - 12 - 18 - 24 V.
- **Battery:** Rechargeable Li-Po battery pack, 2 hour duration.
- **Power supply & Battery charger:** 12 Vdc.
- **USB PC Interface:** For SW upgrade and memory plan management.
- **Housing:** Metal box and rain proof bag.
- **Size:** H 123 x W 185 x D 44 mm (meter only).
- **Weight:** 1 Kg.
- **Easy bag supplied** (elite bag optional).

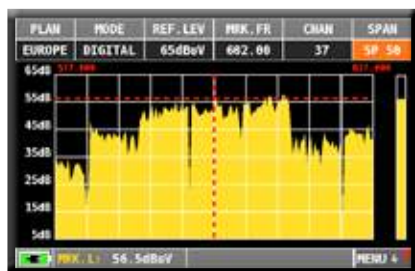
## MEASUREMENT EXAMPLES



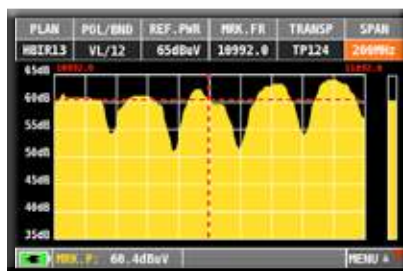
DVB-S2 Constellation



DVB-T2 Constellation



TV Spectrum



SAT Spectrum



Service list & picture

THE MOST EASY, ACCURATE & COMPLETE  
COMBINED SAT, TV & CATV FIELD METER

TFT 4,3"  
16:10 DISPLAY



**MECHANICAL**  
Direct Keys & Encoder

- ACCURATE & EASY TO USE
- **DVB-S/S2, DVB-T, DVB-C**
- ALL DIGITAL MEASUREMENTS
- **DISEQC & SCR**
- FULL MPEG 2 - 4 SD & HD PICTURES
- **ANALOG TV & VIDEO INPUT**
- AUTOMEMORY & AUTOQUALITY
- **SPECTRUM WITH MEMORY PEAK**
- ROBUST METAL HOUSING
- **RAIN PROOF BAG**
- LONG DURATION LI-PO BATTERIES

NOTE: check for the supplied and optional APPs.

## MAIN FUNCTIONS

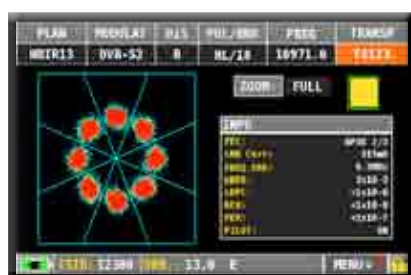
### MEASUREMENTS & SPECTRUM ANALYSIS

- **Frequency Range:** TV 44 to 880 MHz, SAT 930 to 2.150 MHz. Level accuracy: 3 dB.
- **Input Impedance:** 75 ohm (interchangeable "F" connector).
- **Power range Meas.:** TV 10 to 100 dBμV, SAT 28 to 92 dBμV, 120 dBμV with ext. attenuator.
- **Net-id on board.**
- **Fast spectrum with MAX HOLD:** full spect. capabilities with memory peak, variable span and automatic reference level.
- **Constellation SAT.**
- **Dig. meas:** Digital Power, MER, BER, PER.
- **Analog Meas.:** Analog level, V/A ratio.
- **Quality:** Digital Auto quality Test.
- **Digital Pictures:** MPEG2-4 SD & HD pictures with Service List, LCN & Video bit Rate.
- **Analog Pictures.**
- **TV Memory plan:** World Wide countries with related channels plans pre-memorized.
- **SAT Memory Plan:** More than 2.000 transponders prememorized for world wide Satellite.
- **Manual Memory Plan:** Programmable TV, SAT (or combined TV/SAT) by PC or Local Keyboard.
- **Loggers:** TV, SAT & combined with stop & go function.
- **Dolby:**(optional).
- **Free SMART PC interface program and FW upgrades.**
- **AVAILABLE OPTIONAL APPs:** HD DOLBY audio (specify when ordering), Elite bag.

### GENERAL SPECIFICATIONS

- **4,3" TFT display:** 16:9 high resolution.
- **DC voltage at RF input:** 5 - 12 - 18 - 24 V.
- **Battery:** Rechargeable Li-Po battery pack, 2/3 hour duration.
- **Power supply & Battery charger:** 12 Vdc.
- **USB PC Interface:** For SW upgrade and memory plan management.
- **Housing:** Metal box and rain proof bag.
- **Size:** H 123 x W 185 x D 44 mm (meter only).
- **Weight:** 1 Kg.
- **Easy bag supplied** (Elite bag optional).

## MEASUREMENT EXAMPLES



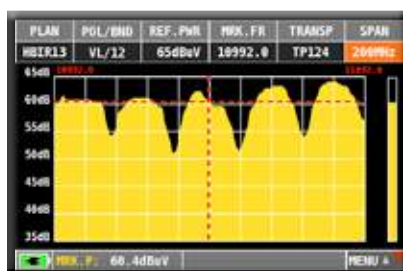
DVB-S2 Constellation



Digital Measurements



TV Spectrum



SAT Spectrum



Service list & picture





# SATELLITE INSTRUMENTS

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THE MOST EASY, ACCURATE & COMPLETE SAT TOUCH METER



- ACCURATE & EASY TO USE
- DVB-S/S2
- ALL DIGITAL MEASUREMENTS
- DISEQC & SCR
- FULL MPEG 2 - 4 SD & HD PICTURES
- AUTOMEMORY & AUTOQUALITY
- SPECTRUM WITH MEMORY PEAK
- ROBUST METAL HOUSING
- RAIN PROOF BAG
- LONG DURATION LI-PO BATTERIES

NOTE: check for the supplied and optional APPs.



## MAIN FUNCTIONS

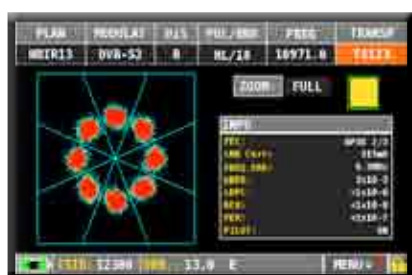
### MEASUREMENTS & SPECTRUM ANALYSIS

- **Frequency Range:** SAT 930 to 2.150 MHz. Level accuracy: 3 dB.
- **Input Impedance:** 75 ohm (interchangeable "F" connector).
- **Power range Meas.:** SAT 28 to 92 dBμV, 120 dBμV with ext. attenuator.
- **Net-id on board.**
- **Fast spectrum with MAX HOLD:** full spect. capabilities with memory peak, variable span and automatic reference level.
- **Constellation SAT.**
- **Dig. meas:** Digital Power, MER, BER, PER.
- **Quality:** Digital Auto quality Test.
- **Digital Pictures:** MPEG2-4 SD & HD pictures with Service List, LCN & Video bit Rate.
- **SAT Memory Plan:** More than 2.000 transponders prememorized for world wide Satellite.
- **Manual Memory Plan:** Programmable by PC or Local Keyboard.
- **Loggers:** with stop & go function.
- **Dolby:**(optional).
- **Free SMART PC interface program and FW upgrades.**
- **AVAILABLE OPTIONAL APPs:** HD DOLBY audio (specify when ordering), Elite bag.

### GENERAL SPECIFICATIONS

- **4,3" TFT TOUCH display:** 16:9 high resolution.
- **DC voltage at RF input:** 5 - 12 - 18 - 24 V.
- **Battery:** Rechargeable Li-Po battery pack, 2 hour duration.
- **Power supply & Battery charger:** 12 Vdc.
- **USB PC Interface:** For SW upgrade and memory plan management.
- **Housing:** Metal box and rain proof bag.
- **Size:** H 123 x W 185 x D 44 mm (meter only).
- **Weight:** 1 Kg.
- **Easy bag supplied** (Elite bag optional).

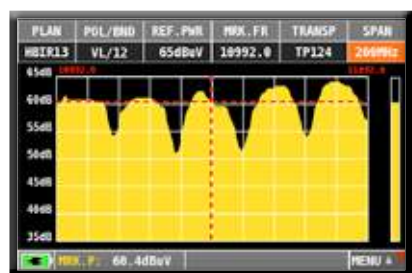
## MEASUREMENT EXAMPLES



DVB-S2 Constellation



Digital Measurements



SAT Spectrum



Service list & picture

THE NEW FRONTIER: WIDE BAND **LNB** 230-2.340 MHz



OPT.



- WIDE BAND 230 - 2.340 MHz with dSCR (dCSS), SCR & DiSEqC
- Drives standard & wideband LNBs
- Orbit position & programme listing & data
- MPEG 2-4 with SD-HD Picture
- Spectrum with MAX HOLD for precise dish alignment
- Full Logging capabilities
- SAT EXPERT: the fastest SAT identification APP
- PC Interface for free updates
- WiFi Network test (optional)
- Free basic SW upgradeable on-line

## MEASUREMENT EXAMPLES



Main measurements and live picture

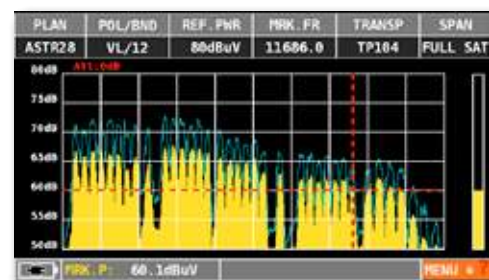
ZOOM



Navigate to the picture to zoom, enter to return to measurements



8PSK Constellation



Fast spectrum with peak memory "MAX H" for perfect dish alignment

## MAIN FUNCTIONS

### DVB-S/S2 (DEMODULATION)

- **Frequency band:** 230–2340 MHz for standard and Wide Band LNBs.
- **Interchangeable input connector:** "F type".
- **Power Supply at RF input:** OFF, +13, +18 V, 22 kHz (0.3 A), DiSeqC, dSCR/SCR, WIDE-BAND LNB.
- **Digital power measurement dynamic range at RF input:** from 30 to 115 typ. dBuV.
- **Noise Margin Measurements.**
- **DVB-S/S2 Symbol Rate setting:** 2–45 MS/s, in 1 kS/s steps
- **Measurement Parameters:**
  - bBER up to  $2 \times 10^{-6}$  (before Viterbi)*
  - aBER up to  $2 \times 10^{-8}$  (after Viterbi)*
  - MER 2-25 dB resolution 0.1 dB*
  - PER 10-2 to 10-7 (DVB S2)*
  - BCH 10-2 to 10-8 (DVB S2)*
  - LDPC 10-2 to 10-8 (DVB S2)*
- **FEC:** DVB-S: 1/2, 2/3, 3/4, 5/6, 7/8; DVB-S2: 1/4, 1/3, 2/5, 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10
- **Automatic quality test:** FAIL, MARGINAL, PASS
- **Noise Margin Measurements:** from –1 to 12 dB with built in FEC compensation
- **NET. ID.** Shows bouquet and transponder names, the encryption system, orbital position and date.

### MPEG2, MPEG4 DECODER

- **4,3" color TFT** 16:10 high resolution monitor with Auto-Off timer: after 5 or 10 min without use.
- **MPEG2 & MPEG4 SD & HD**
- **Audio decoding:** AC3 - EC3 (Dolby Digital - Dolby Digital Plus) opt.; AAC - HEAAC opt.

### SAT SPECTRUM ANALYSIS

- **Frequency band:** 230–2340 MHz
- **Span:** 50–100–200–500–FULL - WIDEBAND-LOW BAND-HIGH BAND
- dB/div: 5
- **Display dynamic range:** >30 dB
- **Marker measurement resolution:** 0.1 dB
- **Measurement filter bandwidth:** 5 MHz at –3 dB
- **Reference level:** from 30 to 120 dBμV, from –60 dBmV to +60 dBmV
- **Reference level settings:** automatic and manual adjustable
- MAX HOLD (peak hold)

### SOFTWARE AND FIRMWARE:

- "SMART" PC interface program for SOFTWARE (FW-Firmware) and MEM plan editing is available free of charge on Rover Instruments web site.

- **SOFTWARE** (FW) upgrades are available free of charge. Check periodically Rover Instruments web site.
- **MEM:** Satellite transponder list file (MEM PLAN) upgrades are available free of charge. Check periodically Rover Instruments web site.

### MEMORY:

99 available Memory Plans & Datalogger function.

### POWER DISPLAY:

- **External power supply** 12 V 1A
- **Battery** 7,2 V 4,3 Ah
- **Built in rechargeable batteries** with option for field serviceable module for battery replacement
- **Li battery technology**, where user serviceable module supported instrument to be supplied with two battery modules as standard.
- **Battery duration at 25°C:**
  - 3 hours in satellite alignment mode
  - >4 hours in Wi-Fi mode where supported
- Low Battery indicator: with acoustic signaling and visual indication on graphic display
- **Automatic power management features**
  - Back panel illumination has user adjustable time out
  - Indication of battery status charge
- **Battery re-charge time:** 1 hour for approx. 50% capacity, <6 hours for full charge
- **On-board battery condition cycle**, and condition reporting (battery test)
- **Meter power off** automatically after 5, 10 minutes user selectable, option for user selectable always on

### DIMENSIONS AND WEIGHT

- H 80 x L 225 x D 215 mm
- 1.3 kg with batteries, bag and accessories
- ABS plastic housing rain, dust & shockproof

### WI-FI (optional)

- WI-FI network testing: 2.4 GHz and 5 GHz

### ACCESSORIES

- **Carrying protective bag with side pocket bag and shoulder strap.**
- **TRASF-12V-1A0-G-UK:** AC/DC adapter: 100V-240V / 12 VDC, 1A
- **CNN-F-0153:** interchangeable F - F double female input connector.



# CABLE TV INSTRUMENTS



## THE MOST ADVANCED & ACCURATE **TABLET** ANALYZER



### RF IN

75Ω  
"F"  
Connector

- FREQ. RANGE 5-1.250 MHz
- DVB-C - J83B - ATSC - NTSC (US VERSION)
- **OPTICAL INPUT**
- DVB-T/T2/T2 LITE & C/C2
- ANALOG TV
- FM RADIO
- **DAB & DAB +**
- REAL TIME SPECTRUM (5-1.250 MHz)
- GSM BAND
- **LTE ANALYZER**
- **WAVE FORM MONITOR**
- INGRESS
- HUM MEASUREMENTS
- ANALOG SIGNAL/NOISE IN GUILTLINE
- LEAKAGE MEASUREMENTS

### LAN

- T.S. LIVE STREAMING
- T.S. RECORDING
- REMOTE CONTROL
- **SNMP & HTTP**

### DOCSIS

- DOCSIS 3.0 (4 x 4 or 8 x 4) CHANNEL BONDING
- 5 TO 1.250 MHz FREQ. RANGE FOR DOCSIS 3,1 ANALYSIS
- DOCSIS UPSTREAM TONE GENERATOR 5-65 MHz

### OPTIC

FC-ST-SC  
INTERCHANGEABLE  
CONNECTOR

- POWER METER
- POWER LOSS
- POWER GRAPH
- CATV SPECT & MEAS
- OPTIC TO RF CONVERTER

### MONITORING

- 7 DAYS CHANNEL MONITORING
- LOGGER
- REMOTE PC/TABLET CONTROL
- USB ON THE GO FOR LONG TERM LOGGING
- **QOS 24 H WITH NMS**

NOTE: check for the supplied and optional APPs.

## MAIN FUNCTIONS

- Frequency range from 5 to 1250 MHz extended CATV and GSM telephone bands
- Digital RF measurements 5 MHz to 1,25 GHz including average power/level, pre/post BER, MER versus CARRIER (opt.), Noise Margin, spectral analysis, and constellation
- INGRESS mode, LEAKAGE mode, BARS SCAN and TILT
- DOCSIS 3.0 upstream and downstream capabilities, 8 x 4 channel bonding with automatic lock to CMTS, for complete modem installation testing for both forward and return path analysis (opt.)
- Ping report, Network IP configuration
- Lost Packet measurements, latency time and PER
- DOCSIS upstream tone generator 5–65 MHz
- OPTICAL POWER METER with interchangeable FC-ST-SC connector for fiber optic testing (FTTH & FTTX) and troubleshooting (opt.)
- User definable channel scan testing /logging with automatic quality analysis: FAIL-PASS-MARG
- Assisted navigation, memory plans and automatic channel scan
- Available with all world-wide channel plans
- Alpha/numeric keypad for direct chan/freq selection
- SMART software PC interface for meter upgrades, channel plans and AutoScan testing/logging management.
- Detects, measures and SHOWS pictures of MPEG 2 and 4 H264 HD High Definition programs
- Automemory, Manual memory & Datalogger functions
- Barscan TV & CATV function from 10 to 100 channels on one screen
- Audio, AAC supplied, DOLBY opt.
- 7" TFT TOUCH display, 16:9, high resolution
- Weighs only 1.6 kg, dim: H 14 x L 24 x D 4 cm
- LI-ION-POLIMER 4A battery with 4 hr 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
- Free SMART PC interface program and FW upgrades.

## MEASUREMENT EXAMPLES



VSB constellation, on the right relative modulation parameters



J83-B constellation, on the right relative modulation parameters



Single channel monitoring (for example 30 minutes)



VSB signal, all the measurements, picture and settings on one screen



J83-B signal, all the measurements, picture and settings on one screen



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



## SPECIFICATIONS

### LEVEL MEASUREMENT & SPECTRUM ANALYSIS

- Frequency Range: TV, CATV & and Radio 5-1250 MHz
- Frequency Resolution: 25 KHz
- RF Input Impedance: 75  $\Omega$  (interchangeable "F" connector)
- Dynamic Range: 1 dBuV to 125 dBuV or -59 to +65 dBmV or -112 to +16 dBm
- Measurement Resolution: 0.1 dB
- Level Measurement Accuracy: 1 dB typ. (2 dB max.)
- A/V Ratio: up to 22 dB, +/- 1.5 dB (2 dB max.)
- S/N Ratio: up to 45dB +/-1.5 dB Max; 45-50dB +/-2dB
- Resolution Filter Bandwidth: 100 KHz @ -3 dB
- Custom Channel Plans: 25 (199 ch. per plan)

### POWER & DIGITAL MEASUREMENTS

- Frequency Band: 5-1250 MHz
- Power Meas. Dynamic Range: 25 to 125 dBuV, -45 to 65 dBmV
- BER Measurement: (pre) bBER up to  $1 \times 10^{-9}$  (post) aBER up to  $1 \times 10^{-9}$
- MER Measurement: up to 40 dB (1 dB typ., 2 dB max.)

### OPTICAL MEASUREMENTS

- FC-ST-SC interchangeable input connectors
- Automatic loss calculation
- Wavelengths (nm): 850,1310, 1490, 1550
- Range: -25 to 10 dBm
- Resolution: 0.1 dB
- Accuracy: +/- 0.5 dB
- Optical to RF conversion

### INGRESS & SPECTRUM MEASUREMENTS

- Ingress Scan Spectrum
- Frequency: 5 -65 MHz
- Level: 5 dBuV to 125 dBuV
- Accuracy: +/- 2dB
- BW: 100 KHz @ -3dB

### LEAKAGE MEASUREMENTS

- Frequency Range:
- 115-140 MHz (USA), 250-430 MHz (EUROPE)
- Resolution: 25 KHz
- Antenna type: selectable

### DOCSIS DOWNSTREAM MEASUREMENTS

- DOCSIS 3.0 Compliant Modem (8x4 CH BONDING)
- Frequency Band: 5-1000 MHz
- Input Impedance: 75  $\Omega$  (interchangeable "F" connector)

- Range: - 45 to + 65 dBmV
- Measurements Include: Level/Power, MER, Pre/Post BER, Lost Packet, Transmit Power, Transmitted Packets, Received Packets, PER, Latency Min/Max Avg, Channel Bonding Upstream Level and IP Status
- MAC Address: Default or user defined

### DOCSIS UPSTREAM & GENERATOR/TESTING

- Tone Generator Frequency: 5-65 MHz
- Modulation: QPSK, QAM, 8,16,32,64
- Typical Range: 8 to 53 dBmV (1 dB typ., 2 dB max.)
- Channel Bonding: Up to 4 upstream channels bonding supported ingress scan spectrum
- Frequency range: 5-65MHz

### COMM. PORTS

- DOCSIS 3.0 and RF: F - Female
- LAN: RJ45 10/100 Ethernet
- USB 2.0: Type B (PC Interface)
- USB 2.0: Type A (USB drive)

### GENERAL SPECIFICATIONS

- Power Supply: Built in LiPo rechargeable battery, external power supply 12 VDC 1A
- Battery Duration at 25°C: 4 hours
- Size: H 140 x W 240 x D 50 mm (meter only)
- PC Interface: USB
- Display: Color LCD 7" (480px x 800px)
- Front-Panel: Alpha numeric keypad
- Power Save: TFT backlight timer, brightness adj.
- PC Management: SMART software
- Standard Accessories:
  - Soft carry case and strap
  - USB 2.0 cable
  - AC adapter
  - 12V automotive charging cable
  - RF & optical interchangeable connectors
  - SMART software
- AVAILABLE OPTIONAL APPs: DOCSIS 3.0 Cable Modem (3X4 or 8X4), Optic Input, HD DOLBY, HD MER Vs CARRIER, HD COAX Cable Reflectometer, HD Remote Control, DVB-C2.

### WARRANTY

- According to your country's laws (12 to 24 months)
- All electronic parts, except batteries, bag and damage

IT HAS NEVER BEEN SO SIMPLE, ACCURATE & COMPLETE



**A well job done in 3 seconds!**

Connect the CATV socket and automatically SCAN the Power and Quality up-to 140 channels in blocks of 8 channels.

- EASY TO USE FULLY AUTOMATIC
- SIMULTANEOUS ANALYSIS IN BLOCKS OF 8 DIGITAL AND/OR ANALOG CHANNELS
- FULLY AUTOMATIC MEASUREMENTS
- FAST QUALITY MEASUREMENTS
- WORLDWIDE TV STANDARDS
- LI-PO LONG BATTERY DURATION
- ROBUST METAL HOUSING
- RAIN PROOF BAG

## MAIN FUNCTIONS

### MEASUREMENTS & SPECTRUM ANALYSIS

- Frequency Range: 5 MHz to 1.000 MHz.
- Input Impedance: 75 ohm (interchangeable "F" connector).
- Power range MEAS.: 10 to 100 dBμV (-50 dBmV to 60 dBmV) 120 dBμV with ext. attenuator
- Fast spectrum with MAX HOLD: Full spect. capabilities with peak memory, variable span and automatic reference level.
- Meas: All digital and analog measurements, see table below.
- Quality FAIL - MARGINAL - PASS: Measuring the quality and the power up-to 140 CHs in blocks of 8 Digital or Analog channels simultaneously.
- Barscan: TV analog and digital bars scan form 10 to 100 channels.
- Memory plan: World Wide countries with related channels plans are pre-memorized.
- Free basic SW upgradeable on-line

### GENERAL SPECIFICATIONS

- DC voltage at RF input: 5Vdc.
- Battery: Rechargeable Li-Po battery pack, 5 hour duration.
- USB Micro: For battery charge and PC interface for SW up-grade and memory plan management.
- Housing: Metal box and rain proof bag.
- Size: H 95 x W 160 x D 34 mm (meter only).
- Weight: 500 gr.

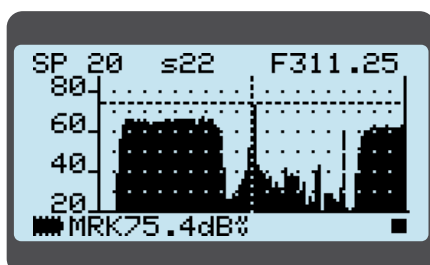
## MEASUREMENT EXAMPLES



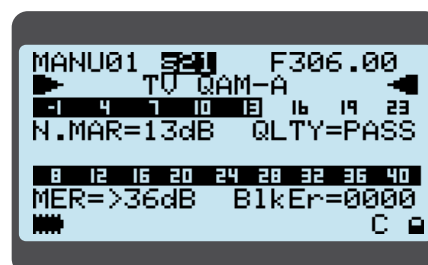
Icon menu



8 digital channels block analysis



Spectrum with Memory Peak



DVB-C Measurements



## MOD. CNG 70 USB USB HIGH POWER WHITE NOISE SOURCE 4 - 2.500 MHZ



### SPECIFICATIONS:

- Freq. Range : 4 – 2.500 MHz
- Noise type : White Gaussian
- ENR: 70 dB 75  $\Omega$  25°C
- Output power: – 56 dBm (Measured at 100 KHz spectrum RBW)

- Flatness: 1,5 dB typ. 2 max
- Impedance: 75  $\Omega$ , SMB, (50  $\Omega$  opt.)
- PSU: USB, 5 Vdc, 80 mA
- Size: USB stick

Turn your Commercial Spectrum Analyzer into a Scalar Network Analyzer to measure:

### ACTIVE DEVICES

- GAIN
- FLATNESS
- BW
- VSWR \*

### PASSIVE DEVICES

- LOSS
- FLATNESS
- BW
- VSWR \*

### COAX CABLE/REFLECTOMETER

- LOSS
- LENGTH
- SHORT-CIRCUIT DISTANCE \*\*
- OPEN CIRCUIT DISTANCE \*\*
- IMPEDANCE MISMATCH

\* With RF Bridge. \*\* With simple slide ruler, depending on Cable type

## MOD. CNG 90 VERY HIGH POWER CALIBRATED & MODULATED NOISE GENERATOR

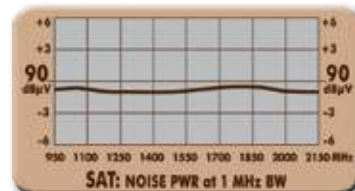
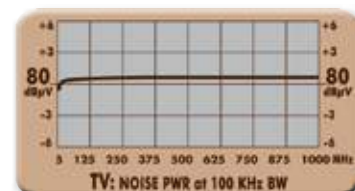


### SPECIFICATIONS:

- RF Noise Signal : White Gaussian
- Freq. Range : 4-2150 MHz
- CH Power out : 97 dB $\mu$ V  $\pm$  2 @ 8MHz BW
- TV Power out : 83 dB $\mu$ V  $\pm$  2 @ 100KHz BW
- SAT Power out : 88 dB $\mu$ V  $\pm$  2 @ 1MHz BW
- Noise Modulation : 50 Hz Flat (ON/OFF)
- RF Attenuator : 20 dB Flat
- Battery Capacity : 6-8 hours with low battery indication

The CNG 90 is the most powerful hand held noise generator currently available, in the frequency range from 4 to 2250 MHz, it allows passive coaxial cable networks testing, also of large size.

With 50 Hz modulation it is possible to measure the network C/N, without switching off the generator. A built in 20 dB RF flat attenuator also allows you to analyze and measure amplifiers or active coaxial CATV networks. The CNG 90 can be used in conjunction with any meter or spectrum analyzer, even from other brands.



## MOD. MOS 4 MULTIPLE OPTICAL LASER SOURCE



### SPECIFICATIONS:

- 1<sup>st</sup> wave length : 1310 n.m.
- 2<sup>nd</sup> wave length : 1490 n.m. (1625 for USA)
- 3<sup>rd</sup> wave length : 1550 n.m.
- 4<sup>th</sup> red Light : 650 n.m.
- Optical Connector : interchangeable FC-ST-SC
- Optical Power : 0 dBm Typ
- AWC : Automatic Wave Detection
- Battery Capacity : 4 - 6 hours with low Battery Indicator

The Multiple Optic laser Source "MOS 4" is suitable for any optical network, PON & FTTHx;

Used in combination with ROVER analyzers (fitted with the optical option), and thanks to the AWD, it allows you to automatically and accurately check the losses for various wavelengths.

Furthermore, thanks to the red laser, the "MOS 4" will also allow the identification of any breaks in the optical fiber.

## RECEIVING - PROCESSING - MONITORING

Close to its customers, and with over 40 years' experience in professional equipment design, ROVER Broadcast is a trusted provider of solutions for any broadcaster, offering a complete range of products for DVB digital TV network reception, processing and monitoring of digital and analog signals, network coverage analysis systems and high power optical transmitters.

### SAT DVB-S2 RECEIVING/PROCESSING TV DVB-T2 MONITORING NETWORK PLATFORMS



### CATV & SAT LASER OPTICAL TX & RX



[www.roverbroadcast.com](http://www.roverbroadcast.com)



## HOW TO FIND US:

in Sirmione, Lake Garda, Italy.

Situated in one of the most beautiful tourist locations in Italy, on Lake Garda, ROVER can be easily reached from Milan, Bergamo, Verona and Venice airports.

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.

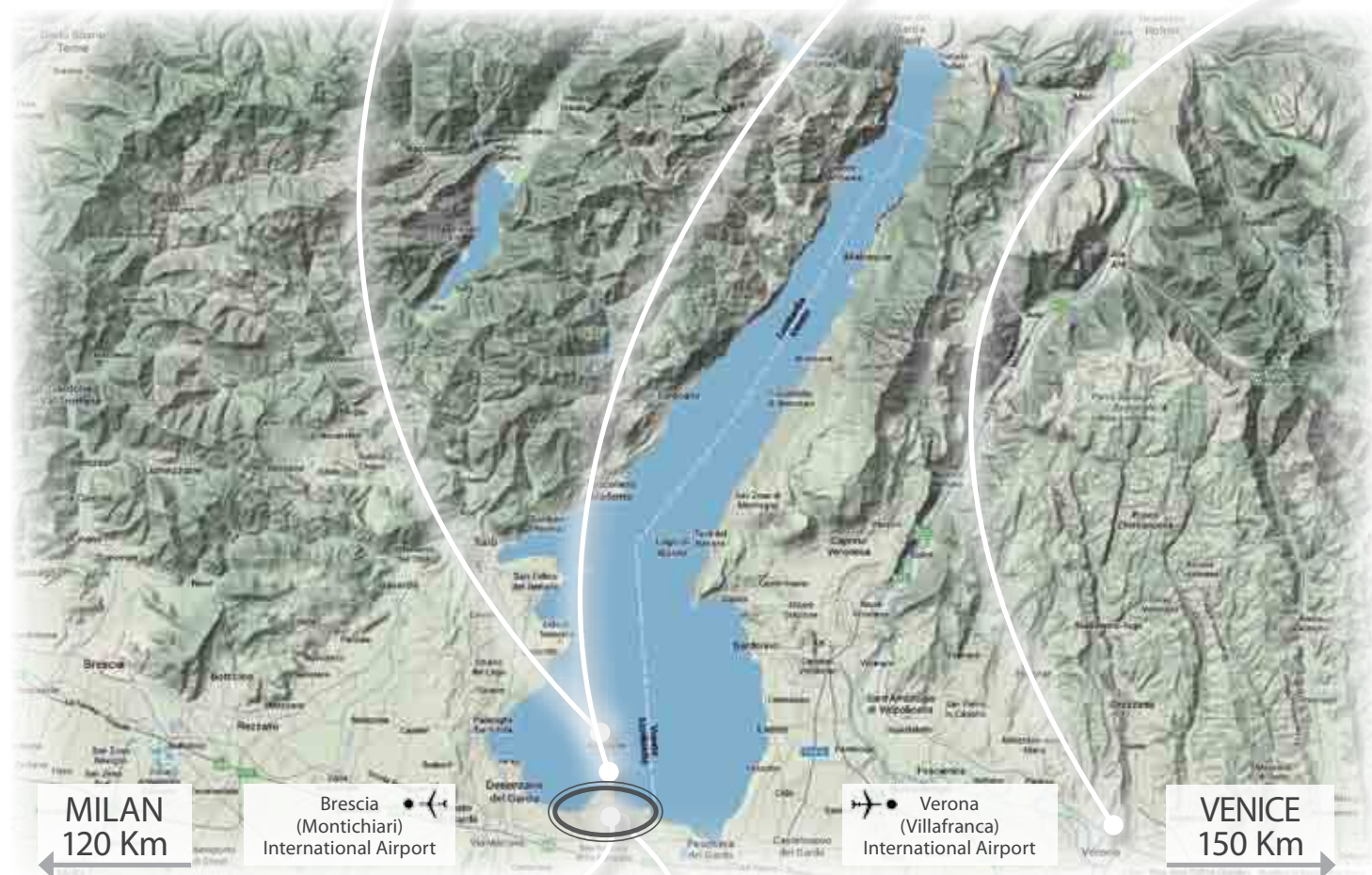
Catullus roman ruins, 350 b.C.



Sirmione Castle, 1.500 a.C.



Verona, roman Arena 120 b.C.



GPS COORDINATES:  
45° 27' 47"N, 10° 36' 24" E



ROVER Goods entrance & production



ROVER Laboratories and offices

CERTIFICATES N°  
1263 ISO 9001  
1264 ISO 14001  
1265 BS OHSAS 18001

