ROVER INSTRUMENTS

A STEP AHEAD IN DIGITAL TELEVISION

PRESENTS THE FAMILIES:

DISCOVERY & SCOUT

THE MOST INNOVATIVE SAT & TV ANTENNA ANALYZERS

Robust & accurate, elegant & light, when carried around your neck, they guarantee operativity & safety

CLEAR & SIMPLE

PLAN SELECTION MENU

SATELLITE
TELEVISION
MANUAL MEMORY
AUTOtv MEMORY

ASTR 19
EUTE 16
HBIR 13
HBIR na
EUTE 10

- BAND = SATELLITE
- SATELLITE = HOTBIRD 13°

PLAN SELECTION MENU

SATELLITE
TELEVISION
MANUAL MEMORY
AUTOtv MEMORY

EUROPE

- BAND = TELEVISION
- COUNTRY = EUROPE

PLAN SELECTION MENU

SATELLITE
TELEVISION
MANUAL MEMORY
AUTOtv MEMORY

MANU 1
MANU 2
MANU 3
MANU 4
MANU 5

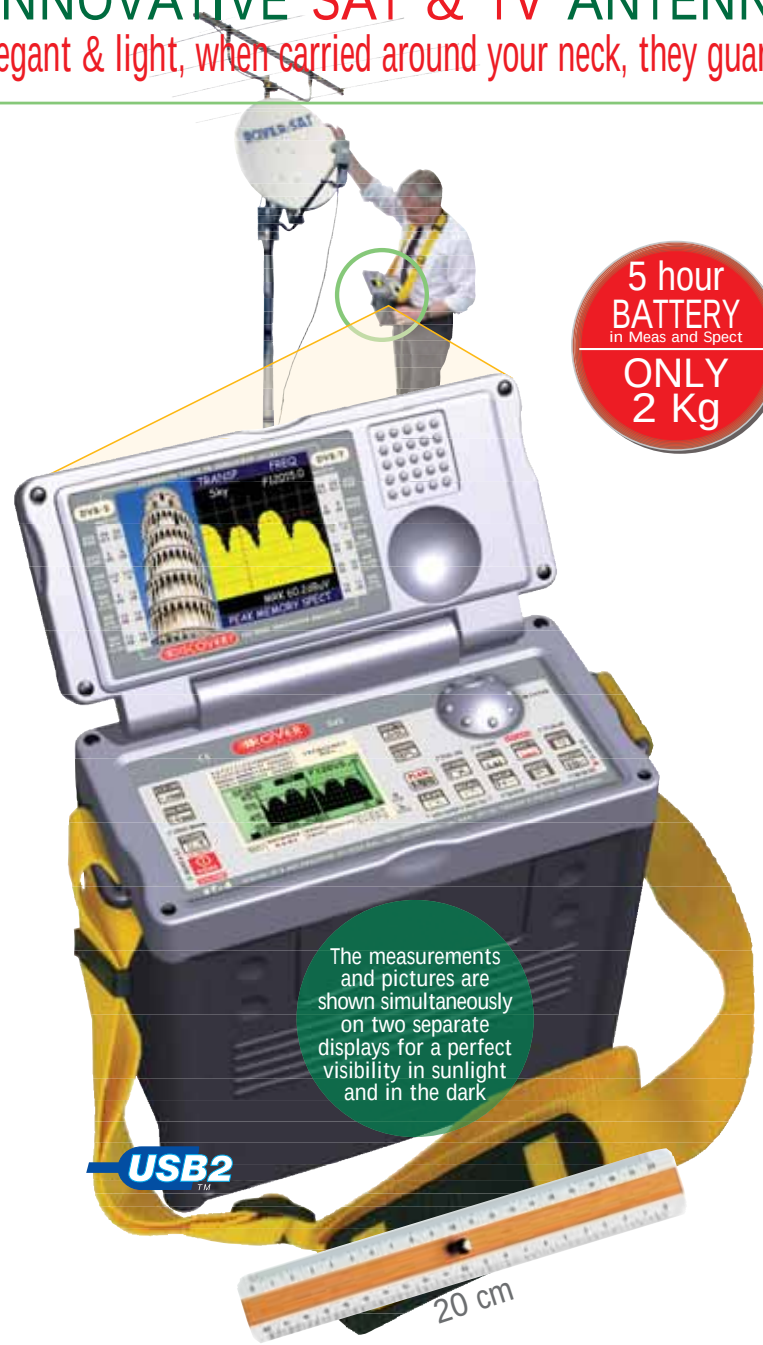
- BAND = TV and SAT
- PLAN = MANUAL No.3

PLAN SELECTION MENU

SATELLITE
TELEVISION
MANUAL MEMORY
AUTOtv MEMORY

AUTO 1
AUTO 2
AUTO 3
AUTO 4
AUTO 5

- BAND = TELEVISION
- PLAN = AUTOSCAN No.3



5 hour BATTERY in Meas and Spect

ONLY 2 Kg

COMPLETE

SAT&TV DVB-T & H DVB-S

DVB–S, DVB–T, DVB–H
DVB–C & ANALOG TV

LEVEL-POWER
EVM–MER-SNR-BER
NOISE MARGIN
QUALITY MEASUREMENT
TV CONSTELLATION
PROGRAM SERVICE
MPEG DECODER
NETWORK IDENTIFICATION
Audio/Video PID LIST
ENCRYPTION SYSTEM
BARS–SCAN TV
AUTO TV MEMORY
MANUAL MEMORY
DATA LOGGER

SAT Only DVB-S

DVB-S & ANALOG

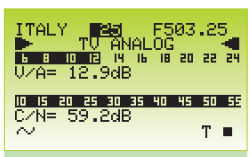
AUTOMATIC SAT FINDER POINTING with 2 LNB's
S.C.R. for LNB & SWITCH DRIVER for DiSEqC MOTORS
DIRECT SATELLITE SELECTION
TRANSPONDER N. NAVIGATION
NETWORK NAVIGATION
FREQUENCY NAVIGATION
MANUAL MEMORY NAVIGATION

WORLD-WIDE NEWS

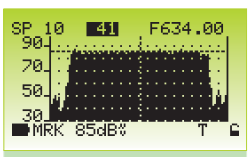
AUTO DISCOVERING

AUTOMATICALLY RECOGNISES & SELECTS ANALOG & DIGITAL TV SIGNALS, BOTH IN MEASUREMENT & SPECTRUM

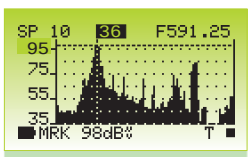
Digital TV measurements: MER–SNR–N. MARG.–QLTY



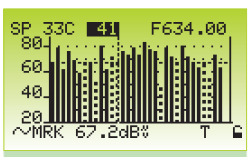
Analog TV: A/V and C/N Ratio Measurements



Digital TV: MRK at Center Bouquet



Analog TV: MRK on Video Carrier



Head-end vision of 33 chans: 8 Dig. & 25 An. (up to 100 ch.)

Always a Step Ahead and at your Service with DISCOVERY & SCOUT

NOISE MARGIN QUALITY MEASUREMENT ON DIGITAL SIGNALS (VERY IMPORTANT)

With digital signals it is important to find out the NOISE MARGIN and bring it to the maximum value possible (absolute minimum 2 dB for SAT and 6 dB for terrestrial).*N.B. at 0 dB the picture starts to unlock to guarantee good and stable reception in time. ROVER is currently the only manufacturer that supplies this very important, easy to interpret, automatic measurement in their meters. Pointing the antenna and/or satellite dish to the maximum level does not always mean the maximum signal quality. In fact, in the case of interferences, often the best reception can be obtained by eliminating interferences (i.e. maximizing the noise margin) even if this affects the intensity of the signal itself.

* A 0 dB Noise Margin is the equivalent of an "aBER" after Viterbi of 2x10-4, in this condition there is no protection margin. If the signal degrades by only 0.5 dB the picture will be lost.

INNOVATIVE

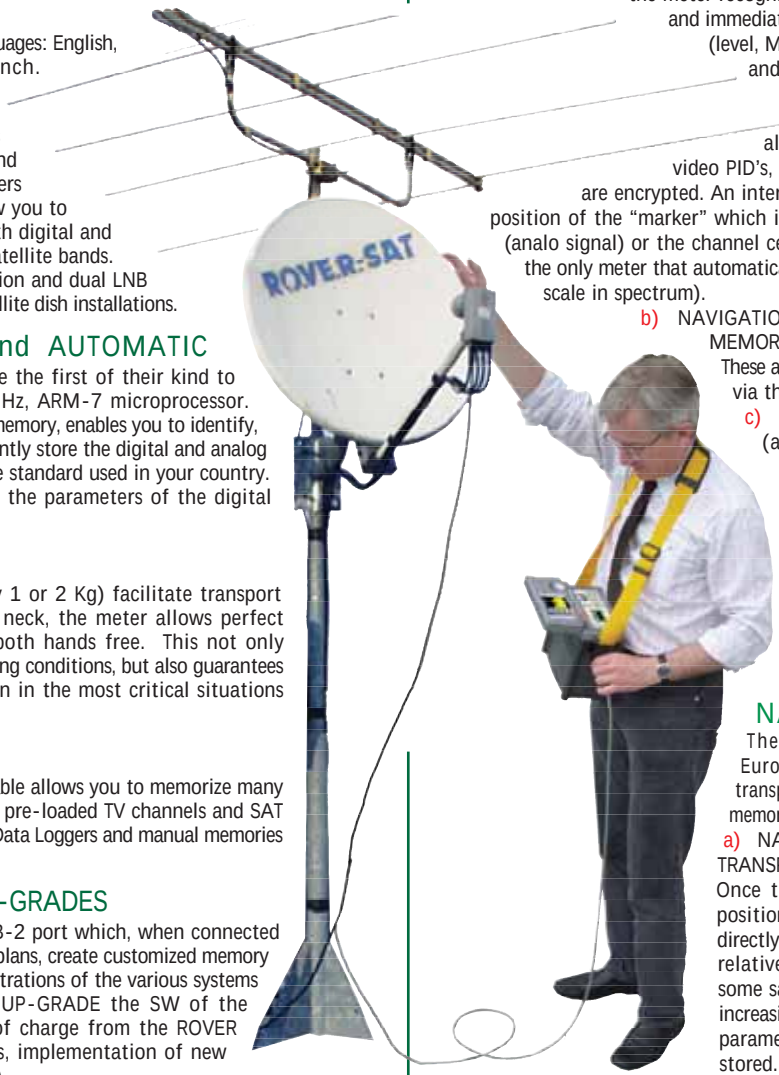
The DISCOVERY and SCOUT families were specifically designed to meet the requirements of installers and operators, who have to rapidly adapt to all the new, emerging, digital technologies: DVB–S, DVB–T, DVB–C, DVB–H and also the new LNB's and switches with S.C.R. (Single Cable Router) technologies.

MULTI-LANGUAGE

It is possible to select the main languages: English, Italian, Spanish, German, French.

ADVANCED

The DISCOVERY and SCOUT meters are the most advanced, compact and economical RADIO–TV–SAT analyzers existing on the market. They allow you to carry out any measurement, on both digital and analog signals, in terrestrial and satellite bands. Direct SAT TRANSPONDER navigation and dual LNB pointing facilitate and speed up satellite dish installations.



POWERFUL, FAST and AUTOMATIC

DISCOVERY and SCOUT meters are the first of their kind to include a built-in, 32 bit, 100 MHz, ARM-7 microprocessor. This, together with a high capacity memory, enables you to identify, analyze and automatically and instantly store the digital and analog TV signals, according to the relative standard used in your country. The meters automatically supply the parameters of the digital signal quality (FAIL-MARG-PASS).

IMPROVED SAFETY

The meters' size and weight (only 1 or 2 Kg) facilitate transport and use. If carried around your neck, the meter allows perfect viewings and readings, keeping both hands free. This not only simplifies operation in normal working conditions, but also guarantees the maximum personal safety even in the most critical situations (on roof tops, ladders, etc.).

MORE MEMORY

The high capacity of memory available allows you to memorize many plans, containing thousands of the pre-loaded TV channels and SAT transponders, as well as the various Data Loggers and manual memories customized by the user.

USB2 PORT and SW UP-GRADES

All meters are supplied with a USB-2 port which, when connected to a PC, allows you to vary channel plans, create customized memory plans, download measurement registrations of the various systems (DATA LOGGER) and above all, UP-GRADE the SW of the instruments, direction and free of charge from the ROVER website. "Data Logger" downloads, implementation of new software releases via internet, etc.).

DUAL DISPLAY (ST4 only)

The ST4-DISCOVERY is supplied with a dual display: a back-lit, graphics display for spectrums and measurements and a 4" color TFT for pictures. The dual display allows you to simultaneously obtain, in real time, spectrums or measurements and pictures on different displays. This guarantees excellent visibility in any situation, including strong sunlight or shade. The ZOOM function allows you to transfer some measurements from the graphics display to the TFT, so you can see them from far away.

ACCESSORIES

The meters are supplied with a built-in shoulder strap, hard case for transport, high-capacity batteries, a charger to charge the batteries from your vehicle or from mains, F, IEC, BNC connectors, etc.

SIMPLE AND COMPLETE NAVIGATION IN TV BAND

(The internal memory contains TV channel plans from all over the world). These meters can operate in three ways:

a) NAVIGATION IN THE CHOSEN COUNTRY PLAN (TELEVISION). By navigating manually in the channel PLAN (television) of the chosen country, the meter recognises the type of signal (analog or digital) and immediately supplies all the various measurements (level, MER, SNR, BER, NOISE MARGIN, QUALITY) and spectrum analysis. It also supplies the network name, the bouquet name, the encryption system and the names of all the programs, services and audio and video PID's, contained in the bouquets, even if they are encrypted. An interesting feature, in spectrum mode, is the position of the "marker" which is automatically set on the video carrier (analo signal) or the channel certer (digital signal). The DISCOVERY is the only meter that automatically positions the REF LEV (level reference scale in spectrum).

b) NAVIGATION IN THE CUSTOM PLANS (MANUAL MEMORY). These are stored manually or using a PC connected via the USB socket.

c) NAVIGATION IN THE "AUTOMEMORY" (automatic memorization function). If you connect the antenna to the meter and set the minimum level of the signal to be received, the meter tunes, identifies and automatically stores the various programs received locally, whether analog or digital, generating an "AUTO" plan, selectable for each installation and for each city.

SIMPLE AND COMPLETE NAVIGATION IN SAT BAND

The data of the main satellites in Europe/Asia/America and all their relative transponders are pre-loaded inside the meters' memory. The instruments can operate in two ways:

a) NAVIGATION IN THE CHOSEN SATELLITE TRANSPONDERS

Once the satellite name and relative orbital position have been selected, you can navigate directly using the number of transponders and/or relative frequency and/or network name (for some satellites). The transponders are listed in increasing frequency values and have all the LNB parameters and various bouquets already pre-stored.

b) Navigation in the CUSTOM PLANS (MANUAL MEMORY), stored manually or using the PC of the same user (MANUAL MEMORY), allows you to navigate in the various programs according to the sequence and stored parameters.

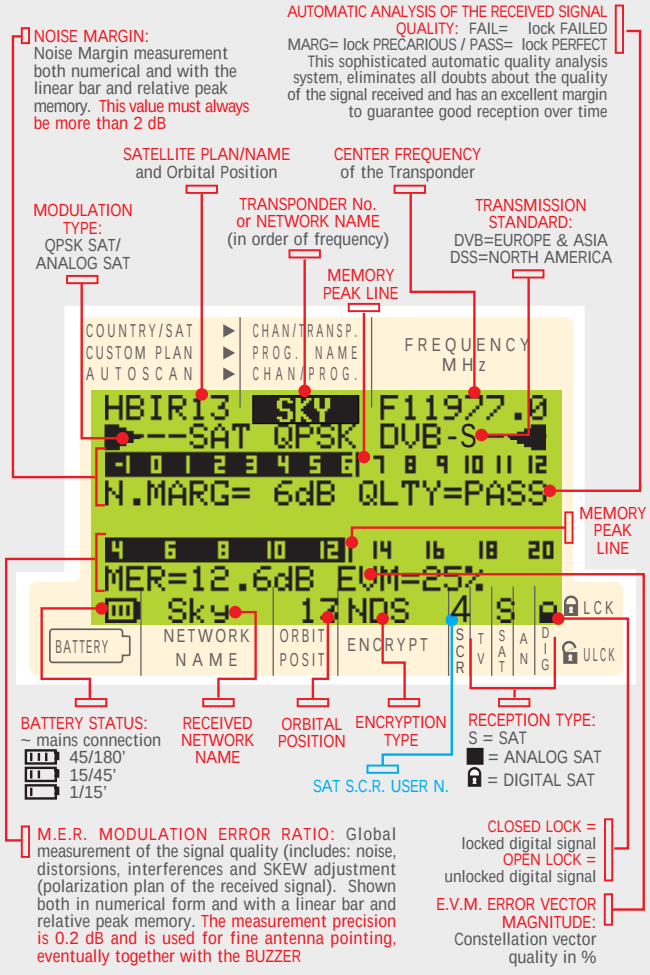
In both cases the meters automatically supply all the power measurements for digital transponders, and the level for analog ones, as well as supplying MER, EVM, BER, NOISE MARGIN, QUALITY measurements and the network name, bouquet, the orbital position and encryption system. The meters also supply the names of all the programs (services) and Audio and Video PID's contained in the bouquets, even if they are encrypted.

Another important feature: it is possible to navigate in spectrum mode, with transponders, memory programs or frequencies, etc..

SAT Main Measurement Examples TV

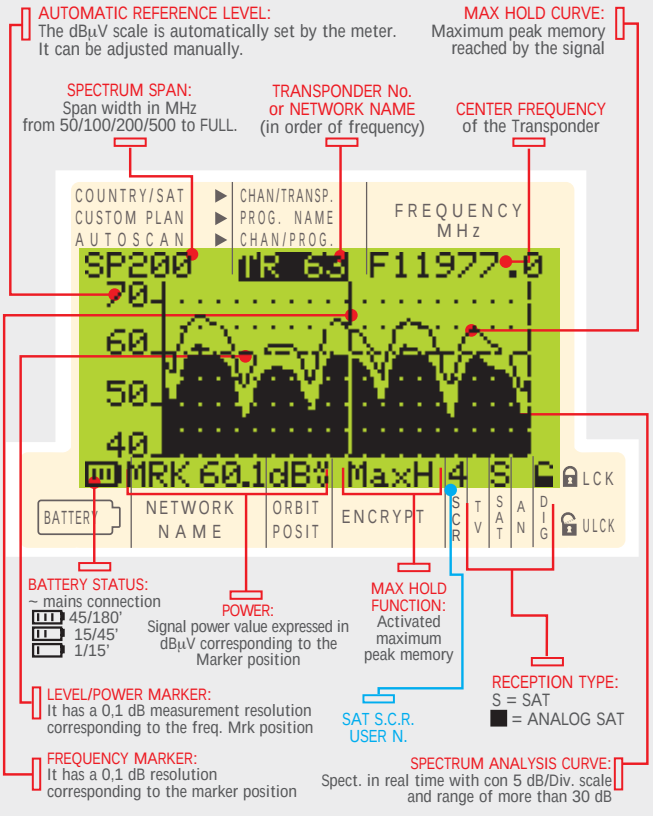
MAIN MEASUREMENT SCREEN

MEASUREMENTS: MER – EVM – NOISE MARGIN – QUALITY



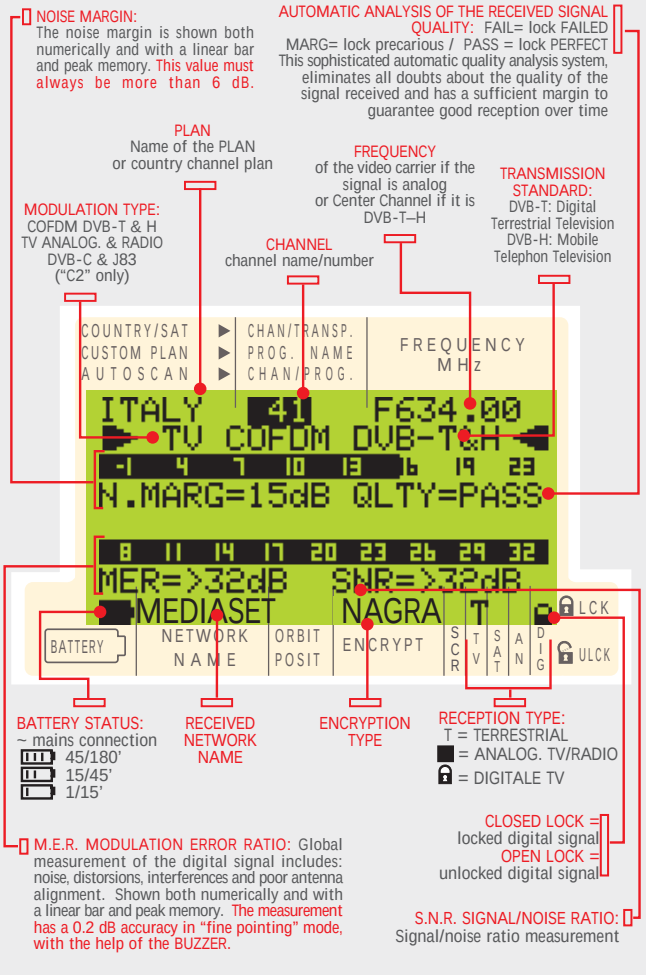
AUTOMATIC SPECTRUM VISION

SPECTRUM ANALYSIS with MAXIMUM PEAK MEMORY (MAX HOLD)



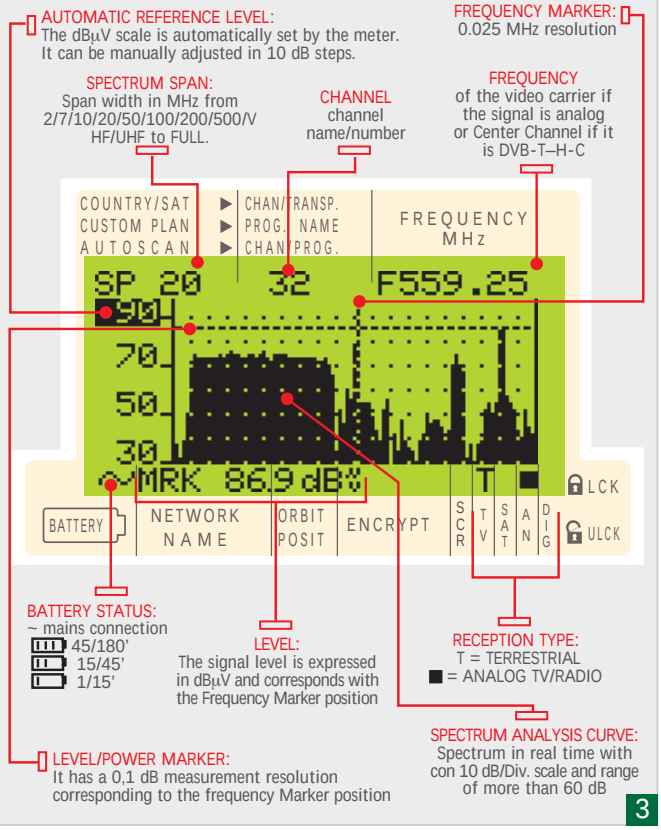
MAIN MEASUREMENT SCREEN

MEASUREMENTS: MER – SNR – NOISE MARGIN – QUALITY



AUTOMATIC SPECTRUM VISION

SPECTRUM ANALYSIS of an ANALOG TV CHANNEL with an ADJACENT DVB-T CHAN.



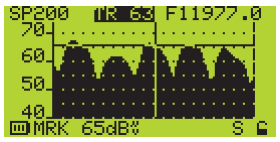
SAT Other Measurement Examples TV-CATV

LEVEL/POWER & HOME MEASUREMENT

The signal level/power measurement is represented in real time and is shown with a 0.1 dB resolution, both numerically and by a linear bar with relative peak memory. The HOME function allows you to go directly to this screen where all the reception settings are represented: satellite, transponder, frequency, modulation, standard, polarization, band, LNB 12/18V voltage, 22 KHz pulse, DiSEqC a, b, c, d, LNB L.O., symbol rate, power, battery, etc.

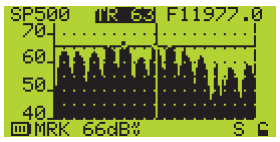
BER MEASUREMENT

Two BER measurements are shown: "bBER" and "aBER". The bBER (Pre BER) measurment is the value before the Viterbi correction code, whereas the aBER (Post BER) is the value after Viterbi error correction. Both measurements are represented numerically and by a linear bar and relative memory peak.



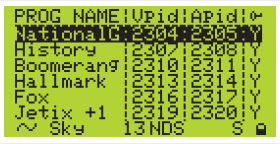
SPECTRUM ANALYSIS with 200 MHz SPAN

Excellent spectrum vision with high-speed refresh and a range of more than 30 dB. It is possible to navigate directly by transponder or frequency. The reference level is automatic, but can been adjusted manually.



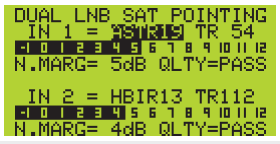
SPECTRUM ANALYSIS with 500 MHz SPAN

Excellent spectrum vision with high-speed refresh and a range of more than 30 dB. It is possible to navigate directly by transponder or frequency. The reference level is automatic, but can been adjusted manually.



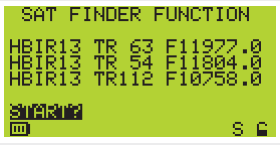
MPEG PROG.-A/V PID & ENCRYPTION LIST

The meter shows the names of the programs received and relative Audio and Video PIDs and whether they are encrypted (Yes or No). Using the Scroll function it is possible to visualise up to 64 programs. The PIDs regarding RADIO programs are shown in the "Audio PID".



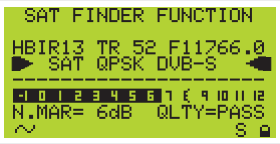
SAT POINTING with DUAL LNB

This special function allows you to point a satellite dish with two or more LNBs at the same time (it automatically swaps the LNB and frequency). It also allows you to adjust the relative SKEW (polarizat. plan) with a total precision of 0.2 dB.



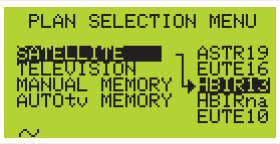
SATELLITE FINDER FUNCTION (1st screen)

This automatic function allows you to quickly align a dish on the chosen satellite, starting from the simultaneous analysis of three reference transponders, which have been chosen manually by the user. The identification of the chosen satellite is carried out by simply moving the dish in that direction. Once the satellite is locked another screen automatically appears, which is used for fine pointing.



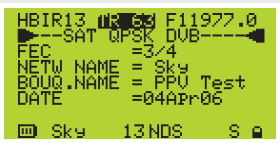
SATELLITE FINDER FUNCTION (2nd screen)

Once the required satellite has been locked, the instrument automatically goes to the second screen. From this point the data shown on the display indicates the signal quality and allows you to carry out fine pointing, also acting on the polarization of the signal received (SKEW). In the lower part of the display you can also see the other additional data, such as the Network name, satellite orbital position, etc.. The acoustic signal (BUZZER), automatically turns on to help the operator in the dish alignment phase, so it is not necessary to look at the meter.



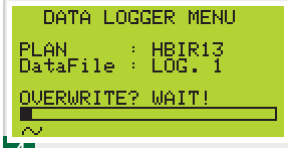
PLAN/SAT SELECTION MENU

The instrument stores, in its vast memory, all the main satellites and transponders worldwide (up to 99 satellites, 60000 transponders). These can be easily and quickly recalled, which simplifies preliminary settings and measurements. (N.B.: The meter is supplied pre-stored with all the LNB parameters regarding the varius satellites/transponders, shown in the HOME function)



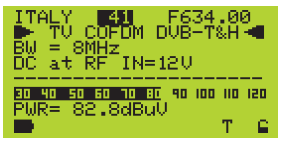
NETWORK IDENTIFICATION FUNCTION

This function shows all the parameters identified by the transponder, for example the FEC, Network Name, Bouquet Name and date.



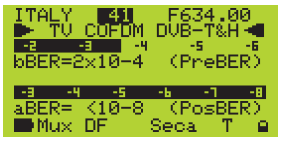
DATA LOGGER (measurement recording)

This function allows you to record, in the meter, all the measurements of the various installations. They can then be downloaded and processed using a PC, through the USB2 socket.



LEVEL/POWER & HOME MEASUREMENT

The signal level/power measurement is represented in real time and shown both numerically and by a linear bar with relative peak memory. The HOME function allows you to see all the parameters: country, channel, frequency, modulation, channel band width, battery and level/power measurement.



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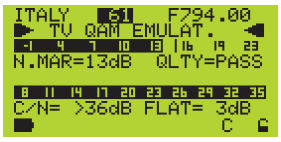
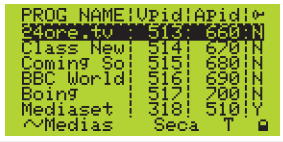


QAM EMULATED MEASUREMENT

This special measurement, developped in the ROVER laboratories, allows you to measure the digital signal quality using a series of analog measurements. The measurement is based on the C/N and FLATNESS in the band under test. (The obtained values are similar to those measured using a QAM demodulator). The C2 model has a complete QAM demodulator, with constellation.

CONSTELLATION DIAGRAM and RELATIVE DVB-H and T MODULATION PARAMETERS

The meter shows of the constellation of a digital signal together with the main modulation parameters. It is possible to zoom and navigate in the channels. The following parameters are shown: plan, channel, zoom type, constellation, mode, no. of carriers, DVB–T or H, guard interval, hierarchy and priority, bouquet name, encryption system, etc.

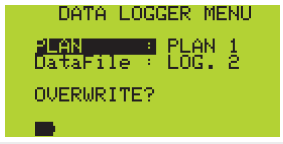


MPEG PROG.-A/V PID & ENCRYPTION LIST

This function allows you to download the list of received programs, to read their respective Audio and Video PIDs and see whether they are encrypted (Yes or No). Using the Scroll function it is possible to visualise up to 64 programs. The PIDs regarding RADIO programs are shown in the "Audio PID".

AUTO SEARCH and MEMORIZATION

This function automatically recognises both analog and digital TV channels and stores them in a plan. The scanning progress is shown during the search, especially: the scanned channel, the channels found with digital modulation DVB–T–H, the channels found with analog modulation. The automatically created plan is used to carry out the next measurements.



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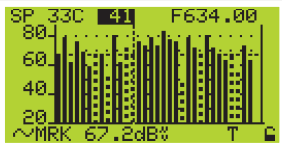
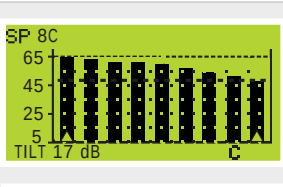


BARS SCAN UP TO 100 CHANNELS (C2-ST2-ST4 only)

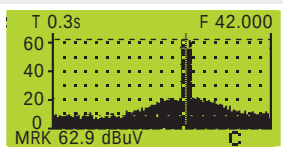
BAR visualisation of all analog and digital channels. It allows you to measure the level and power of signals, with up to 100 channels on one screen. The reference level is automatic, but can also be adjusted manually.

CATV ONLY DVB–C



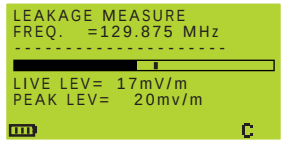
TILT MEASUREMENT

This function allows you to adjust the TILT of line amplifiers, by showing the channels in graphic BARS and measuring the slope with high speed refreshment. It is possible to measure the video carrier, the audio subcarrier and power up to 9 specific preselected channels. The 2 level markers position automatically on the first and last channel and the difference in level is shown.



INGRESS SPECTRUM MEASUREMENT

Spectrum visualisation in the return band ("DOCSIS up stream") to measure disturbances (INGRESS). The selectable Start, Stop frequencies and frequency marker can be positioned on all the band. The "max hold" function can be activated to allow the memorization of disturbances, including impulsive and repetitive impairments.



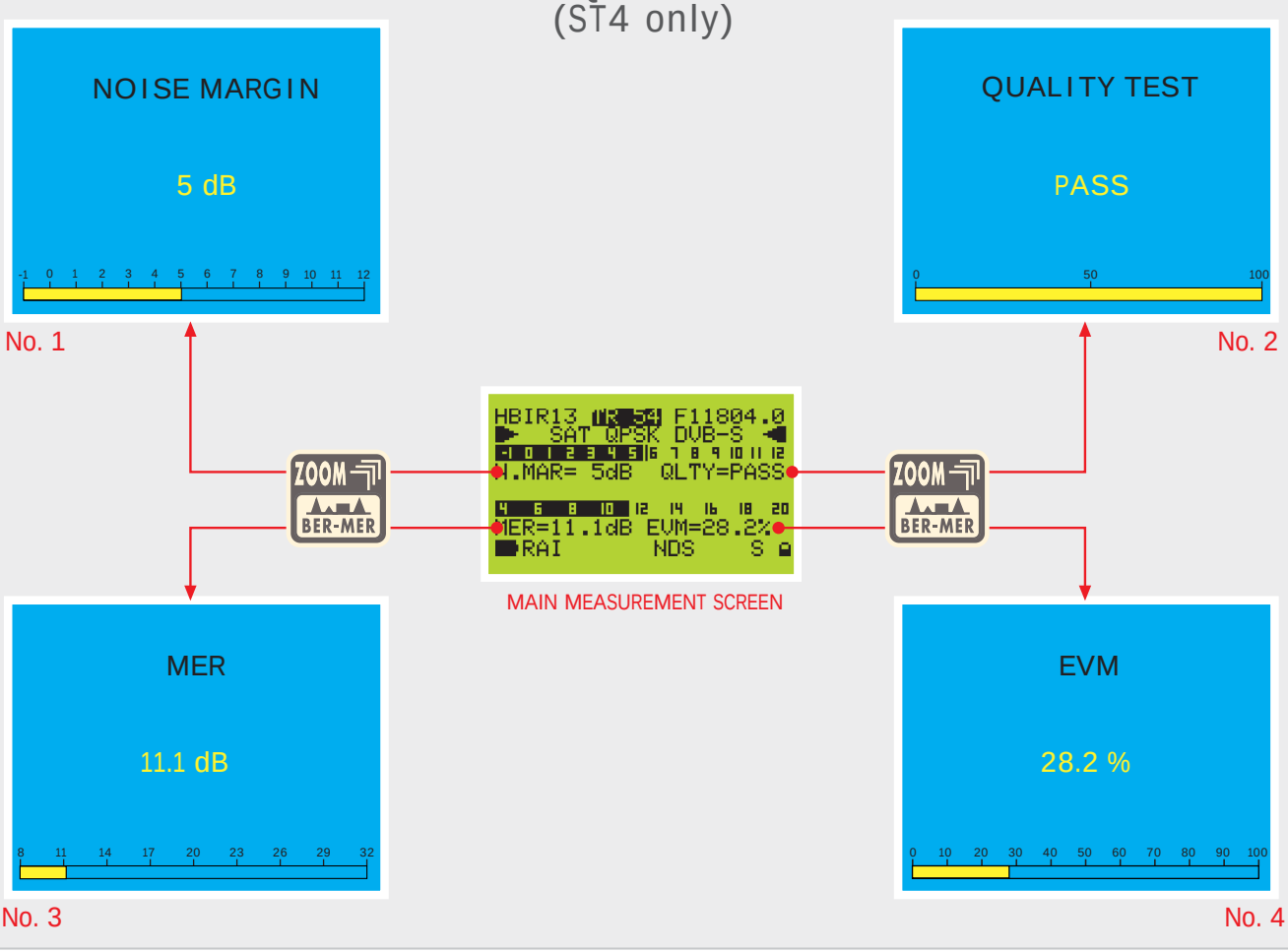
LEAKAGE MEASUREMENT

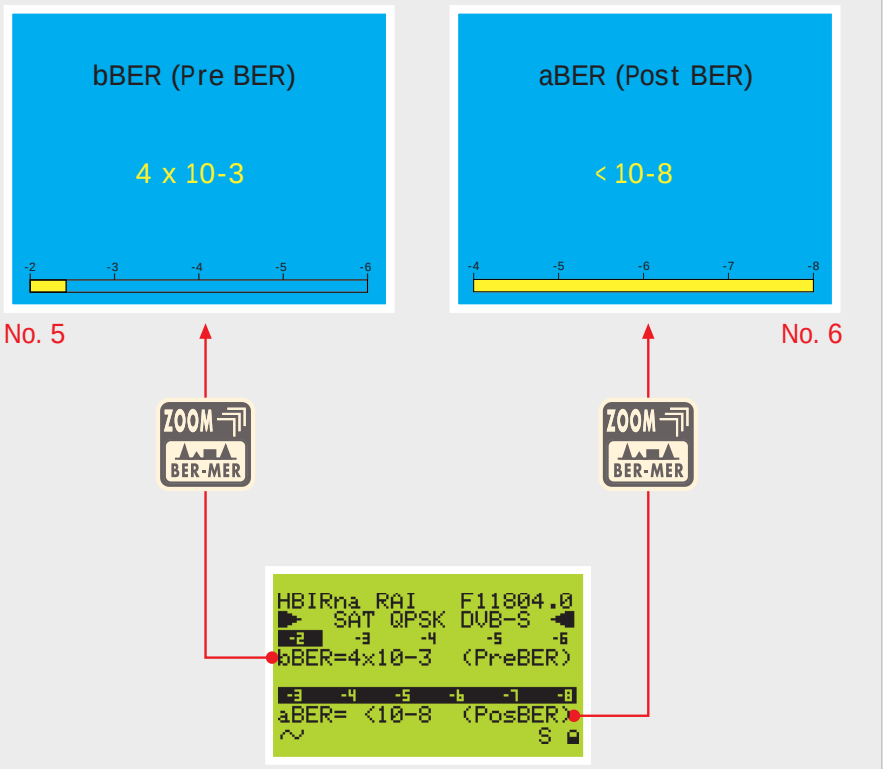
Irradiated electromagnetic field disturbance measurement (leakage), due to poor shielding of coaxial cables in a distribution network. The peak measurement is in real time, with an acoustic alarm if the pre-chosen threshold is exceeded. It is possible to select many types of antennas and different measurement distances.

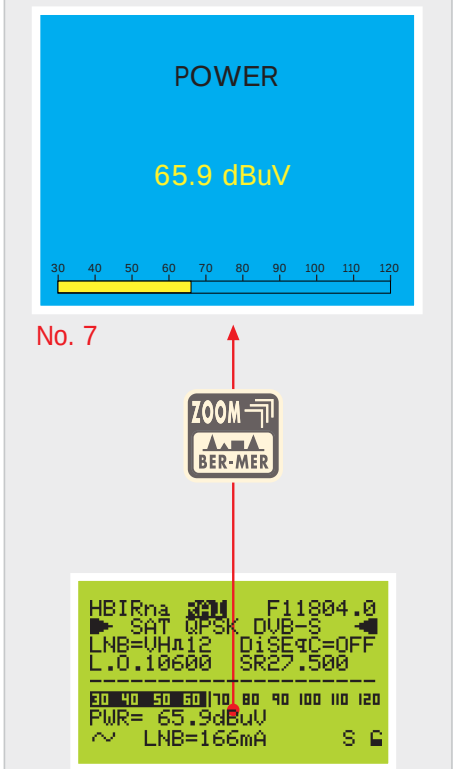
Digital Measurement Examples

SAT DVB-S

WITH ZOOM FUNCTION, IN SEQUENCE, ONE AT A TIME ON THE TFT
(ST4 only)





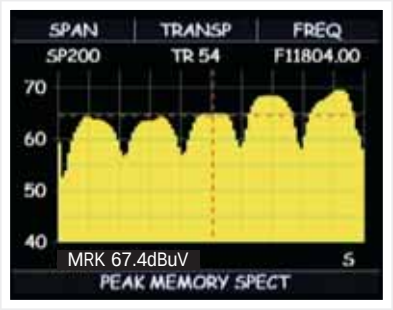


Spectrum Analysis Examples

SAT DVB-S

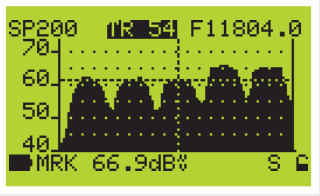
WITH ZOOM FUNCTION, ON THE TFT
(ST4 only)

Digital SAT Spectrum, Span 200 MHz,
with maximum peak memory on the TFT display



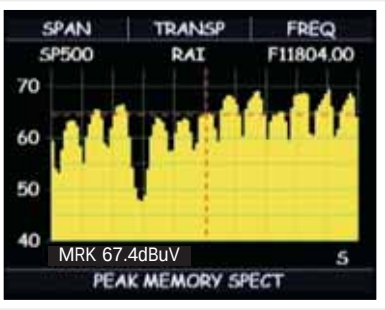
SPAN:
200 MHz

ZOOM
BER-MER



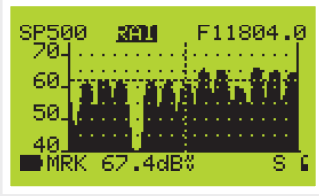
Note, on the first line of the display, the bouquet selection, transponder number (TR54) and/or frequency

Digital SAT Spectrum, Span 500 MHz,
with maximum peak memory on the TFT display



SPAN:
500 MHz

ZOOM
BER-MER



Note, on the first line of the display, the bouquet selection with NETWORK name (RAI) and/or frequency

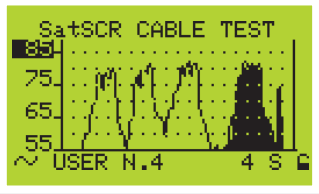
Examples of Driver Functions for S.C.R. LNB

(SATELLITE SINGLE CABLE ROUTER)

Distribution to 4 or 8 users with 4 SAT+TV polarizations and only one coaxial cable

Test function and user number selection

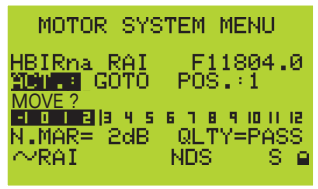
2nd SCREEN



User selection and relative SPECTRUM, simultaneously, with scanning of the 4 users. The SPECTRUM in black shows the selected user.

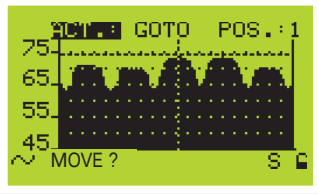
Examples of Driver functions for DiSEqC Motors

AUTOMATIC



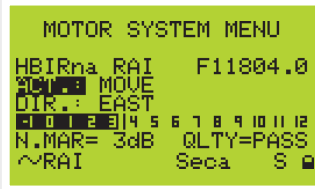
Motor rotation commands on pre-stored positions

2nd SCREEN



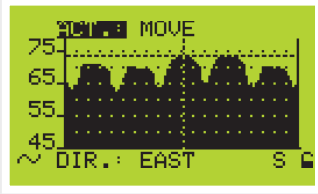
Simultaneous vision of motor rotation commands and SPECTRUM

MANUAL



Manual motor rotation commands with an East/West movement

2nd SCREEN

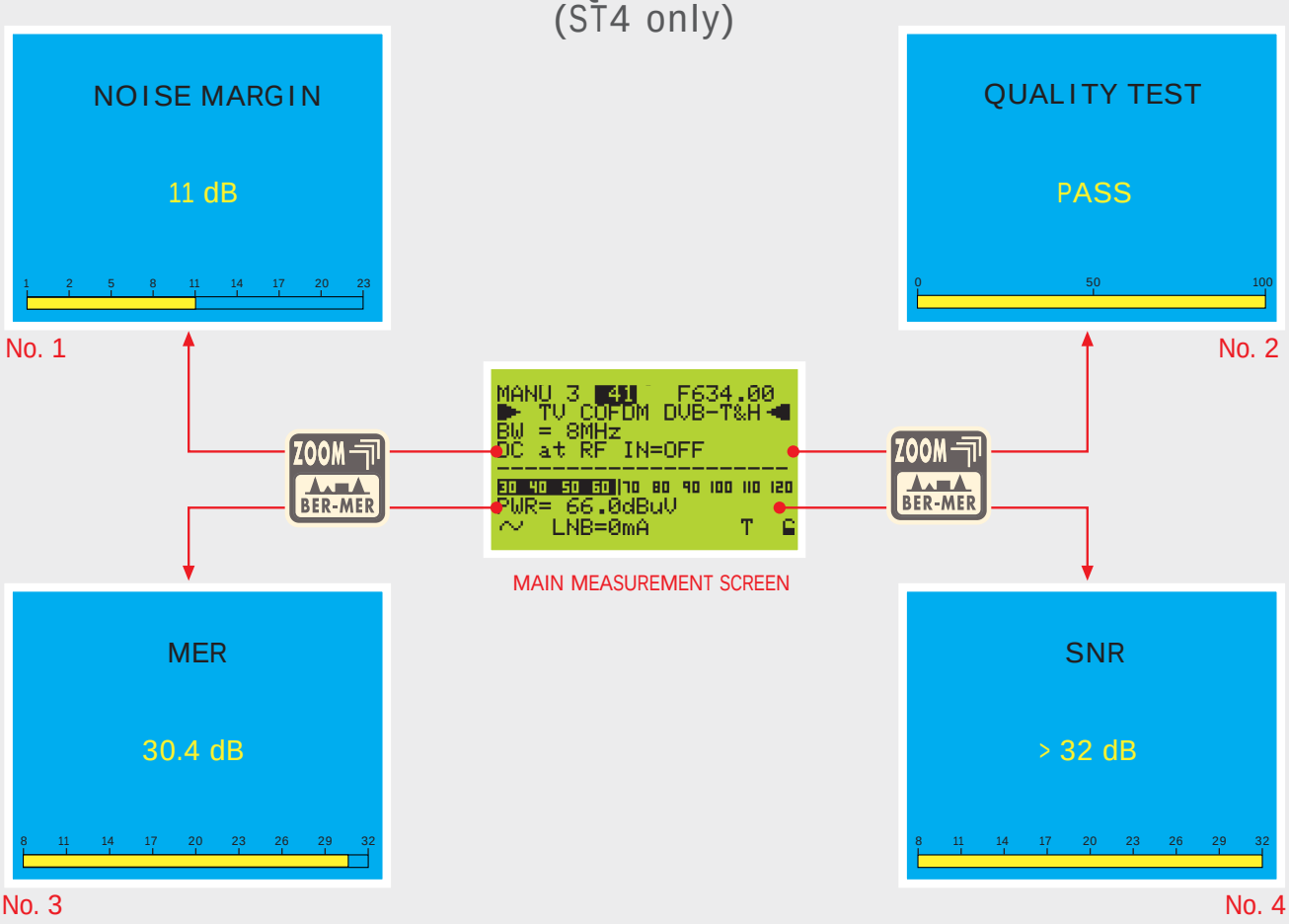


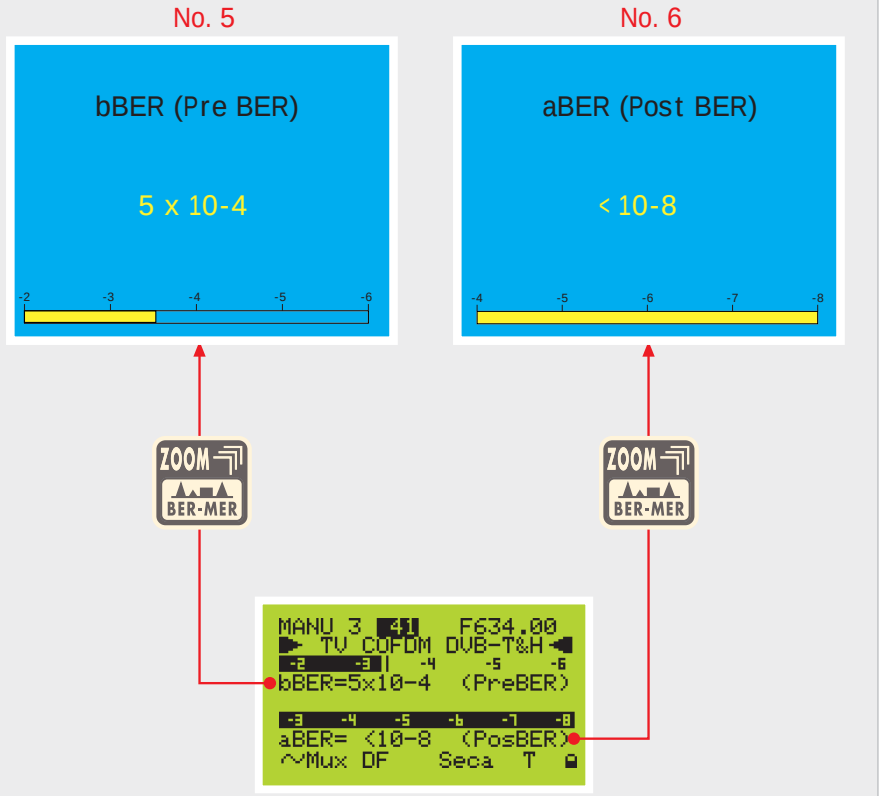
Simultaneous vision of manual motor rotation commands and SPECTRUM

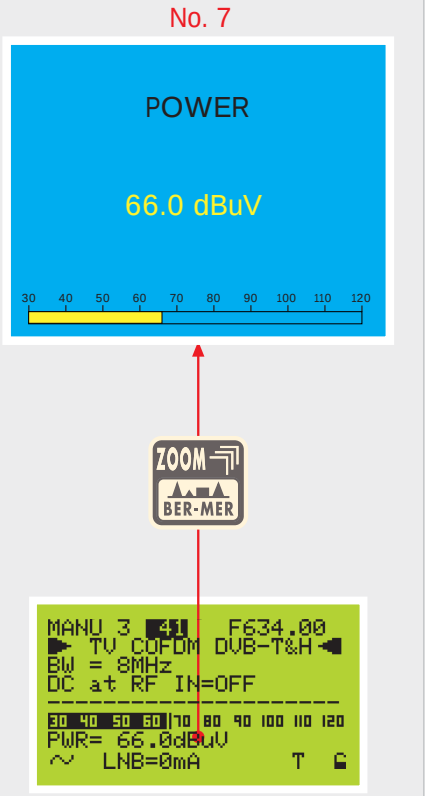
Digital Measurement Examples

TV DVB-T & H

WITH ZOOM FUNCTION, IN SEQUENCE, ONE AT A TIME ON THE TFT (ST4 only)





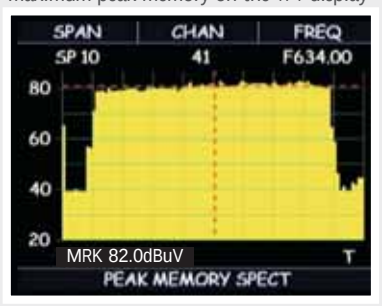


Spectrum Analysis Examples

TV DVB-T & H

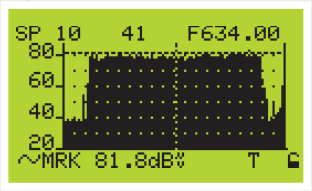
WITH ZOOM FUNCTION, ON THE TFT
(ST4 only)

Digital TV spectrum, SPAN 10 MHz, with maximum peak memory on the TFT display



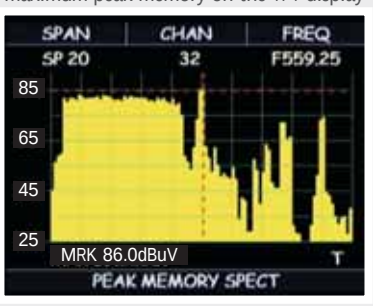
SPAN: 10 MHz

ZOOM BER-MER



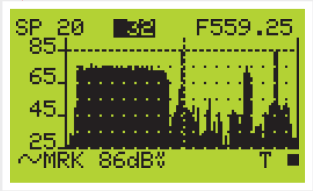
Example of a digital TV spectrum, SPAN 10 MHz, in real time, on the graphics display

Digital TV spectrum, SPAN 20 MHz, with maximum peak memory on the TFT display



SPAN: 20 MHz

ZOOM BER-MER



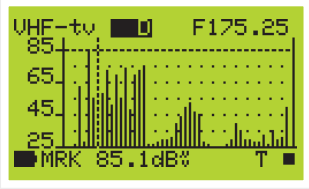
Example of an analog and digital TV spectrum, SPAN 20 MHz, in real time, on the graphics display

Bars Scan Function Examples

TV DVB-T & H

PLAN = "TELEVISION"

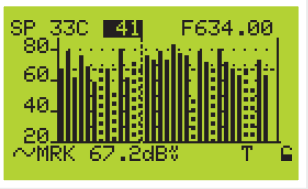
SPAN: VHF-tv (50 ch.)



SPAN example: VHF, 50 channels, from channel 'A' to 's41', for a complete visualization of all the channels contained in the VHF band

PLAN = "AUTO TV MEMORY"

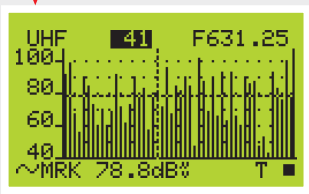
SPAN: 33 ch.



Esample of 33 VHF and UHF channels automatically stored. The dotted lines represent digital channels, the full lines represent analog channels

PLAN = "TELEVISION"

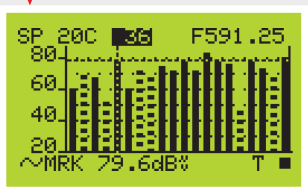
SPAN: UHF (50 ch.)



SPAN example: UHF, 50 channels from channel 21 to 69, for a complete visualization of all channels contained in the UHF band

PLAN = "MANUAL MEMORY"

SPAN: 20 can.



Example of 20 VHF and UHF channels manually stored by the user. The dotted lines represent digital channels, full lines represent analog channels.

S2 SCOUT S.C.R. READY

DVB-S

- Demodulated QPSK, SCPC and MCPC signals
- Interchangeable IN connector: "F", "IEC" or "BNC" ("N" opt.)
- NET. ID. function (net name, orbital position, encryption system, date)
- MPEG Services: program, Audio/Video PID & encryption lists
- 99 memory plans:
  - SAT plans (SATELLITE): satellites and their transponders, pre-loaded (adjustable via PC)
  - Customised SAT plans (MANUAL MEMORY): stored manually or via PC, including program names
- HELP function for automatic search of: frequency, constellation, symbol rate, etc.
- QPSK real power measurement: from 30 to 123 dBμV
- Measurements: aBER, bBER, MER, EVM, NOISE Margin, av. power
- Automatic quality analysis: PASS, MARGINAL, FAIL and noise margin measurement
- SAT FINDER: highly efficient system with automatic satellite finder function
- "SAT pointer" with spectrum visualization, buzzer and peak hold memory for fast and correct dish alignment
- "Fine" pointing and "Noise Margin" measurement with dual measurement visualization (numerical and graphics), with memory peak; this allows a perfect dish alignement and SKEW adjustment (polarization plan)
- Dual LNB satellite dish pointing (to measure 2 satellites simultaneously)
- Accurate spectrum analysis with max hold (peak) features, with variable SPAN from 50 MHz to full band. Automatic and adjustable reference level
- USB2 Port. Allows you to connect the meter to a PC for software upgrades SW via internet, data logger downloads and to manually store memory plans

SAT ANALYZER for DIGITAL QPSK and ANALOG SIGNALS for EASY and PERFECT DISH ALIGNMENT. SUITABLE for INDIVIDUAL and COMMUNITY D.T.H DISTRIBUTION SYSTEMS. (930-2250 MHz) (30-123 dBμV) Accuracy 1dB typ.

- ✔ BACK–LIGHT GRAPHICS DISPLAY
- ✔ DIGITAL QPSK SAT
- ✔ ANALOG SAT SPECTRUM
- ✔ DRIVER FOR S.C.R. LNB's
- ✔ DRIVER FOR DiSEqC MOTORS
- ✔ DiSEqC CONTROL A-B-C-D
- ✔ SAT FINDER FUNCTION
- ✔ POINTING WITH 2 LNBs
- ✔ PRE-STORED SATELLITES AND TRANSPONDERS
- ✔ MPEG PROGRAM LIST
- ✔ A/V PID LIST & ENCRYPTION
- ✔ NETWORK ID FUNCTION
- ✔ AN. & DIG. SIGNAL SPECTRUM
- ✔ MANUAL MEMORY PLANS
- ✔ "DATA LOGGER" FUNCTION
- ✔ HIGH CAPACITY BATTERIES
- ✔ HARD CARRY CASE SUPPLIED

T2 SCOUT DVB-H READY

DVB-T & H

- Demodulated COFDM, SFN and MFN operation
- Easy channel navigation with automatic selection of analog or digital signals
- Interchangeable input connector: "F", "IEC" or "BNC" or ("N" optional)
- NET ID function (network name, encryption system, date)
- MPEG services: program, A/V PID and encryption lists
- 99 memory plans:
  - Custom TV plans (MANUAL MEMORY): stored manually or using a PC, including program names
  - Standard TV plans (TELEVISION): Pre-loaded TV channel plans for each country (adjustable via PC)
  - Autoscan TV (AUTOMEMORY): automatic selection and memorization system of signals, according to the chosen level and power threshold.
- HELP function for automatic search of: frequency, constellation, DVB-T/H parameters
- Measurements: C/N, BER, MER, SNR
- Automatic quality analysis: PASS, MARGINAL, FAIL and noise margin measurement
- Accurate spectrum analysis with max hold (peak) features, with variable SPAN from 2 MHz to full band. Adjustable reference level (automatic or manual)
- USB2 Port. Allows you to connect the meter to a PC for software upgrades SW via internet, data logger downloads and to manually store memory plans

TV ANALYZER for ANALOG & DIGITAL COFDM SIGNALS with AUTOMATIC SELECTION of ANALOG AND DIGITAL SIGNALS. SUITABLE for INDIVIDUAL & COMMUNITY DISTRIBUTION SYSTEMS (47-870 MHz) (5-120dBμV) Accuracy 1 dB typ.

- ✔ BACK–LIGHT GRAPHICS DISPLAY
- ✔ DIGITAL COFDM TV
- ✔ ANALOG TV
- ✔ CONSTELLATION
- ✔ MPEG PROGRAM LIST
- ✔ A/V PID LIST & ENCRYPTION
- ✔ NETWORK ID FUNCTION
- ✔ AN. & DIG. SIGNAL SPECTRUM
- ✔ MANUAL MEMORY PLANS
- ✔ AUTOMATIC MEMORY PLANS
- ✔ "DATA LOGGER" FUNCTION
- ✔ HIGH CAPACITY BATTERIES
- ✔ HARD CARRY CASE SUPPLIED

C2 SCOUT

DVB–C

- Demodulated QAM signals, ANEX A-B-C, 64 – 128 – 256, down stream DOCSIS
- Interchangeable input connector: "F", "IEC" or "BNC" or ("N" optional)
- 99 master or customized memory plans, modifyable manually or using a PC
- HELP function for auto-search of: frequency, constellation, symbol rate
- AUTOSCAN: automatic channel search and memorization
- QAM digital measurements: C/N, BER, MER, SNR
- Analog measurements: level, A/V, C/N
- BARS SCAN and tilt measurement, selectable from 9 to 100 channels
- INGRESS spectrum (measures spectrum interference) 5 – 65 MHz
- LEAKAGE measurement (irradiation) with programmable antenna parameters and distances
- Automatic registration DATA LOGGER function and AUTOTEST
- AC voltmeter with triangular wave measurement
- Automatic quality analysis: PASS, MARGINAL, FAIL and noise margin measurement
- Accurate spectrum analysis with max hold (peak) features, with variable SPAN from 2 MHz to full band. Adjustable reference level (automatic or manual)
- MPEG services: program, A/V PID and encryption lists
- Network ID function: network name, bouquet and encryption system
- USB2 Port. Allows you to connect the meter to a PC for software upgrades SW via internet, data logger downloads and to manually store memory plans

CATV ANALYZER FOR QAM DIGITAL AND ANALOG SIGNALS. SUITABLE for CABLE TV DISTRIBUTION SYSTEMS (5-870 MHz) (5-120 dBµV) Accuracy 1dB typ.

NEW AUTO DISCOVERING

AUTOMATIC SELECTION OF TV ANALOG & DIGITAL SIGNALS (IN AUTOSCAN FUNCTION)

- ✔ BACK-LIGHT GRAPHICS DISPLAY
- ✔ QAM DIGITAL TV, DOCSIS D.S.
- ✔ ANALOG TV
- ✔ BARS SCAN & TILT
- ✔ INGRESS MEASUREMENT
- ✔ LEAKAGE MEASUREMENT
- ✔ QAM CONSTELLATION
- ✔ MPEG PROGRAM LIST
- ✔ A/V PID LIST AND ENCRYPTION
- ✔ NETWORK ID FUNCTION
- ✔ SPECT. FOR AN. & DIG. SIGNALS
- ✔ AUTOMATIC MEMORY PLANS
- ✔ MANUAL MEMORY PLANS
- ✔ "DATA LOGGER" FUNCTION
- ✔ HIGH CAPACITY BATTERIES
- ✔ HARD CASE FOR TRANSPORT

ST2 SCOUT
DVB-H e S.C.R. READY

DVB-S DVB-T e H

- Demodulated QPSK, SCPC and MCPC
- Demodulated COFDM, SFN and MFN, emulated QAM
- Interchangeable input connector: "F", "IEC" or "BNC" ("N" optional)
- "Network Identification" function (network name, orbital position, bouquet, encryption system and date)
- MPEG services: prog. list, A/V PID and encryption
- Easy channel navigation, with automatic selection of analog and digital signals
- 99 memory plans:
  - SATELLITE plans: pre-loaded satellites and their transponders (modifiable by PC)
  - Customized SAT and TV plans (MANUAL MEMORY): customised and storable manually or via PC, including program names
  - Standard TV plans (TELEVISION): TV channel plans for each country, pre-loaded (adjustable via PC)
  - Autoscan TV (AUTOMEMORY): automatic signal selection and storage system, according to the selected level and power threshold
- HELP function for the automatic search of: frequency, constellation, symbol rate and DVB-T/H parameters
- True power measurement of the digital signal: from 5 (30) to 123 dBµV
- Measurements: aBER, bBer, MER, SNR, EVM, noise margin, average power
- SAT FINDER: Simple to use and automatic highly efficient satellite identification function
- SAT POINTER, with spectrum visualization, peak memory and buzzer for a simple, fast and secure dish alignment
- "Fine" pointing with the "Noise Margin" measurement, using the dual display, numerical and grahics, with peak memory, for a perfect dish alignment and SKEW adjustment (polarization plan)
- Pointer for dual LNB dishes (measures two satellite simultaneously)
- AUTOSCAN: auto-search and memorization of TV channels
- Accurate spectrum analysis with max hold (peak) features, with variable SPAN: from 2 MHz to full band with automatic and adjustable reference level
- Automatic Quality Analysis: FAIL - MARG - PASS and noise margin measurement (NOISE MARGIN)
- USB2 port. Allows you to connect a meter to a PC to upgrade software via internet, load the data loggers and memorize the custom memory plans

COMBINED SAT-TV ANALYZER for ANALOG & DIGITAL QPSK-COFDM & em. QAM SIGNALS. SUITABLE for INDIVIDUAL & COMMUNITY D.T.H. DISTRIBUTION SYSTEMS. EASY & PERFECT DISH ALIGNMENT. AUTOMATIC SELECTION of ANALOG & DIGITAL TV SIGNALS (47-2250 MHz) (5(30)-123dBµV) Accuracy 1 dB typ.

NEW AUTO DISCOVERING

AUTOMATIC SELECTION OF ANALOG & DIGITAL TV SIGNALS

SAT & TV

- ✔ BACK-LIGHT, GRAPHICS DISPLAY
- ✔ MPEG PROGRAM LIST
- ✔ A/V PID LIST AND ENCRYPTION
- ✔ NETWORK ID FUNCTION
- ✔ SPECTRUM FOR ANALOG AND DIGITAL SIGNALS
- ✔ MANUAL MEMORY PLANS
- ✔ "DATA LOGGER" FUNCTION
- ✔ HIGH CAPACITY BATTERIES
- ✔ HARD CASE FOR TRANSPORT

SAT Only

- ✔ QPSK DIGITAL SAT
- ✔ ANALOG SAT AND SPECTRUM
- ✔ PRE-STORED SATELLITES AND TRANSPONDERS
- ✔ S.C.R. LNB DRIVER
- ✔ DiSEqC MOTOR DRIVER
- ✔ DiSEqC CONTROL A-B-C-D
- ✔ SAT FINDER FUNCTION
- ✔ DUAL LNB POINTING

TV Only

- ✔ COFDM DIGITAL TV
- ✔ ANALOG TV & emul. QAM
- ✔ AUTOMATIC MEMORY PLANS
- ✔ CONSTELLATION

ST4 DISCOVERY
DVB-H and S.C.R. READY

COMBINED SAT-TV ANALYZER for ANALOG & DIGITAL QPSK-COFDM & em. QAM SIGNALS. SUITABLE for INDIVIDUAL & COMMUNITY D.T.H. DISTRIBUTION SYSTEMS. EASY & PERFECT DISH ALIGNMENT. AUTOMATIC SELECTION of ANALOG & DIGITAL TV SIGNALS (47-2250 MHz) (5(30)-123dBµV) Accuracy 1 dB typ.

- "ZOOM" function allows you to visualise the most important measurements and spectrums (with peak memory), one at a time on the TFT display
- Demodulated QPSK, SCPC and MCPC
- Demodulated COFDM, SFN and MFN, emulated QAM
- Interchangeable input connector: "F", "IEC" or "BNC" ("N" optional)
- Fta MPEG video decoder
- "Network Identification" function (network name, orbital position, bouquet, encryption system and date)
- MPEG services: prog. list, A/V PID and encryption
- Easy channel navigation, with automatic selection of analog and digital signals
- 99 memory plans:
  - SATELLITE plans: pre-loaded satellites and their transponders (modifiable by PC)
  - Customized SAT and TV plans (MANUAL MEMORY): customised and storable manually or via PC, including program names
  - Standard TV plans (TELEVISION): TV channel plans for each country, pre-loaded (adjustable via PC)
  - Autoscan TV (AUTOMEMORY): automatic siganl selection and storage system, according to the selected level and power threshold
- HELP function for the automatic search of: frequency, constellation, symbol rate and DVB-T/H parameters
- True power measurement of the digital signal: from 5 (30) to 123 dBµV
- Measurements: aBER, bBer, MER, SNR, EVM, noise margin, power
- SAT FINDER: Simple to use and automatic highly efficient satellite identification function
- SAT POINTER, with spectrum visualization, peak memory and buzzer for a simple, fast and secure dish alignment
- "Fine" pointing with the "Noise Margin" measurement, using the dual display, numerical and grahics, with peak memory, for a perfect dish alignment and SKEW adjustment (polarization plan)
- Pointer for dual LNB dishes (measures two satellite simultaneously)
- BARS SCAN TV: Graphically represents the level and power of the various channels in real time. Selectable from 9 to 100 channels simultaneously
- Accurate spectrum analysis with max hold (peak) features, with variable SPAN: from 2 MHz to full band with automatic and adjustable reference level
- Automatic Quality Analysis: FAIL - MARG - PASS and noise margin measurement (NOISE MARGIN)
- USB2 port. Allows you to connect a meter to a PC to upgrade software via internet, load the data loggers and memorize the custom memory plans

NEW AUTO DISCOVERING
TV ANALOG AND DIGITAL FULLY AUTOMATIC SELECTION

SAT and TV
- ✔ 4" COLOR TFT DISPLAY & "ZOOM" FUNCTION
- ✔ BACK-LIGHT LCD GRAPHICS DISPLAY
- ✔ MPEG DECODER
- ✔ MPEG PROGRAM LIST
- ✔ AUDIO/VIDEO PID LIST & ENCRYPTION
- ✔ NETWORK ID FUNCTION
- ✔ SPECTRUM FOR ANALOG & DIG. SIGNALS
- ✔ CUSTOM MEMORY PLANS
- ✔ "DATA LOGGER" FUNCTION
- ✔ HIGH CAPACITY BATTERIES
- ✔ HARD CARRY CASE SUPPLIED

SAT Only
- ✔ QPSK DIGITAL SAT
- ✔ ANALOG SAT SPECTRUM
- ✔ PRE-STORED SATELLITES and TRANSPONDERS
- ✔ S.C.R. LNB DRIVER
- ✔ DiSEqC MOTOR DRIVER
- ✔ DiSEqC CONTROL A-B-C-D
- ✔ SAT FINDER FUNCTION
- ✔ DUAL LNB POINTING

TV Only
- ✔ COFDM DIGITAL TV
- ✔ ANALOG TV and em. QAM
- ✔ AUTOMATIC MEMORY PLANS
- ✔ BARS SCAN
- ✔ CONSTELLATION

Main Technical Specifications Cross Reference

MAIN SPECIFICATIONS	SIZE (mm)	80 x 225 x 215	80 x 225 x 215	80 x 225 x 215	80 x 225 x 215	115 x 225 x 215	110 x 280 x 370	110 x 280 x 370	135 x 330 x 380
	WEIGHT (kg)	1.1	1.1	1.1	1.2	2	5	5	5
	ABS Shock-Proof Hard Case	●	●	●	●	●	BAG & LIGHT SHIELD	BAG & LIGHT SHIELD	BAG & LIGHT SHIELD
	Battery Duration (hours)	3 h	2.5 h	2.5 h	2.5 h	5 with 1 display 3 with 2 displays	2 h	2 h	5 h
	Graphics Display	64 x 128	64 x 128	64 x 128	64 x 128	64 x 128			
	TV and SAT Picture Display					4" color TFT	4.5" CRT B/N	4.5" CRT B/N	5.5" color TFT
	MEMORY Total Logger	99	99	99	99	99	99	99	99
	MEMORY PROGS for PLAN	199	199	199	199	199	199	199	199
	MEMORY Total PLANS	99	99	99	99	99	99	99	99
	Tuning System and NAVIGATION	Transp/. Freq. / Prog. in Meas & Spect	Chan. / Freq. / Prog. in Meas & Spect	Chan. / Freq. / Prog. in Meas & Spect	Transp./Ch./ Freq. / Prog. in Meas & Spect	Transp./Ch./ Freq. / Prog. in Meas & Spect	Transp./Ch./ Freq. / Prog. in Meas & Spect	Transp./Ch./ Freq. / Prog. in Meas & Spect	Transp./Ch./ Freq. / Prog. in Meas & Spect
	Accuracy (dB)	1.5 typ.	1.0 typ.	1.0 typ.	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
	MEAS Dynamic Range (dBuV)	30-123	5-120	5-120	30-123 SAT 5-123 TV	30-123 SAT 5-123 TV	30-126 SAT 5-126 TV	30-126 SAT 5-126 TV	30-126 SAT 5-126 TV
	SW Upgrades via internet	● USB2	● USB2	● USB2	● USB2	● USB2	● RS 232 opt.	● RS 232	● RS 232
SPECIAL FUNCTIONS	NETWORK DATA & PROGRAM. NAMES	●	●	●	●	●	NETWORK only	●	●
	SAT TRANSPOND. NAVIGATION	●	●	●	●	●		●	●
	AUTOSCAN of TV PROGRAMS		●	●	●	●	●	●	●
	DRIVER for LNB S.C.R.	●			●	●		●	●
	DRIVER for DiSEqC MOTORS	●			●	●	●	●	●
	POINTING with 2 LNBs	●			●	●		●	●
	SAT FINDER	●			●	●	●	●	●
	REMOTE POWER SUPPLY VOLTAGES	5V-12V-18V	5V		5V-12V-18V-24V	5V-12V-18V-24V	5V-12V-18V-24V	5V-12V-18V-24V	5V-12V-18V-24V
	DiSEqC	●			●	●	●	●	●
	BARSCAN & TILT			●	●	●	●	●	●
	INGRESS and LEAKAGE			●				● INGRESS only	● INGRESS only
PICTURES-AUDIO									
	TV SOUND AND RADIO		● An.	● An.	● An.	● An. & Dig.	● An. & Dig.	● An. & Dig.	● An. & Dig.
	DIGITAL MPEG2 DECODER	Network Iden. PROGRAMS & PID	Network Iden. PROGRAMS & PID	Network Iden. PROGRAMS & PID	Network Iden. PROGRAMS & PID	● TV and SAT	Network Identif.	● TV and SAT	● TV and SAT
	ANALOG					● TV	● TV and SAT	● TV	● TV and SAT
MEASUREMENTS	SPECTRUM ANALYSIS	●	●	●	●	●	●	●	●
	DIGITAL QUALITY FAIL-MARG-PASS	●	●	●	●	●	●	●	●
	CONSTELLATION		●	●	●	●		●	●
	DEMODULATED M.E.R.-B.E.R.-SNR-EVM NOISE MARGIN 8VSB							● opt.	● opt.
	DEMODULATED M.E.R.-B.E.R.-SNR-EVM NOISE MARGIN QAM			●	● emul.	● emul.		● opt.	● opt.
	DEMODULATED M.E.R.-B.E.R.-SNR-EVM NOISE MARGIN COFDM		●		●	●		●	●
	DEMODULATED M.E.R.-B.E.R.-SNR-EVM NOISE MARGIN QPSK	● EVM			● EVM	● EVM	●	●	●
	SAT 930–2250	●			●	●	●	●	●
	TV 47–870		●	●	●	●	●	●	●
	CATV 5–870			●				●	●
	RADIO 47–870		●	●	●	●	●	●	●
	75 Ω input imped. conn. "F"-"IEC"-"BNC" opt. "N" connector								
MODEL		S2 SCOUT 	T2 SCOUT 	C2 SCOUT 	ST2 SCOUT 	ST4 DISCOVERY 	DL1 DIGILINE 	DM12 DIGIMAX 	DM14C DIGIMAX 

THE FUNCTIONS, SPECIFICATIONS and ACCESSORIES MAY BE CHANGED WITHOUT NOTICE

RO.VE.R. Laboratories Sp.A. Via Parini, 2/4 - Colombare di Sirmione 25010 (BS)
Italy - Tel. (+39) 030 9198 1 - Fax. (+39) 030 990 6894 - Skype: monicarover
info@roveristruments.com - www.roverinstruments.com

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