BTPRO-7000

Instruction Manual

Hardware Version 2

Blonder Tongue

www.blondertongue.com

NOTES

INDEX

GET TO KNOW YOUR BTPRO-7000

FRONT PANEL

- **POWER**

To turn on press the 'HOME' key.

To turn off press and hold the 'HOME' key

- **WHEEL** Use the wheel to navigate across the screen and adjust the values

Rotate to select a menu item or to change a value

Press to select a menu item or a numeric field,

Select a menu item, press and hold 2" to display the pop-up menu.

- **RESET HARDWARE**

With instrument ON, Keep the "HOME" key pressed for 10" and turn on again.

- **RESET SOFTWARE**

From instrument OFF, switch on the meter, immediately after keep the "VOLUME" key pressed until a beep is heard.

SIDE PANELS

• LEFT SIDE

• RIGHT SIDE

• TOP SIDE

1 = LAN Eternet RJ45
2 = USB B SW upgrades
3 = USB A memory stick
4 = Power Supply input (12 V DC - 1A)
5 = Fan
6 = Analog video IN
7 = OPTIC IN: FC-ST-SC opt.
8 = RF out "F" 75 Ω
9 = ASI OUT (opt.)
10 = ASI IN (opt.)
11 = IF/RF in "F" 75 Ω
12 = Cable Modem

HOME AND NAVIGATION

‘HOME’ SCREEN

Press the ‘HOME’ key to go to the home screen, then rotate the wheel to navigate on ‘TV’ or ‘CATV’ icons and press the wheel to select the measurement mode required.

Press the ‘HOME’ key at any time to return to the home screen

NAVIGATION

Use the touch screen and the wheel to navigate across the screen and to change values

DISPLAY ZONES

1. tuning parameters
2. live picture
3. measurements
4. channel info
5. transport stream info
6. context sensitive menu

NAVIGATION USING MECHANICAL COMMANDS

How to select from the menus and adjust the value:

- Rotate the wheel and select from the menu required (fig. 1)
- Press the wheel (fig. 2)
- Rotate the wheel to adjust the value (fig. 3)
- Press the wheel and confirm the selection (fig. 4)

Example of TV/CATV channel selection:

fig. 1 fig. 2 fig. 3

Example of remote TV-CATV power supply selection (DC&RF):

fig. 1 fig. 2 fig. 3 fig. 4

How to select from the menus and change a value using the drop down menus:

- Rotate the wheel and select the menu required (fig. 1)
- Keep the wheel pressed for 2" to visualize the drop down menu (fig. 2)
- Rotate the wheel to adjust the value (fig. 3)
- Press the wheel and confirm the selection (fig. 4)

Example of TV/CATV channel selection:

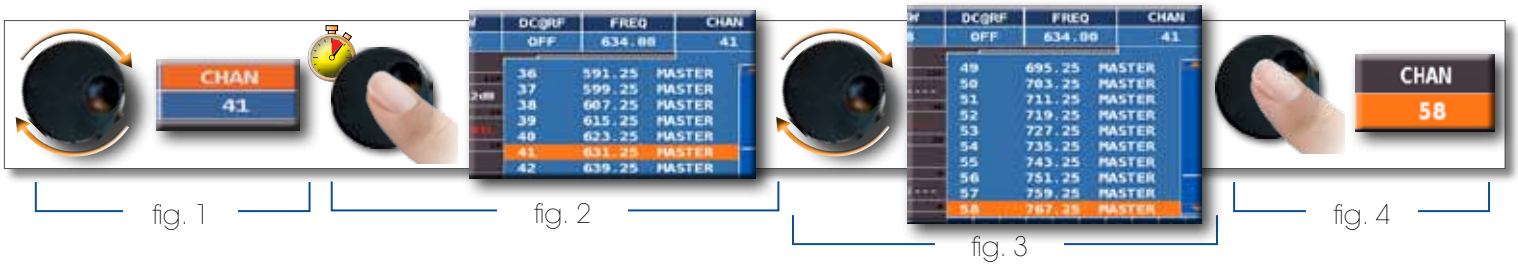


fig. 1 fig. 2 fig. 3 fig. 4

How to select the frequency and set the value using the numerical keyboard:

- Rotate the wheel and select frequency (FREQ) (fig. 1)
- Keep the wheel pressed for 2" to visualize the keyboard (fig. 2)
- Press the relative number keys to digit the frequency value required, rotate the wheel to navigate within the window (fig. 3)
- Finally rotate the wheel and select enter (fig. 4)
- Press the wheel and confirm the selection (fig. 5)

Example of manual frequency (FREQ) selection:

fig. 1 fig. 2

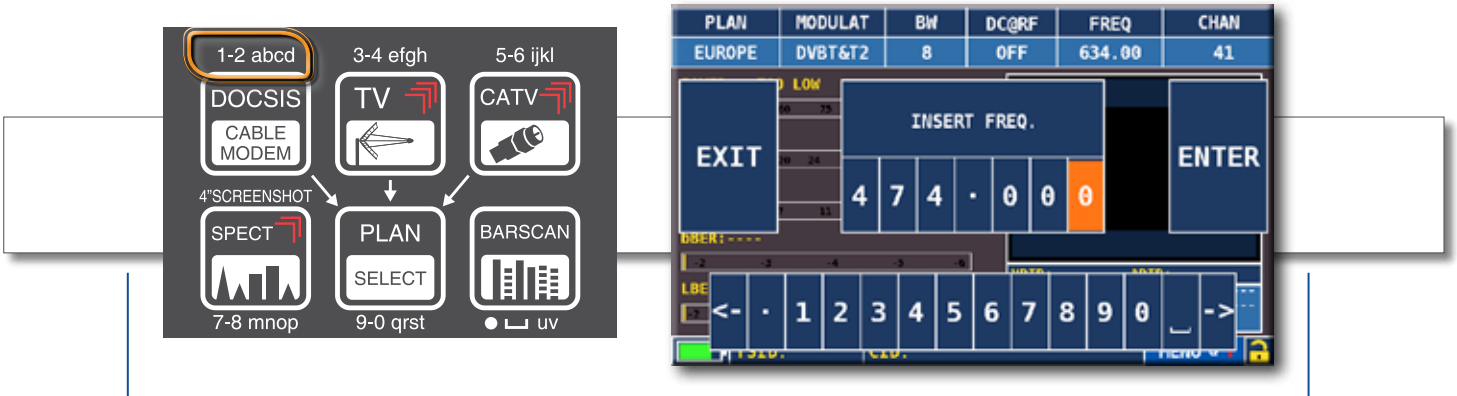


fig. 3

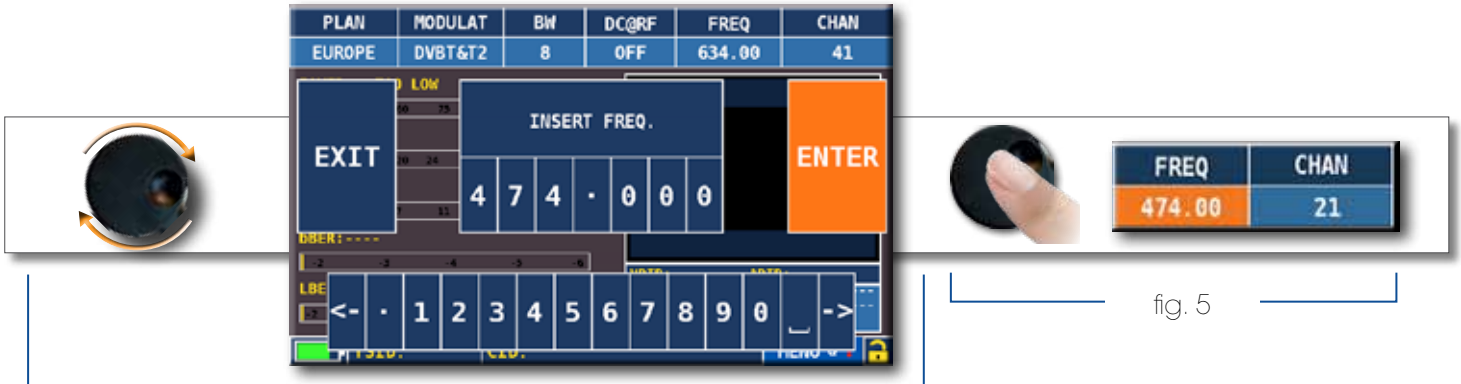


fig. 4 fig. 5

NAVIGATION USING MIXED COMMANDS: MECHANICAL & TOUCH

- Touch a value in the menu (fig. 1)
- Rotate the wheel to adjust the value (fig. 3) or touch the value required (fig.2)
- Press the wheel and confirm the selection (fig.3)
  or touch the monitor outside the drop down menu (fig.3)

Ex. TV/CATV channel selection:

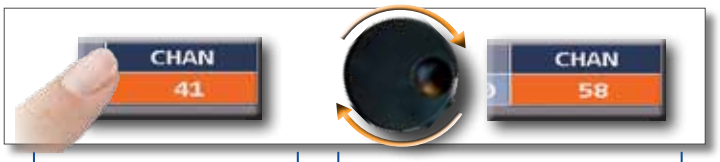


fig. 1 fig. 2

Select from the menus and adjust the value using the drop down menu:

- Touch a value in the menu (fig. 1)
- Touch again to visualize the drop down menu (fig. 2)
- Rotate the wheel to adjust the value (fig. 3) or touch the value required (fig. 3)
- Press the wheel and confirm the selection (fig. 4), or touch the monitor outside the drop down menu (fig. 4)

Example of TV channel selection:

fig. 1 fig. 2

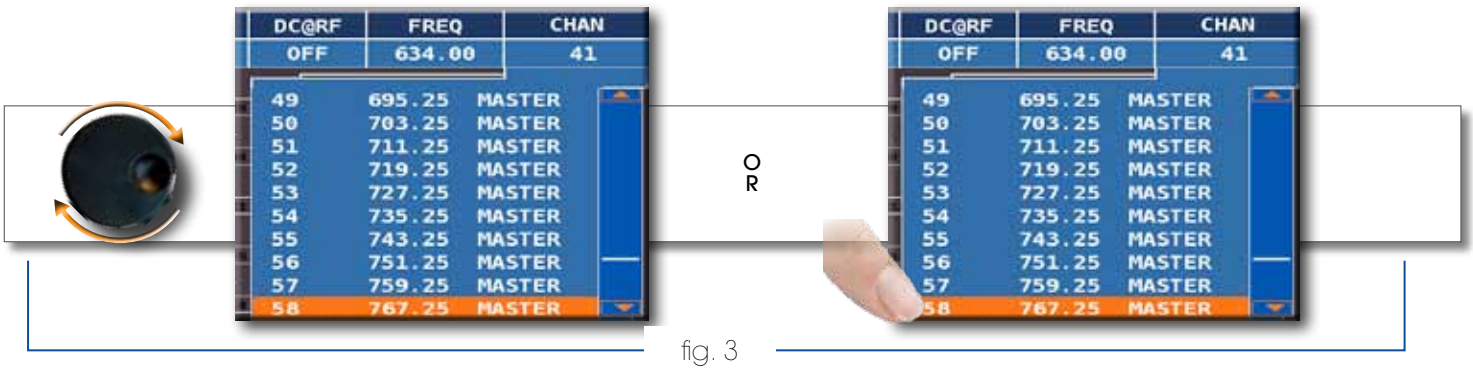


fig. 3

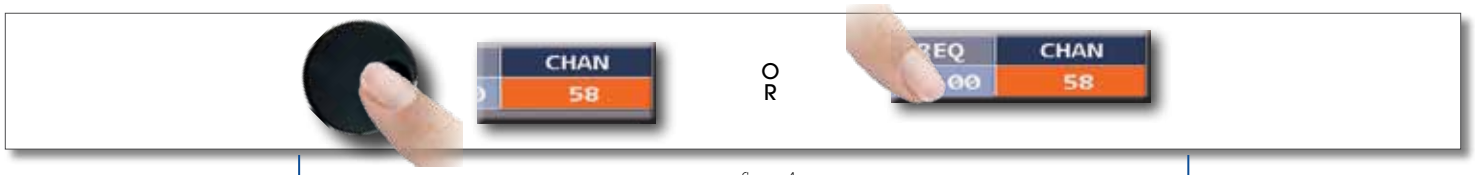


fig. 4

Select the frequency and set the value using the numerical keyboard:

- Touch FREQ (fig. 1)
- Touch again to show the menu "INSERT FREQ" (fig. 2)
- Touch the numbers to digit the required frequency value (fig. 3)
- Finally touch enter and confirm the selection (fig. 4)

Example of manual frequency selection (FREQ):

fig. 1

fig. 2

fig. 3

fig. 4

VOLUME & CONFIGURATION

Volume selection is immediately active, press "ENTER" for the Display configuration and other important settings.

VIDEO IN

- "VIDEO IN" (connector 7 on page 5): Select "EXT" to visualize an external video source.

BATTERY SAVING AND TIMER OFF

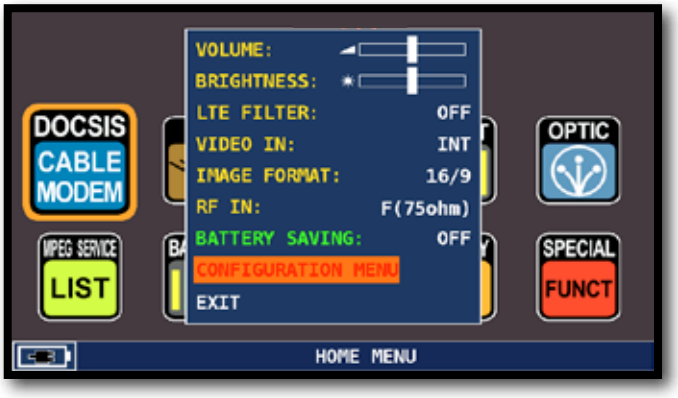
Settings for battery save mode.

Choose "BATTERY SAVING" from the volume screen. In ON mode, if no key is pressed, after 30 seconds, the display brightness is reduced and after 5 minutes the meter automatically turns off. Press any key to temporarily reset the battery save mode.

Touch "CONFIGURATION MENU", then "METER" in the volume screen, and set the "TIMER OFF" value required. The meter will turn off after 5, 10, 15 or 30 minutes of inactivity. Press any key to interrupt the automatic turn-off.

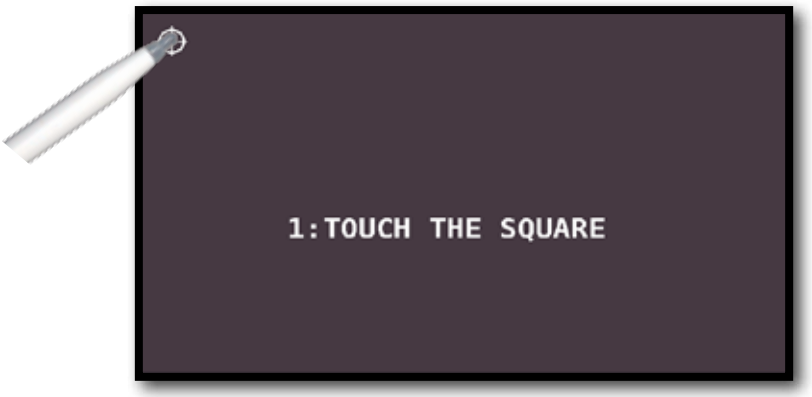
TOUCHSCREEN CALIBRATION

if the touchscreen does not respond to the commands, it may be necessary to calibrate:

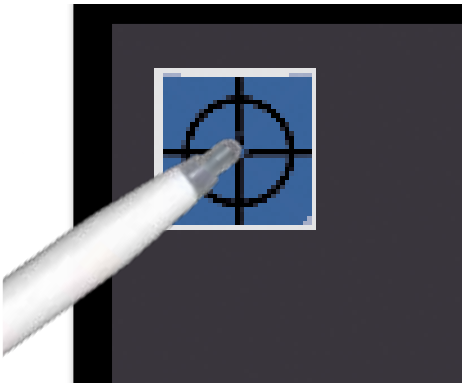


Touch "CONFIGURATION MENU"
from the volume window;

Touch "METER"
then "CALIBRATE TOUCHSCREEN";



Touch the center of the squares that appear
in the corners of the screen,
repeat four times for every square.



NOTE: Use the pen and touch the screen exactly in the center of the circle. if you do not carry out this procedure correctly the touch commands may be inaccurate.

DISCOVERY

Identifies the modulation of a tuned TV channel in the TV master PLAN

Touch the "CONFIGURATION MENU"
in the VOLUME window

TV MODE

In "TV MODE" the "DISCOVERY" function is set on mode TERR ONLY.

CATV (CABLE) MODE

In "CATV MODE" the "DISCOVERY" function is set on mode CABLE ONLY.

NOTES:

- DISCOVERY mode is active only if the antenna cable is connected to the instrument
- DISCOVERY mode is not active if you use a manual (ManuMemory Mix) or automatic memory plan (Automemory tv)

SCREEN SHOT

The "SCREEN SHOT" function allows you to directly save the TFT monitor screens in an external memory.

- Connect an external memory source (not provided) to the USB A socket.
- Set the instrument on the screen to be saved: Spectrum, Measurements, Constellaton, Echoes etc.
- Press "SPECT" for 4 seconds s and wait for file to be saved: The instrument will make a series of beeps.
- Digit the file name and touch ENTER.
- The unit automatically saves screen shots under file name SS_#.BMP besides the entered file names. It also creates a folder on the drive called "SCREENSH".

N.B.:

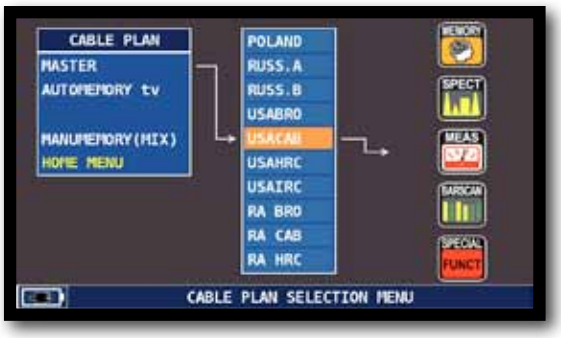
- If the memory is not inserted correctly, or is not recognised, the following message will be shown: "PLEASE INSERT USB MASS STORAGE DEVICE".
- Full screen picture zooms can not be saved.
- The ENTER command is not active If the file name is already present in the external memory source.
- The files are saved in .bmp (bitmap) format.

CATV ANALYZE CABLE TELEVISION SIGNALS

SWITCH TO CATV MODE

OR

THEN PRESS



CATV channel plan selection

DIGITAL CATV DVB-C MEASUREMENT DISPLAY

Main measurements & live picture

Touch the picture to enlarge,
Touch again to return to the measurements

64 QAM constellation

Touch "ZOOM" and select the constellation square to enlarge

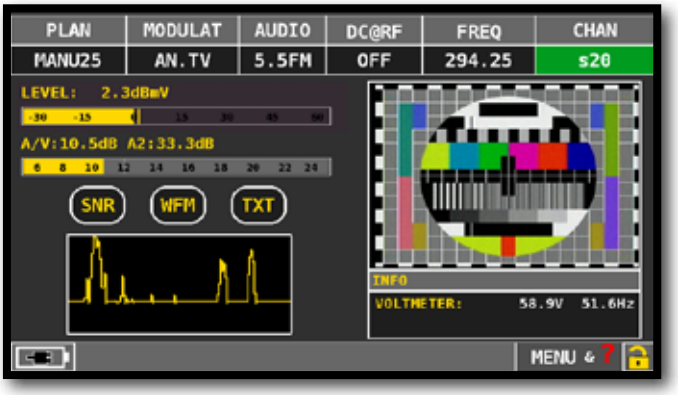
Press repeatedly to navigate in the CATV measurement screens

ANALOG RADIO MEASUREMENT DISPLAY

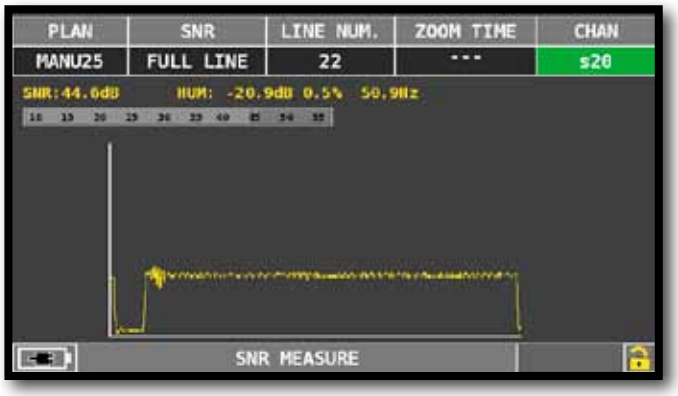
Touch "CHAN" & select "FMH" or "FML",
Touch "MODULAT" & select "FM Radio",
Touch "FREQ" and select the frequency required.

ANALOG TV MEASUREMENT DISPLAY

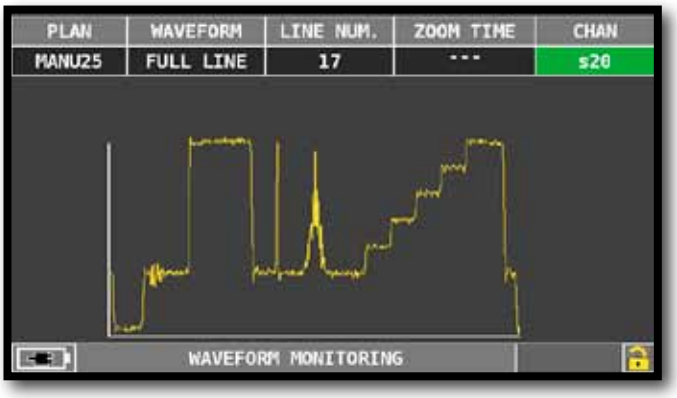
Touch "CHAN" and select the channel required. If it is analog you will see the following displays:



Level measurement, audio-vidio measurement and picture



SNR and HUM measurement

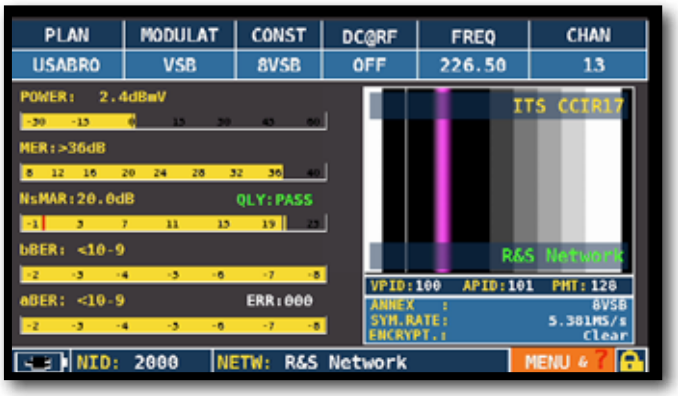


Waveform monitoring measurement

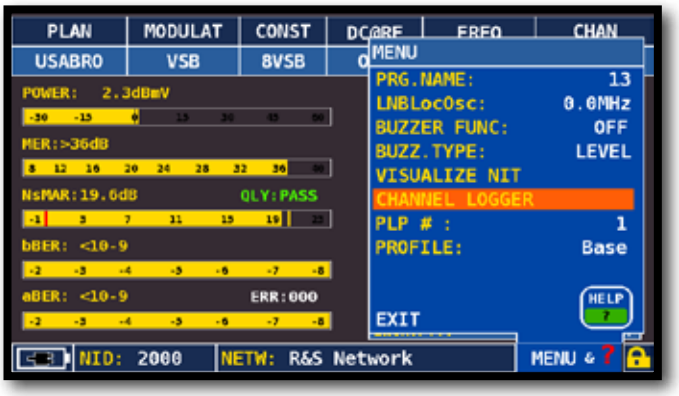
Teletext measurement

Press repeatedly to navigate in the CATV measurement screens

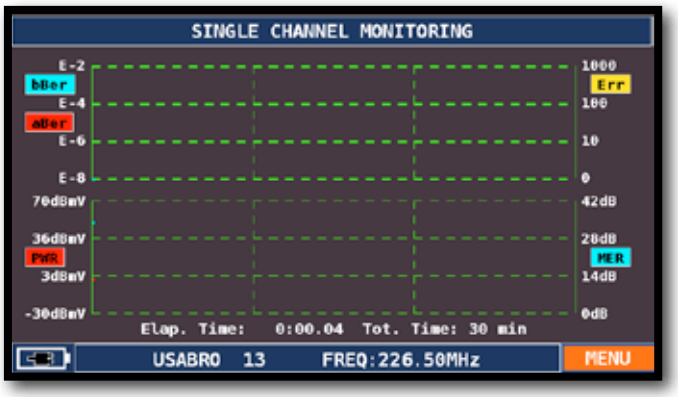
CHANNEL LOGGER



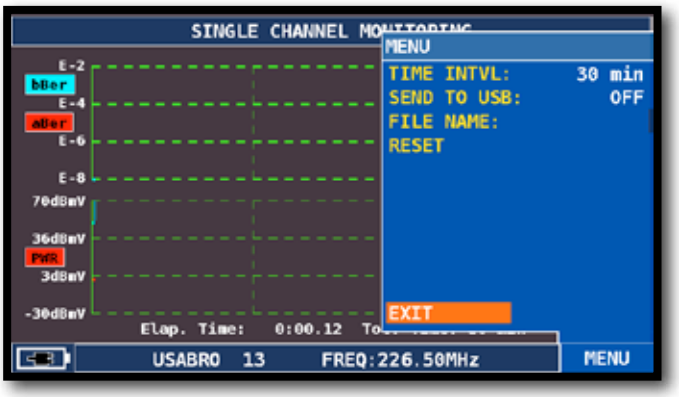
Touch "MENU" on the main measurements and picture screen



Touch "CHANNEL LOGGER"

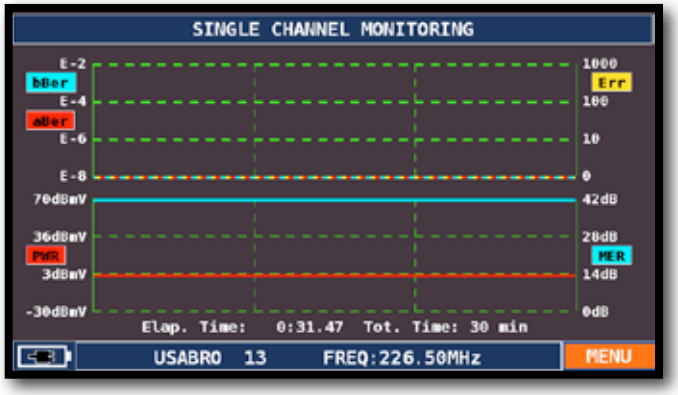


Touch "MENU"



Select the time interval (TIME INTVL) and where you want to store the file, either in the meter's memory, or in the USB memory stick (send to USB-ON), with the relative file name (File name)

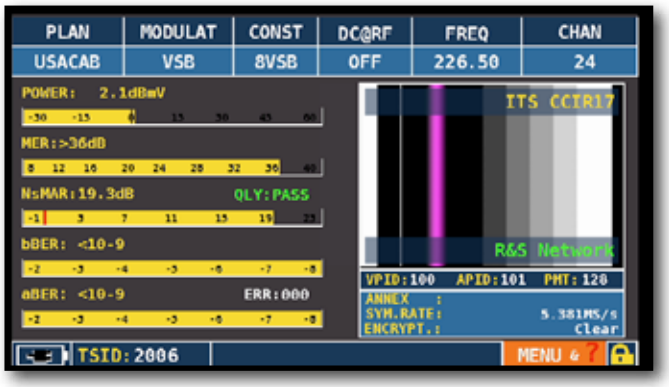
EXAMPLE 1:



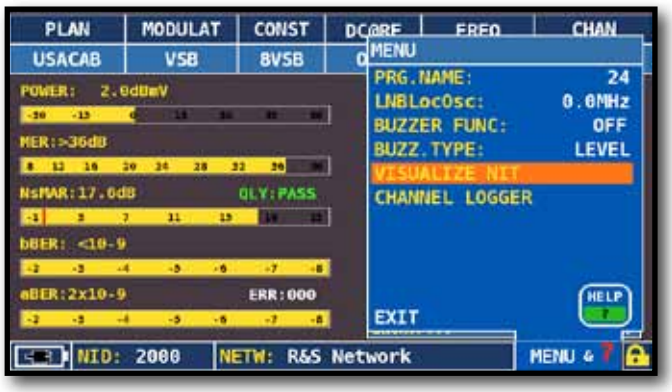
SINGLE CHANNEL MONITORING:
30 Minutes

NOTE: Channel Logger function is also available in CATV mode.

VISUALIZE NIT

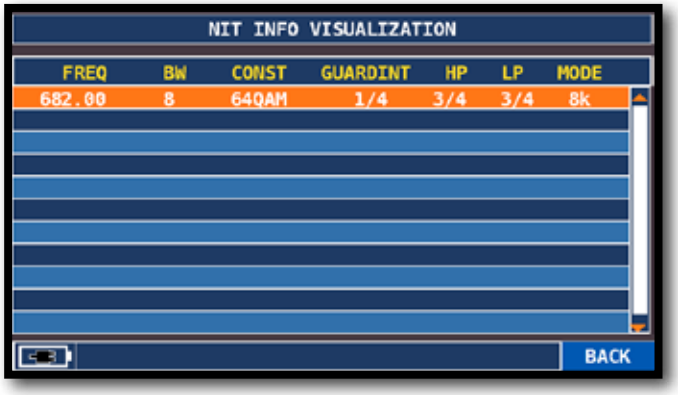


Touch "MENU&?" from the "MAIN MEASUREMENTS & PICTURES".



Touch "VISUALIZE NIT".

Example 1:



"NIT INFO VISUALIZATION"

NOTE:

- The function VISUALIZE NIT is available in TV & CATV mode

RELATED FUNCTIONS

TV SPECT

TV Channel Plan Selection

Barscan

MPEG service list

SWITCH TO TV MODE (All channels received at the Antenna)

Tv channel plan

8VSB MEASUREMENT DISPLAYS

Navigate in "CHAN" and select the channel required.
If it is digital you will see the following displays:

Main measurements and picture

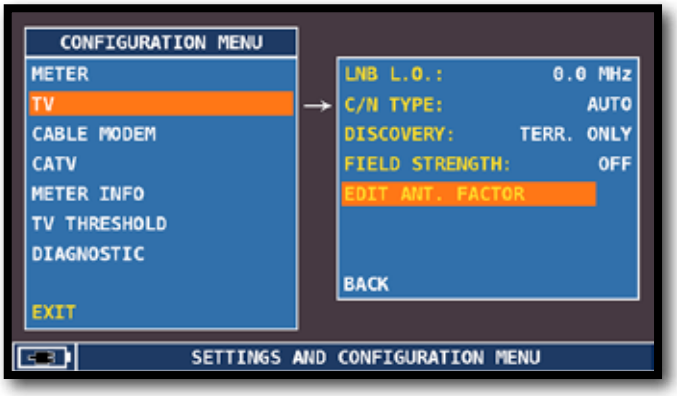
8VSB constellation

Navigate in "ZOOM" and select the constellation square window to enlarge

Press to cycle through
TV measurement screens

FIELD STRENGTH

Touch "CONFIGURATION MENU" from the VOLUME screen

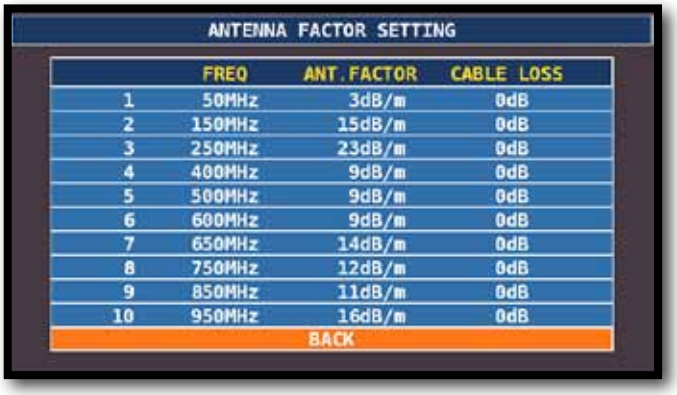


Touch "EDIT ANT FACTOR"

Set the antenna parameters:

- Frequency value (FREQ:)
- Antenna gain (ANT. FACTOR:)
- Cable attenuation (CABLE LOSS:)

EXAMPLE 1:



Complete the insertion of the parameters for the various frequencies.

Touch "Field Strength" and select the antenna model:
"OMNIANT, LOGANT or CUSTOM"

Press the TV key:
The field strength is shown on the right of the "POWER" measurement"

RELATED FUNCTIONS

CATV SPECT

CATV Channel Plan Selection

Barscan

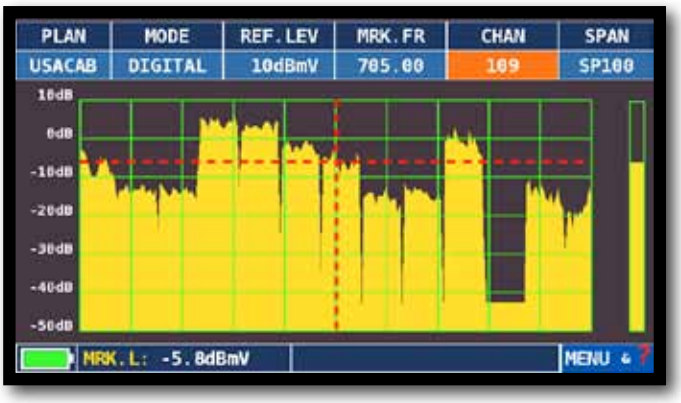
MPEG service list

SPECT SPECTRUM ANALYZER

SWITCH TO SPECT MODE

Or

SPECTRUM ANALYZER SCREENS



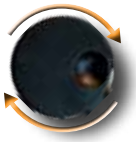
Fast spectrum

Press the spectrum key again to activate the "MAX HOLD" function

Fast spectrum with peak memory "Max HOLD"

Touch "SPAN" to modify the value or directly select the active span value

Or



Rotate to Navigate

Enter to confirm

Press to cycle through spectrum analyzer screens

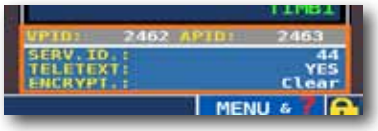
RELATED FUNCTIONS

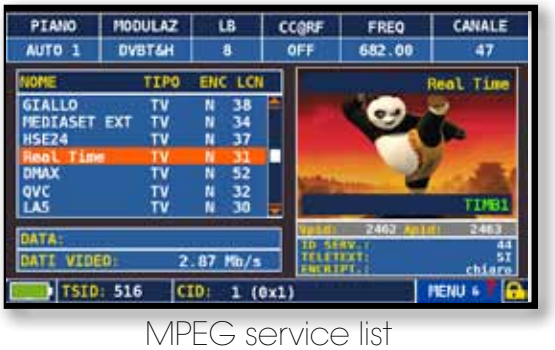
Touch "MENU" to visualize the additional spectrum functions

Finds the tuning parameters of a digital signal

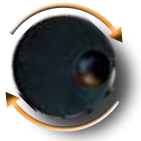
LIST MPEG SERVICE SHOW AND SELECT AVAILABLE MPEG TS SERVICES

Or touch Vpid - Apid in the measurement windows TV-CATV





MPEG service list



Press ENTER & rotate to navigate, or touch the service required

Press ENTER, navigate in Vpid - Apid & press ENTER to return to the measurements, or press the TV/CATV measurement key

BARSCAN LEVEL GRAPH CHECK ALL CHANNELS LEVEL/POWER

In the TV standard canalization the meter displays the level/power of all channels.
In AUTOMEMORY or MANUMEMORY PLAN the meter displays the memorized channels and distinguishes Analog and Digital signals using 2 different colours

Or

Barscan (graphic LEVEL)

ANALOG CHANNELS

DIGITAL CHANNELS

Touch "PILOT 1" and "PILOT 2" to select the two channels to be used for the tilt measurement (level difference)

MENU

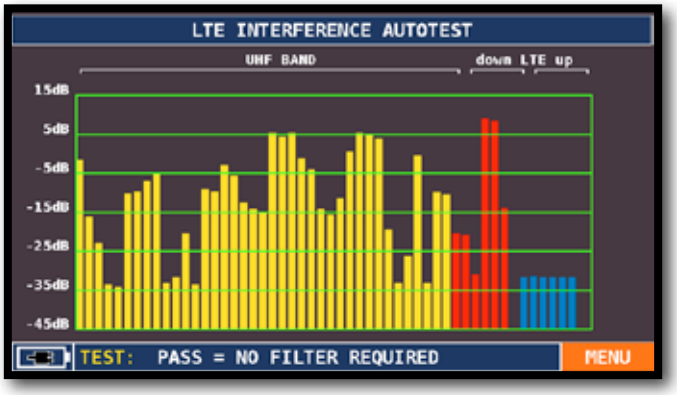
Touch "MENU" to choose the bargraph mode: level or tilt

NOTE: Function available only in TV or CATV mode

LTE INTERFERENCE AUTOTEST

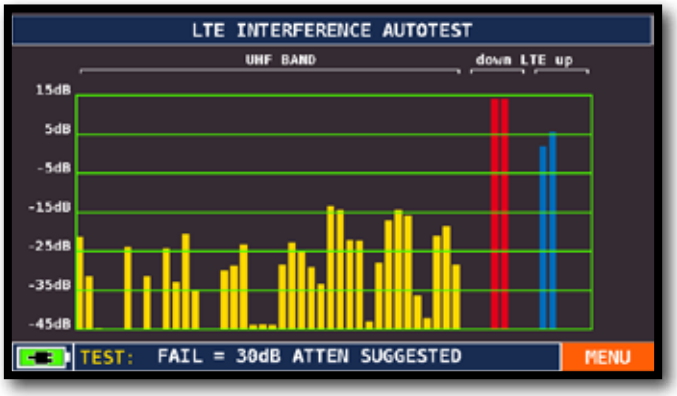
Press the "BARSCAN" key twice to go to the LTE INTERFERENCE AUTOTEST function.
Here you can find some examples:

EXAMPLE 1:



Low LTE interference.
The lower part of the display shows the following information:
PASS = NO filter required

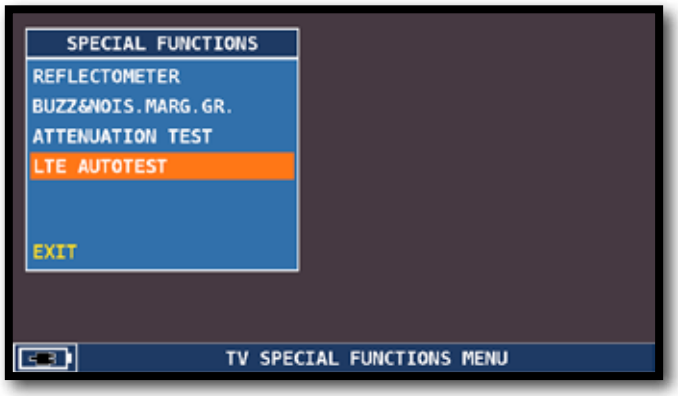
EXAMPLE 2:



High LTE interference.
The lower part of the display shows the following information:
FAIL = 30dB ATTEN SUGGESTED
(The instrument suggests attenuating the interfering LTE signals by 30 dB)

NOTE:
Only when in TV mode, you can reach LTE AUTOTEST directly from the SPECIAL FUNCTIONS.

In TV mode press the HOME key
And touch "SPECIAL FUNCT"



Touch "LTE AUTOTEST"

HELP

The "HELP" function identifies the tuning parameters of a digital TV signal.

HOW TO USE THE "HELP" FUNCTION

Spectrum mode move the "mrk. Fr" to the center of a digital carrier

o r

In measurement mode when the lock icon is open (the signal is not locked)

Touch MENU & and select HELP

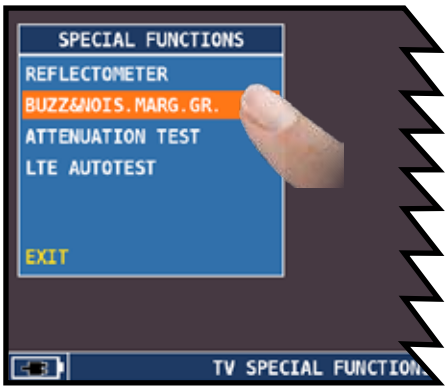
The "HELP" function will try to identify the tuning parameters of the selected digital carrier

At the end of the search (the word "FOUND" will be shown in the 3 boxes) the meter automatically shows the measurement display and the picture of the selected carrier (if available).

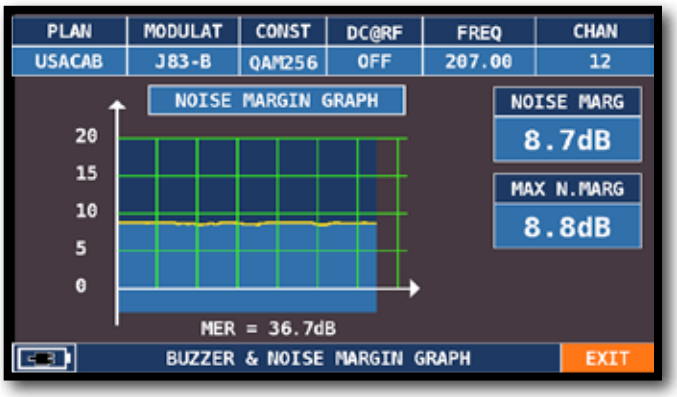
SPECIAL FUNCTIONS

NOTE: the special functions depend on the active operating mode: TV or CATV

TV: BUZZER & NOISE MARGIN GRAPH



Touch BUZZ&NOIS.MARG.GR



Buzzer & Graphic of the progress of the noise NOISE MARGIN of the tuned channel according to time.

high tones = the BEST noise margin level
deep tones = the WORST noise margin level
Noise Marg = real time noise margin
Max n.marg = maximum stored noise margin
MER = MER in real time

NOTE: The function is also available in CATV mode

MEMORY CHANNEL PLANS AND LOG FILES

AUTOMEMORY (TV)

To automatically store all the existing channels in a city or building

Set the desired parameters:

Touch "AUTOMEMORY TV"

Touch "to FILE N" and select the destination file "AUTO" where the search must be saved.

Touch "LEVEL" and set the minimum level threshold of the analog channels searched.

Touch "POWER" and set the minimum power level of the digital channels searched.

Touch "DISCOVERY" and set the channel search mode.

- TERR ONLY (terrestrial only)
- TERR & CABLE (terrestrial & cable)

Touch "START SAVE" to create a new channel plan and to activate the search.

NOTE: If the words "START OVERWRITE" appear, the selected file will be overwritten.
Wait a few mins, the meter indicates the recorded ANALOG & DIGITAL CHannels

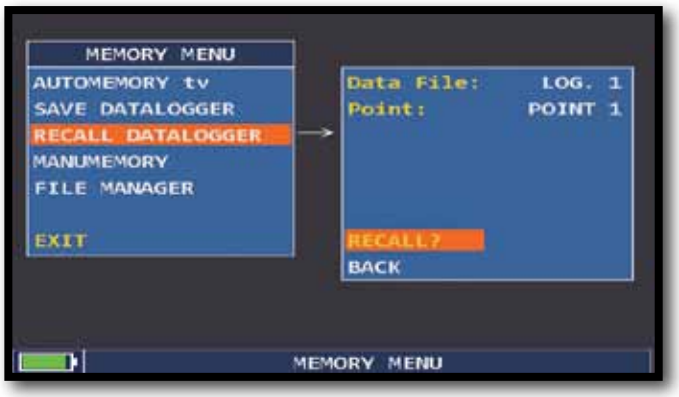
Upon automemory completion the new plan is automatically selected

LOGGER SAVE

Touch "SAVE DATALOGGER" and set the parameters required. Touch "START SAVE" to create a new log file

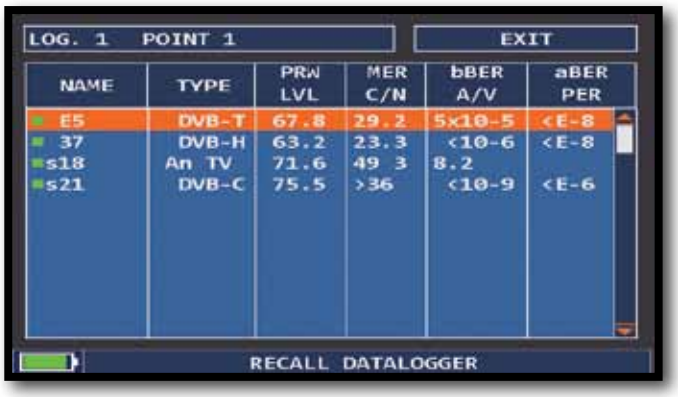
DATA LOGGER run

LOGGER RECALL



Touch "RECALL DATALOGGER" and Set the LOG file parameters. Touch "RECALL?" to see them

EXAMPLE 1:



Browse through measurements saved in the log file

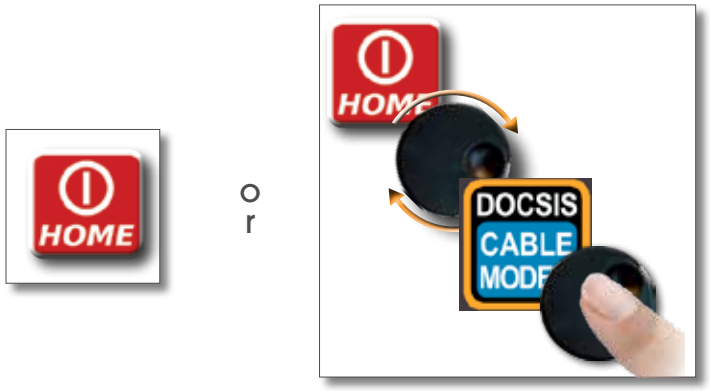
Rotate to navigate

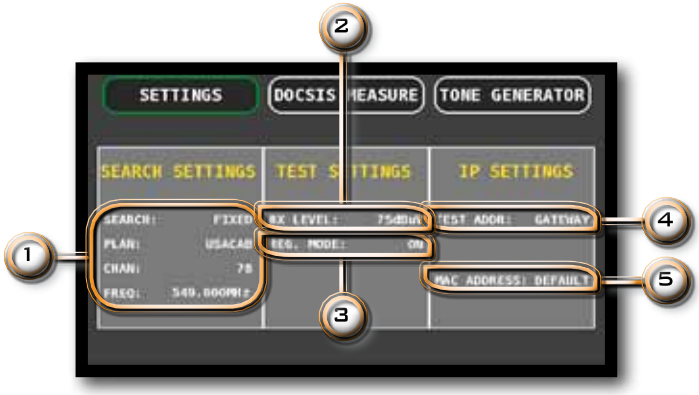
NOTE: *The MENU (written and graphic) may vary from model to model without notice.*

OPTIONS

“APP” DOCSIS CABLE MODEM (opt.)

SWITCH TO DOCSIS MODE





1 RANGING METHOD (SEARCH)

Using the Standard Navigation Mode, select whether the search parameters are Fixed, thus exactly matching the values you will enter into the remaining lines of this menu, or AUTOMATIC: if so, the meter will explore the frequency range in automatic mode.

2 RX LEVEL

Using the Standard Navigation Mode, select RX LEVEL and set the desired CMTS receiving level. Press ENTER to confirm.

3 REGISTRATION MODE

Using the Standard Navigation Mode, select REG. MODE and switch to ON or OFF. Press ENTER to confirm.

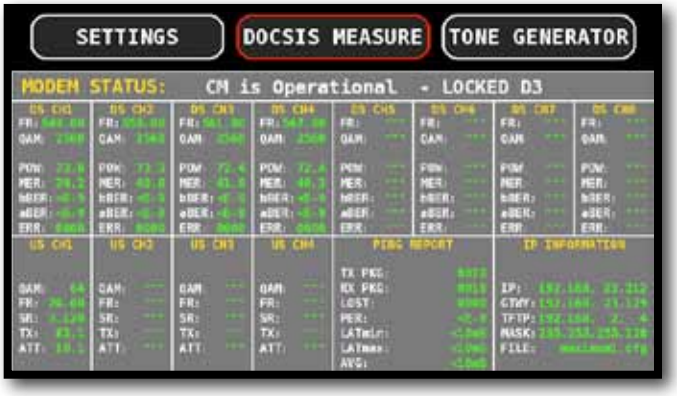
4 TEST ADDR

Navigate to the TEST ADDRESS and select if the pinged address will be the active GATEWAY or a different user defined address (USR DEF.).
In case of User Defined CMTS Address, using standard navigation, select the appropriate IP address, the BTPRO 7000 will ping. Press ENTER to confirm. You can also dial in the IP address using the meter numerical keyboard.

5 MAC ADDRESS

To get connected to the CMTS, set up the MAC Address your meter will use to register into the CMTS. Using the standard navigation mode, highlight the MAC ADDRESS entry and set DEFAULT to register your meter with the MAC address shows on the last display row, or “USR DEF.” to manually enter a specific MAC address. To do so, set Usr Def., press ENTER, move the cursor to the last display row and press ENTER again. Using the standard navigation enter the required MAC address in hexadecimal form (each couple of digit can be set from “00” to “ff”). Press ENTER when done.

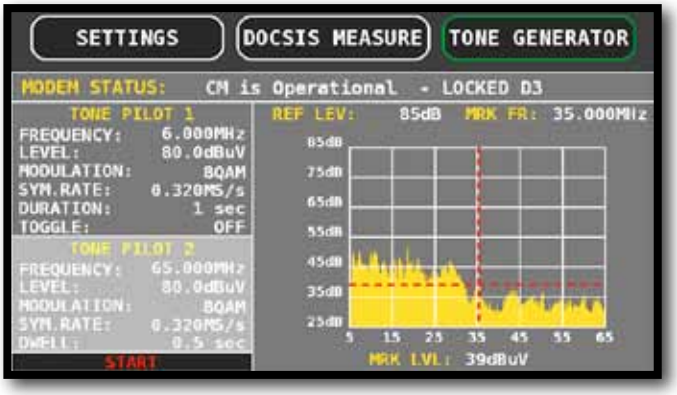
CONNECTION TO THE CMTS



The meter will start scanning the selected channels in order to connect to the CMTS
While performing this process the display will indicate Scanning now at bottom and WAIT or UNLOCKED in the various parameters fields. Once completed the synchronization process, the LCD will display "CM is Registered" and will report a summary of the major information about the active connection:

- DOWN CHANNEL REPORT
- UP CHANNEL REPORT
- PING REPORT (ONLY WITH REGISTRATION MODE ON)

TEST TONE GENERATOR



The meter is capable to send different tones at a well-determined level in order to detect the overall attenuation due to all the network elements (cables, routers, connections, …) between the measurement point and the CMTS.

The TONE pilots setup menu will be displayed and will allow the setting for the TONE pilots:

TONE PILOT 1 - FREQUENCY

Using the Standard Navigation Mode, select FREQUENCY, and set the desired frequency for the master test tone to be upstreamed. Press ENTER to confirm.

TONE PILOT 1 - LEVEL

Using the Standard Navigation Mode, select LEVEL and set the desired level of the master test tone to be upstreamed. Press ENTER to confirm.

TONE PILOT 1 - MODULATION

Using the Standard Navigation Mode, select MODUL and set the desired modulation for the master test tone to be upstreamed. The possible selectable modulations are 8 QAM, 16 QAM, 32 QAM, 64 QAM, QPSK. Press ENTER to confirm.

TONE PILOT 1 – SYMBOL RATE

Using the Standard Navigation Mode, select SYM. RATE and set the desired Symbol Rate for the generated master test tone to be upstreamed. The selectable Symbol Rate values are 16, 32, 64, 128, 512, 256 kS/s, Press ENTER to confirm.

TONE PILOT 1 - DURATION

Using the Standard Navigation Mode, select DURATION and set the desired duration of the upstreamed master test tone. You can set to send the tone for 1, 5, 10, 30 seconds or choose Continuous to send an uninterrupted, continuous master test tone. Press ENTER to confirm.

TONE PILOT 1 - TOGLE

Using standard navigation, select Toggle.
Set to DISABLE to send a single frequency tone, and press ENTER to confirm.
Set to ENABLE. The menu for secondary test tone will be displayed and the duration of the master test tone will be automatically set to Continuous.

TONE PILOT 2 - FREQUENCY

Using the Standard Navigation Mode, select FREQUENCY and set the desired frequency for the secondary test tone. Press ENTER to confirm.

TONE PILOT 2 - LEVEL

Using the Standard Navigation Mode, select LEVEL and set the desired level of the secondary test tone. Press ENTER to confirm.

TONE PILOT 2 - MODULATION

Using the Standard Navigation Mode, select MODUL and set the desired modulation for the secondary test tone to be upstreamed. The possible selectable modulations are 8 QAM, 16 QAM, 32 QAM, 64 QAM, QPSK. Press ENTER to confirm.

TONE PILOT 2 – SYMBOL RATE

Using the Standard Navigation Mode, select SYM. RATE and set the desired Symbol Rate for the generated secondary test tone to be upstreamed. The selectable Symbol Rate values are 16, 32, 64, 128, 512, 256 kS/s, Press ENTER to confirm.

TONE PILOT 2 - DWELLING

Using the Standard Navigation Mode, select Dwell and set the desired dwelling time for the secondary test tone. You can set 0,5, 5, or 10 seconds. Press ENTER to confirm.

TONE GENERATOR

With the Standard Navigation Mode, highlight the START? Item and press the ENTER key to start sending the test tone. While sending the test tone, you can stop the tone by selecting the STOP item and pressing the ENTER key.

"APP" OPTICAL (OPT.)

The meter has an internal optical converter. This measures the POWER and OPTICAL ATTENUATION and carries out RF measurements from the optical input, decode the services and visualize the spectrum.

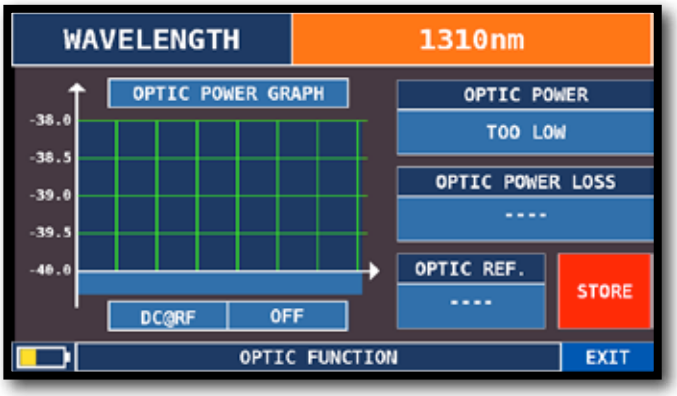
ATTENTION:

- +7 dBm to -40 dBm Optical Power measurement
- +5 dBm to -20 dBm Optical input for RF measurements

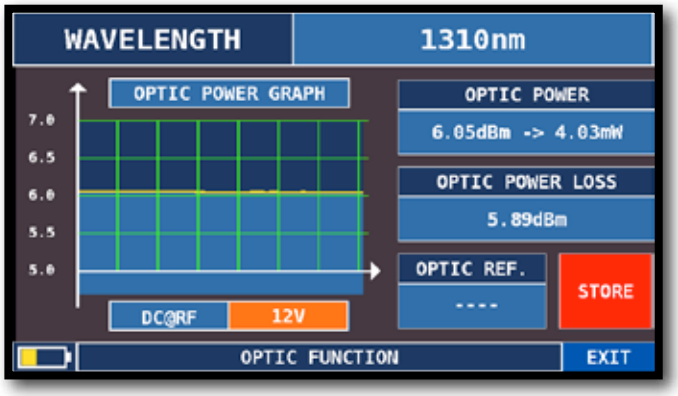
Caution: +10 dBm maximum input. Higher levels will cause damage to the instrument.

POWER AND OPTICAL ATTENUATION MEASUREMENTS

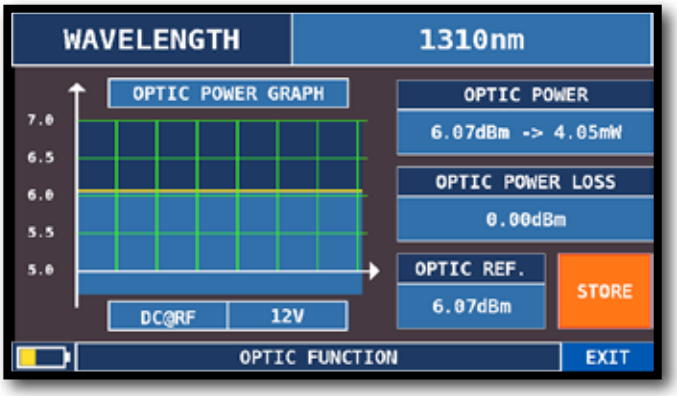
Touch "OPTIC" from the HOME screen



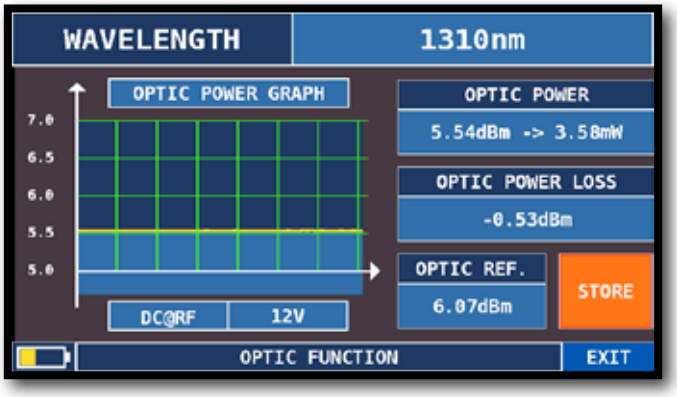
Touch "WAVELENGTH" and select the required wavelength, for example 1310 nm



Touch "DC@RF" and select, if it is required, the power supply voltage: for example 12V.

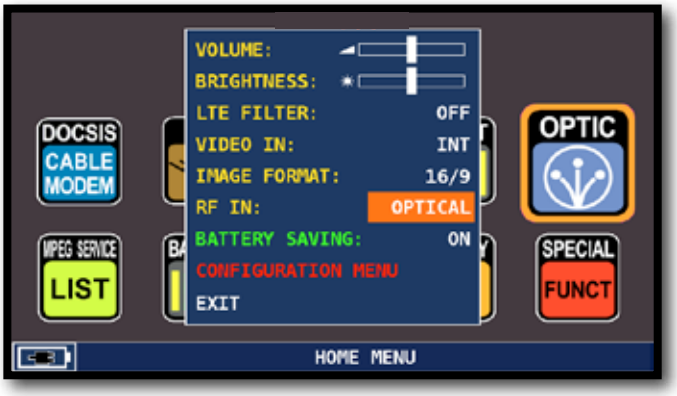


Touch "STORE" and store the measured optical power value (Optic Ref.): for example 6,07 dBm

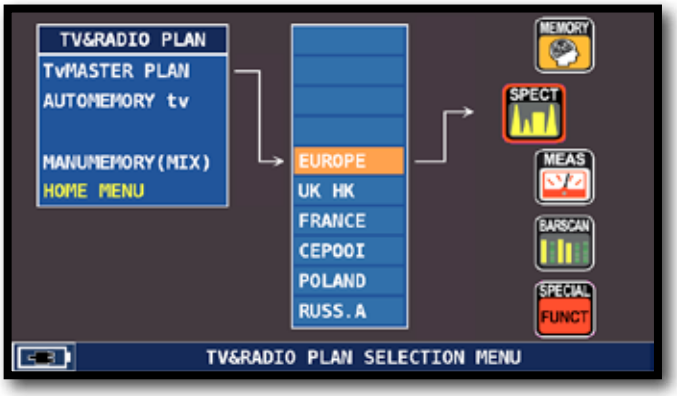


The "OPTIC POWER LOSS" field shows the optical attenuation value compared to the stored value (Optic REF): for example: - 0,53 dBm

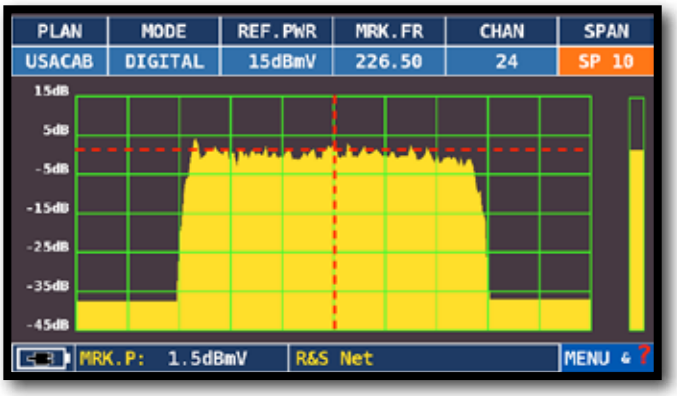
OPTICAL INPUT RF MEASUREMENTS, SPECTRUM & OMI



Touch "RF IN" and select "OPTICAL" from the volume screen



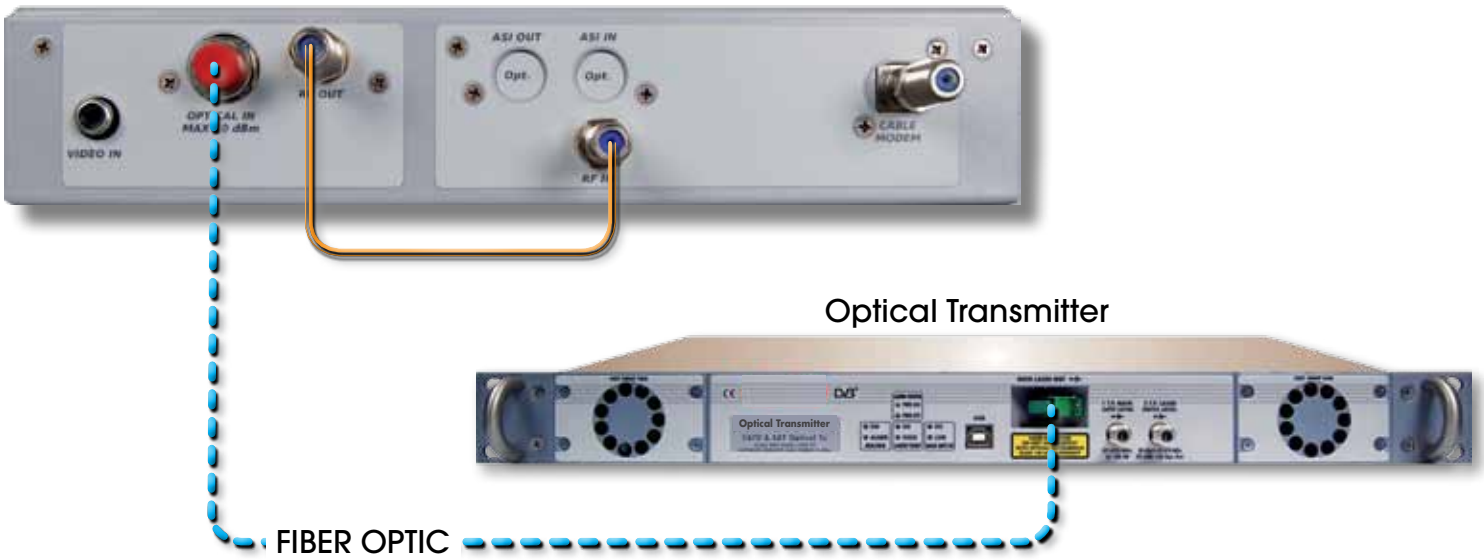
In TV or CATV mode press the "PLAN" key, select the plan required, then "SPECT" to visualize the spectrum



TV spectrum

Press the "TV" key to carry out the RF measurements & OMI

FIBER OPTIC AND REMOTE POWER SUPPLY CABLE CONNECTION

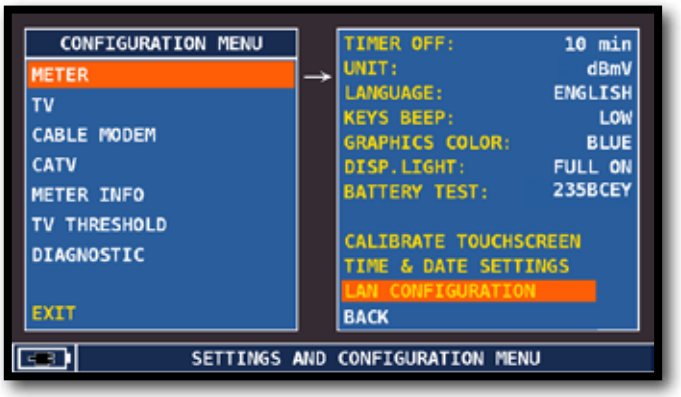


"APP" REMOTE CONTROL

The SW REMOTE CONTROL application allows you to configure and monitor the device and all the measurements remotely via web browser (PC, tablet and smartphone)

EXAMPLE OF "DHCP" CONFIGURATION

Touch "CONFIGURATION MENU" from the volume screen



Touch "METER" and then "LAN CONFIGURATION"

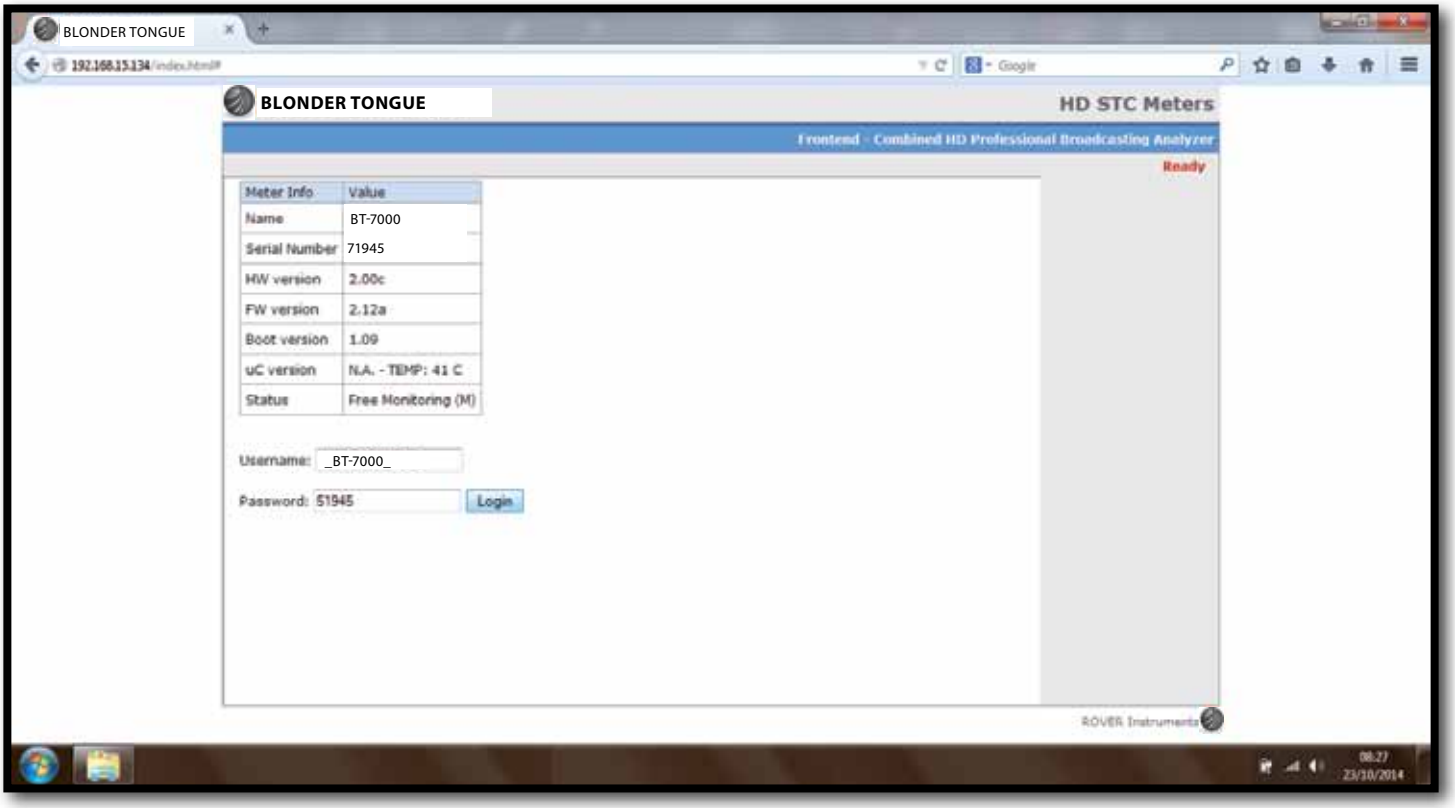
Touch "IP CONFIG" and select "DHCP"

Touch "CHECK"

Assigning IP address to be entered in the web browser occurred

At the end touch "EXIT" to exit

Example of remote connection "DHCP"



1. Open a web browser,
2. Write the IP address assigned, example 192.168.15.134/index.html,
3. Insert in the "USERNAME" field the NAME of the instruments preceded and followed by the symbol_ , example: _BT-7000_,
4. Insert in the "PASSWORD" field the Serial Number of the instrument, example: 71945,
5. Do the "LOGIN".

EXAMPLE OF “STATIC” CONFIGURATION

Touch “CONFIGURATION MENU” from volume screen

Touch “METER” and then “LAN CONFIGURATION”

Touch “IP CONFIG” and select “STATIC”, insert the “IP” parameters, “NMASK” & “GWAY”

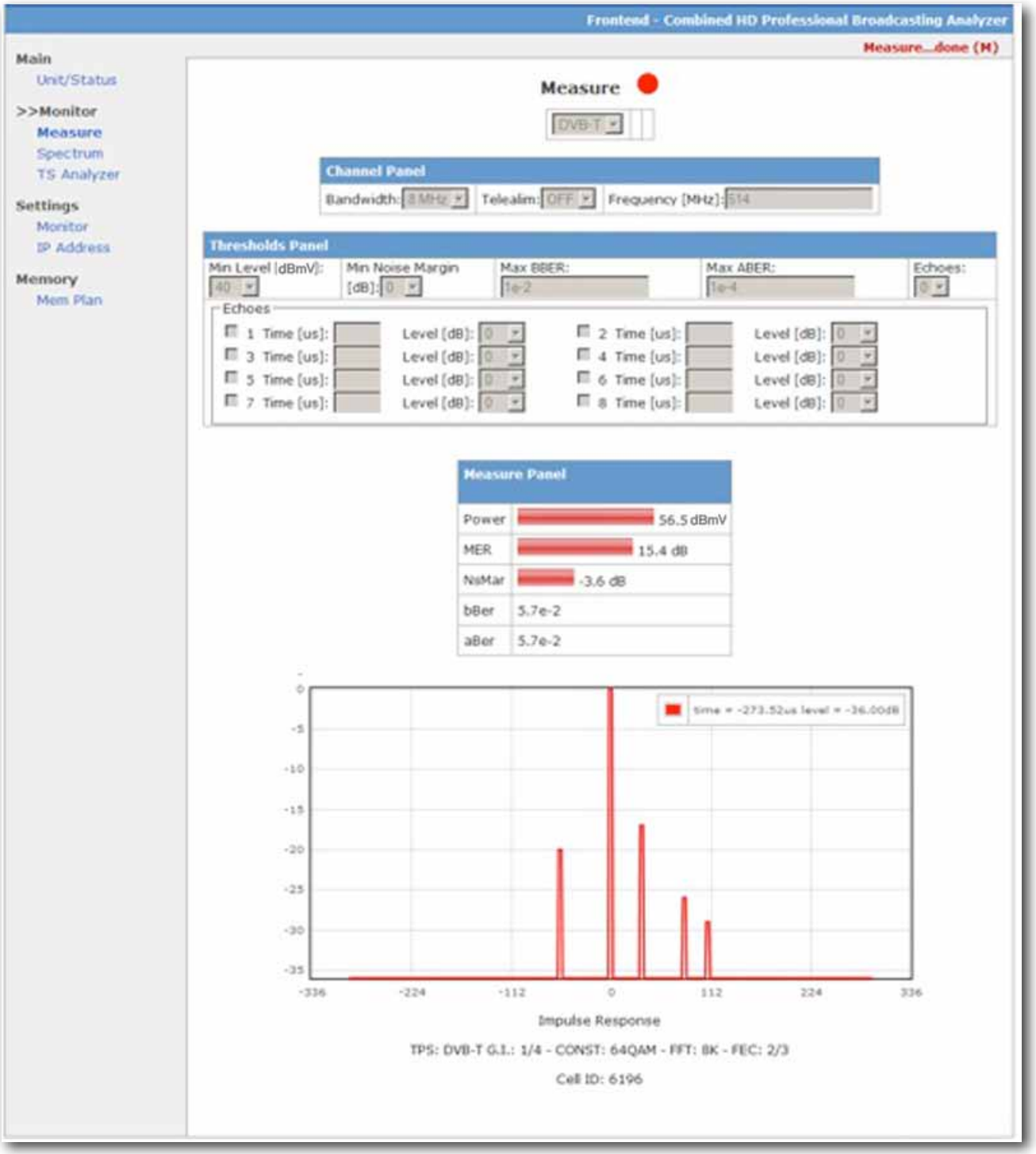
Touch “CHECK”

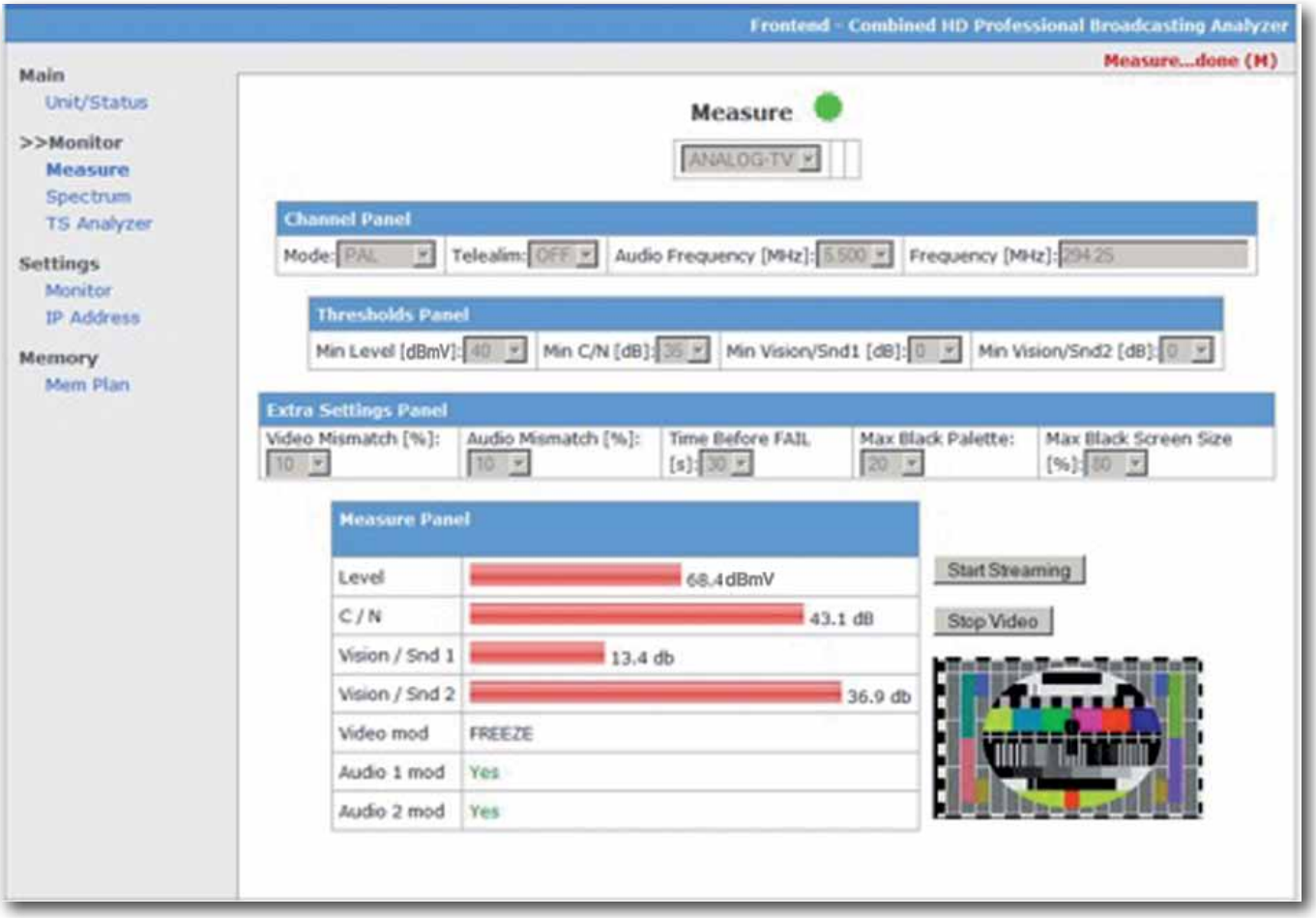
At the end touch “EXIT” for exit

EXAMPLE OF “STATIC” CONFIGURATION

The WEB MONITORING app for BTPRO-7000 Series instruments will allow the user to monitoring by remote control any kind of RF signal.
With a simple WEB browser application, the user can pilot the instruments for monitoring the DVBC, DVBT, RADIO and TV ANALOG modulations.
Here below an example on how to use the WEB BROWSER for monitoring an TV ANALOG signal.

MEASURES EXAMPLES



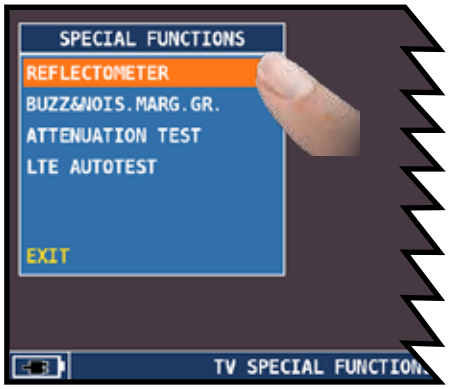

Frontend - Combined HD Professional Broadcasting Analyzer
Measure...done (M)
Main
Unit/Status
>>Monitor
Measure
Spectrum
TS Analyzer
Settings
Monitor
IP Address
Memory
Mem Plan
Measure
ANALOG-TV
Channel Panel
Mode: PAL
Telealim: OFF
Audio Frequency [MHz]: 5.500
Frequency [MHz]: 294.25
Thresholds Panel
Min Level [dBmV]: 40
Min C/N [dB]: 35
Min Vision/Snd1 [dB]: 0
Min Vision/Snd2 [dB]: 0
Extra Settings Panel
Video Mismatch [%]: 10
Audio Mismatch [%]: 10
Time Before FAIL [s]: 30
Max Black Palette: 20
Max Black Screen Size [%]: 80
Measure Panel
Level 68.4 dBmV
C / N 43.1 dB
Vision / Snd 1 13.4 db
Vision / Snd 2 36.9 db
Video mod FREEZE
Audio 1 mod Yes
Audio 2 mod Yes
Start Streaming
Stop Video


Frontend - Combined HD Professional Broadcasting Analyzer
Spectrum...done (M)
Main
Unit/Status
>>Monitor
Measure
Spectrum
TS Analyzer
Settings
Monitor
IP Address
Memory
Mem Plan
Spectrum
ANALOG-TV
Channel Panel
Mode: PAL
Telealim: OFF
Audio Frequency [MHz]: 5.500
Frequency [MHz]: 294.25
70
60
50
40
30
20
270
275
280
285
290
295
300
305
310
315
frequency = MHz level = dBmV
Live spectrum
Spectrum Panel
Span [MHz]: 50
Ref Level [dBmV]: AUTO
Central Frequency [MHz]: 294.25
Apply

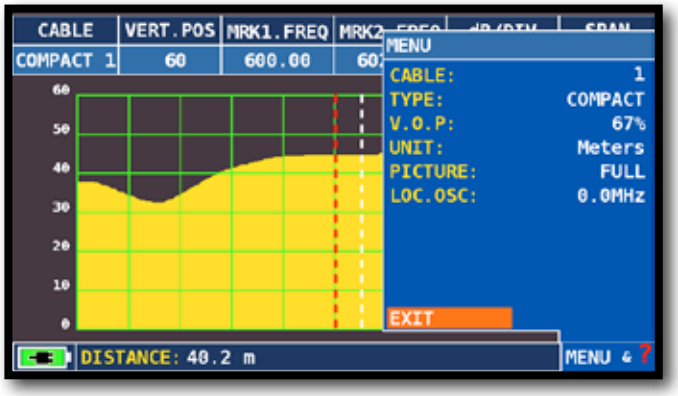
TV: "APP" REFLECTOMETER (OPT.)

The application "HD COAX CABLE REFLECTOMETER" allows you to check the correct impedance matching of a 75Ω distribution installation.

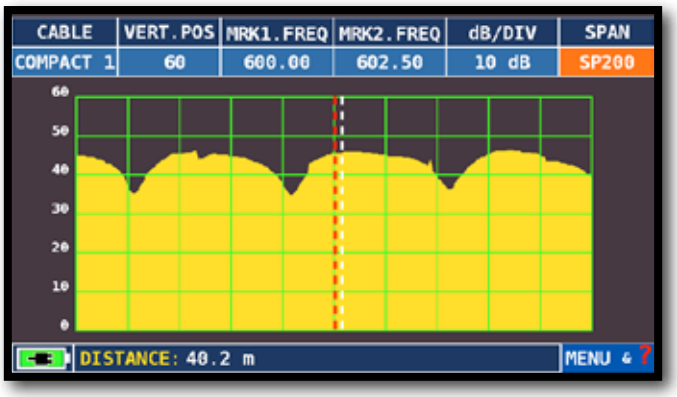
Using a ROVER instrument, combined with a calibrated noise generator (for example the ROVER CNG 90 STC), if in a distribution installation there was an impedance mismatch, such as a cable short-circuit, a cable cut or a not properly terminated cable to a 75 ohm dummy load, it will create a standing wave pattern that can be seen on the spectrum of the instrument as shown in the figures below.



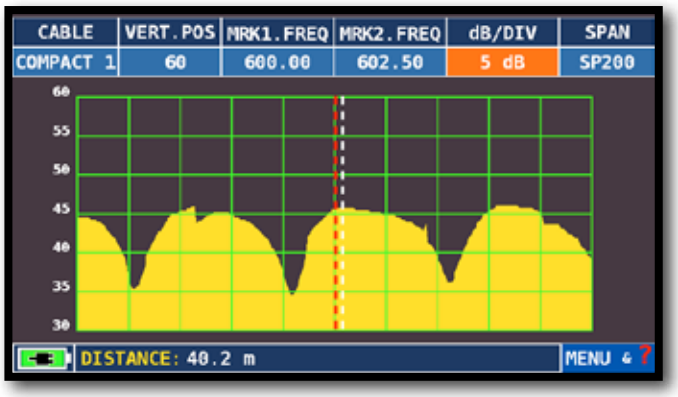
Touch "REFLECTOMETER"



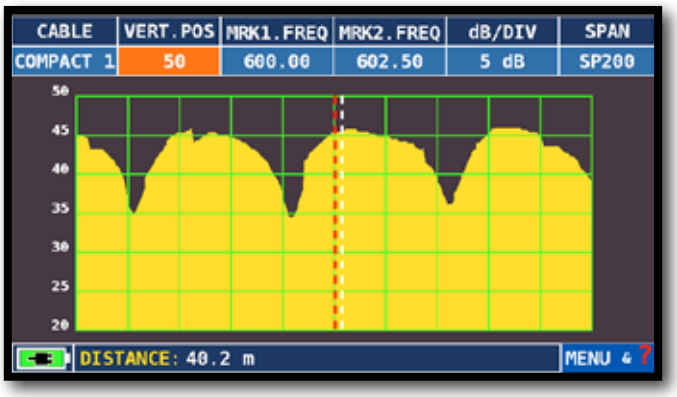
Touch "MENU" and set the features of the coaxial cable you need to analyze (see next page)



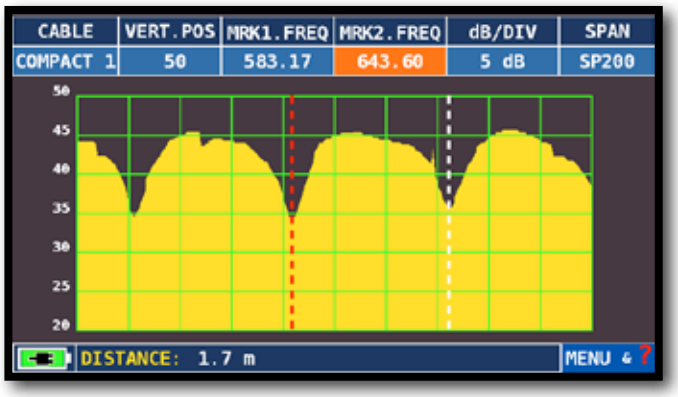
Touch "SPAN" and select the correct visualization value



Touch "dB DIV" and select the correct visualization value

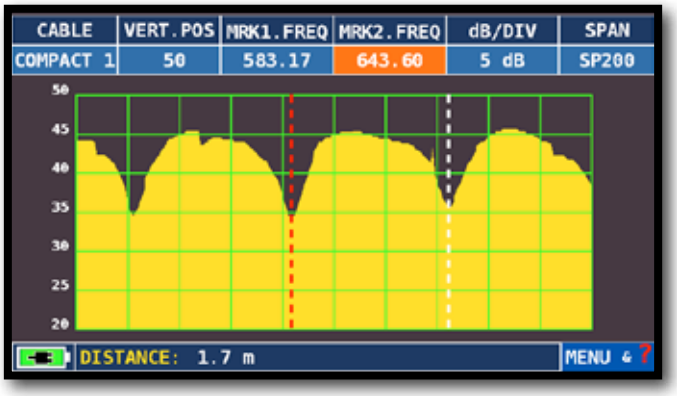


Touch "VERT.POS" and select the correct visualization value



Touch "MRK1.freq" then "MRK2.freq" and set the marker frequencies in correspondence with the first and second minimum points

EXAMPLE 1:



In the DISTANCE window, read the cable's mismatching value: example 1.7 m

CONFIGURATION OF COAXIAL CABLES

Cable: from 1 to 5.

- Default coaxial cable configurations (adjustable).

TYPE: Type of cable to be tested.

- AIRSPACE: coaxial cable with dielectric in the air.
- COMPACT: coaxial cable with compact dielectric.
- FOAM: coaxial cable with foam dialectric.

V.O.P.: Propagation speed.

- Set the value provided by the cable manufacturer.

UNIT: Measurement unit.

- Set the value in meters or feet.

PICTURE: Spectrum graphics.

- Set the spectrum graphics mode to FULL or CONTOURS.

LOC.OSC.: LOCAL TV OSCILLATOR.

- Leave the value set by the manufacturer: 0 MHz.

CONNECTION DIAGRAMS

Mod. ROVER OMNIA 7000

Mod. BTPRO 7000

LI-ION POLIMER BATTERIES

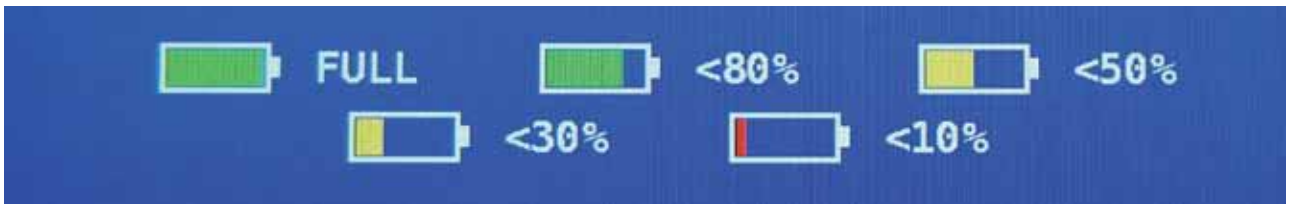
IMPORTANT:

- ALWAYS TURN THE INSTRUMENT OFF BEFORE CONNECTING THE BATTERY CHARGER;
- DO NOT LEAVE THE BATTERIES DISCHARGED FOR LONG PERIODS;
- ALWAYS CHARGE THE BATTERIES AT NIGHT FOR AT LEAST 7 HOURS, EVEN IF THEY ARE NOT COMPLETELY DISCHARGED.

USEFUL INFORMATION:

1. The batteries supplied are high quality and tested individually, the autonomy depending on the following conditions:
   - the LNB power consumption: Single, Dual or Quadruple;
   - the external temperature: with temperatures of less than 10°C, 20% of the capacity is lost;
   - the age of the batteries: a 10% loss in efficiency each year;
   - Remember that the TIMER OFF function, that automatically turns off the Meter after 5 o 10 minutes of inactivity saves up to 30%.
2. The battery indicator has a tolerance (like all battery powered electronic devices) according to the following factors:
   - the battery's charging percentage;
   - external temperatures;
   - battery wear and tear;
   - +/– 2%.

ICONS SHOWING THE BATTERY CHARGE STATUS:



BATTERY AUTONOMY:

The battery autonomy is up to 4 hours maximum.

WARNINGS

RECHARGEABLE BATTERY

This device contains a built-in Li-PO (Lithium polimer) battery that can be recharged many times.

The battery contains chemicals that might wear with time even if not used. Please dispose of batteries properly.

Do not take the battery pack apart or expose it to extreme temperatures (over 50°C). If the device has been exposed to very low or high temperatures let it rest at room temperature before use.

RECHARGING THE BATTERY

The Battery must be recharged at room temperature (about 20°C) with the device turned off.

To avoid premature failure of the battery never leave the device with an empty battery for prolonged periods.

BATTERY TEST & BATTERY REGENERATION

THIS PROCEDURE EXPLAINS HOW TO REGENERATE/CHECK YOUR BATTERIES AND CALIBRATE THE BATTERY CHARGE INDICATOR

USEFUL ADVICE:

- Charge the batteries every night after use, even if they are not completely discharged;
- Always use the "battery save" & "timer off" functions to increase your meter's autonomy;
- The maximum capacity of the batteries and battery charge indicator's accuracy improves by up to 20% if you carry out many battery test cycles;
- Do not replace the batteries: first carry out 3 to 5 battery test cycles until you recover the maximum capacity of the batteries.

"BATTERY TEST" INSTRUCTIONS & PROCEDURE:

1. Before carrying out the test connect the meter to the original battery charger:
   - Turn on the meter;
   - Press the volume key and select "configuration menu" (fig. 1);
   - Select the word "meter" and press "ENTER" (fig. 2) & press "ENTER" to confirm;
   - Select "battery test" and select "on" (fig. 2);
   - Press "enter" to confirm;
   - Carefully read the various screens, pressing "enter" in succession;
   - In the last instructions window, select "start" and press "enter" to start the test.

WARNING: the procedure will be cancelled if you select "exit" on any screen.

FIG. 1*

FIG. 2*

FIG. 3*

IMPORTANT ADVICE:

- Do not connect any type of load to the "F" input connector (lnb, tv head-end, amplifiers, etc.).
- Extract the conditional access module (cam), if it is present in your meter.

2. The battery test takes approx. 12/18 Hours according to the model (charging/discharging/recharging activities and measurement of the battery autonomy), during this time the meter must not be used. At the end of the test the meter will turn off automatically. In order to make sure that the test has been carried out correctly, all the meter's commands are blocked except for the reset function, which remains active so that the meter can be turned off if necessary.
3. the batteries will be completely charged at the end of the test.
4. To check the battery test results, enter once again into "meter" in the "configuration menu" and read the results (Fig. 3):
   - for example 265BFEY (fig.3) = 265 minutes.
   The "Y" of YES confirms that the battery is still good enough, whereas an "N" for NO indicates that it could be faulty, too deteriorated or that the cycle was interrupted.

IMPORTANT NOTES:

If the test is interrupted using "reset", the battery charge indicator may provide incorrect indications, therefore repeat the battery test procedure.

** The displays shown in this guide may change according to the model and are subject to change without notice. If you connect your meter, using the s.M.A.R.T. Pro program, from the usb port to the pc, you can download the screens shown above.*

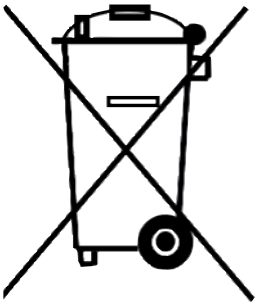
POWER SUPPLY (MAINS) AND BATTERY CHARGE (CHRG) LED STATUS

INSTRUMENT	CONNECTED TO THE MAINS POWER SUPPLY	LED MAINS	LED BATT CHRG	NOTES
OFF	NO	OFF	OFF	Batteries sufficiently charged
ON	NO	OFF	OFF	Battery operation
OFF	NO	OFF	Flashing 2 SECONDS OFF 0.5 SECONDS ON	The meter does not turn on. Recharge the batteries.
OFF	YES	ON	Flashing 0.5 SECONDS OFF 0.5 SECONDS ON	Abnormal battery temperature. The recharge cycle has been suspended temporarily and will automatically reset.
OFF	YES	ON	ON	Batteries in fast charge
OFF	YES	ON	OFF	Battery charge completed
OFF	**WITH A POWER SUPPLY NOT FROM BLONDER TONGUE**	Flashing 0.5 SECONDS OFF 0.5 SECONDS ON	OFF	**The meter does not turn on. Check the mains power adapter**
turning ON	NO or YES	FLASHES 15 TIMES	OFF	The meter is being turned on
ON	NO or YES	FLASHING SIMULTANEOUSLY 0.5 SECONDS OFF - 0.5 SECONDS ON		The meter detects an error and turns off automatically.
ON	YES	FLASHING ALTERNATIVELY 1 SECOND OFF - 1 SECOND ON		BATTERY TEST being carried out. The meter charges and discharges the batteries AUTOMATICALLY

DISPOSAL OF ELECTRONIC EQUIPMENT

Disposal of electric/electronic equipment (applicable in all CEE countries and whereever separate waste collection system is applied).

This symbol on the packaging indicates that the product should not be considered as domestic waste. The product, at the moment of disposal, should be brought to a waste collection point with the proper facilities to manage electrical/electronic appliances.



Electric/electronical appliances, if not disposed of correctly, may have negative consequences on your health and enivironment.
Furthermore, a proper recycling procedure helps mantaining natural resources.
For more information about the correct disposal of this product, please refer to your local waste management offices or the shop where this product was bought.

METER MAINTENANCE

CLEANING THE METER

Cleaning the meter from dust and dirt is easy and helps mantaining it in optimal work conditions through the years. The cleaning procedure is simple and quick and requires only minor attention.

Never use chemical aggressive products (diluent) and/or abrasive or rough clothes which may damage plastics and displays.

Always use a soft cloth, damped with a simple water and alcohol solution or a de-greasing not abrasive liquid soap.

Keyboard and display should be gently cleaned. Rubbing the keyboard and/or the display(s) may seriously damage their functions.

MAINTENANCE AND CARE OF THE METER

This meter has been designed to withstand severe conditions of use. Even so, its life may be prolonged by respecting some simple and effective rules:

- The meter has not been designed to withstand high temperatures (over 60°C or 140° F). Those temperatures can be easily reached when the meter is left in a car, especially behind the windshield, or in the trunk. The LCD display and/or other details may easily be damaged by the extreme temperature.
- The internal battery may rapidly loose its efficiency if exposed to high or low temperatures. This will result in reduced autonomy of the meter when powered by internal battery.
- When recharging the internal battery, do allow a good air circulation around the meter and the adapter: do not cover it with clothes and do not recharge the battery when the meter is contained in its transport case
- The meter is not waterproof, even if it is protected against incidental water drops. In case of contact with water, electronic circuits may be damaged, allow the meter to dry thoroughly before trying to turn it on. Do not use hairdryer or other strong heating sources, but just leave the meter in quiet air.
- If possible, contact Blonder Tongue Technical Services for assistance.

SUGGESTED VALUES

This table shows the suggested measurements at a user's socket for the main digital modulations.

SUGGESTED VALUE TO: SUBSCRIBER SOCKET, KUNDEN ANTENNEN DOSE, PRESA UTENTE, PRISE DE L'ABONNE', TOMA FINAL DE USARIO, АБОНЕНТСКИЙ РАЗЪЕМ

DVB-S QPSK		
PARAM.	MIN	TYP.
AVG PWR	40 dBµV	50 dBµV
NOISE MARG.	3 dB	6 dB
aBER post Viterbi	2x10 −6	2x10 −8
MER QPSK 2/3 FEC	9 dB	12 dB
MER QPSK 3/4 FEC	10 dB	13 dB
MER QPSK 5/6 FEC	11 dB	14 dB

DVB-S2 8PSK		
PARAM.	MIN	TYP.
AVG PWR	40 dBµV	50 dBµV
NOISE MARG.	3 dB	6 dB
PER 8PSK	<1x10 −7	<1x10 −8
MER 8PSK 2/3 FEC	11 dB	14 dB
MER 8PSK 3/4 FEC	12 dB	15 dB
MER 8PSK 5/6 FEC	13 dB	16 dB

DVB-T-H & GB COFDM		
PARAM.	MIN	TYP.
AVG PWR	40 dBµV	50 dBµV
NOISE MARG.	6 dB	9 dB
aBER post Viterbi	2x10 −6	2x10 −8
MER 64 QAM 2/3 FEC	25 dB	28 dB
MER 16 QAM 2/3 FEC	20 dB	23 dB
MER QPSK 2/3 FEC	14 dB	17 dB

DVB-T2 & GB COFDM		
PARAM.	MIN	TYP.
AVG PWR	40 dBµV	50 dBµV
NOISE MARG.	6 dB	9 dB
PER	1x10 −7	1x10 −8
MER 256 QAM 2/3 FEC	25 dB	28 dB
MER 256 QAM 3/4 FEC	26,5 dB	29,5 dB
MER 256 QAM 5/6 FEC	28,5 dB	31,5 dB

ATSC (USA) 8VSB		
PARAM.	MIN	TYP.
AVG PWR	-15 dBmV	-5 dBmV
NOISE MARG.	2 dB	9 dB
bBER pre Trellis	1x10 −3	<1x10 −6
bBER post Trellis	3x10 −6	<1x10 −8
aBER pre R.S.	3x10 −6	<1x10 −8
MER	16 dB	23 dB

ACCESSORIES SUPPLIED

- Soft BAG
- Removeable side pocket for tools and accessories
- Shoulder strap
- Safety antenna mast attachment Strap
- USB 2.0 cable for PC connection
- Battery charger power supply
- Vehicle battery charger adapter
- User guide
- F Female - F Female connector
- BNC Female - F Female connector
- IEC Female - F Female connector
- QUICK F Male - F Female connector
- Touchscreen pen
- Belt fastening tool

LIMITED WARRANTY

Seller will at its sole option, either repair or replace (with a new or factory reconditioned product, as Seller may determine) any product manufactured or sold (or in the case of software, licensed) by Seller which is defective in materials or workmanship or fails to meet the applicable specifications that are in effect on the date of shipment or such other specifications as may have been expressly agreed upon in writing: (i) for a period of three (3) years from the date of original purchase for all stock hardware products (other than those specifically referenced herein below having a shorter warranty period); (ii) for a period of one (1) year from the date of original purchase, with respect to all MegaPort™, IPTV products, test equipment and fiber optics receivers, transmitters, couplers and integrated receiver/distribution amplifiers; (iii) for a period of one (1) year from the date of original purchase (or such shorter period of time as may be set forth in the license agreement specific to the particular software being licensed from Seller) with respect to all software products licensed from Seller (other than Core Product Software) that is (a) developed for a specific function or application, (b) complimentary to and does not function without the Core Product Software, and (c) listed with a specific model number and stock number in Seller's Price List ("Non-Core Software"); (iv) for a period of ninety (90) days from the date of original purchase, with respect to non-serialized products and accessories, such as parts, sub-assemblies, splitters and all other products sold by Seller (other than Core Product Software and Refurbished/Closeout Products) not otherwise referred to in clauses (i) through (iii) above. The warranty period for computer programs in machine-readable form included in a hardware product, which are essential for the functionality thereof as specifically stated in the published product specifications ("Core Product Software") will be coincident with the warranty period of the applicable hardware product within which such Core Product Software is installed.

Software patches, bug fixes, updates or workarounds do not extend the original warranty period of any Core Product Software or Non-Core Software.

Notwithstanding anything herein to the contrary,

(i) Seller's sole obligation for software that when properly installed and used does not substantially conform to the published specifications in effect when the software is first shipped by Seller, is to use commercially reasonable efforts to correct any reproducible material non-conformity (as determined by Seller in its sole discretion) by providing the customer with: (a) telephone or e-mail access to report non-conformance so that Seller can verify reproducibility, (b) a software patch or bug fix, if available or a workaround to bypass the issue if available, and (c) where applicable, replacement or damaged or defective external media, such as CD-ROM disk, on which the software was originally delivered;

(ii) Seller does not warrant that the use of any software will be uninterrupted, error-free, free of security vulnerabilities or that the software will meet the customer's particular requirements; and the customer's sole and exclusive remedy for breach of this warranty is, at Seller's option, to receive (a) suitably modified software, or part thereof, or (b) comparable replacement software or part thereof;

(iii) Seller retains all right, title and interest in and to and ownership of all software (including all Core Product Software and Non-Core Software) including any and all enhancements, modifications and updates to the same; and

(iv) in some cases, the warranty on certain proprietary sub-assembly modules manufactured by third-party vendors and contained in Seller's products, third party software installed in certain of Seller's products, and on certain private–label products manufactured by third-parties for resale by Seller, will be of shorter duration or otherwise more limited than the standard Seller limited warranty.

In such cases, Seller's warranty with respect to such third-party proprietary sub-assembly modules, third-party software and private-label products will be limited to the duration and other terms of such third-party vendor's warranty, if any. In addition, certain products, that are not manufactured by Seller, but are resold by Seller, may carry the original OEM warranty for such products, if any.

The limited warranty set forth above does not apply to any product sold by Seller, which at the time of sale constituted a Refurbished/Closeout Product, the limited warranty for which is provided in the following paragraph.

Seller will at its sole option, either repair or replace (with a new or factory-reconditioned product, as Seller may determine) any product sold by Seller which at the time of sale constituted a refurbished or closeout item ("Refurbished/Closeout Product"), which is defective in materials or workmanship or fails to meet the applicable specifications that are in effect on the date of shipment of that product or fails to meet such other specifications as may have been expressly agreed upon in writing between the parties, for a period of ninety (90) days from the date of original purchase.

Notwithstanding the foregoing, in some cases the warranty on certain proprietary sub-assembly modules manufactured by third-party vendors and contained in Seller products, third party software installed in certain of Seller's products, and on certain private–label products manufactured by third-parties for resale by Seller will be of shorter duration or otherwise more limited than Seller limited warranty for Refurbished/Closeout Products.

In such cases, Seller's warranty for Refurbished/Closeout Products constituting such third party proprietary sub-assembly modules, third party software, and private-label products will be limited to the duration and other terms of such third-party vendor's warranty, if any. In addition, notwithstanding the foregoing, (i) certain Refurbished/Closeout Products that are not manufactured (but are resold) by Seller, may carry the original OEM warranty for such products, if any, which may be longer or shorter than Seller's limited warranty for Refurbished/Closeout Products. All sales of Refurbished/Closeout Products are final.

To obtain service under this warranty, the defective product, together with a copy of the sales receipt, serial number if applicable, or other satisfactory proof of purchase and a brief description of the defect, must be shipped freight prepaid to Seller at the following address: One Jake Brown Road, Old Bridge, New Jersey 08857.

This warranty does not cover failure of performance or damage resulting from (i) use or installation other than in strict accordance with manufacturer's written instructions, (ii) disassembly or repair by someone other than the manufacturer or a manufacturer-authorized repair center, (iii) misuse, misapplication or abuse, (iv) alteration, (v) exposure to unusual physical or electrical stress, abuse or accident or forces or exposure beyond normal use within specified operational or environmental parameters set forth in applicable product specifications, (vi) lack of reasonable care or (vii) wind, ice, snow, rain, lightning, or any other weather conditions or acts of God.

OTHER THAN THE WARRANTIES SET FORTH ABOVE, SELLER MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND, EXPRESS OR IMPLIED, AS TO THE CONDITION, DESCRIPTION, FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY, OR AS TO ANY OTHER MATTER, AND SUCH WARRANTIES SET FORTH ABOVE SUPERSEDE ANY ORAL OR WRITTEN WARRANTIES OR REPRESENTATIONS MADE OR IMPLIED BY SELLER OR BY ANY OF SELLER'S EMPLOYEES OR REPRESENTATIVES, OR IN ANY OF SELLER'S BROCHURES MANUALS, CATALOGS, LITERATURE OR OTHER MATERIALS. IN ALL CASES, BUYER'S SOLE AND EXCLUSIVE REMEDY AND SELLER'S SOLE OBLIGATION FOR ANY BREACH OF THE WARRANTIES CONTAINED HEREIN SHALL BE LIMITED TO THE REPAIR OR REPLACEMENT OF THE DEFECTIVE PRODUCT F.O.B. SHIPPING POINT, AS SELLER IN ITS SOLE DISCRETION SHALL DETERMINE.

SELLER SHALL IN NO EVENT AND UNDER NO CIRCUMSTANCES BE LIABLE OR RESPONSIBLE FOR ANY CONSEQUENTIAL, INDIRECT, INCIDENTAL, PUNITIVE, DIRECT OR SPECIAL DAMAGES BASED UPON BREACH OF WARRANTY, BREACH OF CONTRACT, NEGLIGENCE, STRICT TORT LIABILITY OR OTHERWISE OR ANY OTHER LEGAL THEORY, ARISING DIRECTLY OR INDIRECTLY FROM THE SALE, USE, INSTALLATION OR FAILURE OF ANY PRODUCT ACQUIRED BY BUYER FROM SELLER.

All claims for shortages, defects, and non-conforming goods must be made by the customer in writing within five (5) days of receipt of merchandise, which writing shall state with particularity all material facts concerning the claim then known to the customer.

Upon any such claim, the customer shall hold the goods complained of intact and duly protected, for a period of up to sixty (60) days. Upon the request of Seller, the customer shall ship such allegedly non-conforming or defective goods, freight prepaid to Seller for examination by Seller's inspection department and verification of the defect. Seller, at its option, will either repair, replace or issue a credit for products determined to be defective.

Seller's liability and responsibility for defective products is specifically limited to the defective item or to credit towards the original billing.

All such replacements by Seller shall be made free of charge f.o.b. the delivery point called for in the original order.

Products for which replacement has been made under the provisions of this clause shall become the property of Seller.

Under no circumstances are products to be returned to Seller without Seller's prior written authorization. Seller reserves the right to scrap any unauthorized returns on a no-credit basis.

Any actions for breach of a contract of sale between Seller and a customer must be commenced by the customer within thirteen (13) months after the cause of action has accrued.

A copy of Seller's standard terms and conditions of sale, including the limited warranty, is available from Seller upon request.

Copies of the limited warranties covering third-party proprietary sub-assembly modules and private-label products manufactured by third-parties may also be available from Seller on request. (Rev 0713) .

NOTES

www.blondertongue.com

UG-BTPRO7000-EVO-EN-V1,2

Designed in Europe, Assembled in Europe
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