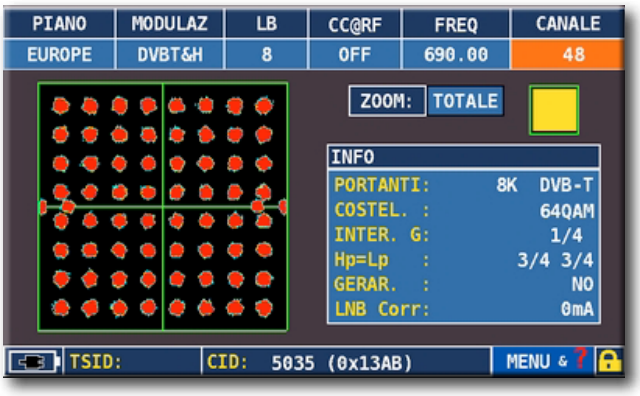
How to measure the presence of residual AC current in the HEAD-END, in a antenna digital TV System

Through an in-depth analysis of the CONSTELLATION, you can analyze in a digital TV antenna system the presence of strong AC residues caused by the deterioration of the power supplies, Head-End or CATV line amplifiers in a System.

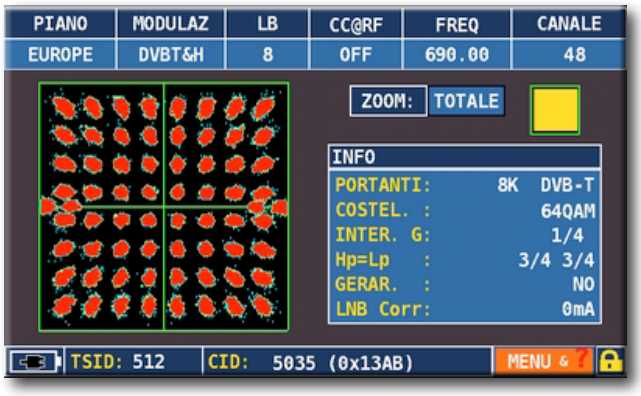
It 'important to know that some TV models are very sensitive to residual AC, while in other models do not cause any defect.

Therefore, you may find yourself in a position that the ROVER instrument is working properly, and only some TVs connected to the same antenna System show image blocks.



OK

Figure 1: Example DVB-T signal constellation (64QAM) detected after 60 seconds of measurement (no presence of residual AC). Note that the halos are all perfectly circular.



NOT OK

Figure 2: Example with DVB-T signal constellation (64QAM) detected after 60 seconds of measurement. Note that because of the high presence of residual AC, the constellation explodes from the center to outwards, the halos of the constellation become elliptical rather than circular.

Below we listed the MEASURE procedures (valid for new ROVER instruments HD Series).

1) Connect the antenna signal and tune a digital terrestrial signal of good quality (with a high MER value greater than or equal to 30 dB) for a sharper graphical representation;
2) Press the "TV" or "MEAS" button once or twice (depending on the model of the instrument used) until you see the constellation;
3) Tap "MENU" button (Figure 2) at the bottom right of the display;
4) Tap the "REF. TIME"(Figure 3) (refresh rate);
5) Turn the encoder to select the value to "CONTINUOUS" (Figure 3). CONTINUOUS mode allows display of the constellation without refresh (symbols are added, but not deleted);
6) Touch the "EXIT" to exit (Figure 3);

ROVER INSTRUMENTS
A STEP AHEAD IN DIGITAL TELEVISION

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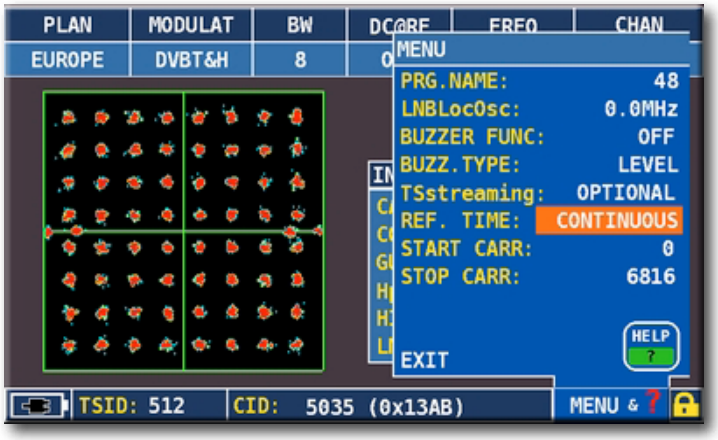

Figure 3: Windows MENU settings

EXAMPLES OF MEASUREMENT:

In the various screens some examples of the representation of the constellation in a terrestrial digital TV system: Figure 1 without residual AC, Figure 4-5 and 6 with very high residual AC. As can be seen in Figure 6, in the case where there is a high presence of residual AC in the Head-End, the halos assume a elliptical" form, especially those placed towards the outside of the constellation.

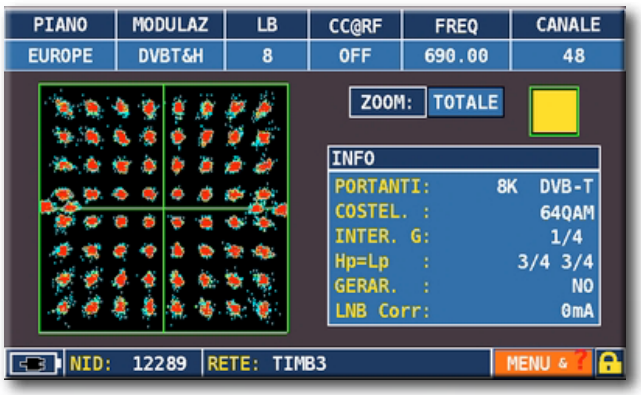

Figure 4: Constellation DVB-T (64QAM) detected after 5 seconds of measurement (with high presence of residual AC)

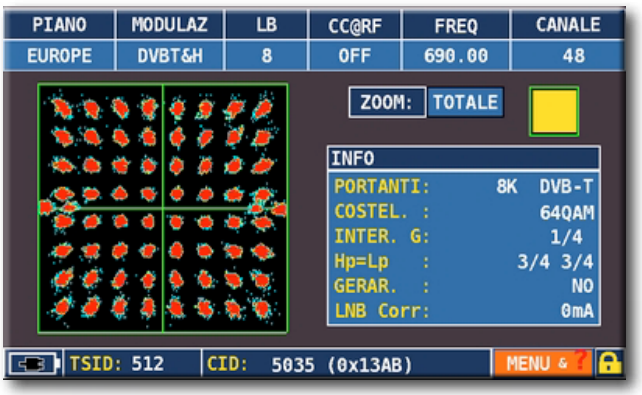

Figure 5: Constellation DVB-T signal (64QAM) detected after 15 seconds of measurement (with high presence of residual AC)

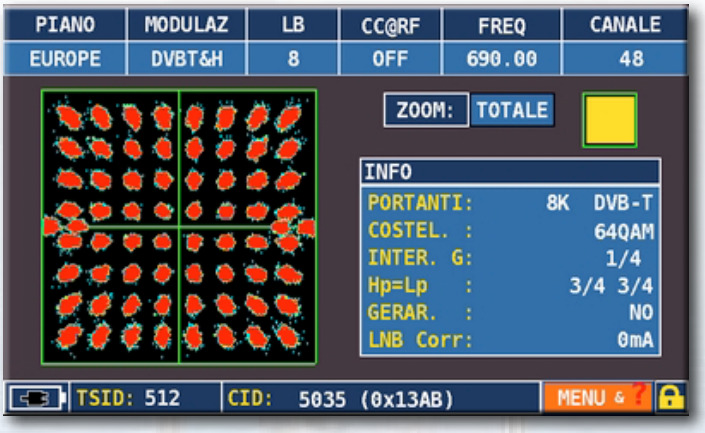

Figure 6: Constellation DVB-T (64QAM) detected after 60 seconds of measurement (with high presence of residual AC)

NOTE: MENU (written and graphic) of the figures shown in the following F.A.Q. may vary from model to model without notice.