SIGNAL PREDATOR – QUICK START

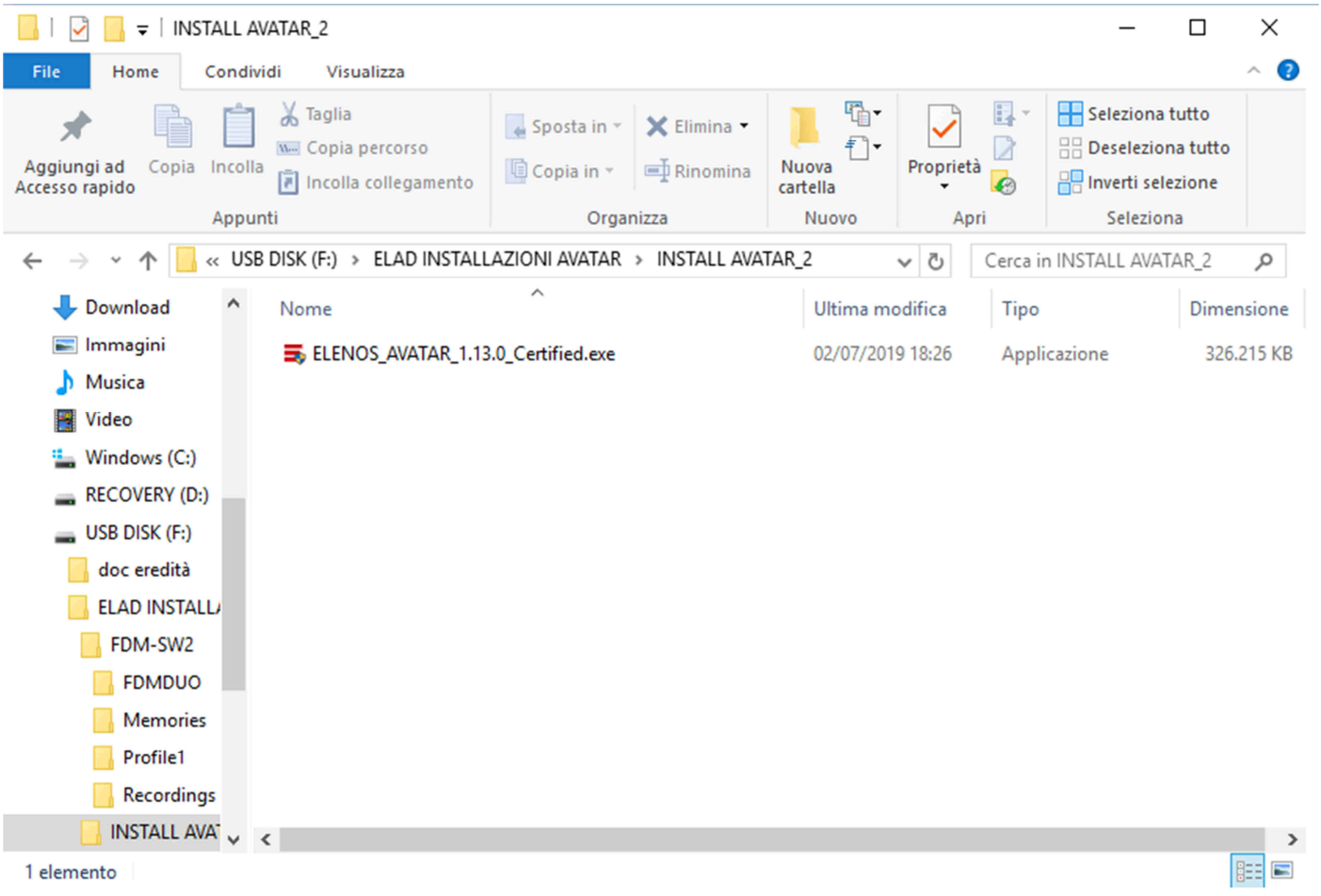
Hardware and OS minimum requirements

- Windows[tm] 7 or Windows 10
- RAM: 4 GB
- CPU 2.5 GHz - 4 Core
- HD: 10 GB free
- Screen 1600x900

Software installation

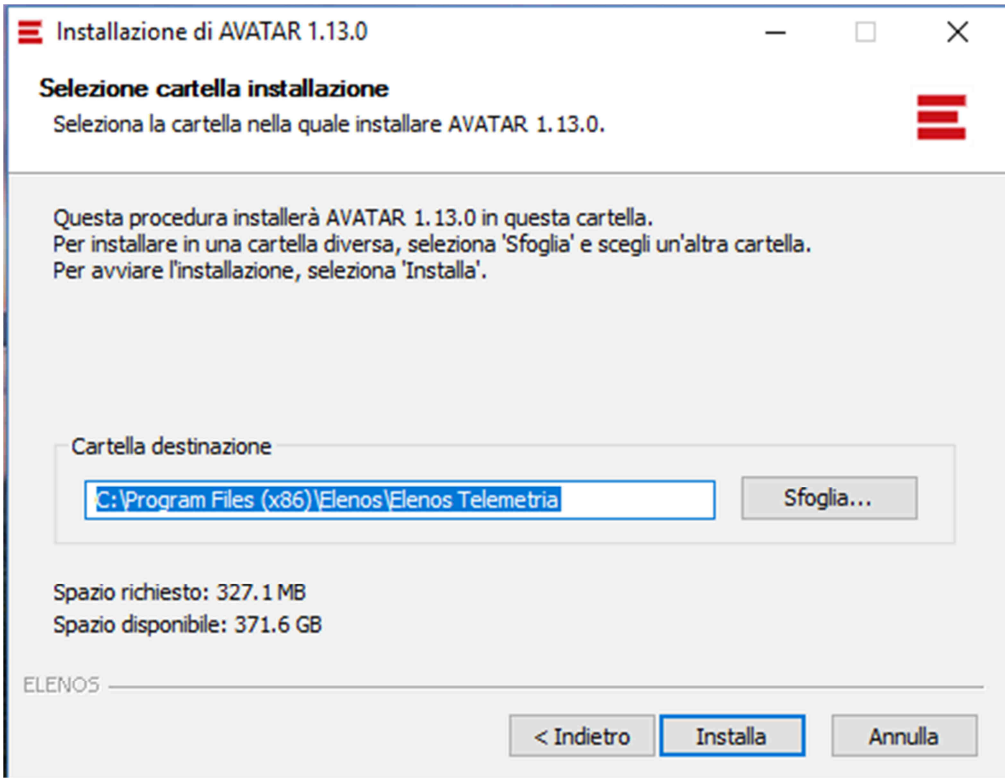
- Connect the Signal Predator to an USB port of your PC checking on the back panel that the power switch is on. If the computer asks to search and install drivers, confirm it.

- Launch the installer from whatever folder you like:

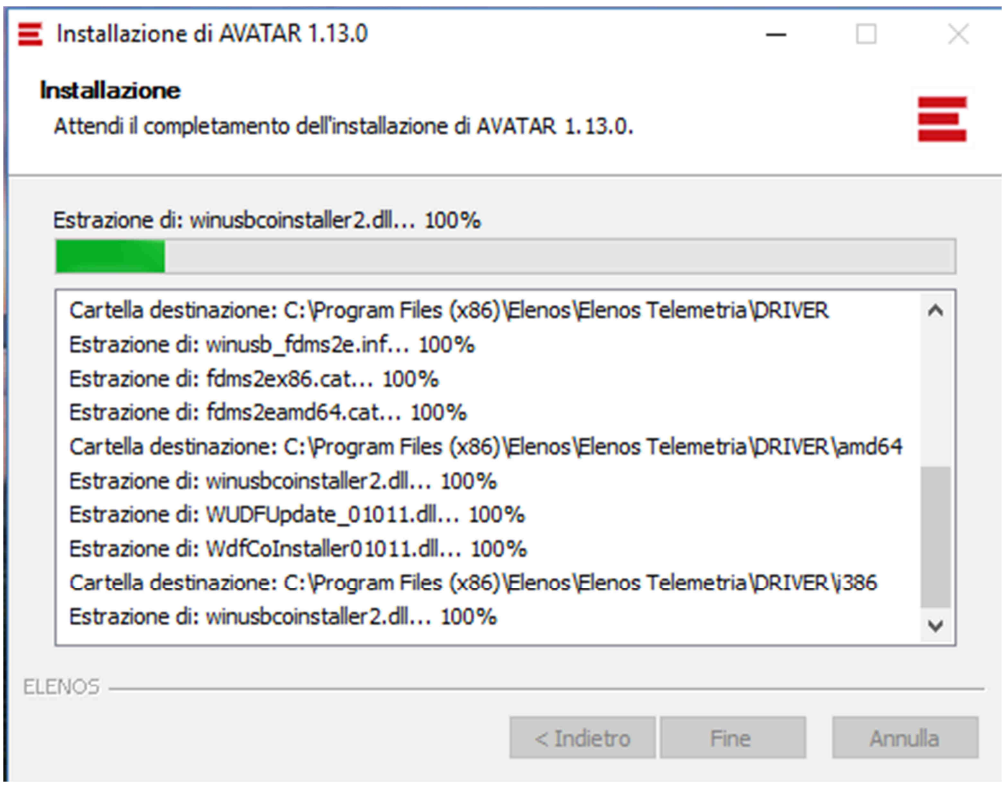


When you see this screen, click “Avanti “

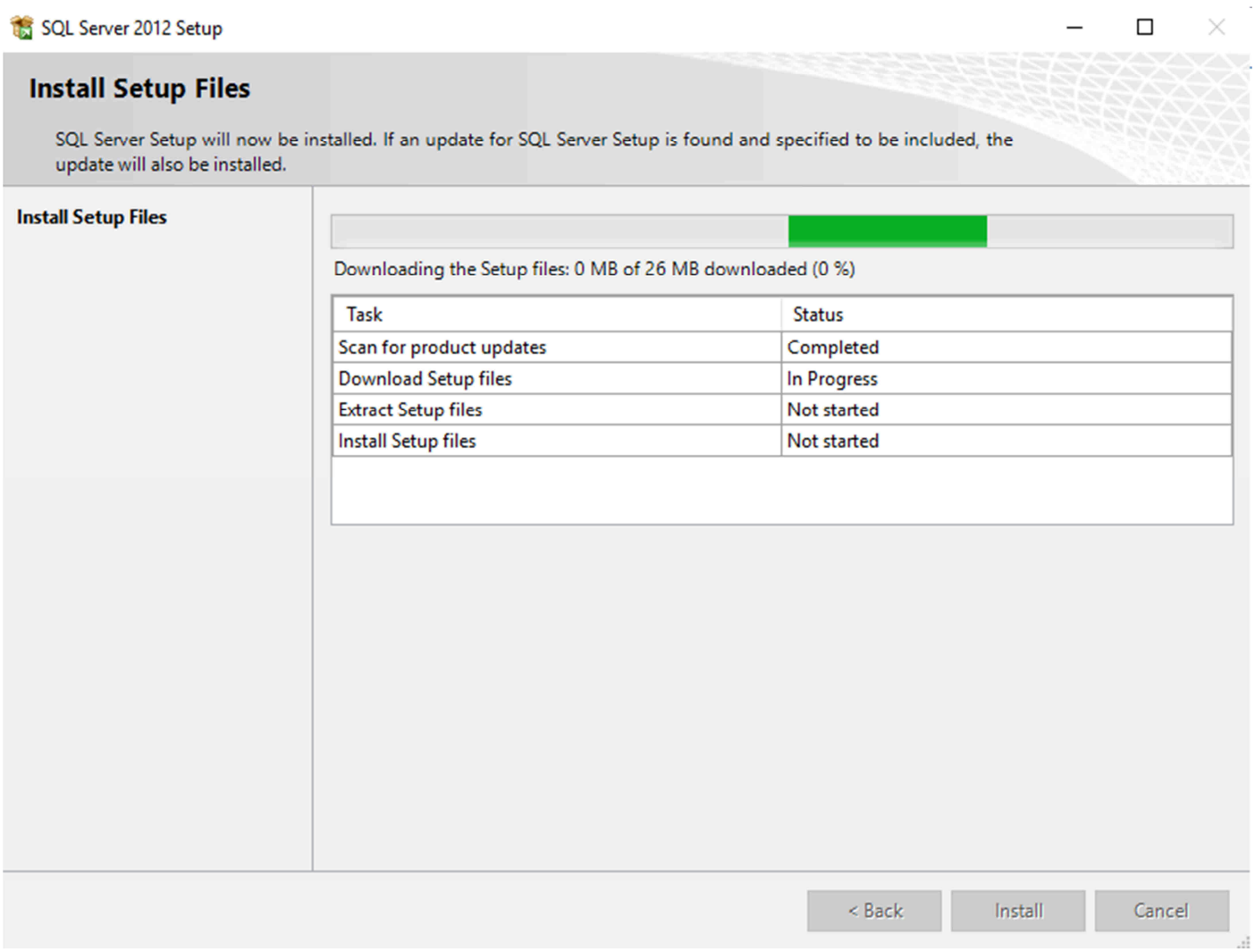
Software will start to install.



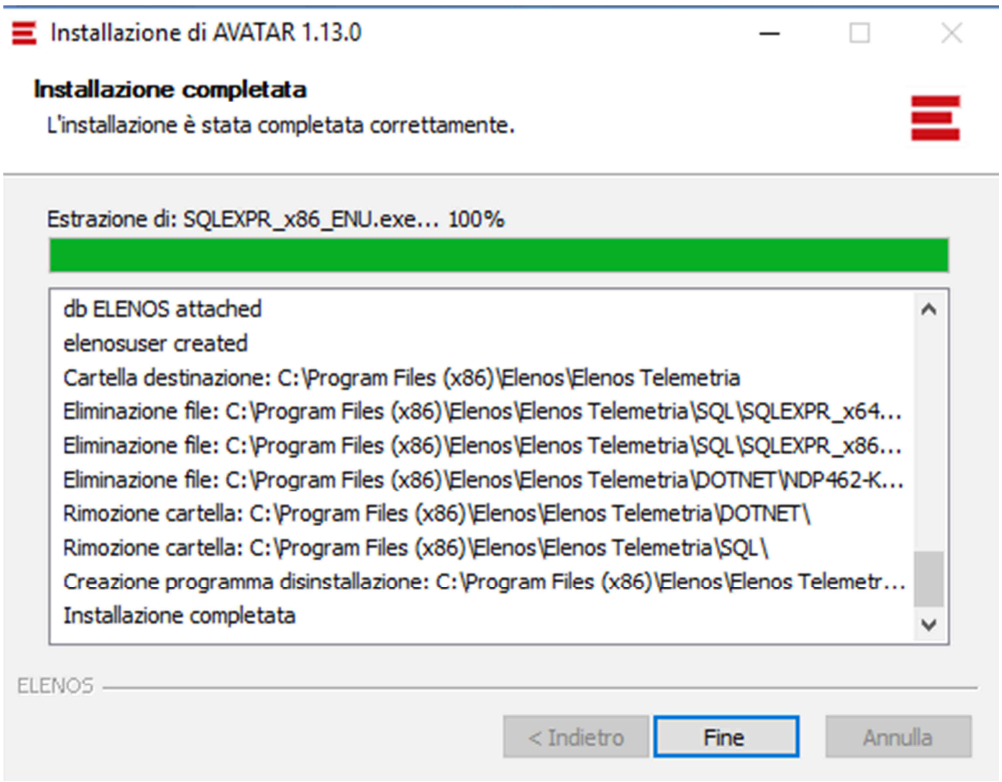
Click “ Installa” (or change Directory if you like).



if you are connected to Internet the software will search for update of the SQL software, if you are not connected, don't worry , it will work anyway .



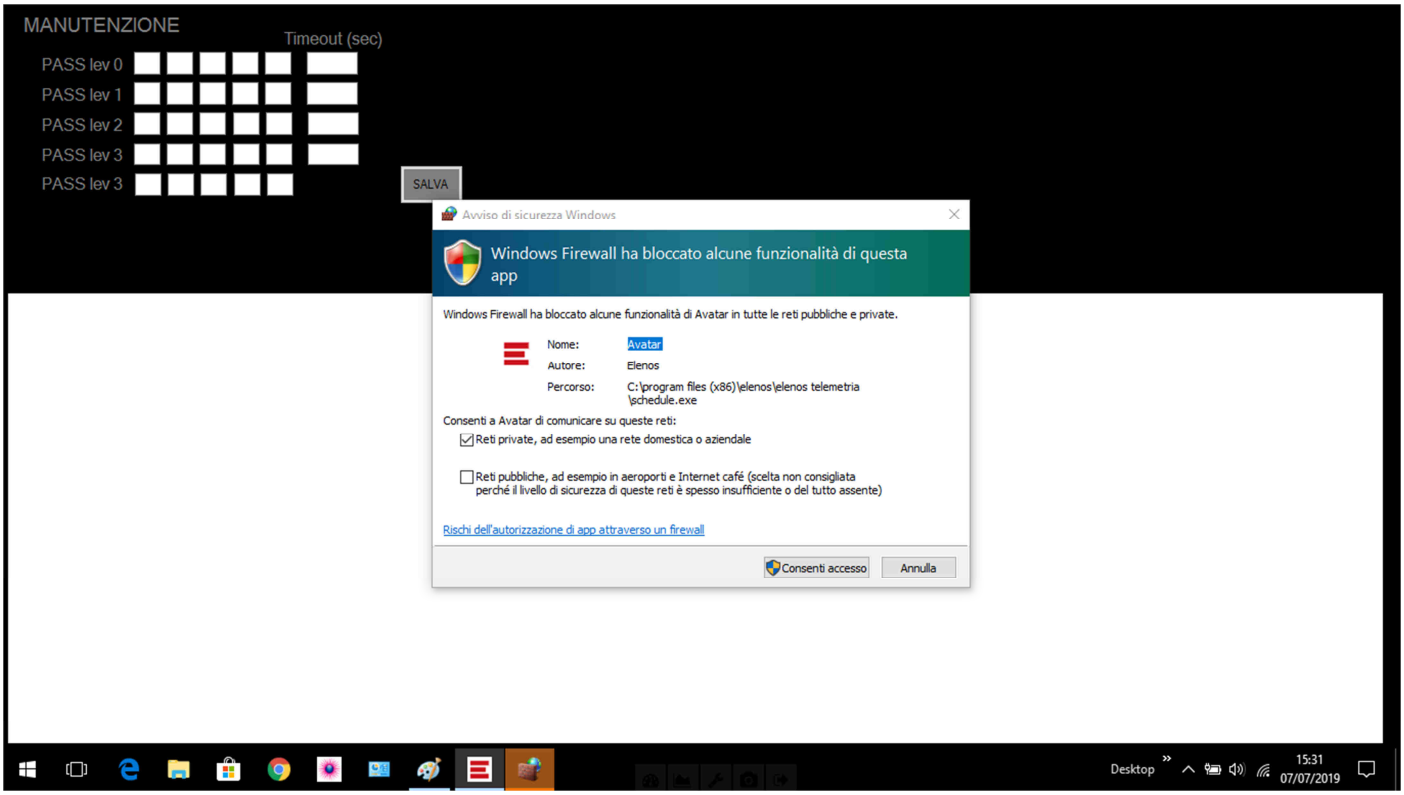
Installation will end. Click “Fine”



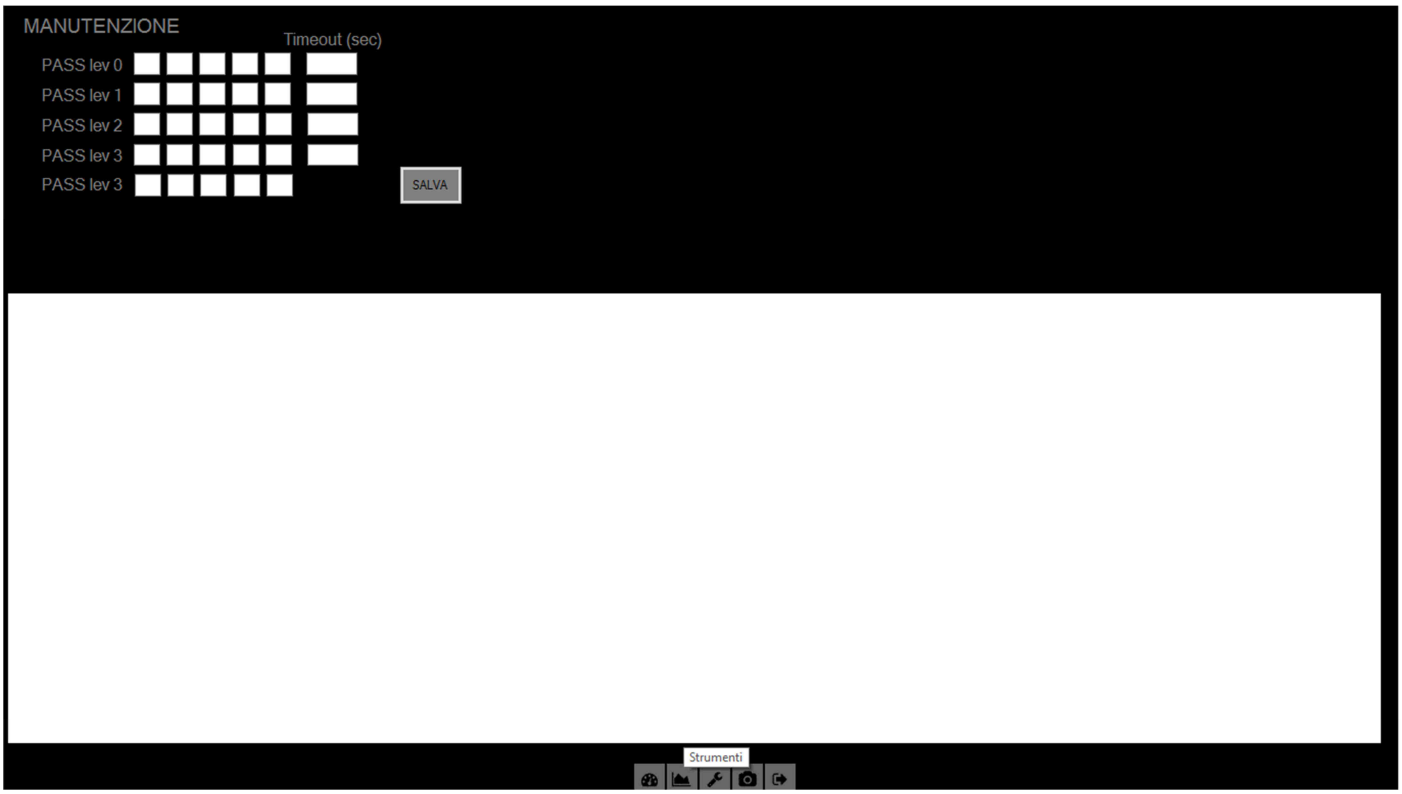
The software will now install the drivers for the hardware. Do not disconnect the hardware even if requested.

At this stage you will have an icon on the desktop like this:

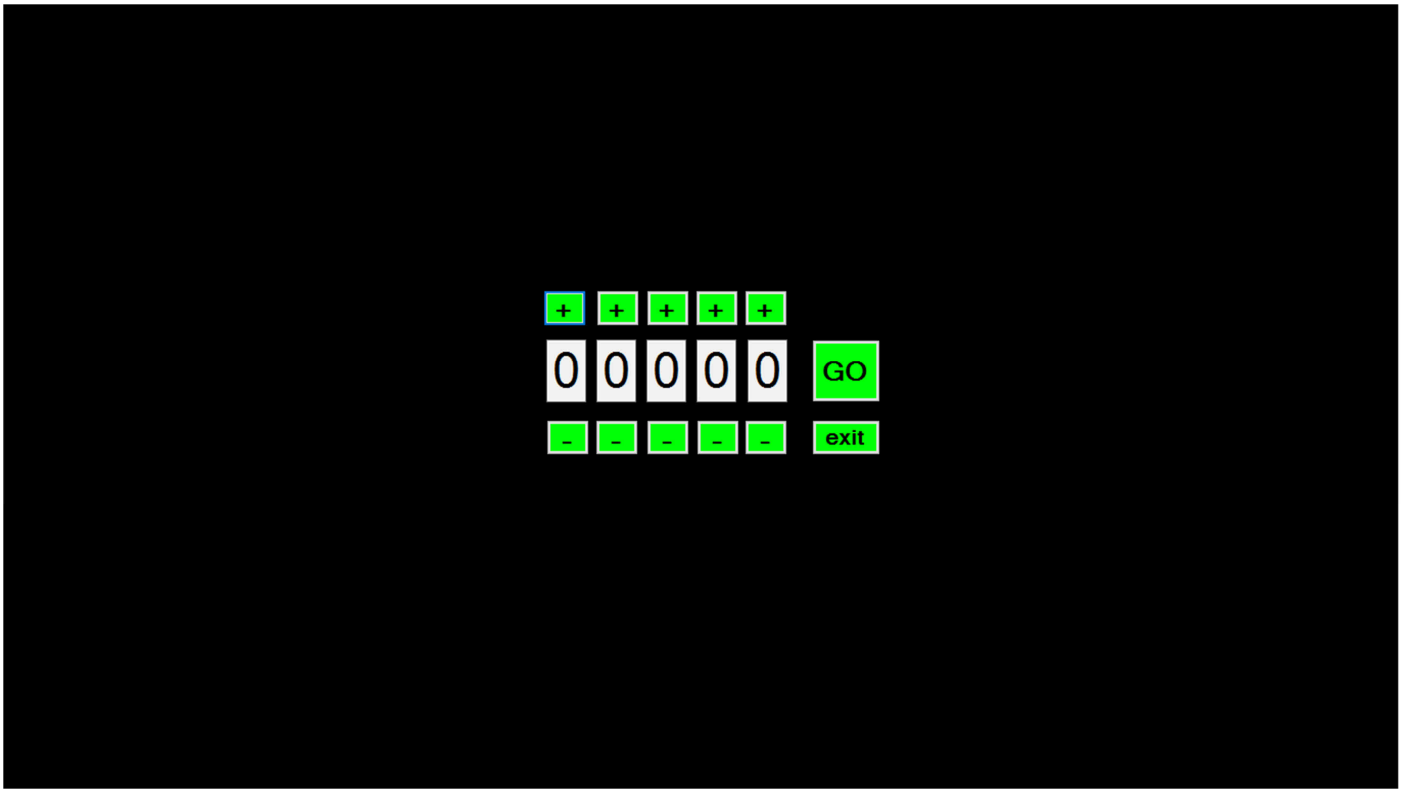
Double click on the icon and wait until you see the screen below.



Click on “Consenti accesso“



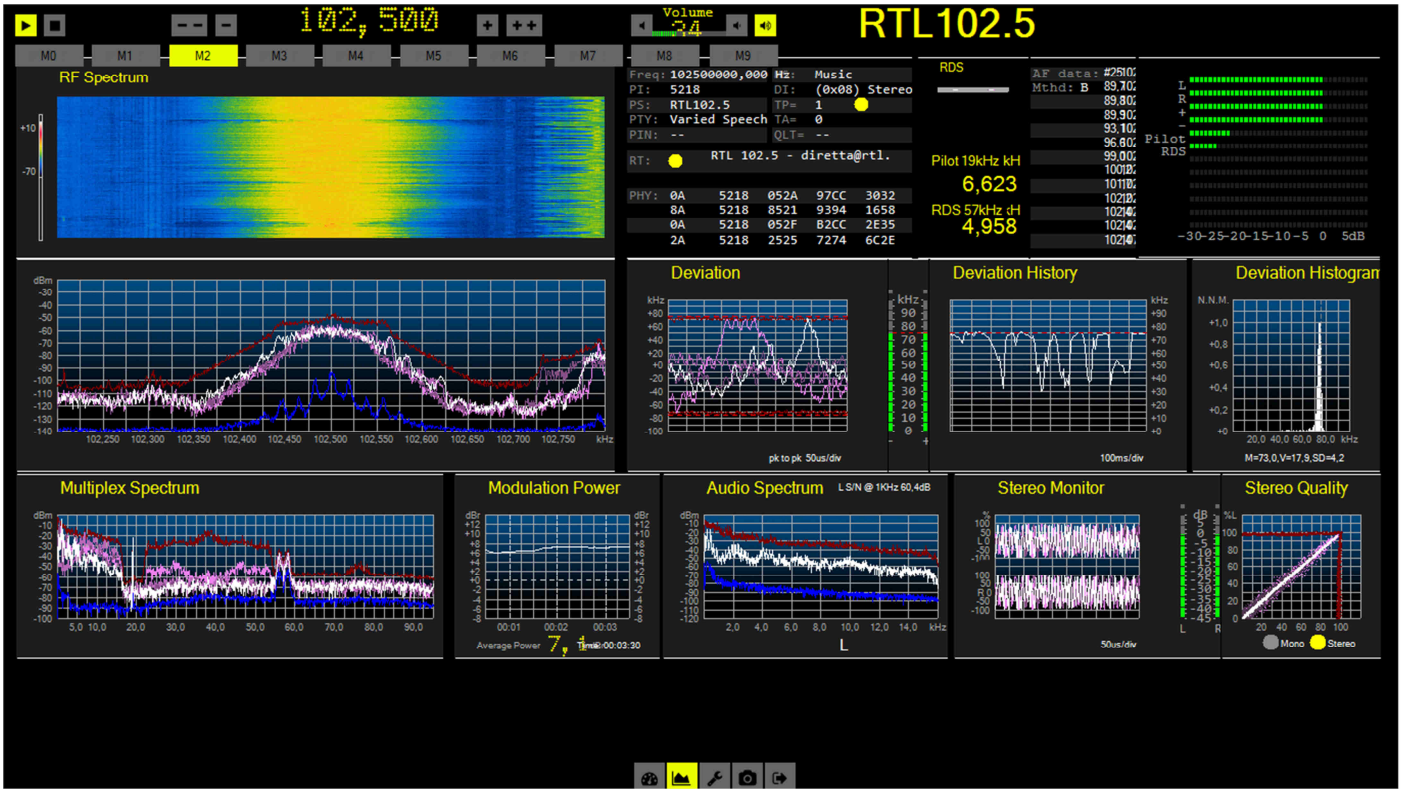
Then click on “Salva” and then on the icon on the center: “Strumenti”. You will see this screen:



Press “GO” and you will see this screen:

Click the arrow on the left high corner of the screen and the software will start.

If you have an FM antenna connected to the VHF BNC input of Signal Predator, and you have set a frequency where there is a station, you will see something similar to the next screen:



Signal Predator use

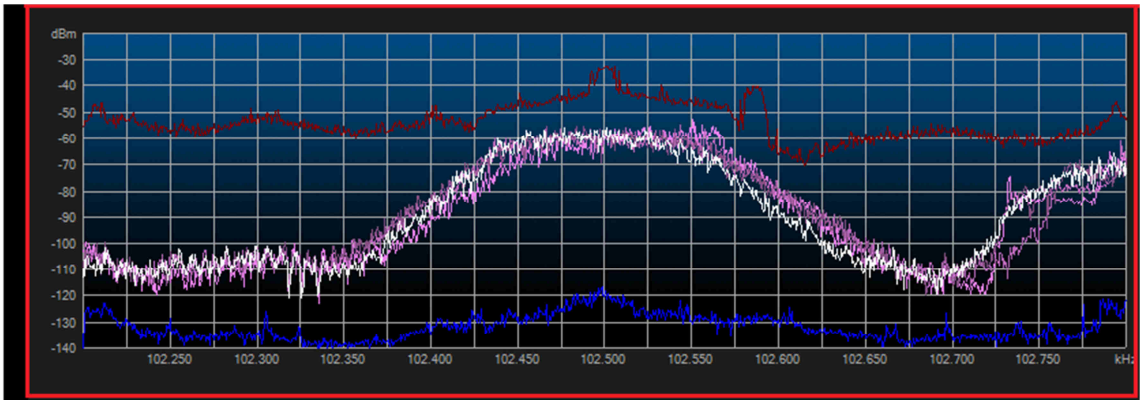
Signal Predator is very easy and intuitive, and will lead you through the key functions and features:

Because the software runs in Windows, you can double click on the separate screens to enlarge them and to find new but always intuitive commands. You can also drag the screens using the top bar and close them clicking on the “x” of the right high corner of the screen.

The screens are a little more detailed as follow:

RF SPECTRUM

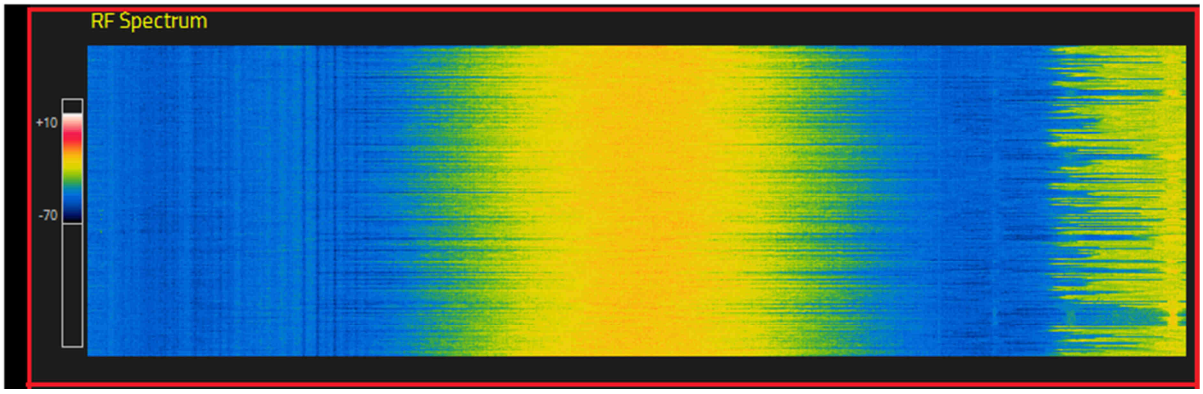
(Max - Min - Mean - Real Time)



The RF input spectrum in dBm , +/- 300 kHz around the center frequency is shown with:

- instantaneous value (white)
- mean value (pink)
- maximum hold value (red)
- minimum hold value (blue)

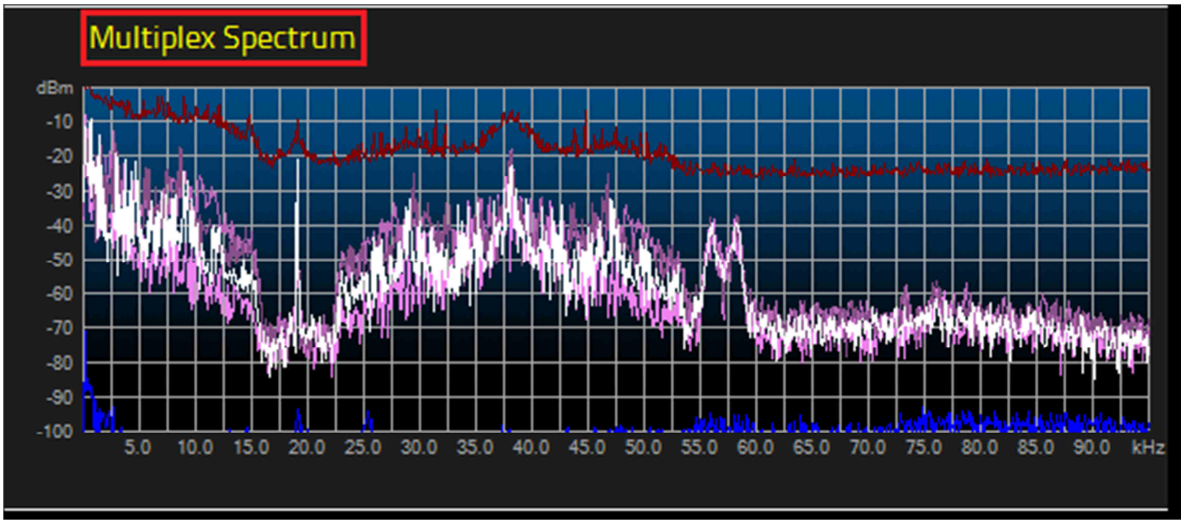
SPECTROGRAM



Sequentially accumulating slices of the instantaneous RF input spectrum create a waterfall history called Spectrogram.

The amplitude in dBm follow the left color bar.

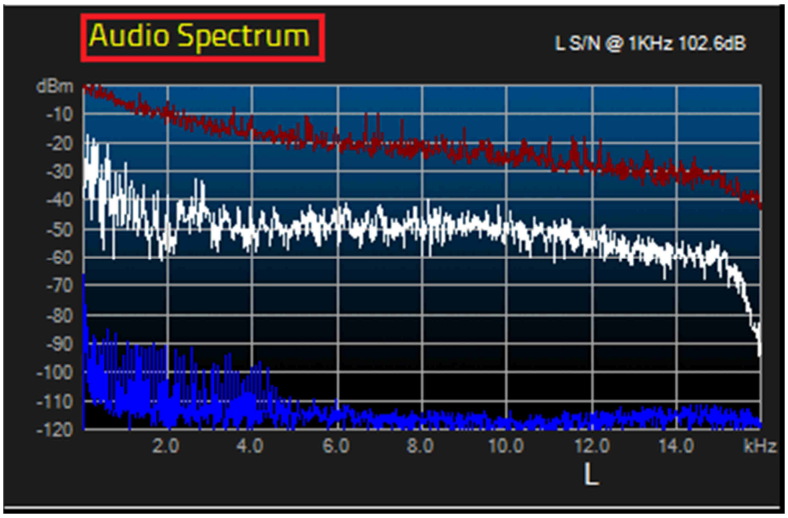
Allows to understand and evaluate the spectrum occupancy and use during the time.



This screen shows the spectrum in dBm of the FM demodulated signal from 0 to 100 kHz (Composite Multiplex).

- 0-15 kHz : L+R
- 19KHz : Stereo pilot tone
- 23-53 kHz : L-R
- Around 57 kHz : RDS/RBDS

- White trace : instantaneous value
- Pink trace: mean value
- Red trace: maximum hold value
- Blue trace: minimum hold value



This screen shows the 0-15 kHz spectrum of the Audio signal , decoded from the Multiplex .

<u>This screen allow to implement a very useful measurement patented from Elenos : measuring the S/N of a program without any interruption and/or insertion of test tones .</u>

<u>This allow to continuously check the quality of a chain of transmission including the listener on an area .</u>

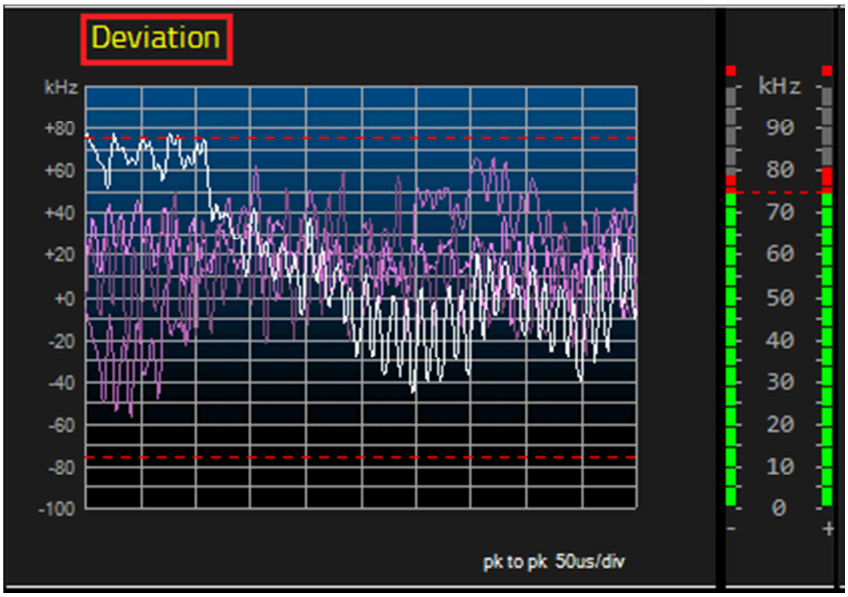
The value is shown on the right top of the screen, computed automatically at 1 kHz .

Values at different frequencies can be computed from the difference of the red trace (maximum hold) and the blue trace (minimum hold) .

The white trace is the instantaneous value.

Double clicking on this screen , another screen pops out where is possible to select L,R,L+R or even L-R .

At this stage the measurement restarts.



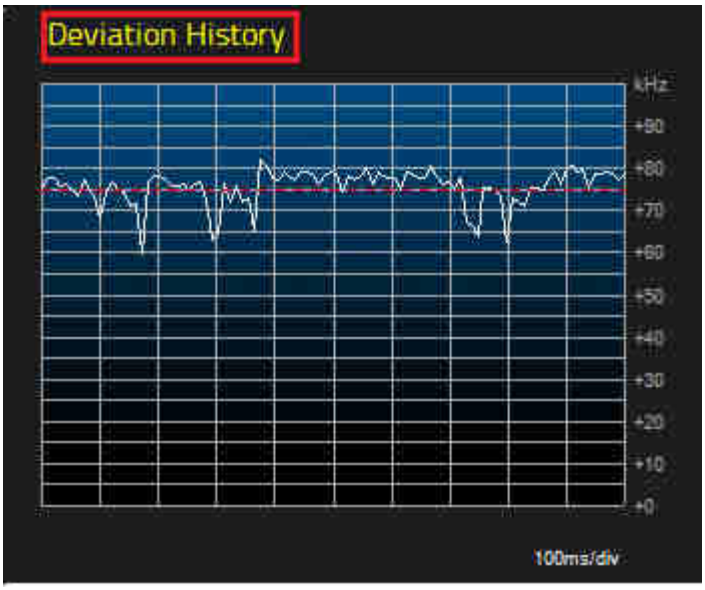
This screen plots in the time domain the instantaneous positive and negative peak FM Deviation .

The two bar graph store the maximum peaks for easier evaluation .

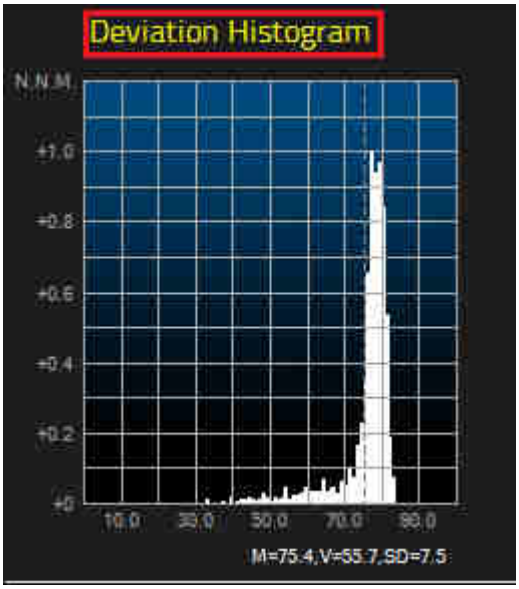
There is more than one trace superimposed (four in this case) , with different colors .

The number of recurring superimposed traces can be set double clicking on the screen .

In this case , another screen pops out.



This screen shows the maximum peak FM Deviation (positive or negative) reached on a longer time scale .



This screen shows the Histogram of the FM peak deviation .

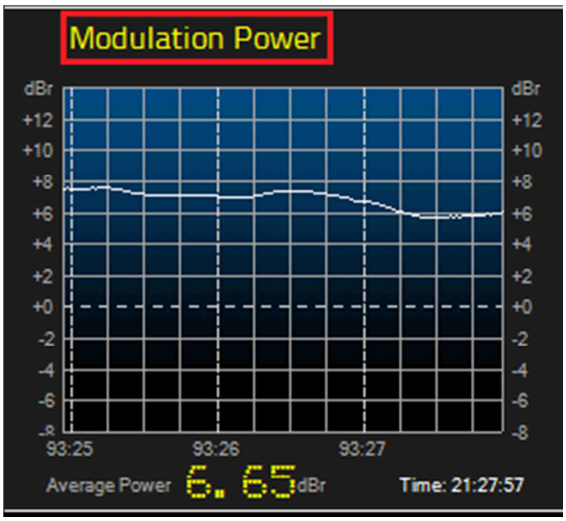
In other words the statistical distribution of the FM peak deviation .

As can be seen from this screen an the previous, it is easy to say that the program is highly compressed to be loud .

The M = 75.4 KHz in the mean deviation

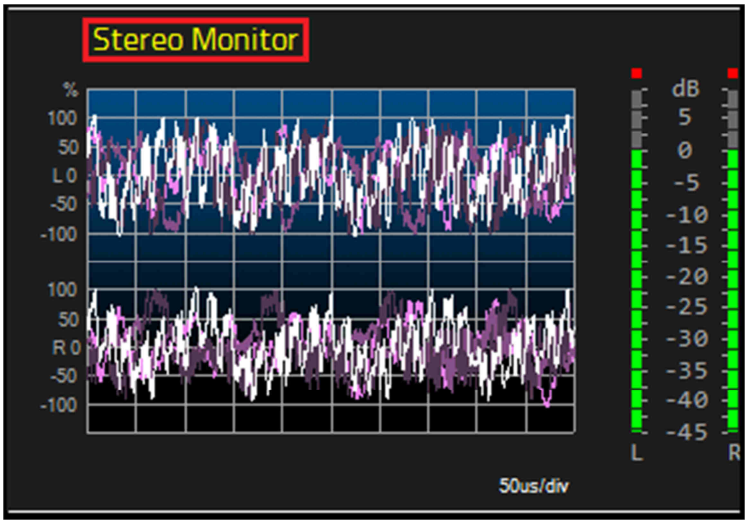
SD = 7.5 kHz is the standard deviation

V = 55 kHz is the variance



This screen shows the modulation power as defined in the ITU-R BS.641 & ITU-R BS.412-9, during the time.

It is a parameter associated to loudness . As high is , as high the loudness is .

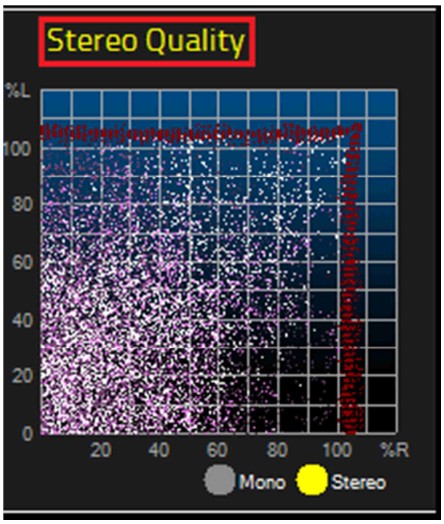


This screen represent the L&R channels in the time domain (as a dual trace oscilloscope) with the scale in percentage .

There is more than one trace superimposed (four in this case) , with different colors .

The number of recurring superimposed traces can be set double clicking on the screen .

In this case , another screen pops out.



This screen plots the L&R signals on the X &Y axis.

As much as the L&R signals are “ different “ as much as they spread around the screen .

In this picture the stereo “image” looks very high.

On the opposite side, if the signal is Mono (L always equal to R) you will always see a line at 45° .

The red line is the maximum hold trace.