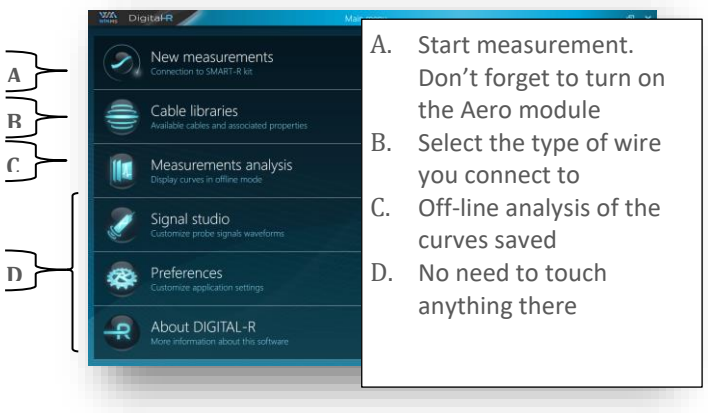
I. Launching the Digital-R App Menu



A. Start measurement. Don't forget to turn on the Aero module
B. Select the type of wire you connect to
C. Off-line analysis of the curves saved
D. No need to touch anything there

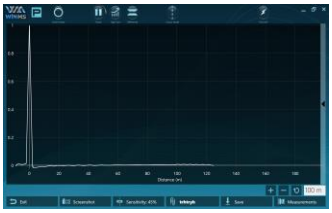
II. Select wire type from Library

III. Mode Selections:

a) Transient Fault –> Go to Intermittent Mode
b) Established Fault (Short or Open Circuit)
–> Go to Permanent Mode.

IV. Measurement Display: Two modes

Standard Mode **Expert Mode**



Use Switch mode button (see below)

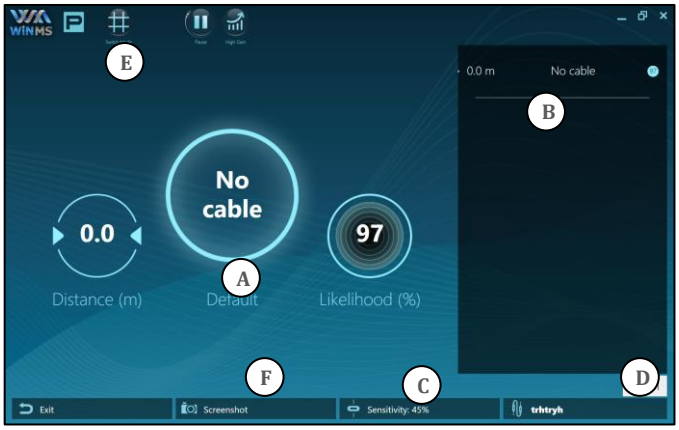
V. Permanent Fault Detection

One can observe:

- Characterise and locates established faults
- Check the homogeneity of the transmission cable

Make sure you selected the wire in the library

Standard Mode



A. First result: Fault Type, distance and Likehood

B. Default List

C. Adjust sensitivity:
-Increase to detect smaller defect
-Decrease to avoid false positive.

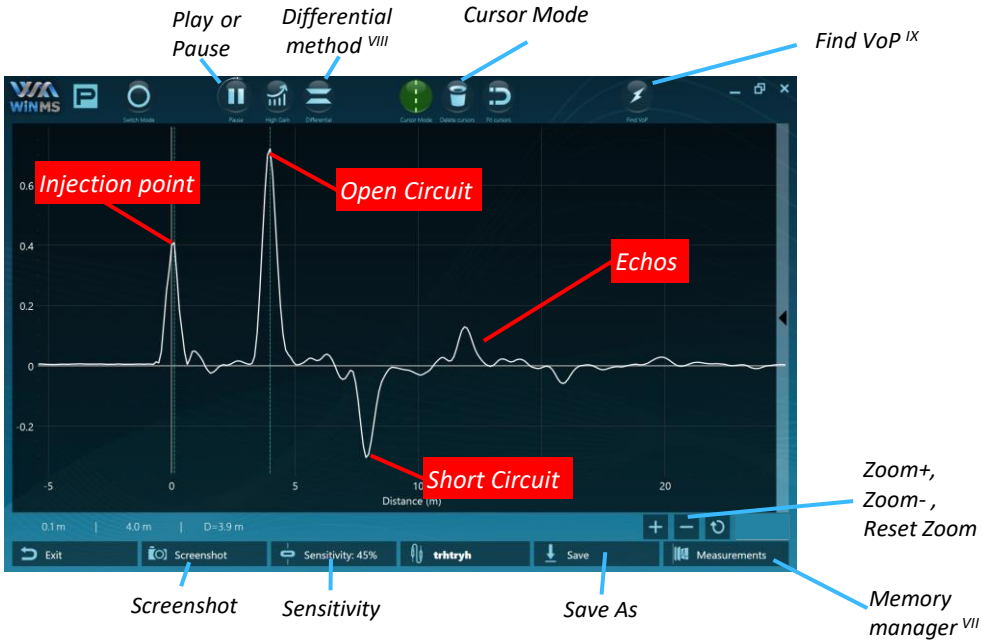
D. Change the selected wire in the library.

E. Switch between Standard and Expert modes

F. Take a screenshot

Expert mode

Sometimes the standard mode will not be enough to locate the defect. In that case the expert mode is needed to further analyze the results. This is where the following features are found: Save, Differential, Import, Export, Find VoP,….

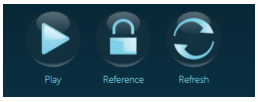


VI. Intermittent Fault Detection

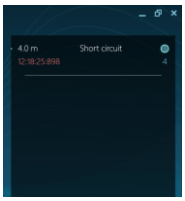
One can observe:

- Characterise and locate transient faults (duration of 1 msec.)
- Check the stability of a transmission line

How does it work ?

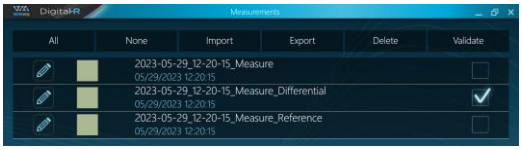


a) Click on the button **Reference** to take the reference of the actual state of the wire
b) Click the button **Play** to start the measurement & analysis
c) Try to reproduce the transient fault (tapping of the connectors, shake the wires ,…..)
d) Once the default is reproduced the tool will record it. It will then appear here **-->**
e) To clear the events you can click on **Refresh**



If no default is found, the sensitivity can be adjusted

VII. Memory Manager



Select the curves to export and import previous references

VIII. Differential Mode

1. Click on New measurements 
2. Activate differential mode
3. If needed you can choose a saved reference as differential input by clicking Import button. You can also choose the current curve as reference.
4. Select the folder where your reference is
5. Then back to the memory manager menu, select the reference (blue tick) and click on done

IX. Find VoP

If your cable is not listed in the library; you can still locate the fault using the find VoP function.
Wires A = Wires to test

1. Use a reference wire, identical in property as the one you want to test.
2. Measure the length of the ref wire
3. Connect the Aero module to the Ref Wire
4. In the library, select the generic wire which is the closest to wire A
5. Start a new campaign – Permanent
6. Click on Find VoP button
7. Enter the length of the Ref Wire
8. Press Ok
9. Press **Create a New you will find it in the library as "New *Ref Wire*"**
10. Connect the Aero Modul to the Wires A
11. Use this new library to find the location of the fault

Keep in mind this feature is to help in case of emergency. The accuracy will be lower than those in the library.

CHECK LIST

Before Start-up:

Power bank charged? (if not let it charge for a few hours before usage)	
Power bank well connected to Aero module?	
Tablet charged? (if not let it charge for a few hours before usage)	

Starting:

Power bank Power button switch on?	
Tablet Switch on?	
Launch Digital R Software (WiN MS App) on the Tablet	

Testing:

Wire type selection corresponding to the wire to be tested within the library	
Select measurement mode (Permanent or Intermittent)	
Connect the Aero module to the two wires, following the same path and having the same property.	
For a Single wire; connect the Aero Module to the wire that is to be tested and the other wire to ground; paying attention to connect the ground to the side of the connector having the lug	
The test leads should be twisted. Deduct 30cm from the total distance measured compensating the length of the test leads	
Test other possibilities? Example Shielded Triple Wire: A-B , A-C , B-C , A-S , B-S , C -S	
Save the measurements for further uses. Click on export to ensure they are recorded within the tablet memory	

After Usage:

Put the power bank and the tablet on charge	