

IFD Explained

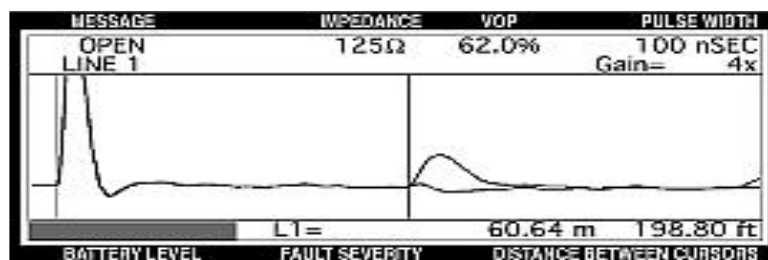
Intermittent Fault Detection is used for noisy static/repeat problems that come and go in the Telephone Network with no explanation.

IFD Set-up for the Models 1270A, 3300 and 6000

- 1) Disconnect at the protector on the subscriber side
- 2) Confirm the trouble
- 3) Mute the butt set and dial up silent termination
- 4) Connect the TDR
- 5) Switch on the TDR
- 6) Initiate IFD (Line 1)
- 7) Wait for fault to occur

If you cannot add the loop current by dialing up the silent termination then the Stress TDR in the Riser Bond Model 6000 should be used. The Model 6000 Stress TDR can put 50 or 100 volts on Tip, Ring or toggle between the pair to aid in forcing the problem to occur.

IFD sends out 3 traces. Live Line, Open Indicator and Short Indicator. Any intermittent fault (open or short) will be captured with the IFD Mode. This is the best tool for clearing repeat trouble tickets. Intermittent Open is shown below.



Often times the problem I described above is a corrosion problem from the cable being wet, drying out and electrolysis sets in, causing galvanic corrosion. (Green on the cable eating through the plastic coating and corroding the metallic wires). This is referred to as a "High Open or High Resistive Open". This is very a very difficult problem to find. Often times the VOM will show no problems. Having the benefit of current applied either through dialing up Silent Termination or from the Stress TDR (Model 6000) to locate this problem can save both time and money.

IFD is also used to find "Swinging Troubles" that can occur on windy days due to something physically touching/disturbing the cable. Example: The tree root problem that only occurred in the summer months. When leaves were on the tree and the wind was present we had a 4 pair drop that always went noisy. In the winter there was little to no problem on this drop. We went out on a windy summer day and set up the IFD. IFD showed immediate disturbance. When we wheeled out to the distance reported on the TDR we were very near a tree. When we dug up the area we found the shield worn off by the tree root, which cause the drop to go noisy on those windy days.

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