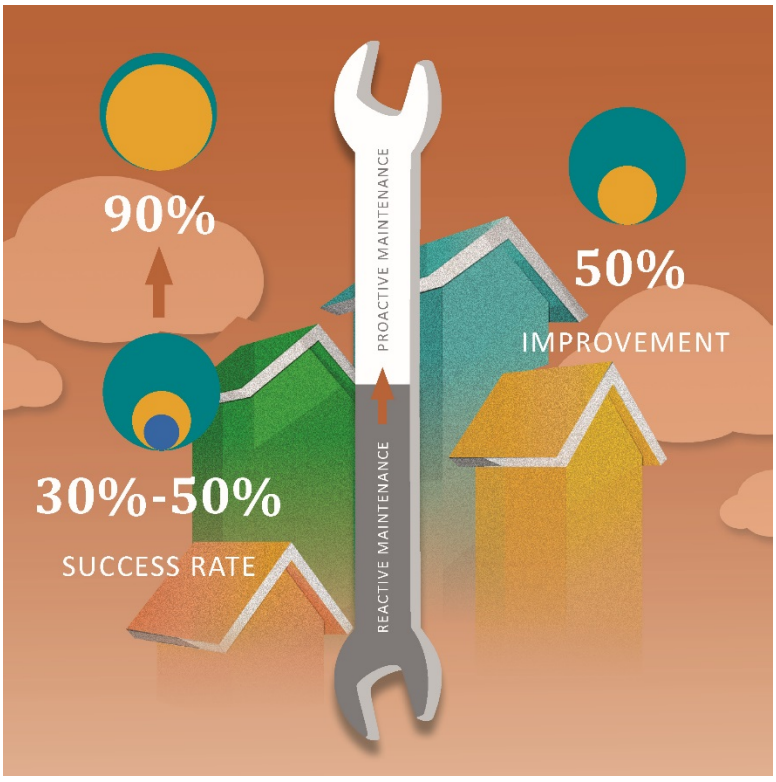
STOP Measuring / START Fixing

For many years, cable service technicians have been issued an RF meter to validate the signal quality inside the customer's home. They have also used this same meter to troubleshoot and fix issues that were detected. The use of an RF meter to measure and validate the downstream and upstream signal quality is a good one and should be a standard practice of every service call.

However, the use of a RF meter to troubleshoot signal problems within the home is… well, not good. Quite frankly, it is the wrong tool for the job. Can it be done? Yes, but with very inconsistent results and with very poor efficiency. This is a major reason for return service calls and expending a lot of extra time in an attempt to fix problems that are often not even detectable by an RF meter. How does the RF meter fall short for troubleshooting? There are several key reasons:

1) RF meters are good for measuring, but they do not provide any information of where the problem is actually located. A standard method a technician uses to locate a problem with a meter is the "divide and conquer" method which is very time consuming and ultimately does not pinpoint where the issue is. Can a meter point out that the problem is a loose connector behind a wall plate? Can a meter pinpoint a damaged cable running behind a wall, floor, or ceiling?
2) RF meters are often not able to catch home cable integrity issues via measurements. If there is a signal egress/ingress issue with a cable in the house, unless the ingress source is present at the time of measurement, it will be completely missed. What if an issue is only visible after it rains due to water ingress? The technician shows up on a dry day… no issue found.

Many cable operators have been slow to come to this realization as it is a major departure from the standard troubleshooting practices used for many years.



What is the best troubleshooting tool that provides a very high success rate in fixing problems? Or maybe the question should be: What is the best troubleshooting tool that actually helps the technician quickly locate the actual source of the problem? The answer is not a mystery and is rapidly making its way into becoming a standard part of a technician's toolkit: Leakage detection aided with a "pressure tester". Leakage detection has long been used as a tool to check the cable integrity of a home or network, however it has far more capability and usefulness than a "final check". It is a very powerful troubleshooting tool that reduces the time to troubleshoot a problem in a home by more than 50% compared

to using a meter. It also increases the effectiveness of finding issues to more than 90% as compared to 30% for an RF meter. These numbers are substantial and can justify a business case in weeks, not years.

One of the trends that is occurring in the cable industry is to use the spectrum sweep capability in the RF meter to act as a leakage detection device. Compared to a true leakage detection device, the meter has limited sensitivity for over-the-air leakage detection as it is not designed for this application. If an RF meter is used for standard leakage detection, it falls short and is virtually unusable. However, when a +60 dBmV “pressure test” signal is injected into the home, the RF meter has enough sensitivity to be somewhat useable. Can it reliably detect underground leaks from a buried drop cable? I think not. If you want the most reliable and effective way to find leakage caused by all types of issues, the best tool to use is one that is purposely built to do the job: A handheld leakage detector. The other benefit of using a leakage detection device is that it will also detect standard leakage without the use of a pressure tester. This means it can be used for network troubleshooting, validating cabinet connections and wiring, issues with taps (which are common), etc. It is a very versatile and powerful tool that can be used for a much greater range of troubleshooting scenarios.

If the goal of a cable operator is to increase technician troubleshooting efficiency and reduce return service calls, the best possible tool set is a dedicated pressure tester and leakage detection device. This provides an uncompromised result as compared to an RF meter which is limited in its capability and requires the technician to carry and connect external antennas to the meter to make it work. Whether you choose a dedicated leakage detector for optimal performance or use an RF meter coupled with a pressure tester to do the job, either method is a big step in the right direction to improve in-home troubleshooting practices.

PS: Yes, water ingress related issues can be found using a pressure tester and leakage detection device.

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