

A 21st Century Solution to Keep Critical Data Networks Operating Around the Clock



**SSTDR technology will change the way you fix cable
quality issues on installed cabling systems**

Data Network Applications For Spread Spectrum TDR technology

T3 INNOVATION IS PROUD TO INTRODUCE
THE BIGGEST ADVANCEMENT IN TDR TECHNOLOGY IN 30 YEARS!



Works over Live Wires!

The most dramatic capability of the many that SSTDR exhibits is its ability to work on live energized wires and circuits. It can measure for faults like live Arc Faults or Shorts WHILE the cable is energized. Whether it is data, voice, current or voltage flowing thru cable, SSTDR technology will show cable segment length and what, if anything, is attached to the line or impedes the cable's desired performance. For the first time, systems do not have to be taken down or work interrupted to check cable run lengths or determine fault conditions, whether on-going or intermittent.

Without interrupting data flows SSTDR powered testers can look at discrete pairs in Ethernet cabling systems and find exact locations without having to disconnect individual cable runs from hubs, routers or switches. POE powered equipment does not need to be taken off line and cable testing can be done while the respective cable run is working within the overall network.

Patented Spread Spectrum Time Domain Reflectometry (SSTDR) technology is an entirely new, revolutionary way to see down a cable to determine a location of a fault, a condition that is not clear from either end or just for finding the true accurate length of a specific conductor pair whether installed or on reels. SSTDR not only allows for a highly accurate short and long range, up to 30 km, length measurements but it exhibits unique properties and capabilities that no other TDR technology can accomplish.

SSTDR is now being implemented in the most advanced Aerospace and Military avionics environments to do jobs that are not possible with old TDR designs. T3 brings this cutting edge science to the commercial world of data systems and networking applications



A Whole New Class of TDR Testing Instruments

Dynamic TDR measurements are those taken live in real time and while a cable is energized. T3 Innovation is presently designing testers for this new class of TDR applications. Dynamic TDR's will do things not presently possible on existing static or graphical TDR's. For instance, the ability to "monitor" a live cable waiting for an intermittent fault to appear like an Arc Fault, dry short or a defective tap can now be done easily and with both handheld equipment or embedded specially designed communications modules, which we have dubbed **MOLES (Monitoring Over Live Energized Systems)**. Check length and get voltage/current readings over time or at precise increments. Data log cable conditions during times of stress or heavy duty loads. Check for impediments or defective pairs or shield integrity. The possibilities are endless!

Theft alert. Monitoring modules can be designed to be embedded and powered in a network to alert the owner of any tampering or unauthorized disconnection that may occur. Isolated or remote cable runs on any copper based cabling system that could be the target of cable thieves can now be 100% protected, 24 hours a day.

Buried Cable Fault location capabilities: Buried cable faults can now be determined while the cable is energized and without damaging its integrity any further. Separate remote modules can be designed to triangulate faults more precisely than ever before in residential or industrial cable systems or segments that work in conjunction with handheld tester and data harvesting tester units.

Long or Short Cable Lengths Shown Accurately

Unlike other TDR technologies **Spread Spectrum TDR** does not have "dead" spots or length limitations that have to be overcome with adjusting the impedance limits of every cable or setting range subsections. Any length in any cable environment can be accommodated and will result in accuracies of 1% or better. This makes finding the fault or section of the cable of interest easy, fast and with the utmost certainty. **Limitations are only in the imagination with this new technology**



Unparalleled Sensitivity for Non-Contact Cable Testing

SSTDR technology is so sensitive and inured to current/voltage or signal noise on the line that it can make length and fault measurements THRU conductor insulation using specially designed cable clamps that do not physically touch the conductors. The Inductive capability can be fine tuned for directional readings or set for uni-directional cable readings. Now cables carrying power in addition to data or video can be characterized from any point, the middle or either end, without having to shut down the lines or cut into the insulation

Combining the SSTDR Technology with the ability to make electrical measurements in a non-contact method, while the conductors are carrying signal and current, will make it safer and more convenient than ever before to diagnose cable conditions and make repairs or wiring changes.

T3 INNOVATION IS CREATING NEW AND EXCITING PRODUCTS



T3 Innovation is working with companies to design, commercialize and market innovative test and measurement equipment that utilize all of the new capabilities of SSTDR technology and will fundamentally alter the way cables are now measured and repaired.

We invite anyone with a wire and cable application that needs unique and innovative approaches to give us a call or contact us via email and explain your needs to see how we can help.

Spread Spectrum Time Domain Reflectometry is the 21st century solution to cable measurement and condition problems.



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