

Cable certifiers – what really matters?

Over the past two years, the team at TREND NETWORKS has conducted extensive research with cable installation companies in the US and Europe, observing how they work when certifying cable installations and conducting more than 60 hours of in-depth interviews to delve into the specific challenges they face when using their certifiers.

Here are some key findings around cable certifier usage trends, the challenges that end users really face, and how the LanTEK IV cable certifier can help.

Top line takeaways

A core part of the research investigated what cable installers consider the most critical when choosing a certifier. It identified that durability is the factor that the market deemed most important by far, followed by the ability to set up tests simply, and having an accurate and easy to use fault finder.

We also measured how the current available certification solutions performed against the customer outcomes identified. To do this, we tested all the devices on the market with the most common test methods requested by customers. In each scenario, the tester's performance was benchmarked against the customers' average expectation.

Our investigations also looked at which areas users felt performed worst regarding the capabilities of cable certifiers and found there were several areas with potentially concerning market satisfaction gaps, with the largest concerning labelling, results transfer and management software.

This was closely followed by fault finding– a potential worry for manufacturers as this was picked out as one of the most critical elements of a cable certifier to users. The industry's requirements around fault finding were expanded on as part of TREND NETWORKS' more in-depth product investigations.

Minimise fault finding time and improve accuracy

Good cable installations tested with a correctly configured tester should not have many faults. However, when faults do occur, it is important that they are fixed quickly.

Installers simply do not have time to spend reviewing measurements on the certifier to understand, and then fix, the failure – they do not want complexity in this area. Instead, they are demanding products which show the type of fault, what has caused it and most importantly where along the cable they need to go to fix it.

The LanTEK IV solution

The most common cause of a fail is a wiremap issue. For this reason, TREND NETWORKS' LanTEK IV cable certifier includes a Live Wiremap feature. This allows installers to instantly see a fault before the auto test even begins, so no time is wasted waiting for the test to complete. With TDR (time domain reflectometry), LanTEK IV also shows an accurate distance to the fault, ensuring that engineers know exactly where the fault is located and can act quickly to fix the issue.

What's more, LanTEK IV displays the details of the fault on both the primary Display and the Remote handset, so each engineer working on the job can see what the problem is, where its located and who needs to resolve it.

Simple test setup

A need for simplicity was also expressed when it comes to setup in order to test the installation. During our research, we found that technicians may make hundreds of inputs on average for setup. This includes typing the address and labels, selecting standards, moving between functions and configurations.

This always happens at the end of the project when the pressure is on and there is simply no time to absorb delays. Complex certifier setup can take a lot of time, as well as leading to mistakes – many standards are similar so in a rushed situation, it can be easy to choose the wrong one.

Incorrect setup can also lead to failed links which cause engineers to spend time fixing issues by re-terminating or pulling a new cable in the hope it will pass and resolve the problem, even though the problem will persist. On some occasions, installers may also encounter problems from mistakenly selecting a lower standard, like Cat 5e rather than Cat 6A. While the installation will test without problems, when the results are submitted for warranty, they will not be eligible.

Misconfiguration leads to project delays affecting cashflow and retesting reduces margins with unforeseen labour costs. Therefore, the installers we observed were keen to have access to products which make setting up the tester as simple as possible and consider the way that engineers work, not just the standards they are testing to.

The LanTEK IV solution

LanTEK IV was designed after extensive specialist research with a simple graphical user interface that considers the real day to day needs of engineers. For instance, there are less inputs required to set up the tester, reducing the chance of mistakes while also saving time on the job site.

Mistakes during setup can also be prevented as all project information can be pre-configured in the TREND AnyWARE™ Cloud test management system, ready for field technicians to simply download on site, eliminating errors caused by manual data entry.

LanTEK IV also provides new opportunities for on-site engineers and off-site colleagues to collaborate. WiFi enables test results to be sent back to the office quickly and easily, including periodic progress updates. This helps any setup issues to be identified during the job before too much time has been wasted or before teams have moved on to another job site.

Errors are reduced further thanks to the remote support capabilities of LanTEK IV. Project Managers, for example, can 'dial in' to the LanTEK IV to support engineers in troubleshooting so that problems are resolved more quickly.

Make data entry effortless

Cable installers on site need to be able to accurately record the links tested using the correct naming convention to properly detail location. The most significant improvement that customers wanted, was a reduction in the time spent correcting errors and adding in missing details before submission for warranty for the customer.

Users want ways to automate this process, and to have more ways to collaborate among teams. Especially for large and complex projects, installers feel that their options are limited.

The LanTEK IV solution

As well as pre-configuration capabilities which improve accuracy and reduce end of job admin, the LanTEK IV has been developed with automated features which enable fast and easy input of even complex naming conventions. Plus, job identifiers can be used so that engineers and Project Managers can simply segment any given project by build, floor, comms room, cabinet, rack or patch panel.

LanTEK IV also features a handy touchscreen which makes the input of data quick, easy and intuitive.

Simplify results transfer

At the end of the project, installers want to get the results off the tester and back to the office or Project Manager quickly. The faster they do this, the sooner they can submit the finished project and get paid. However, this can be time consuming.

Often the remote engineers we spoke to are required to download results to a laptop via a USB stick or cable and then email the results back to the office. Their laptop is in the van, not the tool bag so this process does not mesh well with their standard working day. Other engineers downloaded the results when they return to the office once a week, sometimes less. Either approach wastes time and can cause a bottleneck at the end of the week where Project Managers have multiple projects to process.

Cable installers told us that the process of transferring results from their cable certifier leads to delays, and in some cases lost results. The most common feedback from engineers was that they want to be able to 'press one button' to send the results back to the office to the job site. As tester manufacturers, this need should guide the development of our cable certifiers.

The LanTEK IV solution

The LanTEK IV cable certifier now has built-in WiFi connectivity. This enables on site engineers, technicians and installers to simply hit the sync button to transfer results to the TREND AnyWARE Cloud test management system. Not only is this fast and convenient for engineers who may not have a laptop easily to hand, but it also helps prevent data from being lost or delayed.

As the solution is Cloud based, any authorised users in the organisation can then access the test data, no matter where they are based. However, for those businesses that still

require a locally installed test management solution, an TREND AnyWARE desktop version will also be available.

Improve management software

The right management software helps minimise the time required to organise reports for customers, helping to ensure payment can be invoiced more quickly. However, satisfaction in this area in our research was low.

Project Managers typically explained that they must follow a structured formatting and quality checking process when creating reports. Often the data they receive from the certifier requires a significant amount of time. This process assures customer acceptance, warranty approval and quality, which in turn reduces call backs.

The challenge when developing improved cable certifiers and the related management software is to reduce the labour involved, without compromising the objective the process is designed for.

The LanTEK IV Solution

One LanTEK IV feature specifically designed to help Project Managers is the suspicious results filter. By selecting this function, the TREND AnyWARE Cloud test management platform will automatically filter and present links with duplicate ID's of the same length and time stamp. Without this innovative feature, Project Managers would have to spend time on tasks such as filtering and sorting test results before they could conduct the high value task of reviewing the results.

Also, with pre-configuration possible, Project Managers can set up the project for LanTEK IV in the TREND AnyWARE Cloud segmented in accordance with their requirements at the end of the project. The pre-configured project can be downloaded by any number of testers working on the job, no matter what order the links are tested in and by which tester.

The completed test results all sync back to the TREND AnyWARE Cloud in the format that the Project Manager has defined, removing the task of manually copying and pasting results from different testers and locations together to make whole projects (or indeed dividing them into sub-projects to match the network segmentation).

Furthermore, as the project progress is clearly shown on both the LanTEK IV cable certifier and in the TREND AnyWARE Cloud, failed or missed links are not overlooked. This helps to reduce call-backs as engineers don't leave the job site if there are still problems.

More efficient port labelling

Without accurate labelling, installers are handing over an installation that will be difficult and time consuming for the owner to manage and resolving mislabelling issues takes up a huge amount of time.

It is also vital that the completed test report ID's match the installed links on site whether the labels are printed beforehand or while on site. Issues occur because the

cable list is input to the tester and then into the printer as well. This double handling can lead to mistakes and mismatches.

As the area of cable certification with the largest market satisfaction gap, labelling is a clearly a very important area to get right with cable certifiers.

The LanTEK IV solution

Using the TREND AnyWARE Cloud platform, the cable list can be set up for use on the LanTEK IV tester. This same cable list can also be easily exported to a printer. Engineers also have the option to input the details to LanTEK IV, then connect the certifier to a printer on site, enabling them to print directly from the tester. Either way, this avoids double entries, errors and mismatches.

Decrease lifetime cost of ownership

A unanimous theme in our research was that test equipment is a big investment for cable installers and can put pressure on their business. We heard many tales of installers making bad equipment choices which meant they did not have the equipment needed to win work or enter an adjacent market segment, the result of which was needing to purchase yet more costly equipment. The investment required in some cases significantly impacted the company's ability to grow.

Cable installers also need to know that the certifiers they buy will be supported long enough for them to get a return on their investment, and that they are designed to meet the testing needs of the future.

The LanTEK IV solution

LanTEK IV was developed with the future in mind. It can certify links to Cat8.1 and Cat8.2 including TCL and resistance unbalance measurements and can sweep up to 3000MHz, providing room for future ratified ISO/TIA test standards. Cable certifiers may not be cheap, but LanTEK IV helps cable installers to protect, and future-proof, their equipment investment.

Plus, LanTEK IV is available with Pay As You Test options, for those requiring three or more cable certifiers. This transforms the certifier fleet from what is traditionally a capital expense into an operating expense instead. This helps businesses to optimise cash flow and spread certifier costs over time.

Pay As You Test options include a purchase model plan with an up front cost, then a small fee per test, and a 'free on loan' model plan, with no upfront costs, instead paying for each test on a LanTEK IV on loan to the customer for free. Either way, test credits can be easily purchased as and when required. There is even a smart 'overdraft' facility to support busy installers who may run out of credits.

Reduced calibration and service downtime

Due to the relatively high unit cost, we found that many cable installation businesses are running operations with far fewer certifiers in their fleet than would be ideal and without

carrying spares. If testers require calibration or service, they require time out of the business, and this needs to be carefully managed.

In our research, installers told us that this could result in downtime onsite and complexities in managing completion dates to fit in with resources. If calibration dates are missed, sites can inadvertently be tested by equipment out of calibration which will mean warranties are denied, certification needs to be repeated, and profitability is reduced. Installers are keen for manufacturers to support them in keeping calibration and service downtime to a minimum.

The LanTEK IV solution

The TREND AnyWARE Cloud provides Project Managers with a Fleet Manager tool. This allows them to see all the LanTEK IV certifiers in their fleet, who is using it, when the software was last updated, when the results were last synced, and, importantly, when calibration is due. This not only makes managing calibration downtime easier to plan, but also avoids and tests being done on site with equipment that is out of calibration.

With LanTEK IV, the Sapphire Care Plan is also available. This is designed to help minimise downtime, reduce the cost of ownership and protect against unforeseen repair bills. The plan also provides loan testers for installers to use while their unit is calibrated or in the event of a repair. This means that businesses can continue as usual, without reduced resources or inconvenient downtime.

Conclusion

Cable installers work in an industry which is constantly evolving. As such, what they really need is access to cable certifiers and test equipment that can change with them and address their biggest day to day challenges. LanTEK IV does exactly this.

The LanTEK IV cable certifier brings a new standard to the industry, and together with the TREND AnyWARE Cloud helps installers to save time and improve profitability.

To learn more, visit www.trend-networks.com

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