



CAT6A Certification Testing: When Seconds Matter

Managing time on any cable install project can be a challenge. For large CAT6A installs, it can prove especially difficult. The added time and effort required to run CAT6A cable can eat into profits. Thus, you should always be on the lookout for ways to recoup those hours. Many are finding that one way to accomplish this is to speed up the cable certification testing process. The AEM TestPro CV100 provides fast CAT6A certification at 6 seconds including additional tests such as DC Resistance Unbalance, TCL, ELTCL and more. Let's look at how a TestPro can help you regain time and money on your next CAT6A cabling install.

Parameter	Value
Length(m)	2.1
Delay(ns)	10.0
Resistance(Ω)	3.4
NEXT(dB)	6.8
RL(dB)	8.8
IL(dB)	2.8
PSNEXT(dB)	8.6

Example Cat6A Channel Certification

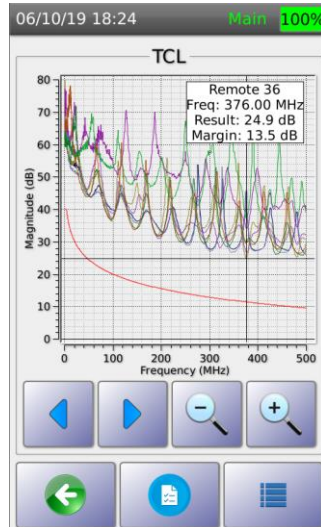
It's no secret that the demand for 10GBASE-T Ethernet over copper cabling is increasing by the day. For cable installers, this is both a blessing and a curse. It's a blessing because your customers are realizing they must fully replace their old cable plants with Category 6A or better cabling. Yet, it's a curse because CAT6A is far more time intensive to install when compared to previous specifications.

The reason why CAT6A installs take more time to complete is two-fold. First, the cabling is thicker and heavier than previous generations of twisted pair Ethernet. Thus, larger conduit and more robust ladder rack may be required to accommodate the increased size and weight. If you're replacing older copper, the conduit and support systems may need to be replaced, bolstered or supplemented. Second, CAT6A is less flexible and more challenging to terminate. Your installers will have to spend more time than ever to properly run, dress and punch-down each cable.

While you could simply increase labor rates to accommodate for the added time spent completing the CAT6A install, innovative cabling companies will seek out other ways to reduce install time. Doing so allows you to be much more competitive from a pricing perspective.

As mentioned previously, a simple way to cut down on the time it takes to fully complete, certify and turn over a cabling job is to lower the amount of time required to certify each cable. For example,

AEM's TestPro CV100 Autotest feature can perform a full CAT6A certification test in just six seconds. Compare that with competitors like Fluke who claim a 10 second standard test. Yet, also keep in mind that Fluke's standard 10 second test does not include checks for TCL (Transverse Conversion Loss), ELCTL (Equal Level Transverse Conversion Transfer Loss), balance, near-end crosstalk and critical PoE resistance measurements. The TestPro already includes these in its' six second test. The reason these additional checks are important is because they are often required by cabling manufactures to verify the cabling and install methods meet their strict levels of compliance.



Example Cat6A Certification TCL Results

Adding these important add-on checks to a standard Fluke certification test and you begin to approach 19 or more seconds per cable. Once you do that, we're now looking at a 13 second difference in time to certify each cable between Fluke and AEM. That may not seem like much -- but when the job requires certifying hundreds or thousands of cables per job -- those seconds add up quickly.

Looking at what the CV100 completes in that 6 seconds is quite extraordinary. For example, the CV100 will qualify multi-gig link speeds up to 10GigE. The Autotest provides pass/fail statuses for 1, 2.5, 5 and 10GigE multi-gigabit data rates. While it's doing that, the TestPro Autotest also performs sustained PoE++ load testing. Again, the test will provide the operator with easy to understand pass/fail notifications for 802.3af/at/bt PoE standards up to 90W. The complete list of channel and permanent link tests performed in a six second Autotest are:

- Length -- including distance to fault
- Propagation delay
- Delay skew
- Loop resistance
- DC resistance unbalance for both pair to pair and wire to wire
- Return loss
- Impedance
- Insertion loss
- NEXT
- PSNEXT
- ACRF
- PSACRF
- TCL
- ELTCTL

TestPro also boasts a 3GHz bandwidth range, assuring investment protection when new standards arrive. Lastly, remember that the CV100 is highly flexible. With optional adapters that include both copper and multimode/singlemode fiber certification test capabilities, your team won't need to worry about forgetting a test tool back at the office. As long as they have their TestPro, they can handle any certification need with speed, accuracy and reliability that's unrivaled in the industry.

To learn more about AEM and our testing solutions, visit us at [AEM-Test.com](https://www.aem-test.com).

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