



## Automatic Testing Equipment

### LAN CABLES

competition is nurturing  
as long as it remains fair

#### ■ Different business attitude

AESA Cortaillod has built its reputation based on long lasting "Swiss Made" experiences, skills & competences in the electrical measurement of cables & wires. As a living demonstration, we positively interact with more than 500 active customers worldwide. One of AESA's corporate values is the sense of **integrity**. We are thus surprised when some competitors are issuing statements about AESA's market offerings, obviously led by unfair motivations. For those reasons, we would like herewith to summarize on AESA's performances for your objective information.

**AESA Cortaillod** commits to provide only the most productive solutions. The major aspects to be considered very carefully when talking about measuring accuracy in the high frequency range are: The connecting method, the switching method, the calibration method, the system repeatability & reproducibility. Here follows some clarifications on these topics. Detailed information is available on request.

#### ■ Connecting Method

AESA has several kinds of cable **connection** available with its equipment. Self stripping (SA), WAGO (WA), direct (DA), Custom design...

Customer quite often selects WAGO connectors because they are easy to prepare, installation and R&R (Repeatitivity & Reproducibility tests) secured, they are also robust and adapted to production environment. At high frequency, self-stripping knives IDE are not recommended because of the degradation of measuring performances, in particular cross-talk.

#### ■ LF – HF in One

LF-HF **all-in-one** units are proposed up to 350MHz. For higher HF frequencies, the LF and HF sources benefit from a separation. Above 350 MHz, an integrated solution with separated LF / HF offers stronger reliability, as well understood and supported by experienced customers. On that way the exponential degradation of performance is avoided.

Of course, under 350 MHz, lower end and lower cost alternatives may be considered as far as their maintenance is manageable. Those can then also be "all in one", e.g. even step motor or rotating table switch

#### ■ Calibration Method

AESA is proud to have developed a unique and easy solution for the **calibration** of its equipment, 100% independent from the VNA thanks to our own software. Calibration every 3-4 months is sufficient and is, thanks to an easy operator's interface, simple & fast (few minutes). The number of baluns does not make the calibration longer.

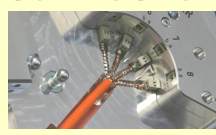
Alternatives on the market may look simple and take seconds but need to be repeated regularly to strive for results' stability!

**integrity**



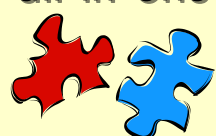
our strong corporate value

**connection**



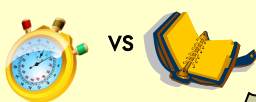
Wago connectors are perfectly adapted for Cat 7A (when f req >1 GHz)

**all-in-one**



we propose reliable all-in-one equipment when compliance can be ensured

**calibration**



should a calibration be fast or permanent ?

■ **Switching Method**

Here also, over 30 years of experience help to make choices and the preference still goes to high precision mechanical **switches** for measurement excellence. In fact, AESA delivered the first solid state SSR equipped systems in 2006. It is a way to reduce costs but at the expense of performances and this alternative barely match with the international standards.

- The AESA Switching unit ensures
- from DC to 18 GHz (SSR: Signal degradation in LF & HF)
- High signal dynamic (105 dB) (SSR: Signal dynamic limitation)
- Isolation (120 dB) compliant with the standards (SSR: not compliant)
- Long life state of the art switching components (unlimited measurements).
- No particular maintenance.
- Contingent relay replacement seldom and seen as fully reasonable (SSR: unknown)

■ **Alien Crosstalk**

The latest Standards for bundled cables require “**Alien**” crosstalk parameters to be tested. These measurements are quite time consuming if they can not be performed automatically, due to the high number of required test commutations as well as the terminations for the pairs not under test. The switching technology integrated in AESA measuring systems brings an accurate, efficient and fast solution to the actual existing testing problems.

■ **Balunless**

The LAN cables are specified for an increasingly broad frequency range. The usual baluns cannot measure more than 3 frequency decades with a reasonable accuracy. AESA introduced a new **balunless** automatic test equipment based on the modal decomposition mathematic algorithm, offering new possibilities and parameters, to help the development of new cables as well as simplify the operator tricky job of systematic testing after production.

■ **User’s Interface**

AESA has developed with key Cable & Wire manufacturers an easy & intuitive Operator interface. All our ATE have the same software features. The AESA OptiTest **software** offers different levels of sophistication matching the needs of operators, engineering or management / administration. Any requirement can be addressed, even embedded interface with MES / ERP systems.

■ **Instead of 10 questions...**

...please ask you the right one :

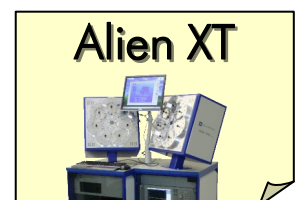
Why do **leaders** prefer professional high performance equipment instead of multi purposes cheaper tools ?

■ **Calling**

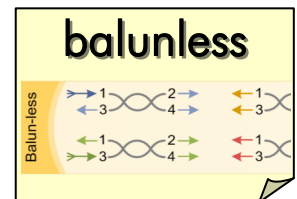
Please visit us at [aesa-cortailod.com](http://aesa-cortailod.com). AESA Cortailod is there to help you by enhancing productivity and quality management.



Choose for Excellence or Price  
the decision is yours



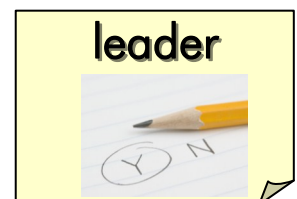
4 pairs cables measured in seconds  
7x4 bundled cable measured in minutes



additional parameters, shorter cable,  
unlimited range of frequencies



User-friendly as stand-alone solution  
Ready to be integrated in MES/ERP



Purchases according to your objectives



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