

COMMUNICATION CABLE MEASUREMENT

MEASURE HF/LF /HV
PARAMETERS OF INCREASINGLY
COMPLEX COPPER
COMMUNICATION CABLES IN A
TRANSPARENT AND EFFICIENT
WAY, WHILE ENSURING FULL
TRACEABILITY



IN COMMUNICATION CABLE, CERTIFICATION IS ACHIEVED THROUGH A THOROUGH SERIES OF TESTS IN ACCORDANCE WITH MAIN INTERNATIONAL STANDARDS FROM ORGANIZATIONS LIKE TIA (TELECOMMUNICATIONS INDUSTRY ASSOCIATION), IEC (INTERNATIONAL ELECTROTECHNICAL COMMISSION) OR YD/T (CHINESE COMMUNICATION INDUSTRY STANDARDS).

OUR SOLUTION

Automatic Test Equipment (ATE) must be used to perform these numerous tests that not only provide "Pass" or "Fail" information but also the complete cable characterization.

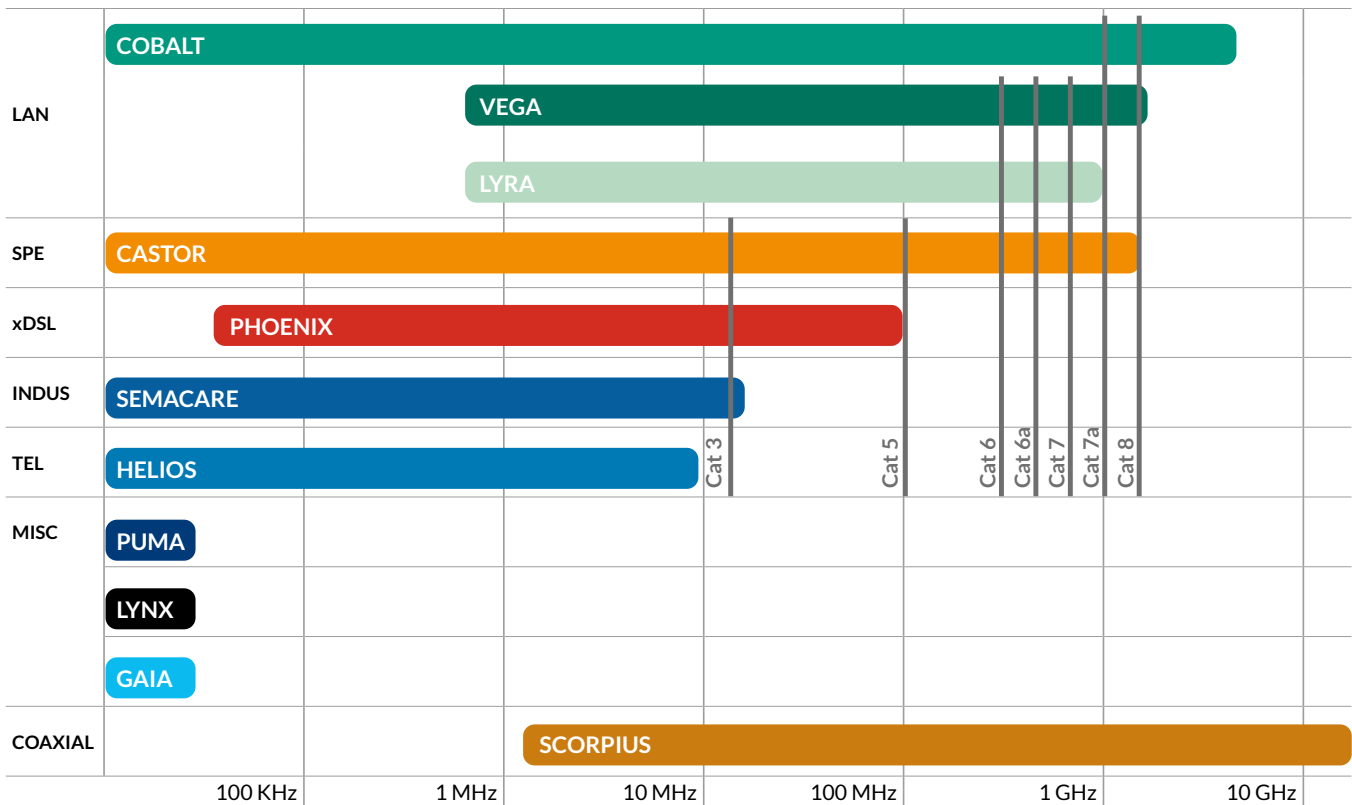
AESA range of ATE covers the performance tests according to procedures defined in the respective standards. With its low and high frequency as well as high voltage modules, these can be customized depending on the specifications or requirements of the final user. From the Lynx system - for intermediate test - to the balunless Cobalt - for Cat8 and higher frequencies - via the Gaia for dielectric strength, AESA provides a complete set of solutions for all type of cables such as, LAN cables or Coaxial, as well as for patch cords with connectors.

AESA also proposes portable devices (continuity tester, fault locator...), easy to move to the drums for quick tests.

OUR OFFERING

AESA provides a full range of equipment to fulfil the specificities of all types of communication cables going from low frequencies to very high frequencies for wire/pairs/triads/quads like:

- LAN Cable
- xDSL Cable
- Telephone cable
- Coaxial cables
- Industrial cables (like railway, instrumentation, signalling, etc...)
- Patch cords and assemblies
- Special cables for medical, military or aerospace domains



COBALT & CASTOR

LAN/Data cables are specified for increasingly broader frequency ranges. Conventional (balun based) equipment cannot measure more than three frequency decades, and that is the reason why the cable industry is looking for a substitution measuring method.

Cobalt, the unique automatic balunless test system on the market based on the modal decomposition mathematical algorithm, is your perfect solution.

Castor, the fully integrated automatic system for Single Pair Ethernet (SPE) data cables.

OUR OFFERING

By conducting measurements on individual wires and not just on pairs, Cobalt allows measurement of a particularly wide range of parameters that cannot generally be tested by conventional methods. Cobalt is a valuable tool also to assist you in cable development.

Equally important, final cable testing is rendered simpler and more reliable as it is fully automated, thus eliminating the need for the operator to conduct very cumbersome tasks with the associated risks of handling errors.

KEY FEATURES

- Very broad frequency range (>4GHz), for Cat 8 and higher
- No balun = full dB dynamic of the VNA is available for the measurement
- More than 170 parameters (including TCL/LCL/ELTCTL automatic measurement)
- Able to measure very short cables
- Individual values (per wire)
- Compliant with the standard ANSI/TIA-1183-1 and IEC 61156-1-2 Amd.1
- EMC parameters (option)
- Alien XT (option)
- Different models :
 - Cobalt standard
 - Cobalt DT (desktop)
 - Castor DT (desktop)



LAN/DATA CABLES (BALUNS)

VEGA & LYRA

Vega, equipped with ultra-reliable relays, offers the fastest and most reproducible solution on the market to test LAN cables up to cat 8 (2 GHz).

Lyra, equipped with self-cutting knives, is the optimized solution for large volume production testing of LAN cables up to cat 7 (600 MHz).

OUR OFFERING

This automatic testing system has been developed to offer an effective solution for testing Cat 5 to Cat 8 LAN cables. It allows low frequency measurement of pairs and quads (RCKE) as well as high frequency parameters up to 2 GHz.

Different options such as EMC (AC, AS, TI) or alien crosstalk (AXT) functionalities offer considerable flexibility in terms of parameters, thus allowing full characterization of your cable, including shielding parameters.

Thanks to AESA "OptiTest" software module (an element of the CIQ family) supplied with it, operators can work quickly and efficiently. The "OptiTest" software also allows analysis of parameter measurements for process control, traceability or any other functions requiring statistical information.

KEY FEATURES

- Ideal for LAN cables measurement from Cat 5 up to Cat 8
- High Accuracy
- Fast measurements
- Perfect reproducibility
- Easy to operate
- LF certified ISO 17025
- Different models:
 - Vega standard (trolley)
 - Vega DT (desktop)
 - Vega AXT (28 pairs)
 - Lyra DT (up to cat 7)



PHOENIX & HELIOS

Phoenix has been developed to offer an effective solution for testing xDSL cables Cat 3, 4 and 5.

Helios has been developed to offer an effective solution for testing telephone and xDSL cables up to 10MHz.

They allow the automatic low frequency measurement of pairs and quads (RCKE) as well as high frequency parameters.

OUR OFFERING

Customer requirements can vary considerably in terms of size and design of connecting frames depending on how many pairs need to be hooked up to the frame simultaneously.

The Phoenix and Helios systems allow you to hook up a maximum of 112 pairs.

Thanks to the "OptiTest" software module (an element of the CIQ family) supplied with it, operators can work quickly and efficiently.

OptiTest also allows analysis of parameter measurements for process control, traceability or any other functions requiring statistical information.

KEY FEATURES

- High Accuracy
- Several connecting frames available up to 112 pairs
- High Accuracy
- Fast measurements
- Quick connection due to self-cutting knives
- Perfect reproducibility
- Easy to operate
- LF certified ISO 17025
- Different models :
 - Phoenix standard (trolley)
 - Phoenix DT (desktop)
 - Helios standard (trolley)



SEMACARE

You have to measure a cable on a drum whose ends are short or rigid? You have to qualify an installed cable directly on the field whose ends are several kilometers apart? **SemaCare** is the equipment that can easily reach all cable ends in various environments.

The ideal solution to characterize industrial cables in one run, the SemaCare device has been especially designed to accommodate constraints such as large diameter or rigid extremities.

Fast and easy to use, the SemaCare offers the added advantage of providing a concise test report summarizing all the results per parameter.

OUR OFFERING

Industrial cables (instrumentation, control, signaling, automation, ...) each have their own specificities.

The SemaCare device has been especially designed to be fully compatible with all such types of cables.

In addition to its use for conducting low frequency measurements based on the 4-point Kelvin method, the SemaCare device also offers the added benefit of letting you perform measurements at the very low end of the high frequency range, either by using the fixed points or sweeping methods.

The connecting frames are compact and mobile which allow the operator to easily come into close proximity with the coil extremities (rigid or short ends). Different trolleys or supports are available to meet special requirements.

KEY FEATURES

- Versatile and mobile device
- LF certified ISO 17025
- HF parameters measured up to 20MHz
- Movable connecting frame to easily connect short or rigid extremities
- Possibility to support large wire diameters (diameter up to 2.5mm)
- Different models:
 - Standard version
(for drums measurement)
 - Remote version
(for field measurement)



SCORPIUS

Scorpius automatic test equipment (ATE) is designed to measure high frequency parameters of Coaxial cables.

Coupled with a triaxial tube, DT model is also the perfect solution to measure EMC parameters (Transfer Impedance, Screening and Coupling Attenuation) of telecom cables.

Our dedicated adapters connected to the 50 and 75 ohm interface let you quickly connect your different products while ensuring perfect contact of both the core and the shield of your Coaxial cable.

This equipment is not only offering operating comfort, but also providing high measurement accuracy.

KEY FEATURES

- Complete solution for Coaxial cables
- Possibility of measurement up to 18GHz
- High Accuracy
- Easy to operate
- Fast measurements
- EMC parameters option
- Different models :
 - Standard version with external VNA
 - DT version (desktop) all integrated

OUR OFFERING

AESA provides money-saving solutions for testing coaxial cables. It can be either a stand-alone or rack-mountable accessory, which is easily interfaced to the network analyzer. Each end of the coaxial cable under test is connected to the front panel by way of N-type male connectors or adaptors.



DIELECTRIC STRENGTH AND INSULATION RESISTANCE

GAIA

Besides dedicated test equipment to measure High Frequency parameters, cable manufacturers have specific needs that only multi-purpose equipment can fulfil. The manufacturing requirements of special cables create an increasing need for flexibility and measurement of special parameters like high voltage and insulation resistance.

OUR OFFERING

The **Gaia** is a multipurpose test device that allows to measure the dielectric strength, the insulation resistance, the low frequency parameters (RCKE) and as well the high frequency parameters, attenuation, impedance and crosstalk in a single run: The Gaia High Voltage Low Frequency High Frequency multiple cable tester is your ideal automatic solution to characterize instrumentation and multi-pairs telecom cables up to 208 wires.

KEY FEATURES

- High voltage test AC 5 KV, $\leq 2A$
- High voltage test DC 6 KV, $\leq 4mA$
- Insulation resistance $\leq 200G\Omega$
- Low Frequency measurements RCKE
- High Frequency parameters @ 800 Hz or 1 kHz
- Three different connecting frames from 8 to 208 wires available.
- Robust and sturdy-made for the shop floor
- Mobile on trolleys with wheels
- Different models:
 - Gaia S up to 24 wires
 - Gaia M up to 104 wires
 - Gaia L up to 208 wires



HIGH VOLTAGE DC GENERATOR 4735



The **HV DC generator 4735** performs dielectric strength with adjustable voltage without destruction of the cable in the event of a breakdown. The low supplied current (0,3mA) prevents the destruction of the cable in case of default. The fault is indicated by the variable lighting of the lamp, flashing when the current leakage reaches 10µA.

- Device for laboratory and outdoor works
- Non-destructive testing
- Adjustable voltage up to 10KV DC
- Safety ensured thanks to an automatic cable discharge at the end of testing
- Battery or mains supply 115/230V powered

MEGHOMMETER 3921



The **Megohmmeter 3921** was specially designed to measure the insulation resistance of telecommunication, signalling, coaxial, LV and MV cables. It considers the cable length during the test session. This provides a direct reading in MΩkm on a large display mounted on a mobile support. The out-put voltage is fixed at 500VDC. At the end of the test session the cable is automatically discharged.

- Stabilized displayed value in Mohm x km
- Portable test device for laboratory and shop floor
- Automatic discharge at the end of the test session
- Battery or mains supply 115/230V powered

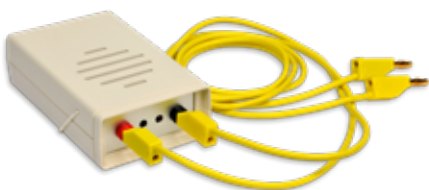
FAULT LOCATOR 3432



Fault location without cable destruction allows you to save substantial quantities of raw material. The **3432** is your perfect device for the direct localization of contacts and broken wires on different materials (thermocouples, coaxial cables). Based on the measuring principle of the comparative method of the resistance or capacity, it makes it possible to locate high resistance faults up to 1MΩ.

- Direct display of the fault position (LCD screen)
- Good accuracy of up to 1 MΩ resistor fault
- Direct reading of the fault location in meters
- Battery or mains supply 115/230V

CONTINUITY BELL 3216



Are you looking for a continuity tester usable in a noisy environment? The continuity **test bell 3216** is your perfect device for rough conditions. It allows the easy and quick check of the continuity within a cable or a wire. Its robustness and its adjustable visual and noise signals make it an essential instrument in all cable manufacturing plants.

- Adjustable buzzer
- Protection against external voltages
- Battery powered
- For long cables adapted

RESISTANCE AND CAPACITANCE (RCKE)

PUMA

Puma has been developed especially for intermediate or final testing of telecom cables or sub-assemblies. It allows low frequency measurement of pairs and quads.

It can be equipped with mono-pliers or connecting frames (different configurations available), in order to match the specific needs of the test station.

With its state-of-the-art measuring technology, it offers a fast, safe and very precise solution.

Its embedded computer is fully efficient and compatible with software and accessories that are readily available on the market. Thanks to the "OptiTest" software module (an element of the CIQ family) supplied with, operators can work quickly and efficiently.

The "OptiTest" software also allows analysis of parameter measurements for process control, traceability or any other functions requiring statistical information.

KEY FEATURES

- Embedded computer
- Flexibility
- Possibility to measure long lengths
- Compact or trolley version
- State-of-the-art
- Easy to operate

LYNX

The **Lynx** testing system has been specifically developed for intermediate testing during the manufacturing process.

The pairs or quads specifications can thus be checked at regular intervals. Results analysis provides data for process control, product traceability or any other function requiring statistical information. In addition to exceptionally high measuring accuracy and user-friendliness through the use of a touchscreen, this state-of-the-art device is fitted with a capacitance bridge with a choice of switchable frequencies allowing you to also measure long distance cables.

KEY FEATURES

- Easy operation via a touchscreen
- High accuracy
- Possibility to conduct long distance measurements
- Compact
- State-of-the-art



AESA MANUFACTURES AND SELLS HIGH-QUALITY PRODUCTS. BUT BESIDES THIS, AS A RELIABLE SUPPLIER, AESA CLOSELY WORK WITH YOU BY OFFERING A FULL SET OF SERVICE TO ADDRESS YOUR MOST CHALLENGING NEEDS AND REQUESTS.



WARRANTY EXTENSION

AESA is confident with its technology and the quality of its goods. This is why all new instruments are supplied with a 2-year warranty period by default.

In order to protect its customer's investment, AESA now offers an exclusive contract with a smart package of services, extending the warranty period up to 3 years.

ISO 17025 ACCREDITED



ISO 17025 & SERVICE CALIBRATION

AESA is proud of its ISO quality credentials. It successfully gained accreditation for standard EN 45001 in 1994, and for ISO 17025 in 2002, for our calibration laboratory.

The AESA calibration laboratory is accredited by the Swiss Accreditation Service (SAS). The SAS is recognized by the major international accreditation bodies, such as the European Cooperation for Accreditation (EA), the International Accreditation Forum (IAF) and the International Laboratory Accreditation Cooperation (ILAC).

You can therefore rest assured that all your testing instruments are calibrated to the most stringent standards.

In addition, we offer a calibration service: not only can we re-calibrate your instruments; we can also provide certified standards for clients wishing to check instruments by themselves.

MAINTENANCE AND SERVICE CONTRACTS

Even the most reliable systems require regular, planned and preventive maintenance to perform at optimum levels and according to specs. For this reason, AESA proposes preventive service packages.

Based on cycles of one, two or three years depending on your specific needs, the AESA service packages will help you extend the operating life of your equipment, control your maintenance costs, and ensure optimal performance. In addition, our packages include advantages such as an extended warranty period, priority remote support, and discounted spare parts.

CABLE ACADEMY

At AESA, our aim is not only to provide our clients with effective solutions. We also help you enhance your understanding and mastery of the technology related to cable metrology, as well as optimizes your ability to gain the full benefits of the possibilities offered by AESA equipment.





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