

INFO Televes®

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TELEVES IS WELL POSITIONED IN THE GROWING MARKET FOR GPON NETWORKS

Gigabit Passive Optical Networks (GPON) represent a growing business opportunity worldwide. In the Old Continent it is considered to play a key role to achieve the penetration objectives for broadband internet access as defined by the European Digital Agenda; thus, the rest of the world will shortly be ready to start deploying this technology. Televes has great experience in integrating data services in the coaxial network (CoaxData) technology. With **GPON** it is also about integration, although in this case **television services travel through data networks over fiber optics**. ANGACOM 2015, the prestigious international exhibition that every spring brings together Broadband, Cable and Satellite sectors in Germany, has been the privileged showcase where Televes has presented solutions for GPON networks. The comments received from the professional visitors to the company's stand

helps to envision a optimistic perspective in the short term.

This positive experience at ANGACOM 2015 confirms Televes' commitment to the relevant niche market that exists for integrating data services and radiofrequency in existent cabled infrastructures. The current and future demands of operators are already fulfilled with GPON and CoaxData solutions from Televes.

Other Televes' products that highlighted in Germany were the new range **NevoSwitch**, fully developed and manufactured at the company's facilities, as well as the new **T.OX modules, IPTV solutions for the Hospitality sectors** and the well acclaimed line of **Hseries** field spectrum analysers ■

GPON SOLUTIONS PRESENTED BY TELEVES MEET CURRENT DEMANDS AND FUTURE NEEDS OF OPERATORS THAT INTEGRATE RADIOFREQUENCY OVER DATA NETWORKS

AND ALSO...



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NEW TECHNOLOGIES

MyNET WiFi.

NEW PRODUCT

CoaxData, the only one with MyNET WiFi technology.



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televes.com

MEETING POINTS

Visit us at:



SEPTEMBER

11-15	IBC Amsterdam	Netherlands
17-19	FUTURA Salzburgo	Austria
28-30	THE HOTEL SHOW Dubai	UAE

General Convention EUEW

(Lisbon) 4-6 June



Televes sponsored the 60th General Convention EUEW, European Union of Electrical equipment Wholesalers, held in Lisbon during the 4th and 6th June with the participation of companies and professionals from over twenty countries.

The title **Change and Innovation: New technologies and new competitors**, summarises the value provided by the wholesaler, the challenges posed by digital technologies and the effect on e-commerce.

Televes supported the event with sponsorship and the participation of Manuel Martinez, Business General Manager, and Matthias Dienst, Managing Director of the German subsidiary, country with about 30% of the audience representation, which gives an idea of the power of that market. A very select group of executives assisted from 17 European countries, Canada, USA and UAE. Televes valued this event for its capacity to serve as a catalyst to generate significant business opportunities.



In his presentation, Matthias Dienst expressed how wholesalers, distributors and professional installers are essential partners in the Televes business model, based on values such as technological development, quality manufacturing and international vocation. He stressed the way in which resources for R & D, Logistics and Technical Assistance in the Televes Corporation are oriented to satisfying customer needs and provide support to market demands ■



FAQs

Is it necessary to certify a Fibre Optics fusion splicer?

Most of the instruments used by an installer must be certified.

THE EXPERT SAYS

The equipment certification is performed when it is a measuring device or a measuring related element, as for example a signal generator. **A splicer, however, is an installation tool and not a measuring instrument, so there is no need to carry out any certification.** The splice-loss estimation performed after the splice must be considered as a simple test, as an indication of a successful splice, and not a measure that characterizes the installation ■



More info in
televes.com

Javier Esteban
Technical Assistant Manager



ALWAYS AT THE LAST

Tsuite 2.1.4.86 Update

Updates for the famed CDC SW are regularly published. The incorporation of new devices is the main cause of those updates, allowing an intuitive and simple way to configure the modules.

The ever more pressing needs in headend adjustments, such as editing TsID and PID, are tasks performed with Tsuite easily and in minimal time ■



Also available in:
televes.com/en/servicios/descargas/software

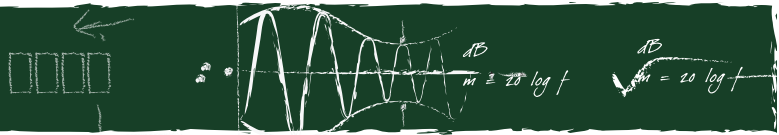
YOUR PICTURES



Antenna protector

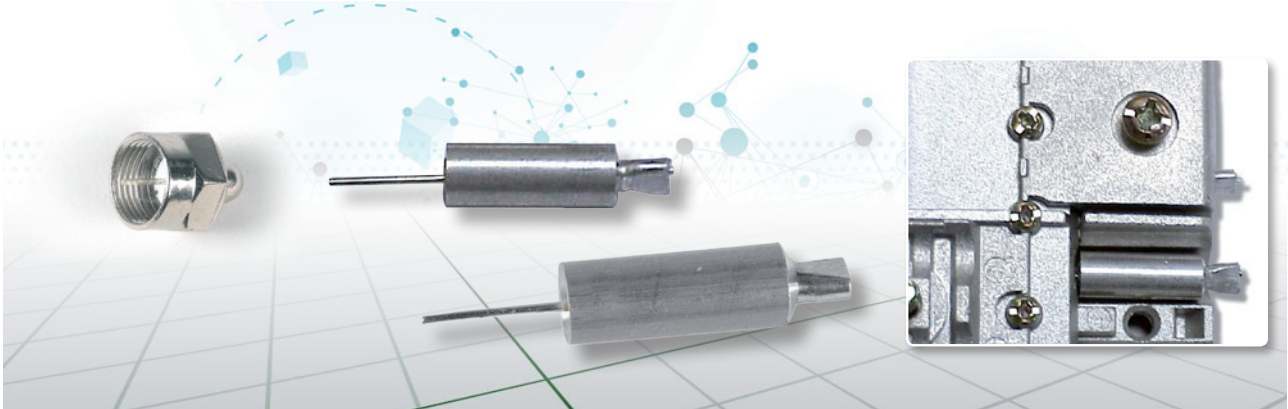
From the hats that protect us from the sun to the helmets that prevent serious injuries, nature has given us a special ability to preserve our brains against external hazards. It is an innate tendency to look after what holds our intelligence.

The same happens to this DAT antenna in Almeria (Spain), being an intelligent device, tries to shield his talents taking advantage of what could be a protective net ■



The importance of a 75ohm load

Loading the line minimizes risks on the quality of the distributed signal.



To achieve the best performance in a coaxial cable network it is **necessary for the transmission line to be properly loaded with a 75Ω nominal impedance load**. This includes all unused outputs of every installed device.

A coaxial cable network is essentially composed of passive devices, active elements, coaxial cable and sockets. Any interruption in the network must be compensated by the insertion of an element with an impedance of 75Ω.

The energy of an RF signal traveling through a coaxial cable is completely dissipated in the resistance of 75Ω. This condition exists as long as the cable is properly loaded, which is achieved when the 75ohm resistance load is the same as the characteristic impedance of the coaxial cable network. In a coaxial network, the power of the signal generated in the headend is absorbed or dissipated in the load at the end of the network, which is traversed by

a progressive wave.

Whenever the network is loaded with an impedance value different from 75Ω, **part of the power will be reflected**. Because of this, when the coaxial installation is not properly finished, the power that was not absorbed by the load is reflected back in the opposite direction. The power level of this reflection is directly proportional to the impedance mismatch.

In coaxial cable networks, **the more impedance mismatches, the greater possibility of reducing the quality of the transported signal**. Attenuation behavior stops being linear across the used bandwidth, and therefore, causes an imbalance between channels. Another notable situation is the introduction of noise, caused by the reflected power at the different points where an impedance mismatch exists.

The below graph illustrates a real case where the attenuation/frequency relation

varies because of the impedance mismatch, with fluctuations higher than 5dB in relatively close channels. With loads installed, this variation does not exceed 1.5dB.

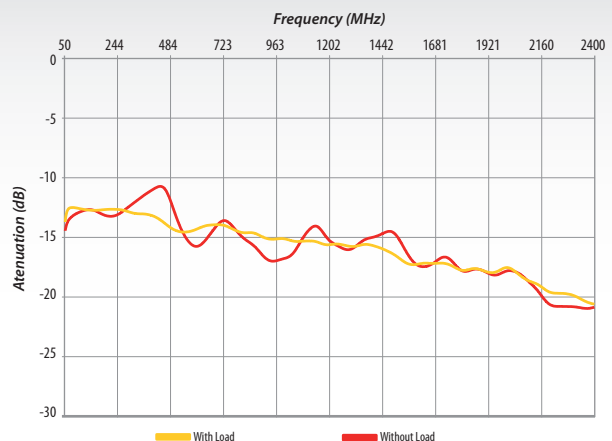
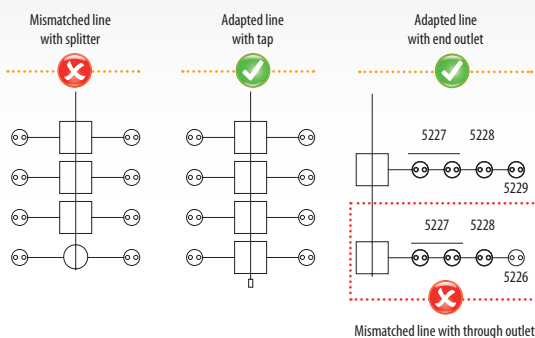
In networks with a high density of signals, such as CATV networks, it is common to find impedance mismatches that generate disparity in the quality of the services available.

When choosing the load type for a coaxial cable network, two aspects should be evaluated: mechanical compatibility (F or EasyF connections) and current flow through the connections. In the latter case, the loads must be shielded to avoid causing a, more than likely, current consumption and heat dissipation.

When a socket is at the end of a line, a model that charges the line even when no device (TV, STB, etc.) is connected should be installed as well ■

LOADS

Any unused connector or flange must be loaded to prevent impedance mismatches in the network



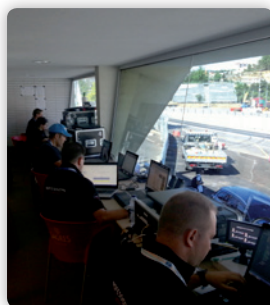
TELEVES FACILITIES

Vila Real International Circuit (Portugal)



From July 10 to July 12, the legendary circuit of Vila Real (Portugal) hosted the **WTCC 45th International Circuit (FIA World Touring Car Championship)**. This event rallied thousands of fans over a three days period and included a television broadcast that reached 50 million viewers through **Eurosport**. The distribution of the television signal during the competition is vital, as teams need to access the information in the boxes and support trucks, in order to have data about race times made by the pilots or about any other contingency that may occur during the race.

The **T.OX modulators** used in the headend converted the signals supplied by the organization into PAL channels and COFDM multiplex. The signal, broadcasted from the checkpoint, was distributed through a network spread over hundreds of meters, making it possible for all the teams' and media center TVs to have real time information ■



DISTRIBUTOR: Magalhães & Companhia Lda.

Installer: Enersecur

**DID YOU
KNOW..?**

...Televes has installed the first television system in the Galapagos Islands?

In this unique archipelago about a thousand km off the coast of Ecuador, the National Telecommunications Corporation (NTC) recently decided to install the first equipment for receiving satellite television. It has been how Televes has reached one of the most remote, beautiful and unique places on the planet. Too bad Lonesome George, the last known specimen of Pinta Island giant tortoise (*Chelonoidis abingdonii*), was unable to see it. The disappearance of his species in 2012 is a painful reminder of the importance of working for the conservation of biodiversity ■



IDEAS

TVMotion: TDT Reception on the move



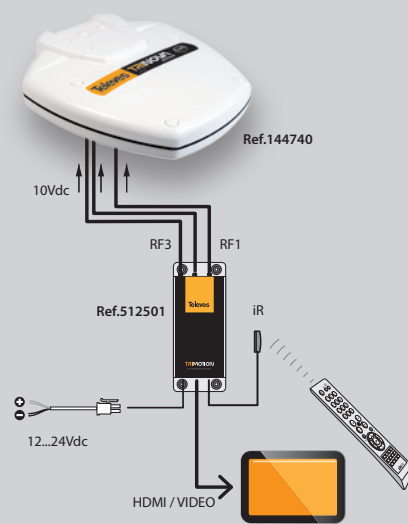
The TVMotion system, designed for boats, caravans, coaches, etc., is the ideal solution for DVB-T reception on the move.

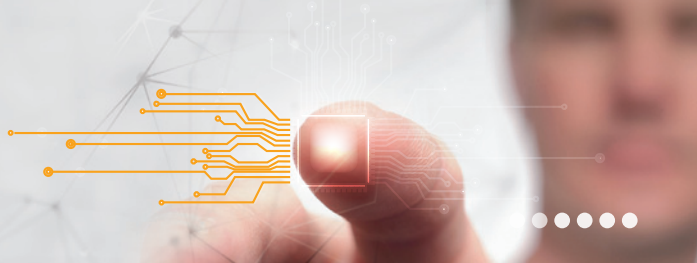
Two factors are required to have a safe and quality reception while on the move: a good coverage and a robust reception, capable of correcting the defects of the reception caused by sudden changes of direction and the momentum of the receiving system.

Televes has developed the TVMotion system, integrating the Trinova antenna and the TriMotion receiver.

The Trinova antenna contains three dipoles and has an optimum capacity for signal reception in all directions. The three cables available in the antenna are connected to the TriMotion receiver, which is able to choose from the three feeds and select the one receiving the best signal.

This system is, therefore, an ideal solution for any case where you want to receive television while moving ■





The new concept of efficient, responsible and safe wireless access network

Rarely we do stop and wonder about the transmitting power of our wireless router used to connect to internet at home, in hotels, airports, etc. Manufacturers of such devices seek maximum coverage in areas where it is installed, so they raise the power to ensure that the signal reaches the maximum number of users through walls, doors, halls and other physical elements that significantly attenuate the signal. Typically such power is set between 17 and 20 dBm.

However, these levels in most cases are clearly excessive. **MyNET WiFi** technology developed by Televes shows that it is possible to create an efficient, responsible and secure wireless network by adjusting the power level of the wireless terminal. With this solution, the CoaxData access device can be set to low power, emitting only 3 dBm, giving users substantial improvements in certain environments.

— Power + Efficiency

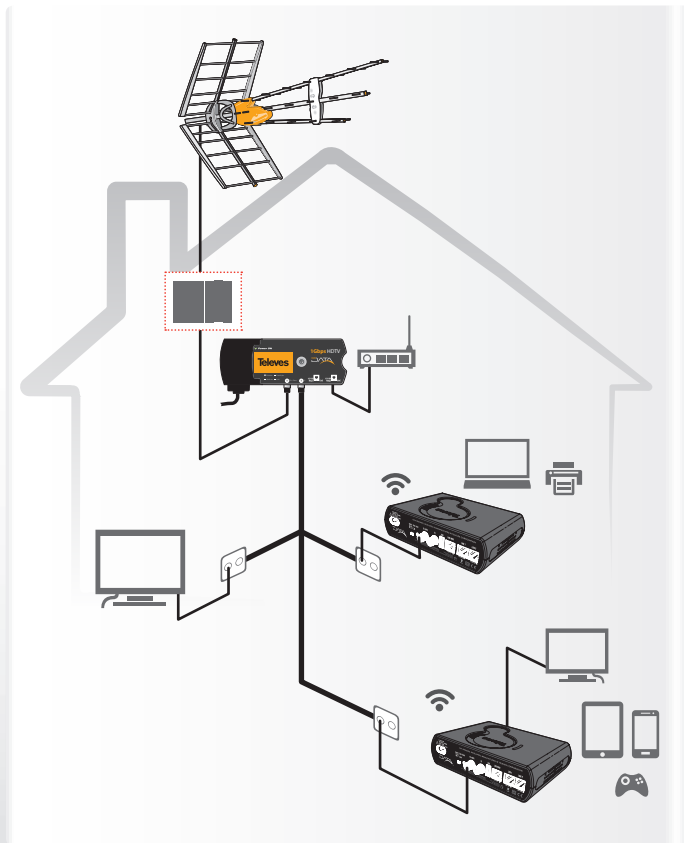
MyNet WiFi divides the coverage area into several lower power access points, instead of using a single, more powerful device. **By creating micro cells the network overhead is reduced and user network management is improved** which translates into an enhanced internet surfing experience for users.

— Power + Security

On the other hand, by **reducing the access radius to the device we generate greater security against intrusion** by unwanted third parties. Furthermore, less interference is generated amongst devices themselves because they are deployed to serve a specific area without leaking beyond.

— Power + Responsibility

We must not forget one last important factor, it is a **good exercise in responsibility** to reduce our exposure to electromagnetic radiation to the minimum necessary to ensure optimum service and our enjoyment of a good internet access ■





the only one with **My NET** WiFi technology



The most responsible Internet access

Televes' Mynet WiFi technology allows you to configure your **CoaxData Wireless Access Point in low power mode**, allowing you to reduce the degree of exposure to electromagnetic fields (EMFs)

— Power + Responsibility



TV and Internet services Integration on coaxial networks



Signal Extension without amplification



Creation of Users Segmented networks



Monitoring of the created networks with the Access Control application



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