

# INFO Televes®

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The newly renovated **Centre of Televes Technology (CeTT)** brings together the resources of Research, Development and Innovation (R+D+i) of all the companies comprising the Televes Corporation, a chapter with a **sustained average investment of 7% of turnover**. Its implementation is aligned with the evolution of the company from a specialist in the distribution of radio and television signals to a facilitator of integral services such as entertainment, well-being, social health and energy efficiency through the telecom infrastructures of buildings and homes, all lined up with the European Digital Agenda and the paradigm of Digital Home and Building.

From an industrial point of view, the CeTT has a starring role in the implementation of the **Televes Factory 4.0**, defined as the industrial environment where components, products, processes and employees communicate with each other, creating a

competitive, efficient and sustainable ecosystem.

More than 80 professionals work in the Technology Center, which is located within the company's headquarters in Santiago de Compostela. It provides an optimal professional environment for generating applied knowledge, which will enable the corporation to continue developing initiatives like **CareLife**, a socio-sanitary solution where an intelligent system analyses the routines and habits of the elderly, or dependents, at home to improve their security and quality of life.

Other projects brewed within the CeTT are in the fields of **Smart Cities** and major infrastructures, such as wharfs, airports, or other special buildings, such as schools or hospitals. An example is the tender awarded to Televes to develop the model of the **future intelligent hospital room** for the Galician Public Health Service ■

THE CeTT CREATES THE OPTIMUM PROFESSIONAL ENVIRONMENT  
FOR THE GENERATION OF APPLIED KNOWLEDGE

AND ALSO...



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### NEW PRODUCT

4GNova Antenna.



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televes.com

## MEETING POINTS

Visit us at:



### JUNE

2-10	ESSENTIAL INSTALL	UK
9-11	ANGACOM Cologne	Germany
13-19	INFOCOMM15 Florida	USA



## FAQs

### NAB Show & Team Summit

(USA) 11-16 april / 5-7 may



These two events are a reflection of the sustained growth of Televes in the US. In this case, the spotlight was focused on the RFoG and GPON solutions utilising CoaxData for fiber optic, or hybrid fiber-coaxial networks.

We have witnessed support and loyalty among professional installers for the H Series field spectrum analyser range, in particular the small and robust H30D3 for DOCSIS 3.0 networks.

Televes USA officially launched the ATSC/QAM to QAM transmodulators for T.OX head-ends. Used mostly for adding ATSC channels to a cable network, or to provide easy distribution in broadcaster's facilities, they provide the added value of an embedded RF combiner.

### Evolving Connectivity (CAI)

London (UK) 21 may



In this event sponsored by CAI, Televes presented the full range of NevoSwitch distribution multiswitches. Positive feedback was received on the quality of its manufacturing, the versatility and flexibility of the product range.

Televes also took the opportunity to show customers who are using fiber optics to distribute TV services, that Televes GPON and RFoG solutions can allow professional installers access into the world of high-speed data and help them achieve a wider base of implementations.

The RF environment is becoming increasingly saturated with different devices transmitting in the band, so it becomes crucial to use a cable with class A+ shielding, as the Televes SK110+ ■

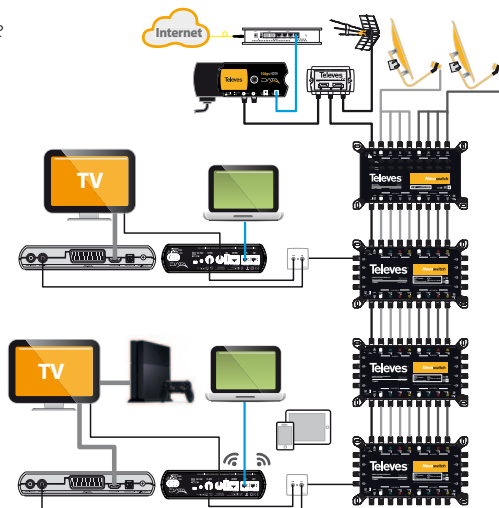
## Is CoaxData compatible with the NevoSwitch range?

*In some cases, the terrestrial band does not operate in the return channel*

### THE EXPERT SAYS

The fact that the CoaxData systems operate in the 170MHz could lead to think that they might not be likely to be used in some coaxial distributions.

The new NevoSwitch range has been designed to operate with both TV and data signals: it's required a Diplexer filter (Ref. 769220) linked to the terrestrial input of the multiswitch, thus preserving the quality of the data signals transmitted over the return channel. In this way, communication between Coaxdata devices is seamlessly done, providing a fluent data traffic ■



More info in  
[televes.com](http://televes.com)

Javier Esteban  
Technical Assistant Manager



## ALWAYS AT THE LAST

## Televes QSD85 receives award in Germany

The prestigious and demanding german market has awarded our QSD85 satellite dish in a recent *Digital Fernsehen* publication.

This distinction, also received by the QSD75 in the past, emphasises the quality of the product from its construction to ease of installation, making a recount of the technical features that make the QSD85 one of the best dishes in the market ■



Qsd  
Quality Satellite Dish



Also available in:  
[televes.com/en/content/](http://televes.com/en/content/)

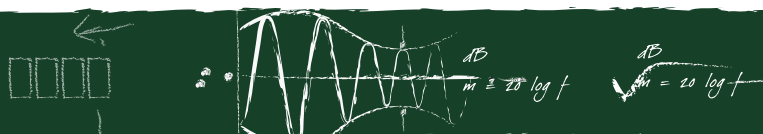
## YOUR PICTURES



### Using a crane to install DAT antennas

This picture has been sent from Italy with the surname "Work at height", not only because the location of the aerial but the height reflected by the quality of the used material. Installers that have any experience on installing aerials in a turret, will not see this picture without the uneasiness when remembering the vertigo when standing on meager supports and carrying all necessary equipment to install and orientate the antenna.

It's unquestionable that this kind of platform is definitively a good solution ■



## Televes leads the way for digitalization

*Creation of in-house content and subsequent distribution over coaxial TV networks was, until quite recently, done by use of analogue signal modulators*



This type of modulators were quite popular in either domestic and professional scenarios to include media content from DVD or Bluray players, STBs, CCTV cameras, etc. They were also present in hospitality or singular premises.

With the advent of the Digital Terrestrial Television, this was completely changed: it was possible to generate COFDM multiplexes with this media content as high definition signals, whilst optimizing the spectrum occupancy.

The ability to combine the digital modulated contents with broadcast signals is a great asset when customizing the services' list. At the user's end, this reorganization will be completely transparent: all new modulated contents will be seen as regular TV services.

Televes is a pioneer on launching COFDM encoders, offering at this moment two different solutions:

**DigiMod Encoder in a SD version (CVBS input) and SD/HD input (HDMI, CVBS and YBPr).** These units also comprise an USB input (to use with a memory stick or an external hard drive), to either reproduce or record multimedia content. It is another way of generating services thus making them accessible to every TV set in the premises.

For those scenarios where a more exigent solution is required, Televes has launched a new range of **T.OX Encoders: a QUAD version with 4 CVBS inputs and a TWIN version with two HDMI/CVBS/YPSDDSDD and Digital audio**, which satisfy the most exigent requirements on terms on quality and fiability.

Televes' products are developed in-house under the most rigorous quality tests; T.OX encoders are not an exemption. **All these products comply with several current standards and specifications to guarantee avoiding usual problems** like chopped images, wrong synchronization of audio/video or issues that result in having a poor signal delivered to TV sets.

Since Televes' encoders modulate either in COFDM or QAM from an audio/video source, they do not reduce the original quality: signal resolution is preserved at the output of the encoder. Another key point is that Televes encoders use the original sampling frequency. Usually, encoders use a lower sampling frequency (for example, many reduce the original 60Hz to nearly 30 Hz, thus impoverish the quality).

In any case the TV supported resolution shall match the encoder one. If there is any TV set in the installation that do not support, for example, HD resolution, the most suitable fix will be lowering the resolution on the encoder/modulator.

Generate SD or HD contents is an unquestionable benefit, and thanks to Televes' encoders installers can do it easily and with the reliability of a brand leader ■

Hélder Martins  
International Technical Assistance





## TELEVES FACILITIES

### Denver Internacional Airport (USA)



Denver International Airport, the largest in the USA and ranking 15<sup>th</sup> worldwide in terms of number of passengers, currently comprises a Televes Headend.

It is a 27-unit transmodulator headend that convert hundreds of HDTV channels, received from 54 satellite transponders to 54 QAM digital carriers. The units are 1024QAM transmodulators that broadcast the TV signals to the HFC network distribution of the airport, thus providing multimedia services to all communal areas such a business meeting rooms, restaurants, etc, spread around the whole venue.

An embedded H30 in the modular H/E provides remote access to real-time data of the TV signals from mobile devices.

Denver International Airport was chosen *the Best Airport of North America* for 6 years in a row (2005-2010) by *Business Traveler Magazine* readers, and named America's Best Run Airport by *Time Magazine* in 2002 ■



*efficient ingenuity*

**DID YOU KNOW..?**

*...Televes sponsors the Marcathlon?*

April 26th marked the celebration of the World Intellectual Property Day. Televes has a **long tradition of technological innovation**, holding more than 50 invention patents and more than 200 trademark and intellectual property registrations on an international basis.

To celebrate this day, the National Association for the Defense of the Brands organised the Marcathlon, a popular 5 km race with the **participation of people committed to the priority of protecting intellectual property**, as a fundamental part of industrial property, in the development advanced societies ■



## IDEAS



### Digital Signage through the coaxial network

**T.O.X Encoder/modulator** ref.563832 is a perfect match to extend, using a coaxial network distribution of an hotel, a Digital Signage service to all TV points. It generates a DVB-T multiplex from HDMI or RCA inputs, whose features can be easily set up using a user friendly web interface.



T.O.X Encoder/Modulator (Ref.563832)

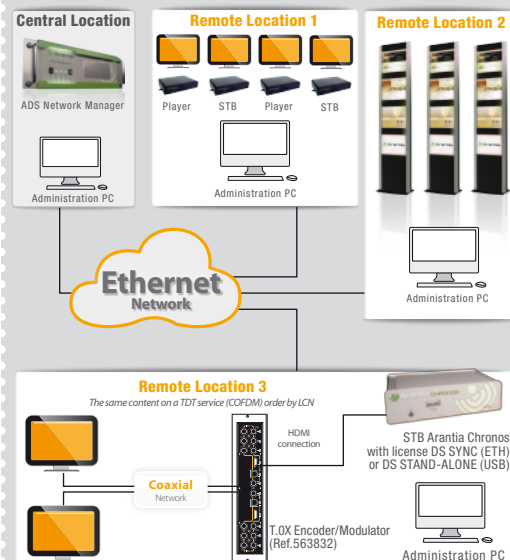
This input signal can be obtained from an Arantia' **Chronos Set Top Box**, and transformed into a DDT channel. Thus, TV sets ready to demodulate DDT content will recognize this made-up channel as a regular TV one.



STB Chronos

With the Arantia DS tool it's possible to create your own Digital Signage content, and once modulated, sent to every TV point in the premises.

At the user's end, this information will be shown as another channel, but containing any type of information you want to display about the hotel (main information, special offers, etc) ■





# Televes manufactures...



$\theta \times 45^\circ (= 360^\circ)$

## The value of avoiding errors before they occur



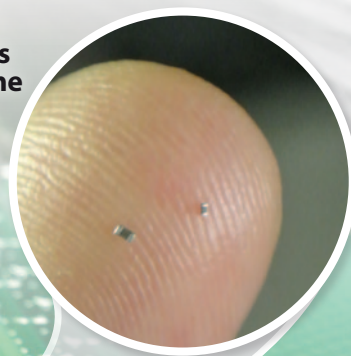
Welding processes in SMD assemblies have become very mature techniques over the years. Long behind are the days when a liquid layer of tin was applied on the surface of the PCB where components were welded (welding OLA). This method grew in limitations as the legs and contacts of the components became smaller and smaller. For several decades now, manufacturers working more complex assemblies with very small chips apply a layer of solder paste very precisely and directly on the PCB contacts where the chips will then be glued.

The solder paste has greatly enhanced failure ratios in assembly processes, but adds a variable of complexity when controlling the optimal solidification of the paste. In fact, deviations associated with the reflow footprint represent about 80% of the defects detected in the entire SMD process.

Televes has accumulated extensive experience and knowledge in **Solder Paste Inspection (SPI)**. The inspection process verifies the correct location, size and height of the reflow footprint where the component will be placed.

Without an enhanced SPI process, chips mounted with excess of paste can cause problems that are easily detected in functional tests, as they will surely generate shortcircuits. The truly potential problem arises when not enough paste is applied, because the component can still make sufficient contact to pass initial functional tests and over time cause problems when installed in the field, due to changes in temperature, humidity or small bumps during transport. With our experience in SPI, we ensure that 100% of the PCBs processed for component mounting have the precise and exact amount of soldering paste.

**he manufacture of our new Nevo switch range draws on this SPI experience and serves as the latest example of our Televes philosophy:** the best method for detecting a fault in an industrial process is to optimise the methods that prevent them before they occur ■





# Improve your mobile devices coverage



## 4GNOVA



Tablets and smartphones linked to a 4G network through a 4GNOVA antenna will get better coverage without the need of emitting high power level signals, but saving battery power and protecting the user from radiation excess.



100% Designed, Developed & Manufactured in Televes Corporation  
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# Televes®