INFO Televes ®

TELEVES LAUNCHES NEVOSWITCH, A NEW RANGE OF MULTISWITCHES.

Nevoswitch ®

With the **New Evolution** range, NEVO for short, Televes launches a new series of high quality multiswitches of 5, 9, 13 and 17 wires, enabling in this way TV distribution for different scenarios: from single dwelling units to large collective installations.

26 products complete the range to get 4, 8, 12 and 16 different satellite polarities up to 32 users per switch and allowing the expansion of the system just by cascading new units.

Return-path compatible, QUAD compatible, and receiver-powered compatible units are some of the highlights of this range, but all stand out due to its technical features and its zamak-made chassis that offer an optimum shielding and its compact design to save space or install them in narrow locations.

All the range feature a switch to operate in cascade or as a terminal unit.

The 5 wire range also presents a QUAD compatible variant with a 22kHz generator and PSU, and a variant that feature variable attenuators for each output user.

9, 13 and 17 wires can operate in the return path (5-65MHz), and feature a High Level switch to gain up to 10 dB more for the satellite feeds. Televes also provides 5, 9, 13 and 17 wires amplifiers, with 27-30 dB gain ▇

European technology **Made in ★EU★rope**

AND ALSO...

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INFO Televes also available in: French, German, Italian, Polish, Portuguese and Spanish.

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DID YOU KNOW...
that the first Televes' patent was achieved the very same year of its foundation?

MADE IN TELEVES
Televes manufactures...
Automatic verification processes.

NEW PRODUCT
5x wires NevoSwitch.

televes@televes.com
televes.com

MEETING POINT

Visit us at:

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MARCH			
3-5	**ANDINA LINK**	Cartagena de Indias	Colombia
10-12	**CABSAT**	DUBAI	United Arab Emirates

Televes

IN THE WORLD

Mobile unit's routes in 2014

Unit 1 (Spain and Portugal):
ICT2, Fibre Optics and ITED3

It's been a tricky second half of the year due to the uncertainty about the final approval of the Tehnical Plan to adapt Collective Installations to the digital dividend, therefore these units have been used to promote the update of the T12 module systems.

March and June were the chosen months to visit Cataluna, Comunidad de Madrid, Andalucia and the North region. In October and November we'll focus on Northwest regions and Portugal, where Televes plays a very important role of the disclosure of the new ITED3 regulation.

Unit 2 (Germany):
General product display and Fiber Optics solutions

Televes keeps playing for high stakes in the German market; we've sent a Mobile Unit for exclusively support for commercial promotional events. It's been 40 of them since April to November, achieving great feedback from visitors; very focused on our range of fibre optics for operators ■
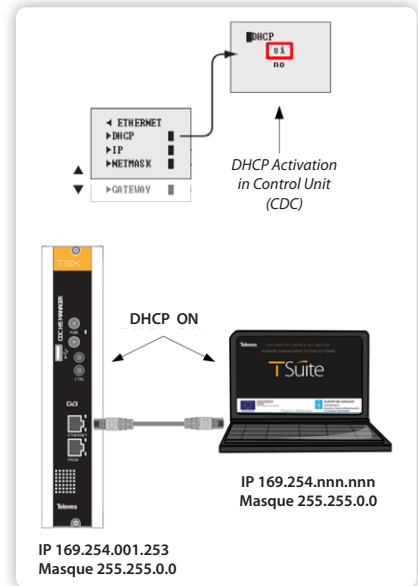

FAQs

How can I connect a laptop to a H/E controller (CDC)?

Thanks to the autoconfiguration protocols setting a H/E using a CDC controller is an easy task.

THE EXPERT'S OPINION

Present-day T0X transmodulators incorporate functions that make them more powerful and flexible. Features as re-multiplexing, twin outputs, Service ID edition, etc. make more necessary the use of software as TSuite to configure all the settings of the modules included in the system in an user-friendly manner. The link between the T0X CDC unit and the PC can be done by using a RJ45 lead, but both PC and CDC must be in the same IP range to establish the communication. It's not a complex process, but it's necessary to know how to change the PC's IP address and/or CDC. However, CDC units make use of a Windows OS's tool in those PCs running with this operating system called APIPA (Automatic Private Internet Protocol Addressing) so the link between two devices connected by their Ethernet interface with enabled DHCP can be automatically established.

In this way, when a PC detects a device (not a router) connected to its Ethernet interface, Windows will assign the Ethernet interface a valid Class-B private IP address 169.254.nnn.nnn with subnet mask 255.255.0.0.

DHCP Activation in Control Unit (CDC)

DHCP ON

IP 169.254.nnn.nnn
Masque 255.255.0.0

IP 169.254.001.253
Masque 255.255.0.0

CDC units implement a similar protocol when DHCP is enabled and detects a PC linked to the Ethernet interface; it automatically assigns to its own Ethernet interface the IP address 169.254.001.253 with subnet mask 255.255.0.0 ■

More information on ....
televes.com

Javier Esteban
*Technical Assistant Manager*

YOUR PICTURES

Unhindered training

Sometimes difficulties can be overcame with a measure of good and most of all, a great willingness to learn. Ask the students of I.E.S Emilio Campuzano, Bilbao (Spain), where the bollards at the entrance of the facility were removed to allow our staff to park the Mobile Unit truck and impart a training course ■

$$\frac{dB}{m} \gtrsim 28 \log f \qquad \frac{dB}{m} = 20 \log f$$
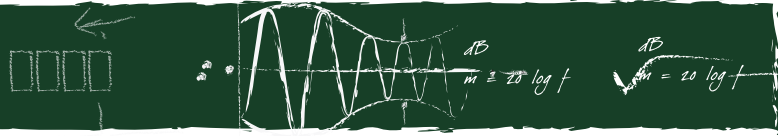
The importance of marking a coaxial cable

Existence of high-interference signals (LTE/4G) makes the criteria of choosing a coaxial cable to be focused not only on its attenuation but in other features also.

There are several parameters and specifications with little meaning to those that purchase coaxial cable. However, if the criteria is not well-based, the entire installation can be jeopardized.

Interpretation of the coaxial marking may lead to a correct choice, not only of the type of cable or its specifications but for where and how to install it.

Tables shown below help with the interpretation of the description and constitution of a coaxial cable.

The MATERIAL of the cable usually makes reference to the inner core and the braid. For example, T100 and T200 type cables are made of 100% copper. This improves the cable's behaviour on DC, as well as the transport of signals in lower and higher frequencies, feature that copper plated cables lack.

Televes' coaxial cables have physical expansion dielectrics, built in expanded polyethylene through gas injection in the core. It's been proved that when tested for durability, the attenuation will not go up to more than 5% worst case scenario.

OUTER COVERING has the function to protect the inner elements. It consists of white PVC, LSFH, black PE with protection against ultraviolet rays and humidity or black PE with petrogel.

The cable's **SHIELDING** capability against interferences is generated by both braid and foil (which also guarantee the necessary conductivity). Depending on this capability, the cables can be sorted by classes; Class A+ cables manufactured with TRISHIELD shielding ensure the highest protection against LTE/4G interferences.

Televes' coaxial cables **MARKING** also gives information about the compliance with different standards: ITED in Portugal, ICT in Spain, CAI in the UK, VDE in Germany or SKY in Italy. Moreover, for these two last examples Televes' cables are ratified in independent external agencies. In the case of France, it's used a particular way of classifying cables that nowadays is commonly present in several other countries.

There is a trend to unify standards for those products manufactured in Europe.

Coaxial cables are not an exception, and so marking will indicate the compliance with these standards. However, we can look at Portugal's example where the ITED minimum requirements of the cable's quality are at the same level as the European standard.

Nowadays strong competition laws and the emergence of brands that do not more than importing recycled materials from Orient originate the existence of cables that do not comply with standards although claim to, ending in a case of unfair competition to those companies like Televes, which has always stood out due to the reliability of the cable's specifications and technical features shown in the catalog ■

Helder Martins
International Technical Assistance

Material		
Inner Conductor	Cu	Copper
	CCA	Copper Clad Steel
Outer Conductor	Cu	Copper
	Al	Aluminium
	CuSn	Tinned copper
	CCA	Copper Clad Aluminium

Coverage		Colour	Protection
PVC	Polyvinyl chloride	W	
PE	Polyethylene	B	
LSFH	*Low Smoke Free Hallogen*	G	

Standard	Operating range
EN 50117-2-4	5 - 3000 MHz
EN 50117-2-5	5 - 3000 MHz
EN 50117-2-1	5 - 1000 MHz

Class	Frequency	Shielding Attenuation
B	5 - 30 MHz	TI < 15 mΩ/m
	5 - 1000 MHz	SA > 75 dB
	1000 - 2000 MHz	SA > 65 dB
	2000 - 3000 MHz	SA > 55 dB
A	5 - 30 MHz	TI < 5 mΩ/m
	5 - 1000 MHz	SA > 85 dB
	1000 - 2000 MHz	SA > 75 dB
	2000 - 3000 MHz	SA > 65 dB
A+	5 - 30 MHz	TI < 2,5 mΩ/m
	5 - 1000 MHz	SA > 95 dB
	1000 - 2000 MHz	SA > 85 dB
	2000 - 3000 MHz	SA > 75 dB

TI: Transfer Impedance

French marking				
21	V	At	C	A
xx	1	2	3	4

Class		
xx		Attenuation in 100m at 800MHz
1	V	Outer coverage in PVC
	P	Outer coverage in PE
2	Rt	Foil and braid in Copper
	At	Foil and braid in Aluminum
3	M	Solid polyethylene dielectric
	C	Polyethylene dielectric
4	A	Tinned copper conductor

TELEVES FACILITIES

Keystone Resort (Colorado - USA)

KEYSTONE®
IT'S ALL HERE

The ski resort Keystone Resort in Colorado, one of the biggest ones in USA, now provide TV services using T.0X equipment.

All the apartments receive TV signals from this headend, formed by two systems of 27 8PSK/QAM modules that transform 54 satellite transponders to distribute them over a HFC (Hybrid Fibre Coaxial) network. Added to these, in-home services like resort events information, restaurant offers, weather forecast, etc. complete the full TV line-up.

Once the signal has been converted to FO, it's distributed using a FTTB (*Fiber to the building*).

Re-conversion to RF is made by outdoors FO receivers. ◼

T.0X *efficient ingenuity*

...the first patent was obtained by Televes the same year the company was founded?

The first patent from Televes dates back to 1958. The two founding partners registered an improved antenna model and requested protection for twenty years within the Spain territories.

The document consists of ten pages describing the design of an **antenna fully armed with the reflector, directors and dipole elements, and mounted on a central support tube.** The request also details two variants for fastening the antenna structure to a mast, an insulator for wire line or coaxial cable, a bridge for connecting the reflector and directors to the support tube of the antenna, and a connection box for the union of the dipole to the same tube ☐

IDEAS

Transport Stream ID and its influence on TV tunning

Due to the different characteristics of manufactures and models, TV tunning can sometimes be tedious and complicated.

It's possible that in those facilities with a T0X H/E system with transmodulators, some TVs do not recognize all the present TV services. This is due to the fact that some TVs take into account a parameter called **"Transport Stream Identifier" (TS_ID)** to memorize all the services, as well as the multiplex frequency. When one of this TVs detects the same TS_ID when tunning more than once, they will be automatically ignored and therefore all these services will not be available in TV line-up but the first ones detected.

This problem is easy to identify since all the services will be present when checking the TV signal with a field strength meter but not on a TV.
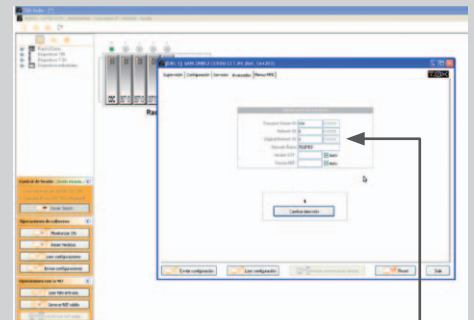
NIT parameters.
Sometimes TS_ID must be edited
(a different TS_ID for each module)
to avoid problems in the channel search for some TVs

It can be fixed changing the second TS_ID value to a different one so the TV will recognize all the multiplexes. This can be done using any of the transmodulator's configuration interfaces (PCT handset or TSuite).

In this way, if this is done for all the modules, the TVs will identify every multiplex as a different signal not only in frequency but in content, memorizing in that way all the services processed in the headend ◼
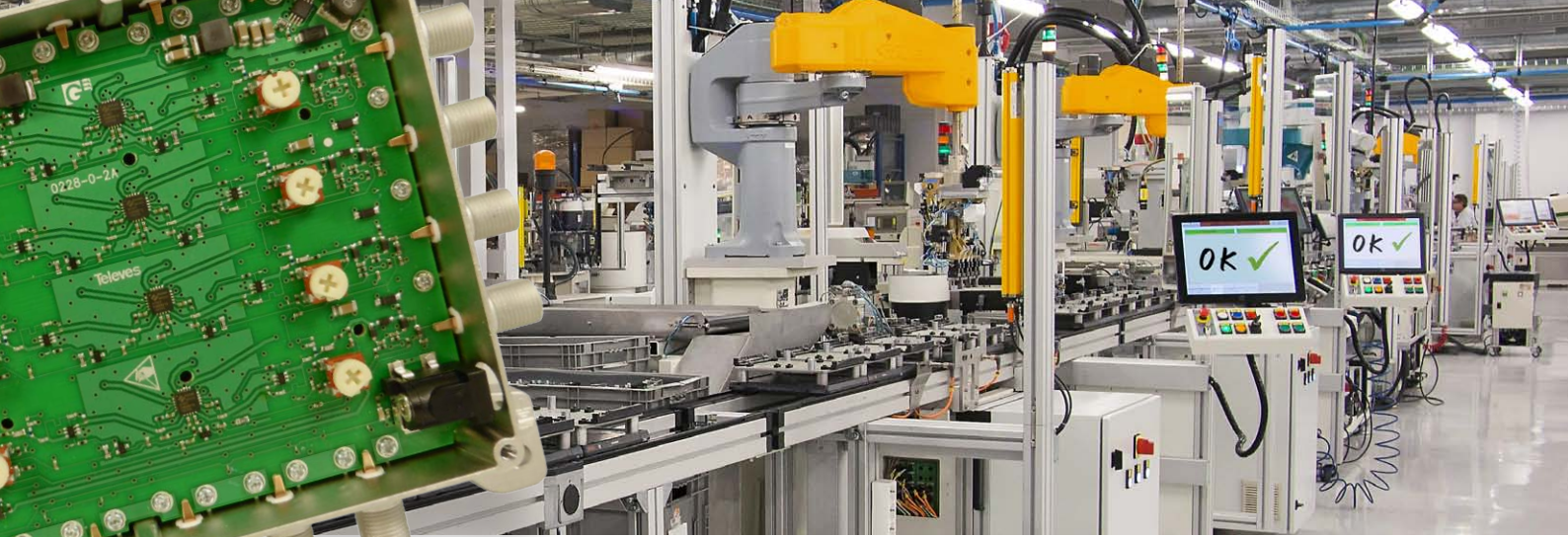
A FULL RANGE
OF MULTISWITCHES

100% MANUFACTURED AND VERIFIED IN OUR ROBOTIZED LINES

Nevoswitch®

A FULL RANGE AVAILABLE
5x, 9x, 13x & 17x: UP TO 4 SATELLITES
FROM 4 TO 32 USER OUTPUTS
QUAD COMPATIBLE VERSION FOR THE 5x RANGE

MSW can be used to power a setback/mast amplifier or a BOSS Tech antenna

Versatile
The same MSW can be configured as cascade or stand-alone with the flick of a switch

Chassis made of ZAMAK
Improved screening attenuation

ECO Mode
The consumption decreases as the number of users is reduced.

Multiple powering options (Vertical/Low polarity):

In-line (cascade) from any point in the system | From the Set-top-box (no PSU required in the MSW) | From an external PSU

Televes manufactures...

MADE IN Televes

Automated
verification processes

In the mid-90s Televes began an intense industrial automation initiative, not only in manufacting, but also in the verification processes. The company deemed it necessary to achieve the same degree of efficiency in quality controls, which were manual up to that point, than that obtained in the manufacturing process itself.

Today, 100% of the product produced in Televes is subjected to various types of automated technical inspection. There are **specific controls for manufacturing subprocesses**, such as the production and assembly of SMD PCBs, chassis structures, plastic or sealed welds of all the elements that make up the finished product. Moreover, stringent quality controls **are performed to the finished product and to its**

intermediate elements (subproducts), for example the complex boards of the field spectrum analysers.

These **checks are performed by using sophisticated artificial vision and robot guidance through parameterised programs**, where all software management, reporting and real-time analysis is developed by our Televes industrial engineering lab.

Accordingly, levels of increased quality are achieved. Furthermore, in market situations where unplanned demands may arise, Televes can respond with quicker supply to the industry, ensuring a much higher level of product assurance, unattainable for those products controlled manually ■

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