# Te eves

#### BIMONTHLY NEWSLETTER • Nº21 - DECEMBER 2013



#### **Supporting Hybrid DTT**

"Good health" of broadcasting is guaranteed, as shown by existing data about acceptance and penetration and future forecast.

dard.

Hbb.

The new boost needed by broadcasting is

the promotion of Hybrid DTT, above all if it

is supported by the HBBTV European stan-

For this reason, Televes has developed a

set-top box of hybrid television, the zAs

Hybrid DTT means Internet and DTT inte-

gration, providing the viewer with addi-

tional content as Catch-up TV, event based

The success of Hybrid DTT depends on several factors: the knowledge by the user,

applications, or advanced teletext.

Televes

the dissemination of interesting and friendly contents, and reception devices with user friendly interface.

All these factors have to involve every part of the Hybrid DTT scene: manufacturers as well as broadcasters and providers of applications and contests.

As regards Televes, with a similar "made entirely in Spain" manufacturing and development to zAs DTT, it has launched the zAs Hbb, a set-top box of Hybrid DTT.

This receiver is listed on the web tdthibrida.es, endorsing the experience of Televes and ensuring to the user the quality of this new kind of Television

TELEVES SUPPORTS HBBTV DEVELOPING A SET-TOP BOX OF HYBRID TV: ZASHBB. THE ONLY STB MANUFACTURED IN EUROPE.

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#### AND ALSO ...





FREE EDITION

#### SUMMARY

#### **TELEVES IN THE WORLD**

Televes attends fairs in UK and USA

**FAQs** Choosing an antenna

**ALWAYS UP-TO-DATE** LTE update for H60 and H45

**YOUR PICTURES** Come rain, hail, sleet... and snow

**TALKING ABOUT** ISF. We produce availability for Televes Corporation

**DID YOU KNOW...** Televes started in a garage

TRAINING Choosing a LNB

**IDEAS** QUATTRO LNB always vertically

FACILITIES Jumeirah Beach Hotel (DUBAI)

televes@televes.com www.televes.com







#### IHS 30-31 OCTOBER (UNITED KINGDOM)



Televes UK first attended this fair dedicated to independent boutique hotels to promote the Arantia solution for the hospitality market and also the T.0X headends with reprocessing. The fair took place in the Olympia Exhibition Palace of London, and attracted a great number of visitors representing hotels in the UK and Republic of Ireland. Due to the scalability of the IPTV solution of Arantia and the ability of T.OX headends to offer RF solutions; the Televes' stand was of great interest to this type of customer since, under the same roof, we are able to provide solutions to all the needs of small or medium independent hotel with an existing coaxial distribution that wants to add new satellite TV services, and also solutions to a new construction hotel that wants to offer IPTV services on-demand.

#### EEBC 16-18 OCTOBER





Televes participated in the newest edition of the EEBC, the international exhibition and conference for broadcast and digital technologies held in Kiev from 16-18th of October . Our personnel at the stand reported noticeble increase in attendance, especialy interested in our T.OX headends and the line of H60 and H30 portable field spectrum analysers





#### What is the difference between G652 and G657 fibers?

Sometimes, it is specified the use of G657 fibers, compatible with the type G652, but an installer asks what their differences are.

#### THE EXPERT'S OPINION

The optical fiber installed in buildings (FTTH) is susceptible to deformation, and hard bending radius. To the losses do not increase, the recommendation is the G657. This type ensures the keeping of specifications against curvatures.

The G652 describes general features regarding the geometry and signal transmission in single-mode fibers.



José Negreira Training Manager

Therefore, the fibers of the G652 type are

not valid for installation inside buildings,

It is essential for the installer to pay atten-

and we recommend G657 type.

tion to the fiber type supplied



#### **ALWAYS UP-TO-DATE**

Scalability and continuous update are some of the many advantages of Televes meters.

A proof is the firmware update to incorporate the functionalities of LTE analysis, and also other interesting features.

The LTE firmware, Premium version for H60 and Lite version for H45, can be downloaded from the Televes web



#### LTE update for H60 and H45



## Come rain, hail, sleet... and snow

From Granada, Antesur sends us the photo of a DAT antenna, installed at the Pradollano station, Sierra Nevada, where despite the ice that covers the antenna, the installation works as normal; obviously it could not be otherwise

Talking about...

ISF



#### "We produce availability for Televes Corporation"

"The optimum can be the nemessis of the good". Quite a radical sentence for Manuel Sende to summarize the driver and the inspiration for ISF's work (ISF, are the initials in Spanish for Manufacturing Systems Engineering). The company managed by Sende is Televes Corporation subsidiary responsible for the execution of the automatic manufacturing projects and for the maintenance of the entire group's manufacturing plants. Quite a demanding task, considering that manufacturing its own strategic products is one of the key identity trades of Televes.

**Interview with:** 

Manuel Sende, ISF General Manager

We have the responsibility to ensure all resources are readily available for whatever manufacturing need arises", Sende explains. In other words, ISF produces availability for Televes Corporation. How? Through the capacity to extract performance out of the production systems, incorporating vanguard technologies with a clear objective in mind: to reach maximum efficiency in the systems and processes designed. Automation engineering, industrial maintenance, tool and mechanical development for numerical control, are some of the day-to-day terms that define the firm.

DID YOU Know. To become an IBM integrator in Spain in 1988 in the fields of robotics and CAS systems design was certainly one of the first milestones in the evolution of ISF. At that time, "we made a strategic decision for optimizing our manufacturing processes and make them competitive against any technology, so that we could reach market with more reliable products and with efficient production costs", Sende points out.

From that point forward, ISF has been able to achieve the construction of the differ-



ent robotised lines of the core product families in Televes: from head-ends, amplifiers, power supplies, measuring tools, DTT set-top boxes, all the way to implementing the first all-automated aerial manufacturing plant. Today ISF works on the conversion to a integral flexibility manufacturing system, a one-of-a-kind project to give life to more than a 1.000 different products within one manufacturing system.

Sende highlights the recent launch of a state-of-the-art mechanical center that

will shorten time to market intervals for prototypes and small production batches. He concludes placing relevance in what he considers the true key in ISF's success: the incredibly high qualification level of its staff; a reason why constant training is of capital importance to the firm

Sergio Martín Communitacion Manager

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#### Like other technology companies, Televes also started in a garage?

Microsoft, Apple, Google and HP are companies that started in a garage.

The enterprising spirit of its creators found the garage the most comfortable place to unleash their imagination.

Precisely, the first antennas of what in the future would be Televes, were designed and mounted in a garage of Santiago de Compostela in 1958, when the television in Spain was still a very new service. A coincidence at least curious



#### **Choosing a LNB**

A LNB is not valued only for its Noise Figure or its gain. There are many factors that determine its quality. Televes' LNBs undergo strict quality controls, which has led them to be recognized by the German magazine SATDIGITAL.

The LNB (Low Noise Block) or just converter, is an essential device for the reception of satellite signals. It receives the reflected signals on the parabolic dish and converts them to intermediate frequency, so they can be distributed via coaxial cable.

TRAiNiNG

At the end of the waveguide two dipoles are located, one vertical and one horizontal. The reception of certain TVSAT signals and their alignment with the dipoles of LNB require installing it with exposure to humidity (see the article in this same info).

The quality of an LNB also involves watertightness, especially near the connector, which is the weakest point where a defect contributes to salinization of its components over time, altering the reference values and even causing their failure.

The input of signal in the waveguide is composed of a conical ring that has the functions of adjusting the resonance, rejecting the spurious and increasing the final gain.

Rings that are in the signal access, are dimensioned according to the frequencies to be received. Consequently, it is not about having a simple "funnel", as certain parameters must be designed carefully, such as wave reflection figure.

The precautions in the design of a LNB have to be multiplied in the case of multioutput LNBs as TWIN, QUAD and OCTO. In the market, it is commonly to find LNBs of these types with opposite polarities or defects, such as induced interferences between outputs.

The LNB integrated circuit can be realized by two different concepts. One by PLL circuits and the other, adopted by Televes, with resonant circuits. Although this second solution requires a manual adjustment (which significantly increases the cost) his benefit is the stability of the parameters against temperature variations. PLL circuits do not have this characteristic.

Traditionally the value of a LNB depended on its Noise Figure. The evolution of technology currently allows to obtain extremely low values. But the reality is that the installer can not verify the veracity of this parameter, thus becoming a "victim" in the war of figures between manufacturers and suppliers. This parameter was intentionally overrated as a marketing strategy with no technical basis. However, there are other parameters that have more important implications on the real quality of the signal.

One of these parameters is the received C/N, which also depends on many other parameters often ignored, such as adaptation between antenna and converter or "Phase noise".

In current DVB-S2 emissions, the phase noise is more restrictive than the Noise figure itself. The quality of the receiving system is measurable by factors such as C/N, MER, CBER and LKM.

The risk of interference between symbols is more probable with a 8PSK modulation (DVB-S2) than with a QPSK (DVB-S). For this reason, a "pure" phase noise of the LNB local oscillator directly influences the correct interpretation of the symbols, and minimizes "pixelation" and "interruption" on the images.

The feed angle adjustment is quite critical, so it is indispensable to have a LNB with a high discrimination between polarities.

To conclude, a field strength meter of H-Series is the essential tool for an installer that expects to keep himself trained and informed, not only with regard to the final quality of his facilities but also to the quality of the products he recommends



LKM measurement



Phase noise measurement of a LNB





#### **IDEAS**

#### QUATTRO LNB always vertically

The adjust of the LNB feed angle (polarity adjust) can force that it acquires an almost horizontal position depending on the satellite to receive. Thus, the LNB is more vulnerable to humidity, reducing its useful life.

In case of QUATTRO LNB (four outputs, one for each combination of high/low band and vertical/horizontal polarity) is sufficient with turning 90° the LNB and the vertical outputs are transformed into horizontal and vice versa.

It's necessary to change the input leads on the equipment connected to the LNB for a correct working of the installation. In this way, the LNB keeps a near vertical position and therefore it is more protected



### BREAKING NEWS

New Televes' General Catalogue, a new way to communicate.

Televes announces the imminent launch of its **new CATALOGUE 2014 - 2015**, which is divided by product lines and structural sections

of a building installation. The devices designed to combat potential LTE interferences will have a special mention.

eleves

Great visual and technological developments focused to improve the experience of use by the professional installer

#### **TELEVES FACILITIES**

#### Jumeirah Beach Hotel (DUBAI)



The Jumeirah Beach Hotel, one of the flagship proprieties by the prestigious hospitality chain Jumeirah has recently upgraded its Television system using Televes equipment from the popular T.0X range.

## Jumeirah"

The propriety comprises of a total of 591 rooms and 19 villas being located in the most prestigious area of Dubai, in the United Arab Emirates.

With this upgrade the propriety enjoys an array of more than 100 TV channels with perfect Digital quality picture that are being processed using Televes DVBS/S2-COFDM modules. It has been used equipment both with and without CI facility so the channel line up is perfectly adapted to the requirements of the hotel including both FTA channels and pay per view channels by the Operators in the region.

The equipment used includes the S\_ID function that allows editing the channel list without having to re-tune the Television set.

The installation has been performed by the Dubai based company Regar Tech





**REALIZADA POR:** 

REGAL





THE IDEAL SOLUTION TO BRING INTERNET TO ALL THE ROOMS WITH NO NEED TO RE-CABLE IDEAL FOR HOTELS, HOSPITALS, SCHOOLS...

## The TV outlets will never be the same

LINE

Coaxdata is a "Plug&Play" system that transparently uses the existing coaxial network and transforms any TV outlet into an access point to

#### Internet up to 1Gb





You Tube

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