Televes®

NEW PRODUCT **2017**

In this ANGACOM 2017 Exhibition, Televes introduces his solutions for reception, distribution and measurement of telecommunications and data services.

Beginning with signal reception, Televes presents his **DAT BOSS antenna**, with **TForce technology** on board. This technology maximizes the **dynamic range** of the input signals and permits the correct DTT reception without LTE interference, no matter the receiving scenario, present or future.

Following, these terrestrial signals, and satellite signals too, are to be distributed in coaxial and fiber optics networks using respectively the new **AVANT9** or the **FiberKom fiber optical transmitter.** The AVANT9, besides its utmost filtering and processing capabilities, has in its auto programming feature its must, making the adjustment of the headends the most accurate and straightforward achievable. This AVANT9 can also be combined with the FiberKom optical transmitter to make *"a la carte"* distributions of whatever combination of data, satellite and DTT.

Also, in what concerns satellite distribution, Televes introduces the **DWDM** (dense wavelength division multiplexing) for **multisatellite distribution over single optical fiber**. It allows the distribution of four whole satellite signals to up to 256 users, overcoming the limitations of the state-of-the-art satellite over fiber solutions.

The satellite distribution is completed with the **HEXA satellite to QAM transmodulation** in a single and well known T.0X module and the the new **dCSS NevoSwitch**, which combines the power of the aforementioned **TForce technology** with the **DCFLEX functionality**, to become the more versatile dCSS multiswitch of the market.

Finally, all the signals are tested using the new **measurement equipment MOSAIQ6**, which matches the best signal processing and measurement features with **an extraordinary user experience**.

All the mentioned solutions are assembled around the **FTTR distribution**, to come together TV and data signals in **GPON technology**. This technology is the bet of Televes to deliver the end user the increasing data flow that is required to ease the deployment of services and applications, such as Internet of Things, Social and Healthcare applications, Smart Cities, Smart Building, Digital Home, OTT, UHD and more to come.

More information in the Televes booth in ANGACOM 2017

COMPLETE ANTENNA RANGE WITH **TFORCE TECHNOLOGY**

IF THE DAT BOSS CAN'T RECEIVE IT, NOTHING CAN!

Televes goes beyond the silicon era into the new era in electronic component design, which allows building integrated circuits that work in the microwave frequency band.

TForce is based on the manufacturing of gallium arsenide (GaAs) semiconductor components, **which provides products with functionalities that are difficult to match.**

MAIN FEATURES

The BOSS Tech system featured in the DAT BOSS antenna, automaticcally **controls the level of the received signal** (either very high or very low) in order to always ensure an optimal output level. Its new design with TForce technology, makes this intelligent device even more versatile:

- **HIGH DYNAMIC RANGE**: it allows you to receive high-quality TV in a variety of critical situations, from areas where signals are very weak to installations with high reception levels.
- **DTT COVERAGE ENHANCEMENT**: up to 27% higher than older models.
- **A MORE STABLE RECEPTION**: it supports signal variations or fading with no effect on the TV installation.
- **OPTIMAL C/N**: thanks to a noise figure of only 1.2dB that respects the received signal quality.
- **VERY HIGH GAIN**: TForce increases the gain of the antenna by 13dB, in UHF and III Band.

SCAN TO WATCH VIDEOS

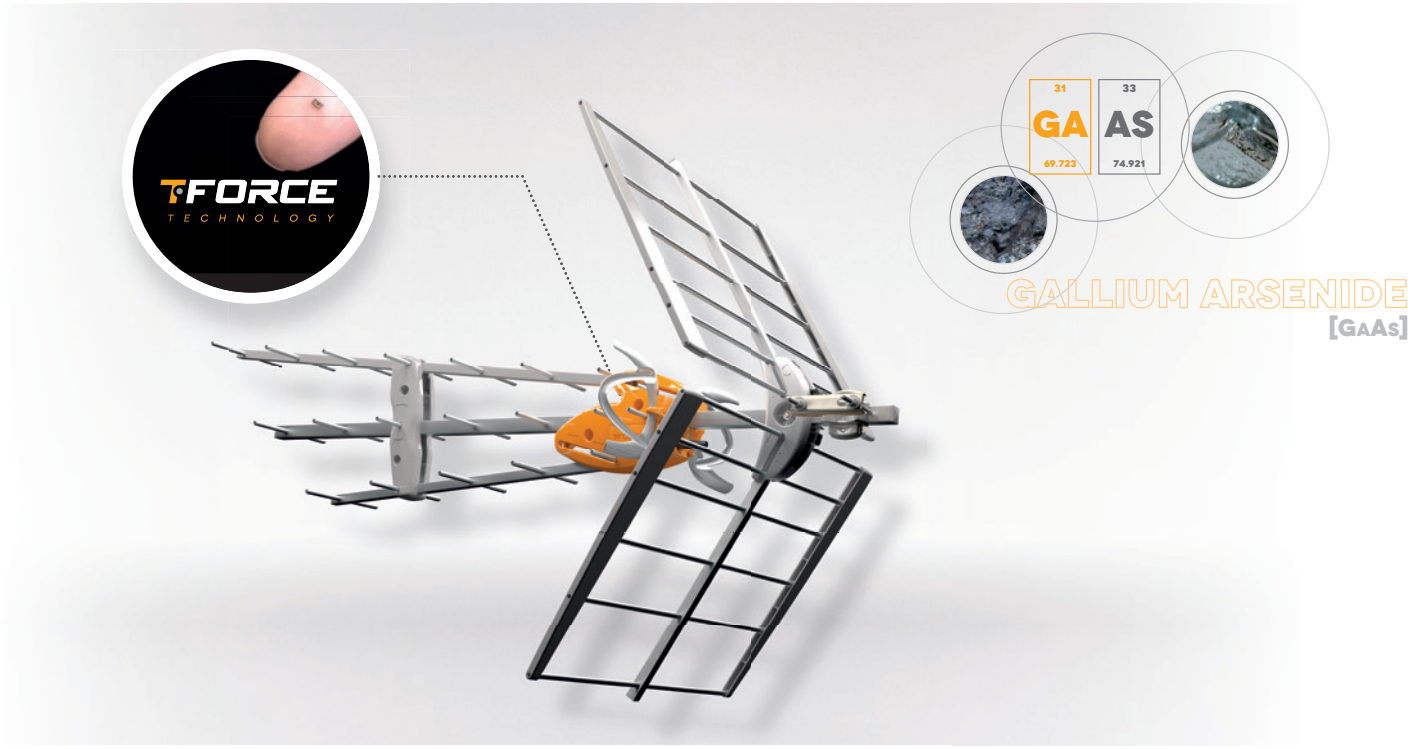
EN.TELEVES.COM/DATBOSS

EN.TELEVES.COM/TFORCE

A00391

A00400

DAT SERIES IN DETAIL: CHOOSE YOUR INTELLIGENT ANTENNA!



DAT BOSS: THE FIRST INTELLIGENT ANTENNA

	REF	DESCRIPTION
		FILTERING FOR 790 MHz
LTE 790 READY	149941	ANT.DAT BOSS UHF (C21-60) G 45dBi SINGLE PACKING
	149942	ANT.DAT BOSS UHF (C21-60) G 45dBi MULTIPACK
		FILTERING FOR 700 MHz
LTE 700 READY	149921	ANT.DAT BOSS UHF (C21-48) G 42dBi SINGLE PACKING
	149922	ANT.DAT BOSS UHF (C21-48) G 42dBi MULTIPACK

G. UHF 45dBi

DAT BOSS MIX: COMBINED ANTENNA FOR UHF AND BAND III RECEPTION

		FILTERING FOR 790 MHz
LTE 790 READY	149441	DAT BOSS MIX (C5-12/21-60) G36,5/44dBi SINGLE PACKING
	149442	DAT BOSS MIX (C5-12/21-60) G36,5/44dBi MULTIPACK
		FILTERING FOR 700 MHz
LTE 700 READY	149421	DAT BOSS MIX (C5-12/21-48) G36,5/41dBi SINGLE PACKING
	149422	DAT BOSS MIX (C5-12/21-48) G36,5/41dBi MULTIPACK

G. UHF 44dBi

G. BIII 36,5dBi

DAT BOSS LR: LONG RANGE UHF ANTENNA FOR EXTREME RECEPTION CONDITIONS

		FILTERING FOR 790 MHz
LTE 790 READY	149740	ANT. DAT BOSS LR UHF (C21-60) G47dBi SINGLE PACKING
		FILTERING FOR 700 MHz
LTE 700 READY	149721	ANT. DAT BOSS LR UHF (C21-48) G44dBi SINGLE PACKING

G. UHF 47dBi

dCSS NEVOSWITCH
A MULTISWITCH HAS NEVER BEEN SO CLEVER

A new and innovative multiswitch implementing dCSS technology.

This 5 wire cascadable multiswitch supports SCR I (EN50494) and SCR II (EN 50607) standards and legacy mode, making the multiswitch compatible with any existing or new set top box. With 4 satellite inputs (Quattro) and terrestrial input, this range offers a 2 or 4 user outputs, with up to 16 user bands each.

DCFLEX *functionality*

This exclusive functionality gives the product **complete control and flexibility to power the multiswitch from anywhere in the system**. The installer will have complete freedom to choose how to power the multiswitch and will be able to choose the best to suit a particular scenario. This versatility is achieved via a switch (DC LINK) that can be used to isolate or not, from a DC point of view, the multiswitch from the cascade.

- **MULTIPLE POWERING OPTIONS**: directly from a PSU, receiver outputs or line power through the satellite inputs or outputs. Moreover, you could choose to line power only the terrestial side (TForce) of the multiswitch through the terrestrial inputs or outputs of the multiswitch.
- **IT CAN BE EASILY ADDED TO AN EXISTING SYSTEM**: you just need to connect a power supply to the multiswitch and isolate it from the power on the cascade (flick the DC link switch). The power of the existing system will pass through the multiswitch unaltered and the dCSS NevoSwitch will only draw power from its own power supply. This will avoid any possible problems created by adding a new dCSS NevoSwitch to an existing system.
- **INCREASED SAFETY FOR THE SET TOP BOXES** connected to the multiswitch, as these are completely isolated from the power in the cascade, avoiding potential issues with the power in the system affecting the end user equipment.
- **WIDE POWERING RANGE**: with voltages from 10V to 20V making it compatible with most of the systems out there.
- **ECO MODE**: a multiswitch powered directly from its own power supply can reduce its power consumption to zero when the set top boxes are turned off*.

HOW DOES THE DCFLEX FUNCTIONALITY WORK?

It can be controlled through the following switches:

1. **SAT DC LINK SWITCH (ON/OFF)** it isolates or connects the power of the multiswitch to the power available from the cascade (satellite legs).

   OFF (isolated from the cascade): The MSW is powered locally (power supply) or from the user output without adding or drawing power from the cascade.

   ON (connected to the cascade): The MSW can add or draw (in the case that needs powering) current from the cascade.

2. **TERR. DC SWITCH (ON/OFF)**: it controls if the multiswitch is connected via DC with the terrestrial cascade, generally to line power masthead amplifiers or a BOSS antenna.
3. **RECEIVER POWER SWITCH (ON/OFF)**: it controls the DC pass from the user outputs towards the multiswitch. You can power the device from the dCSS set top box (if there is enough power available) or a current injector.

* *For this to happen the multiswitch must be isolated from the cascade and the terrestrial must be set to passive*

TFORCE TECHNOLOGY

The dCSS NevoSwitch also incorporates the innovative TForce technology, based on MMIC components and developed exclusively by Televes. TForce offers an **intelligent terrestrial level adjustment**.

4

- You can activate it or not by means of a switch making the multiswitch **ACTIVE OR PASSIVE ON TERRESTRIAL**.
- In active mode, the MSW automatically adjust the terrestrial output level to the **OPTIMUM LEVEL**.
- In addition, this optimum level is kept balanced **IN EVERY USER OUTPUT** through the dCSS cascade.

MORE FEATURES:

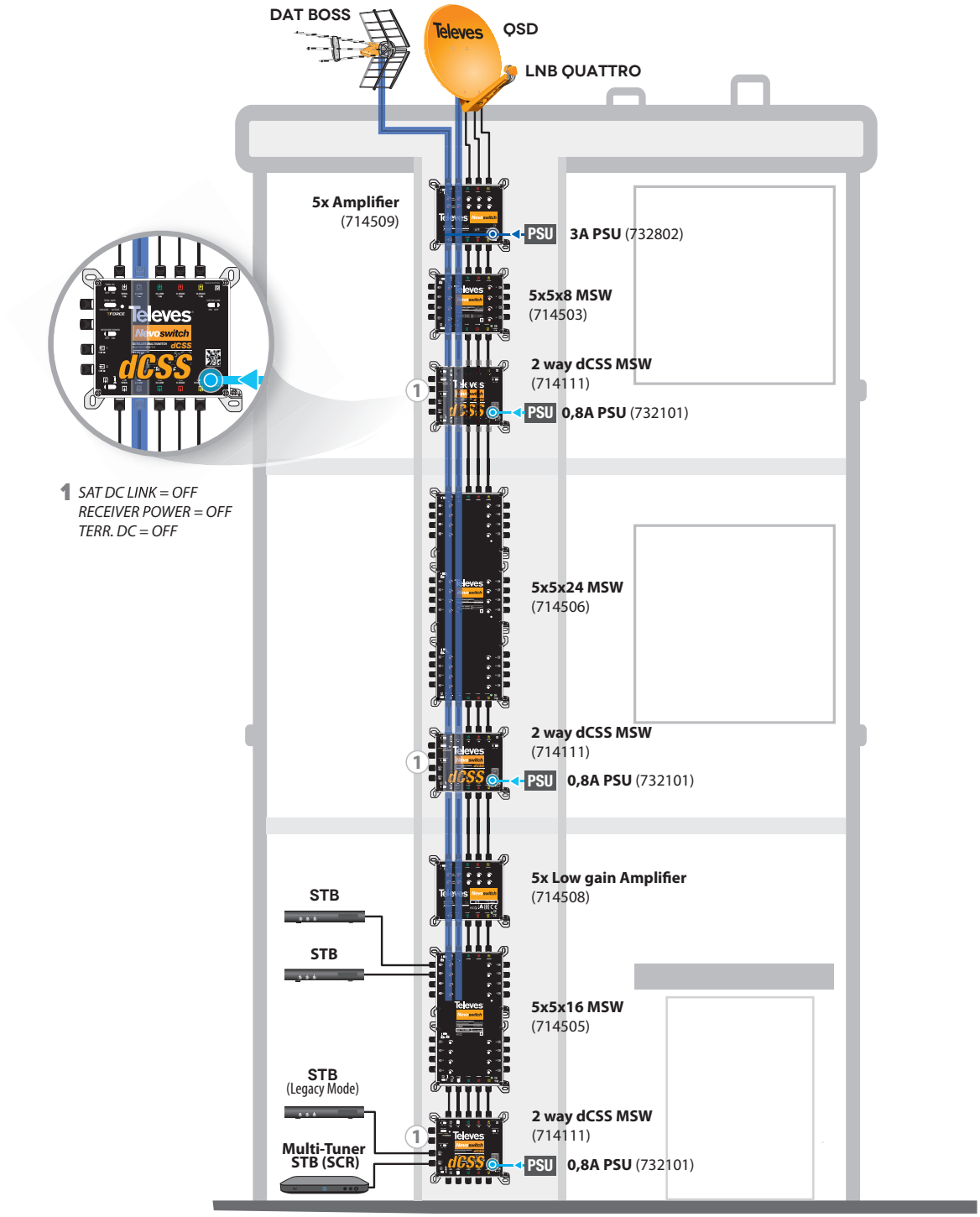
- ☑ **Compatible** with existing Televes NevoSwitch and also with the non-Televes IRS systems.
- ☑ **Chassis made of Zamak**: improved screening attenuation.
- 5 ☑ **Versatile**: The same MSW can be configured as cascade or stand-alone with the flick of a switch.
- ☑ **Small size and compact design**.
- ☑ **European** quality and design, 100% manufactured and verified in our robotized lines

dCSS NEVOSWITCH
A MULTISWITCH HAS NEVER BEEN SO CLEVER

ADDITION TO EXISTING CASCADE SYSTEM

The 3A PSU powers the whole existing system (V-Low and Terrestrial).

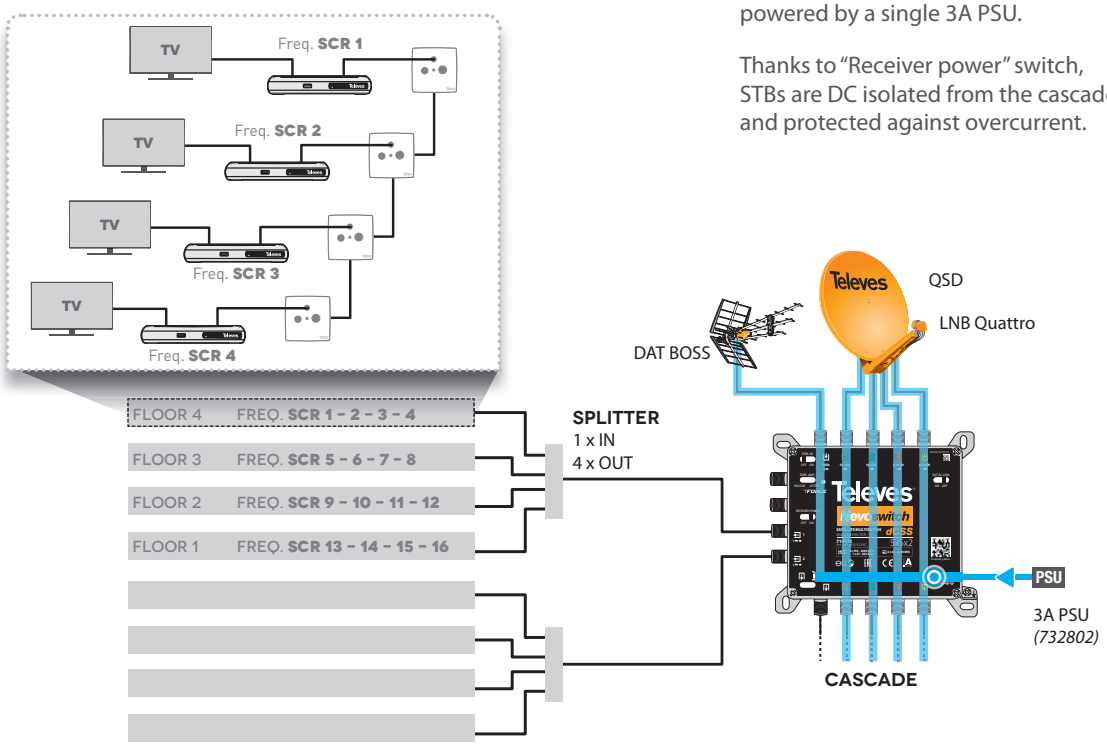
Each added dCSS multiswitch is powered by its own 0,8A PSU, without interfering with the cascade current.



FULL dCSS CASCADE SYSTEM.

The cascade of multiswitches is powered by a single 3A PSU.

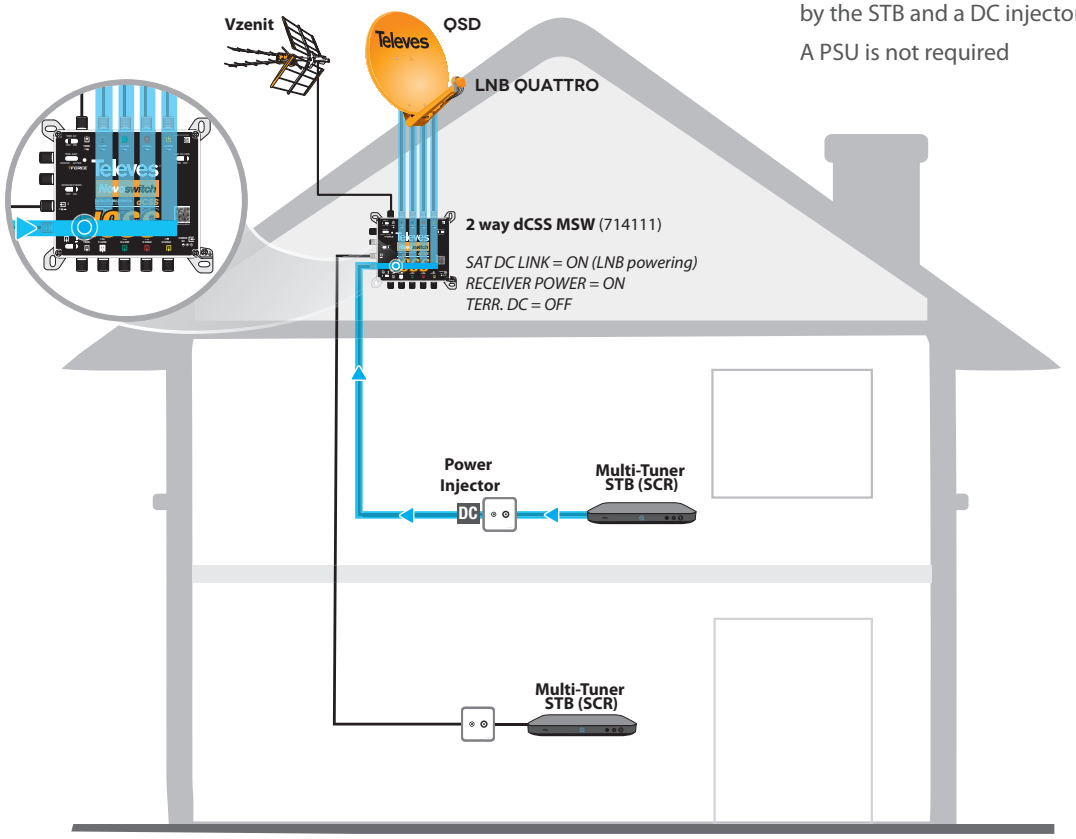
Thanks to "Receiver power" switch, STBs are DC isolated from the cascade and protected against overcurrent.



A DOMESTIC dCSS APPLICATION

The LNB and dCSS multiswitch are powered from the user output by the STB and a DC injector.

A PSU is not required



NO LIMITED EFFICIENT
T.OX TRANSMODULATION

T.OX HEXA TRANSMODULATOR

Transmodulation of 6 transponders to 6 QAM multiplex with just one compact module.

This HEXA module receives up to **6 DVB-S/S2 transponders** and transmodulates their services to 6 output multiplex in QAM format.

Thanks to its very **optimized power consumption** it is possible to install up to 4 modules in a cabinet, transmitting up to 24 QAM channels.

- 2 independent SAT inputs or 1 input and loopthru (module cascading)
- Direct frequency conversion for optimum QAM output parameters
- QAM modulator with variable or programmable baud rate (stuffing and PCR correction)
- Output channels fully independent (configuration)
- Inner fan for temperature control
- Optimal quality QAM parameters (MER, C/N)

T.OX TWIN TRANSMODULATOR

This TWIN module generates 2 DVB-S/S2 transponders in two QAM multiplex with **sorted services (LCN)**.

This module allows editing multiple parameters, among which Service ID (S_ID), which avoids STB retuning when the services of the output multiplex are modified.

- 2 independent SAT inputs or 1 input and loopthru (module cascading)
- LCN for service sorting
- Total or selective service removal to prevent services from being memorized on STB
- Service ID editing for all STB to automatically detect changes in the contents without retuning.
- Optimal quality QAM parameters (MER, C/N)

Ask us about our pre-programmed headends!

PROGRAMMABLE HEADEND AMPLIFIER
BEYOND YOUR EXPECTATIONS

MORE ABOUT THE AUTO-PROGRAMMING FUNCTION

EN.TELEVES.COM/AVANT9

A00398

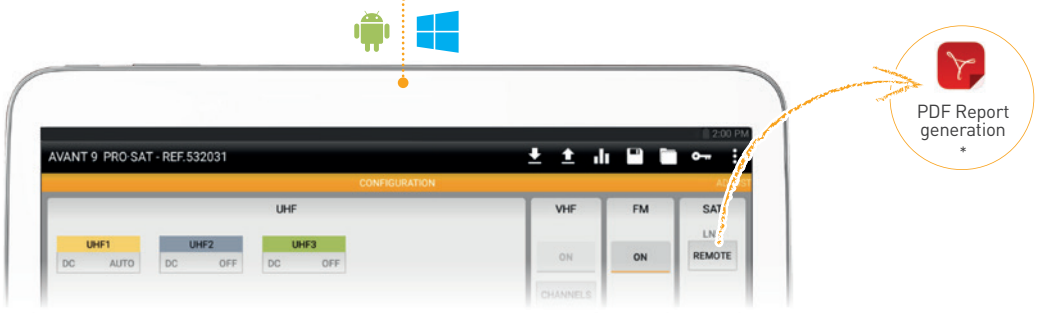
CHOOSE THE PROGRAMMING MODE YOU WISH

5320xx

BACKWARDS COMPATIBLE AND STILL PROGRAMMABLE
via your current universal programmer or your PC

PROGRAMMABLE VIA AN ANDROID APP FOR SMARTPHONES AND TABLETS
Use your mobile phone as a working tool to program your Avant

AUTO PROGRAMMING
With the new Autoscan functionality the amplifier will automatically scan its UHF inputs and allocate the muxes found to filters*



- **A NEW SIZE LIGHTER AND MORE COMPACT** (273x203x57mm)
- **UHF FILTERS WITH MORE SELECTIVITY**: 30dB rejection to adjacent channel
- **SAVE ENERGY**: Up to 25% less power consumption than previous models
- **CHASSIS MADE OF ZAMAK**: Improved screening attenuation

AND ALSO::

- Up to 10 programmable filters from 1 to 7 channels
- Output signal automatic adjustment
- LED displays show both unit and signal status
- High output power
- LTE Ready
- Two power supply modes on the SAT input: local or remote
- Antenna or mast amplifiers automatically powered through the inputs (12V)

A FULL PRODUCT RANGE
ADAPTED TO YOUR REQUIREMENTS

REF.	DESCRIPTION	
AVANT 9 BASIC	2xUHF	
532001	Avant9 Basic (FM-VHF-MATV-UHF-UHF)	TERR.
532011	Avant9 Basic SAT (FM-VHF-MATV-UHF-UHF-FI)	TERR. & SAT.
AVANT 9 PRO	3xUHF, auto-programming, VHF & UHF monitoring	
532021	Avant9 Pro (FM-VHF-MATV-UHF-UHF-UHF)	TERR.
532031	Avant9 Pro SAT (FM-VHF-MATV-UHF-UHF-UHF-FI)	TERR. & SAT.

* (PRO VERSION)

FTTH TRANSMITTER AND RECEIVER
SATELLITE AND DTT IN A SINGLE OPTICAL FIBER

Distribution of the complete DTT lineup and **a whole satellite in a single optical fiber**. The system is compatible with GPON deployments and in the reception side, it permits to capilarize the end distribution through legacy or SCR multiswitches.

This system is formed by a transmitter and a receiver, both with **WDM technology** (Wavelength Division Multiplexing).

237301

237311

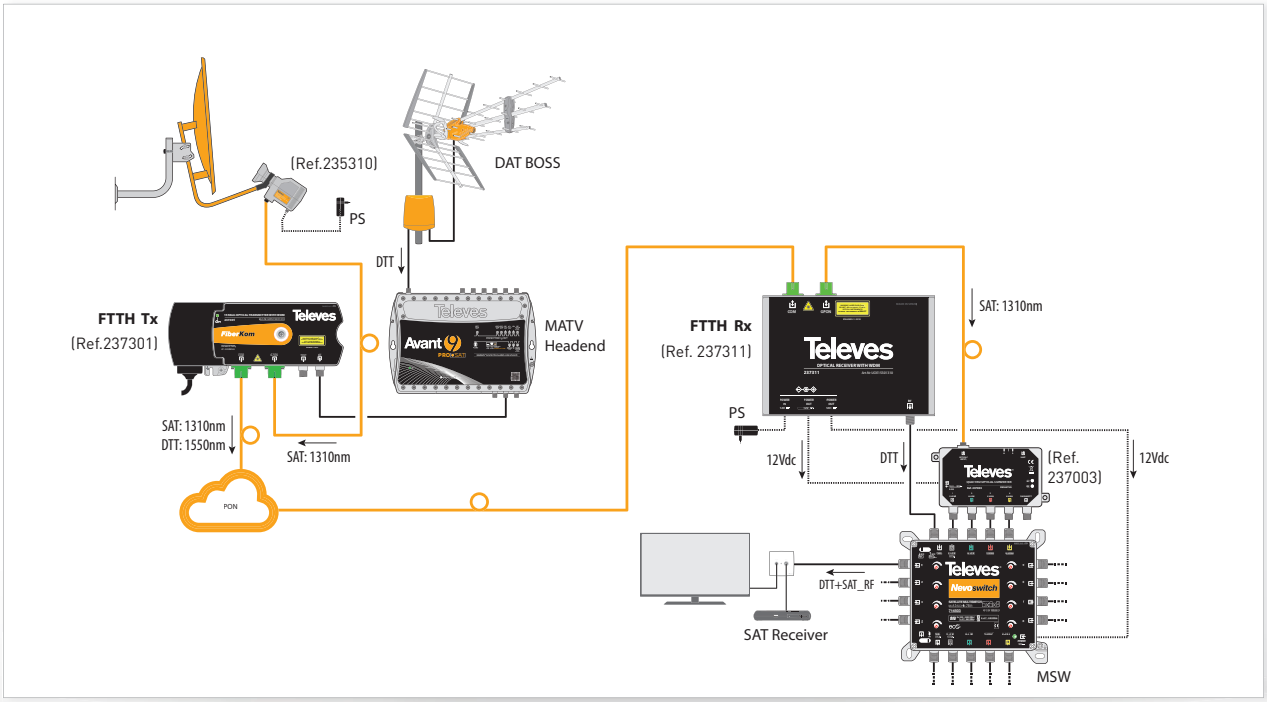
FTTH TRANSMITTER (Tx)

It receives a terrestrial signal (DTT) in RF and an optical satellite signal (1310nm) as input. The device converts DTT into optical (1550nm transmitter), and is multiplexed (WDM) with the satellite input signal (1310nm). The output is an optical signal in a single fiber, with satellite and terrestrial in the 2nd and 3rd transmission window.

FTTH RECEIVER (Rx)

It receives a satellite and terrestrial optical signal (1310 / 1550nm) and it is demultiplexed (WDM). The terrestrial signal (1550nm) is converted to RF (F connector output) and the satellite signal is available in an optical SC/APC output (1310nm).

FTTH APPLICATION EXAMPLE



FOUR SATELLITE SINGLE FIBRE SYSTEM:
A FULL FOUR SATELLITES IN A SET-TOP BOX

Distribution system of **four satellites and DTT in a single optical fiber using DWDM** (Dense Wavelength Division Multiplexing). The output optical power allows a higher splitting ratio **(1:256)** than the state-of-the-art CWDM solutions and it is also compatible with video overlay of **GPON deployment**.

237901

237911

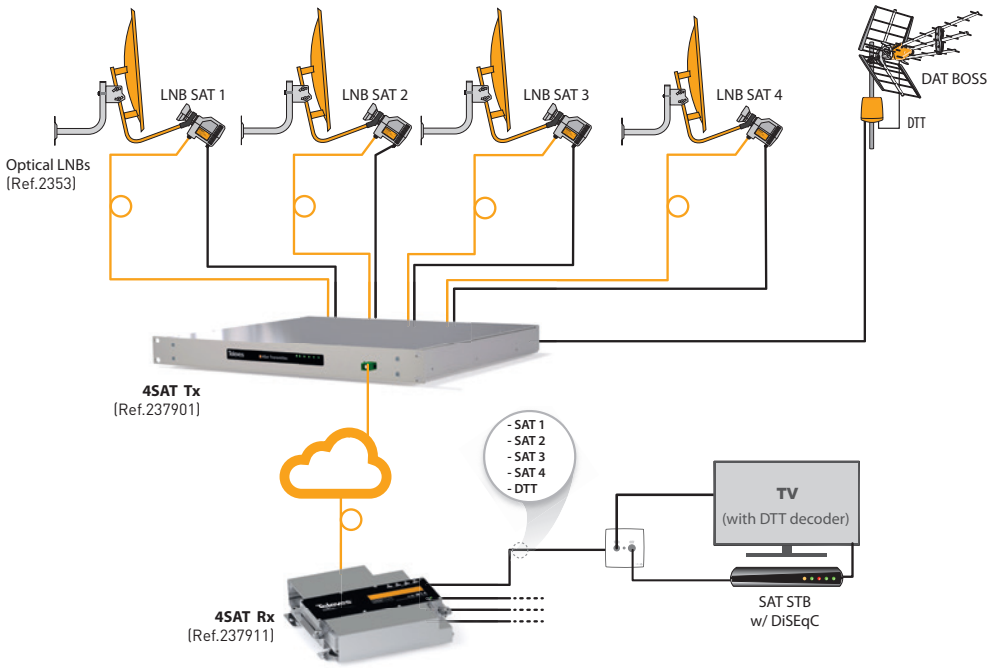
4SAT TRANSMITTER (Tx)

It receives four different satellite signals from four optical LNBs and also a terrestrial RF signal, transmitting a single optical output with all the services.

4SAT RECEIVER (Rx)

It receives a single optical input from the 4SAT Tx, and offers 4 RF user outputs with the four satellite and terrestrial services.

4SAT APPLICATION EXAMPLE



HANDHELD METER
CUSTOMIZABLE MULTI STANDARD

H30FLEX

SCAN TO WATCH VIDEO

A00399

EN.TELEVES.COM/H30FLEX

A **pocket size** meter which allows you to customize upgrade choice with downloadable **software under licence**.

Choose the standards you're actually going to measure and only pay for the features you need.

H30FLEX The standard you need in a single equipment.

Great measurements performance, including a digital real-time spectrum analyzer, constellation and echo diagrams, datalogs...

ZVEI: Die Elektroindustrie

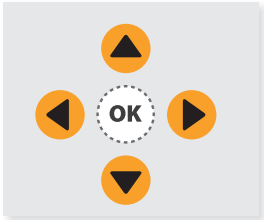
sat

AFFORDABLE, HIGH QUALITY MEASUREMENT EQUIPMENT:

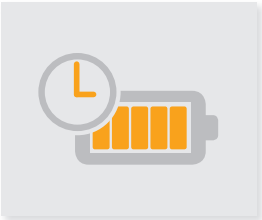
- Multi Stardard, ready to take measurements on the DVB-S/S2 satellite band and DVB-T/T2 and DVB-C terrestrial band channels
- Accuracy and speed: Real-time digital processing
- Fast & Automatic channel auto-scan with parameters autodetection (system scan)
- High contrast screen for bright sunlight

ALL THE FUNCTIONS YOU NEED IN YOUR HAND

RUGGED AND LIGHT-WEIGHT
ABSOLUTE RELIABILITY AND PROTECTION IN AN EASY TO CARRY FORMAT



ERGONOMIC HANDHELD DESIGN
USER-FRIENDLY INTERFACE



LONG BATTERY RUNTIME
WITH POWER-SAVING MODES

MADE IN TELEVES
YOUR QUALITY WARRANTY

REF.	DESCRIPTION
593301	H30FLEX with DVB-S/S2 and DVB-T
593302	H30FLEX with DVB-S/S2 and DVB-T/T2
593303	H30FLEX with DVB-S/S2 and DVB-C
593304	H30FLEX with DVB-S/S2, DVB-T/T2 and DVB-C

OPTIONS	
593231	DVB-T
593232	DVB-T/T2
593233	DVB-C
593234	dCSS (SCR)

A PORTABLE METER
FOR PROFESSIONAL USERS

MOSAIQ6

SCAN TO WATCH VIDEO

EN.TELEVES.COM/MOSAIQ6

A00412

Its high performance and high accuracy makes MOSAIQ6 the perfect tool for professional installers.

THE POWER OF USER EXPERIENCE

6 SCREENS IN 1

Thanks to its configurable interface, you choose which widgets (up to 6) you want to simultaneously display in the 8" high resolution screen. Check the installation status at a glance.

A TRUE TOUCH SCREEN

This new interface has been designed and also programmed to take full advantage of a touch screen with touch gestures (tap, double tap, long press, drag, spread or pinch). Only in this way is it possible to operate so easily a meter with so many performances.

ULTRA-FAST SPECTRUM ANALYSER

Due to its rapidity, accuracy, and a full range of features, it is the most obvious result of our real time digital processing engineering.

ERGONOMICS

With a robust design and satisfactory dimensions (220 x 260 x 65mm), this meter offers an optimized shape to maximize the effectiveness of movement. Every menu and button is accessible with one single hand.

ALWAYS READY

A new battery system allows to change the meter's battery during the field work. Don't worry about the load, two batteries give a sufficient operating range for a full work day.

EFFICIENT MANAGEMENT

The MOSAIQ6 cloud repository is available to keep your meter always updated. It also offers the comprehensive management of your meter (or meters), like downloading measurements, managing the channel plans, configuration, etc.

MORE INFORMATION:

Standards:

- **Radio**: FM
- **Terrestrial**: DVB-T & DVB-H, DVB-T2 & DVB-T2 Lite, ISDB-T/Tb
- **Satellite**: DVB-S & DVB-S2 (multi-stream), 8PSK & DSS
- **Cable**: DVB-C, QAM (Annex A, B, C)

Fiber-optic interface (also selective version)

Advanced Features:
RF measurements, professional spectrum analyser, quality parameters , link margin, constellation, echoes, LTE interference detection, scan.

Selectable options:
GPS Drive Test,
Wi-Fi 5GHz,
measuring of analogue channels,
DAB / DAB+

CMP: 0.6000298 FI: 05/2017

Televes®

NEW PRODUCT **2017**

televescorporation ■ televes.com ■ televes@televes.com