Televes®

European technology **Made in EUrope**

T.0X

Efficient Ingenuity

Lockable cabinet format

Made in
SPAIN

Advanced design for the next generation services to come

✓ Vanguard Design
Improved module comsumption

The T0X is designed on the basis of power efficiency. The 24V power supply with improved module comsumption provides a stable environment with improved heat dissipation, granting the head-end an outstanding value for its compactability.

The usage of FPGA elements in the development secures added functionality for years to come. In addition, all T0X designs have considered full backward compatibility with T05 head-ends.

✓ Twin modules
Up to 280% more services

Double the functionality, half the space.

✓ Refined Manufacture
Fully robotized automated process

The T0X is the first professional headend manufactured in a fully robotized automated process. No manual soldering or adjusting, which gives a total guarantee of quality and reliability Better design, better manufacturing, more efficiency. The T0X is the professional head-end for the professional installer.

T.0X

Efficiency

the ratio of the effective output to the total input of the system

33% less consumption **in QAM** distributions

45% less consumption **in PAL** distributions

The T.0X modules are cleverly designed with one 24 volt power supply. Having just a single voltage source simplifies the unit itself, as well as its related cabling. Additionally, the redesign of the power supply assures distributing more services than ever before, making full rack configurations far more consumption efficient.

Improved functionality to enhance the digital experience

efficiency

consumption

Passion for Quality

In the design of the modules the positioning of the different elements affected by oscillators is carefully considered being these placed in standard size cuadrants which gives added uniformity and the ability to make the inserction of componentry in a fully automated manufacturing process.

We can guarantee to our clients and partners that no T0X module is individually adjusted or manipulated, instead, each module is a result of a continous automatic process from the manufacturing of the printed circuit board (PCB), to the superficial mounting technology (SMT) of every component, to the final integration of electrical and mechanical parts in the chassis… and to the final software verification process.

Automatic, standard and reliable.
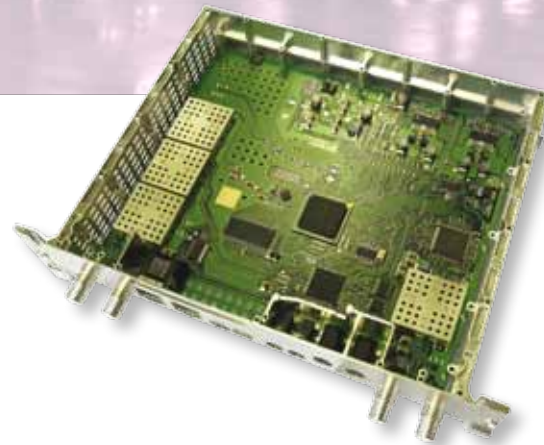
…and for Manufacturing

In the era of globalisation, when most of the companies within our sector decide to outsource manufacturing processes in order to reduce costs, **Televes stays faithful to its industrial tradition:**

controlling the whole process in house,

from desing to manufacturing and to certified delivery. This is a strong held belief and a successful principle that can be summoned in our core value: **"European Technology Made in Europe"**, a value world markets associate with Televes.

T.OX

Ref.	Description
563101	T.0X DVB-S2 / COFDM Transmodulator
563301	T.0X DVB-S2 / COFDM CI Transmodulator
5630	T.0X DVB-S2 / QAM TWIN Transmodulator
5635	T.0X QPSK / PAL CI TWIN Transmodulator
563401	T.0X COFDM / COFDM CI Transmodulator
xxxxxx	T.0X COFDM / QAM CI Transmodulator
xxxxxx	T.0X Analog / Digital TWIN Channel Processor
5806	T.0X A / V TWIN Modulator
5559	T.0X IP Headend Controller
555901	T.0X IP / GPRS Headend Controller
5575	T.0X Broadband Amplifier
5629	T.0X Power Supply Unit

INPUT
COFDM channels

OUTPUT
20 COFDM channels
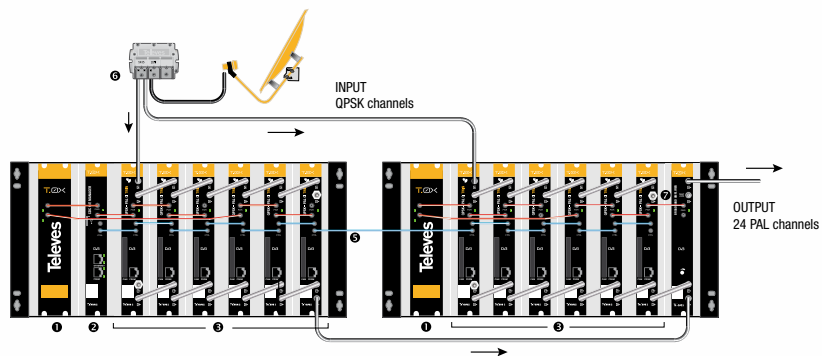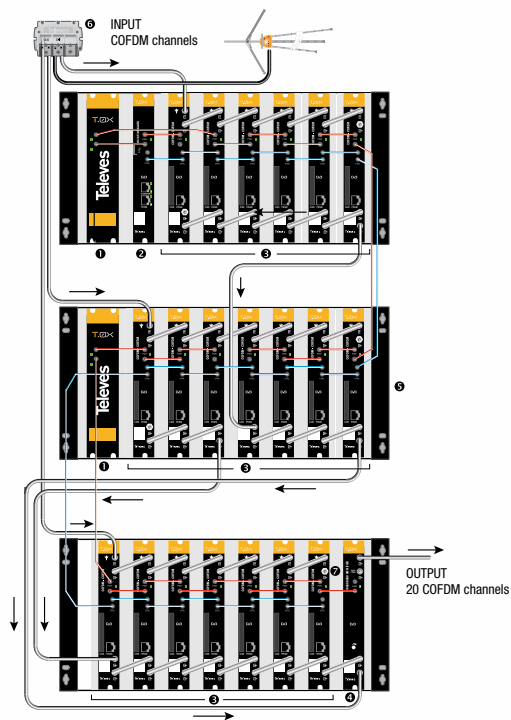
❶ PSU ref. 5629
❷ H/E Control Unit ref. 5559
❸ COFDM to COFDM transmodulator ref. 563401
❹ Broadband Amplifier ref. 5575
❺ 19" Subrack ref. 5301
❻ Splitter 3 ways ref. 5534
❼ 75 ohms terminal load ref. 4058

—— power bus
—— control bus
—— RF path

INPUT
QPSK channels

OUTPUT
24 PAL channels

❶ PSU ref. 5629
❷ H/E Control Unit ref. 5559
❸ QPSK - PAL CI TWIN transmodulator ref. 5537
❹ Broadband Amplifier ref. 5575
❺ 19" Subrack ref. 5301
❻ Splitter 2 ways
❼ 75 ohms terminal load ref. 4058

—— power bus
—— control bus
—— RF path

Description

Fibre networks are the professional solution for TV signal distribution over wide areas.

Taking into accout the current enviroment, Televes, world leader in the manufacturing of equipment and software for the reception and distribution of TV signals has developped a complete range of products for mono-mode Fibre Optics.

Monomode fibre is the technology used for TV distribution and the main difference between traditional multimode data networks and TV networks.
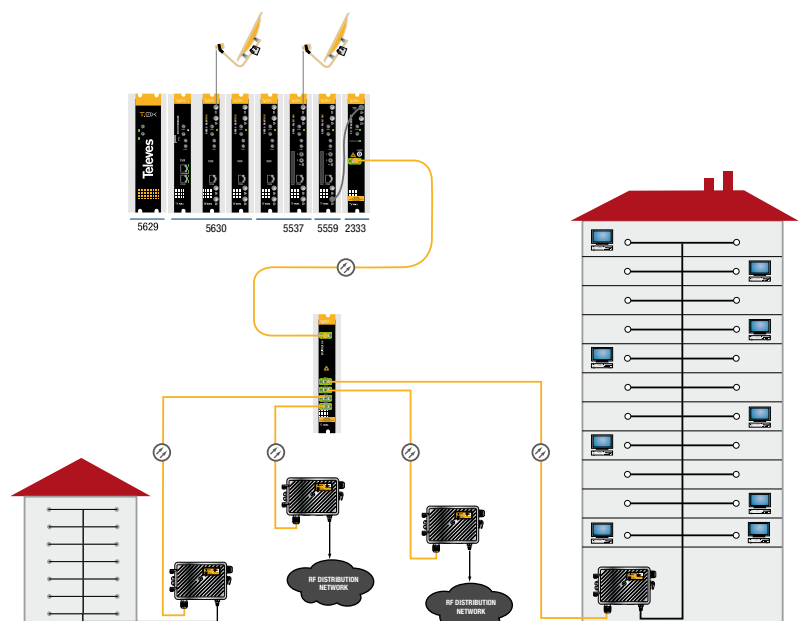
Ref.	Description
2333	T.0X Optical Transmitter
2334	T.0X Optical Transmitter / Return Path Receiver
2335	T.0X Optical Receiver
2336	T.0X Optical Receiver / Return Path Transmitter
2337	T.0X Optical Splitter, 2 ways
2339	T.0X Optical Splitter, 4 ways
5629	T.0X Power Supply Unit
2310	Outdoor Optical Receiver
2311	Domestic Optical Receiver

Each optical link is composed by two main elements:

■ The **optical transmitter** that transforms the RF input signal into an optical signal.

■ The **optical receiver** that inverts the process.

But Fibre Optic networks often require more than simple point-to-point links.

Optical splitters are used to enable a single optical transmitter to feed multiple branches.

Optical Output LNB and Optical Converters

PRODUCT RANGE	
Ref.	Description
2350	Quattro MDU
2351	Quad MDU
2352	Twin MDU
2353	LNOC LNB óptico
Optical Splitters	
2357	Split 2OF
2358	Split 3OF
2359	Split 4OF
2360	Split 8OF
Optical Fibers	
2361	3m FC/PC F pre-ter
236101	5m FC/PC F pre-ter
236102	10m FC/PC F pre-ter
236103	20m FC/PC F pre-ter
236104	30m FC/PC F pre-ter
236105	40m FC/PC F pre-ter
236106	50m FC/PC F pre-ter
236107	75m FC/PC F pre-ter
236108	100m FC/PC Bob. pre-ter
236109	200m FC/PC Bob. pre-ter
Optical Accessories	
2354	FC/PC Conector
2355	SC/PC Conector
2356	FC/SC Adaptor
2362	F Pen Light

▲ 2351

▲ 2163

This innovate design stacks both horizontal and vertical l polarities, creating a single IF frequency range of 950 MHz-5,45 GHz. This new single band is then frequency modulated optically and out put using a 1310nm internal to the Optical Output LNB.

Each converter receives the optically modulated frequency stacked signals from the Optical LNB or PON, typically via a 3mm fibre optic cable, utilising the FC/PC connector.

The optical signals are then converted back to their original IF format and output to the receiver via standard F connections.

Optical Output LNB

- Converts all 4 Universal IF bands to a single optical output.

  (H/H-H/L-V/H-V/L=Single Optical Output)

- Capable of supplying all converted signal to 32 distribution points spread over a 10 kilometre radius.

- 40mm Feed Horn.

Twin and Quad Optical Converters

- Conversor optical signal from a MDU Optical LNB to IF.

- Provides up to 2/4 Universal Satellite feeds from 1 Fibre Optic connection.

- Plug and Play.

- Powered via the STB.

Reference			2351-2352
Input parameters			
Frequency range		GHz	0,950-5,45
Optical RLR		dB	20
Optical power	SML PON setting	dBm	- 13 min./0 max
	SMD PON setting		- 18 min./-14 max
Nominal transponder		dBm	- 180 min./-40 max
Output parameters			
RF frequency range	Horizontal high band	MHz	1100-2150
	Vertical high band		1100-2150
	Horizontal low band		950-1950
	Vertical low band		950-1950
Nominal output level/transponder		dBm	-65 min. / -25 max.
Rejection between outputs		dB	30
Out of band spurious level		dBm	-60
Impedance		ohm	75
Powering (only for Quatro version, Twin & Quad to be powered from STB)	voltage	Vdc	12
	consumption	mA	330 max.
Operating temperature		ºC	0 to 50
Connectors	DC Input	type	F Female
	Optical output		FC/PC

Reference		2353
Input frequency	GHz	10,7-12,75
Output frequency		0,950-5,45
Optical output power	dBm	7
Noise figure	dB	0,5 typ
Gain		72 max.
Cross polar rejection		30 typ
Powering	Vdc	12
Current consumption	mA	450 max.
Operating temperature	ºC	-30 to 60
DC input connector	type	F Female
Optical output connector		FC/PC

PRODUCT RANGE	
Ref.	**Description**
5540	ASI - COFDM
5541	MPEG-2 QUAD encoder

Reference			5540
Standard			EN 50083-9
COFDM Modulation	Bandwidth	MHz	7-8
	Modulation		QPSK, 16QAM O 16 QAM
	IG	μS	1/4, 1/8, 1/16, 1/32
	FEC		1/2, 2/3, 3/4, 5/6, 7/8
Output	Frequency	MHz	117,5-226,5 / 474-858
	Offset	KHz	125 - 166
Power Supply	Powering	Vdc	5 - 15 - 18
	Consumption	mA	350(5V)-175(15V)-70 (18V)

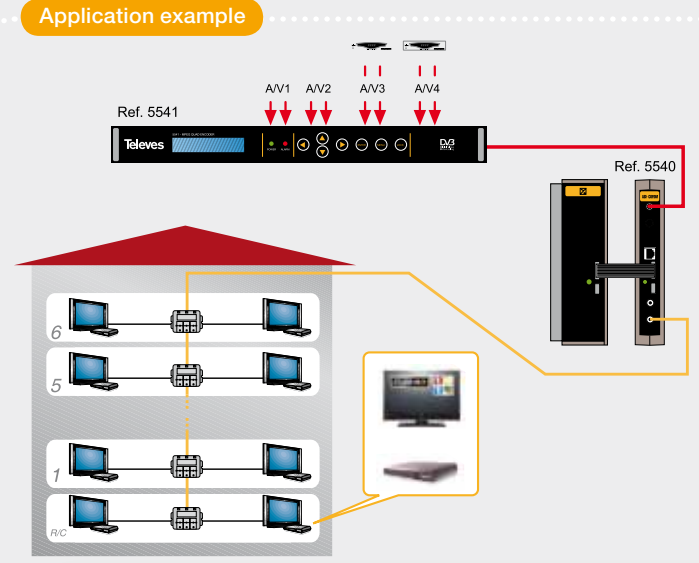| Reference			5541
Standard			ISO/ICE11172
			ISO/ICE13818
Video	Codification		MPEG-2 MP@ML (4:2:0)
	Input		CVBS, S-VIDEO
	Bit Rate	Mbps	1,5 - 15
Audio	Codification		MPEG-1 Layer 1
	S.R.	KHz	32, 44.1, 48
Controi			LCD + frontal keyboard
			Remote control SMNP
MPEG Output	ASI Bit Rate	Mbps	170
	Package		188/204
Power Supply	Powering	Vac	90-260
	Consumption	W	350(5V)-175(15V)-70 (18V)

Generates a DTT multiplex (COFDM) from 4 analog A/V signals

- Adapts analog signals to DTT receiver/tv sets.
- Control of the input signals degree of compression using the MPEG2 encoder (ref. 5541).
- The A/V inputs are fully independent, allowing for different degrees of quality depending on the service (sports, news, etc.).
- Locally (front panel) or remotely (IP protocol) configurable.
- All-band output.

Application example

5540

5541/5551

DTKom
Amplifier

Description

The prestige and reliability of the Televes broadband amplifiers is an added value to the excellence of this range of products.

Televes has gone a step further on the design and manufacturing of amplifiers. Designed with the latest technology for broadband devices, the DTKom amplifiers stand out for their technical specifications and ease of installation and adjustment.

RANGE OF PRODUCTS	
Ref.	Description
Headend Push-pull amplifiers	
5340	3 in/1 out - BI/FM-BIII-UHF
5341	5 in/1 out - BI/FM-BIII-BIV-BV-UHF
Power-doubling line amplifiers	
451201	1 in/1 out - FP 47-862 MHz/RP 5-65 MHz
451202	1 in/1 out - FP 87-862 MHz/RP 5-30 MHz
5337	2 in/2 out - FP 47-862 MHz/RP 5-30 MHz + 2×IF 950-21502 MHz
Push-pull line amplifiers	
5335	1 in/1 out - FP 47-862 MHz/RP 5-30 MHz + 1×IF 950-2150 MHz
533501	1 in/1 out - FP 87-862 MHz/RP 5-65 MHz + 1×IF 950-2150 MHz
5337	5-30 / 47-862 + FI1 / FI2
5338	1 in/1 out - FP 47-862 MHz
5339	1 in/1 out - FP 47-862 MHz/RP 5-30 MHz
533901	1 in/1 out - FP 87-862 MHz/RP 5-65 MHz

Main features

■ Input signal detector in each band in order to help the installer to identify possible failures in the signal transmission from the reception system.

■ Return channel at 30 and 65 MHz, active or passive. By means of a switch it is possible to choose whether the treatment of these signals must be active or passive, allowing to adapt them to the characteristics of the distribution network.

■ External accessibility of the adjustments and configurations. Switches and level potentiometers are accessible from the outside. The diagram printed on the front of the amplifier clearly explains how to configure the different settings of the product.

■ The "High / Low" gain is selectable and allows the adjustment of the output level without using signal regulators (internal input attenuators) and therefore without degrading the C/N.

DT Kom
Power Doubling and Push-Pull

■ The **POWER DOUBLING range** allows to get output levels up to 129dBµV in VHF and UHF bands and above 120dBµV, with the possibility of equalization, in SAT (IF) band.

It is also possible to choose (switch) between two different output levels with a maximum of 123dBµV in the VHF and UHF bands.

References		451202	451201	5337
Inputs / Outputs		1/1	1/1	1/2
Return path				
Frequency range	MHz	5-30	5-65	5-30
Gain (active/passive)	dB	20/-4		17/-4
Output level	dBµV	116		116
MATV Forward path				
Frequency range	MHz	47-862	87-862	47-862
Gain U/V	dB	40-53		34-47
Output level U/V	dBµV	129		123
SAT IF				
Frequency range	MHz	-	-	950-2150
Gain	dB	-	-	42
Output level	dBµV	-	-	120
General				

■ The **PUSH-PULL range** allows to get output levels up to 123dBµV in VHF and UHF bands and above 120dBµV, with the possibility of equalization, in SAT (IF) band.

Functionally, the DTKom series, with a wide range of products, from head-end multi-input amplifiers to line-amplifiers, covers any need of any TV distribution network.

References				5340	5341
Gain	BI / FM	47-68 / 88-108 MHz	dB	39 / 25	39 / 25
	BIII	174 - 370 MHz		44	44
	BIV	470 - 590 MHz		-	48
	BV	614 - 862 MHz			50
	UHF	470 - 862 MHz		53	
Noise Figure	BI / FM	47-68 / 88-108 MHz		<8	<8
	BIII	174 - 370 MHz		<6,5	<6,5
	BIV	470 - 590 MHz		-	<9
	BV	614 - 862 MHz			
	UHF	470 - 862 MHz		<5,5	<8
Output level (DIN45004B)			dBµV	123	123
Consumption (12VDC)			mA	50	50
Powering			VAC	196 - 264	196 - 264

References		5335		5339		5338
Inputs / Outputs		1/1	1/1	1/1	1/1	1/1
Return path						
Frequency range	MHz	5-30	5-65	5-30	5-65	-
Gain (active/passive)	dB	20/-4		20/-4		-
Output level	dBµV	115		115		-
MATV Forward path						
Frequency range	MHz	47-862	87-862	47-862	87-862	47-862
Gain U/V	dB	40-53		41-53		41-53
Output level U/V	dBµV	124		122		123
SAT IF						
Frequency range	MHz	950-2150		-	-	-
Gain	dB	42		-	-	-
Output level	dBµV	121		-	-	-
General						

First Handheld Meter with Digital Processing

H45

Field Strenght Meters

MAIN FEATURES

☑ Digital processing

☑ Combo mode display

☑ Advanced spectrum analyzer

☑ UAL (Universal Auto Log) and Scan&Log functions

☑ Ergonomic design.
Compact, lightweight and user friendly

☑ Upgrading and Scalability

SPECTRUM ANALYZER

■ Adjustable reference level

■ Saturation alarm

■ Max hold and marks

■ Noise representation

■ Automatic satellite identification

■ Real time sweeping

MEASUREMENTS

■ Level: from -15 to 130dBµV

■ C/N (automatic and referenced)

■ BER and MER in QPSK, QAM and COFDM

■ DVB-S2 - 8PSK and DVB-T2 measurements (*)

■ Services (with their resolution) identification

■ Echoes

The Televes H45 Meters are based on Digital Processing

as the engine for the advanced features as well as the key to be lightweight, fast and scalable.

RF Field Strenght Meters

Ref.	Description
5990	H45 Compact
599001	H45 Compact Full HD
599002	H45 Compact Full HD + C.I.
5992	H45 Advance
599201	H45 Advance Full HD
599202	H45 Advance Full HD + C.I.

COMBO MODE DISPLAY

Pictures, Spectrum and Measurements (with Cheek Quality Marks) in 1 screen.

Signal information is updated real time.

Everything you need regarding the signal measurements is displayed in the screen of the meter.
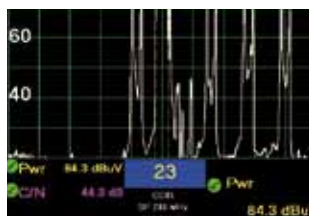
ADVANCED SPECTRUM

Advanced Spectrum Analyzer with a wide dynamic margin, to measure spurious and very low noise levels.

LINK MARGIN

Specific measurements for second generation digital standards (DVB-S2 and DVB-T2). The LINK MARGIN is the measurement that gives more information about the quality of these signals.

VIDEO AND AUDIO

- HD digital signals: MPEG-4 or MPEG-2 (*)
- SD digital signals: MPEG-2
- Digital audio: AAC, EAAC, AC3 and EAC3 (*)

HSUITE

Software tool to generate reports

- Instant Log function
- Check quality marks management
- Data Log function
- Graph logger (*).

AUTONOMY

- **More than 4 hours**
- Special Firmware for charging management
- Battery status indicator

Made in EU

Constellations · DVB S2 SATELLITE · QAL QPSK AUTO LOCK · ECHOES Function · HD · Link Margin · DVB T2

(*) Depending on the options

... and now Optical Meter

The H45, the Meter you need to check the response of an optical distribution network

Ref.	Description
599003	H45 Compact with Optical Receiver
599004	H45 Compact Full HD + Optical Receiver
599203	H45 Advance with Optical Receiver
599204	H45 Advance Full HD + C.I. + Optical Receiver

The H45 Meters with Optical Receiver can measure optical power and attenuation as well as all TV signal quality parameters like (Level, V/A, C/N, BER, MER,...)

OPTICAL RECEIVER

Combined with the triple light source OPS3L the H45 with optical receiver (optional) allows to check the response of an optical distribution network.
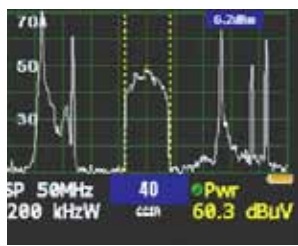
SPECTRUM ANALYZER IN OPTICAL MODE

To represent the spectrum of the RF signal transmitted via Fibre Optics.

A great help for accurate adjustment of optical links.

DVB-S2 HD (1080I) PARAMETERS

To watch digital signals transmitted via Fibre Optics (Full HD depending on the options)

OPTICAL ATTENUATION MEASUREMENT

Simultaneous analysis in three windows: 1310, 1490 and 1550 nm.

First Handheld Meter with Digital Processing

H45

The maximum expresion of
Scalability

Options

Ref.	Description
5991	H45 HD measurements option
5997	H45 MPEG - 4 option (Requires option ref. 5991)
5998	H45 C.I. option (Requires options ref . 5991 and ref. 5997)
598901	H45 DVB - T2 option (Requires options ref. 5997 and ref. 5998). H45 Advance exclusive
598902	H45 frequency range extension (5 - 3.300MHz) option. H45 Advance exclusive
5999	H45 Optical Receiver option
5994	H45 Upgrade Compact to Advance (Requires option ref. 5991)

HD measurements = DVB-S2, DVB-T and DVB-C constellation, DVB-S2 measurements and demodulation + Echoes.

Full HD = HD measurement + MPEG-4.

FULL HD PICTURES

MPEG4 H.264: 576i, 720p, 1080i,1080p.

For services up to 1080p.

Compatible with all the digital audio standards: AAC,EAAC, AC3 and EAC3.

## COMMON INTERFACE MODULE

Compatible with DVB-CI.

The Meter incorporates a slot for a Conditional Access Module (CAM), which, combined with the corresponding smart card, allows to watch encrypted TV channels.

OPTICAL SIGNAL MEASUREMENTS

Analysis in three windows: 1310, 1490 y 1550 nm.

It measures the optical power as well as all TV signal quality parameters like (Level, V/A, C/N, BER, MER,...)
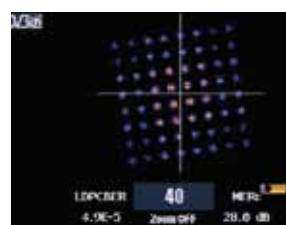
DVB-T2 OPTION

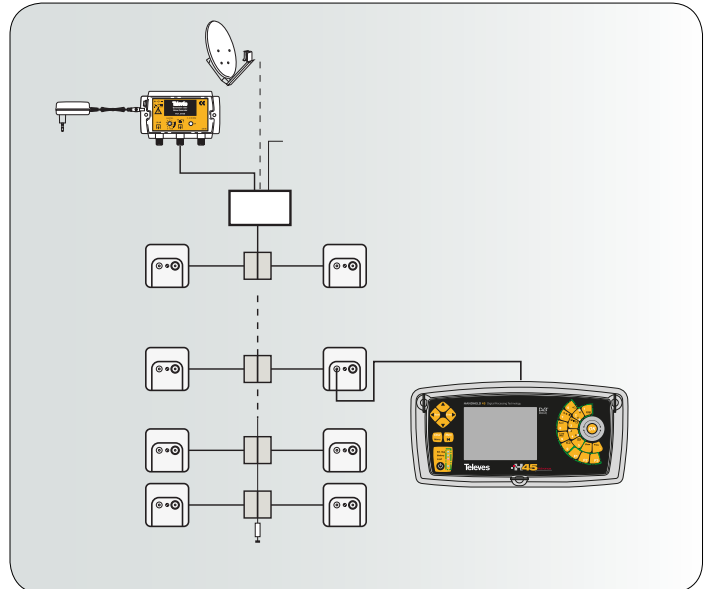Constellation, measurements, demodulation and DVB-T2 visualization.

Noise Generator
Ref. 5930

The ref. 5930 generates noise in the whole band (5 - 2150 MHz) to obtain the amplitude/frequency response of one installation.

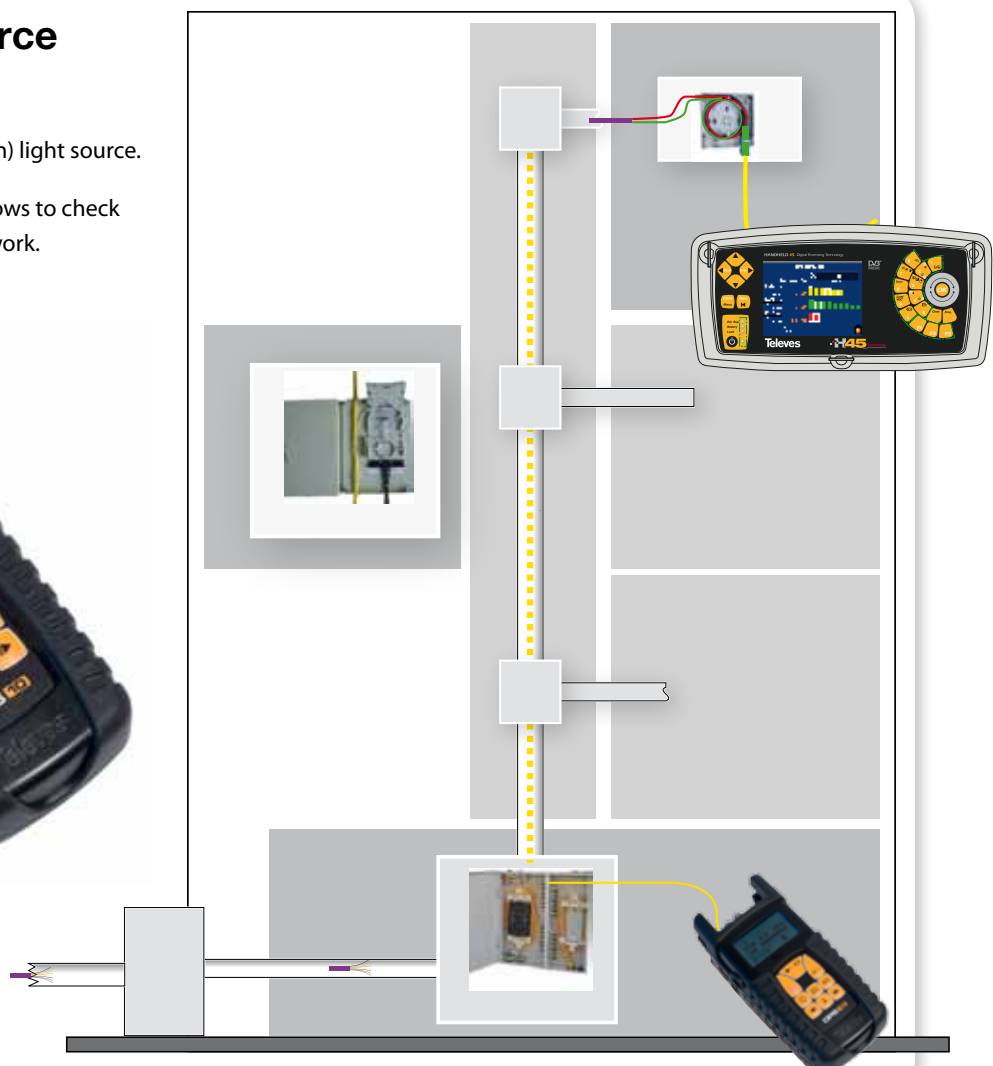| Ref.	Description
5930	Noise generator (5 - 2150MHz)

OPS 3L Triple light source
Ref. 2340

Three wavelengths (1310, 1490 and 1550nm) light source.

Combined with the H45 optical receiver allows to check the response of an optical distribution network.

PicoKom

HOME AMPLIFIER

THE BEST SIGNAL, THE PERFECT SIZE FOR THE HOME ENVIRONMENT

Plug & Play

PICOKOM SERIES

The new PicoKom series, composed by two Power Supply Units (PSU's) and one domestic amplifier, is one step further on the design and manufacturing of domestic products.

▋ **REF. 5605** is a Plug & Play domestic amplifier. No manual configuration or adjustments is necessary as an advanced built-in system automatically adjusts the output level to the optimal value, keeping the best possible quality parameters of the signal.

▋ **REF. 5795** is a Power Supply Unit (PSU) with two outputs. You could connect one output directly to one TV set and the other to a distribution network.

▋ **REF. 5796** is the Power Supply Unit (PSU) that guarantees the correct powering in a terrestrial + satellite single-cable installation.

REF	DESCRIPTION	EAN 13 CODE
5605	PicoKom 2 output domestic amplifier	8424450140956
5795	PicoKom 24V/130mA PSU	8424450140925
5796	PicoKom 12V/220mA PSU	8424450140949

✓ Reduced dimensions (90x67x28mm) to fit in any junction box

✓ High efficiency mode power supply

✓ Low consumption

Televes

FULLY AUTOMATED MANUFACTURING INTEGRATING THE NEW GENERATION OF MICROCOMPONENTS
DESIGNED WITH THE NEW GENERATION OF MICROCOMPONENTS (1MM X 0,5MM), THE PICOKOM PRODUCTS STAND OUT FOR THEIR SMALL SIZE AND THEIR LOW CONSUMPTION

easyF

TECHNICAL SPECIFICATIONS

Ref. 5605		VHF	UHF
Frecuency range	MHz	47-400	470-862
Gain	dB	12	20
Automatic signal adjustment margin	dB	0-20	
Output level (DIN45004B)	dBµV	100 typ	105typ
Output level 10 DTT Ch automatic signal adjustment	dBµV	88typ	92typ
Noise figure	dB	<5typ	<4,5typ
Mains voltage	VAC	196-264	
Mains voltage	Hz	50/60	
Preamplifiers line powering	Vdc	12V	
Preamplifiers max. current	mA	150	

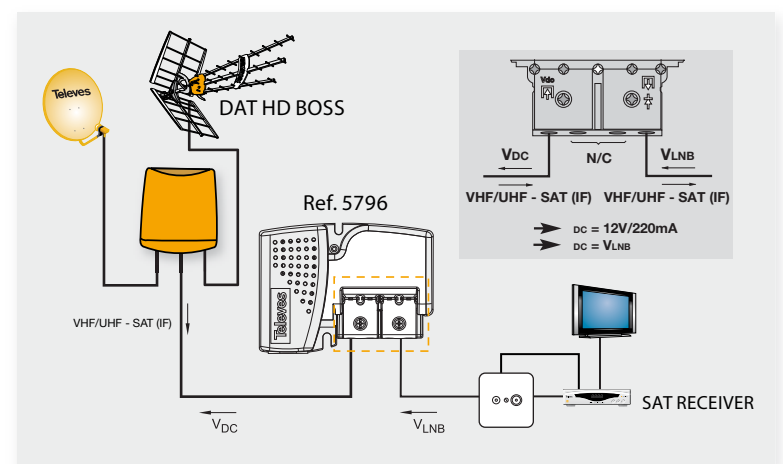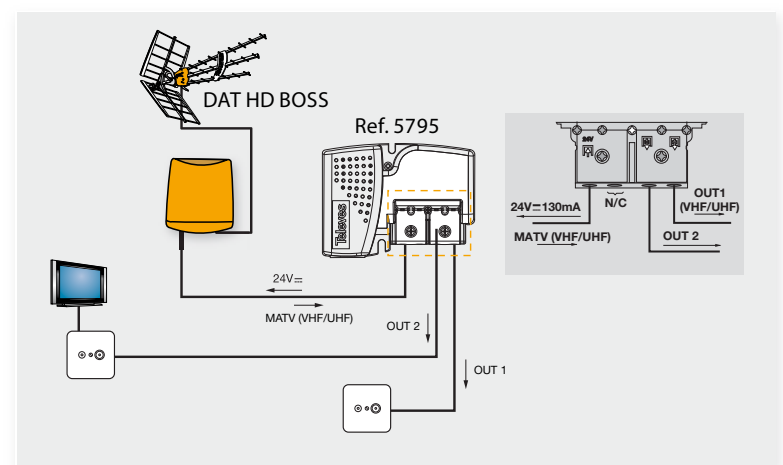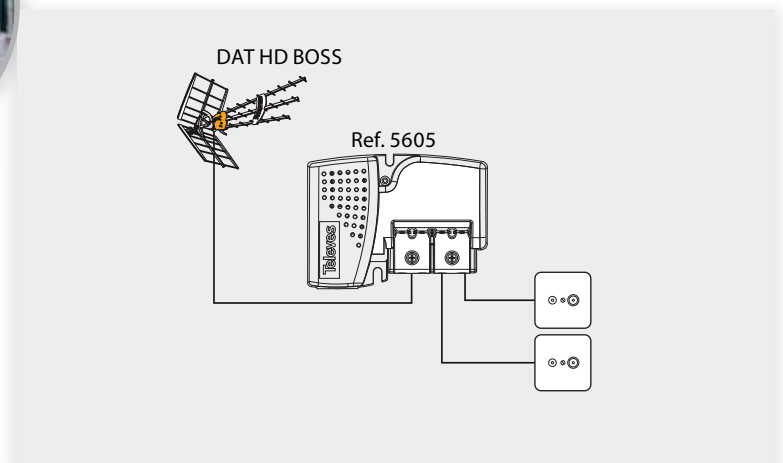PLUG & PLAY, LOW CONSUMPTION, REDUCED DIMENSIONS AND SOMETHING ELSE: 12 VDC PREAMPLIFIERS LINE POWERING

Ref. 5795

Frequency range	MHz	5-862
Throug losses. 1 output used	dB	1,5 typ
Throug losses. 2 output used	dB	4 typ
Mains voltage	VAC	196-264
Mains voltage	Hz	50/60
Output voltage	Vdc	24
Maximum output current	mA	130

ONE HOUSING, ONE REFERENCE, ONE PRODUCT BUT THE FUNCTION-ALLITY OF TWO:
- ✓ 1 OUTPUT (1,5DB THROUGH LOSSES) PSU
- ✓ 2 OUTPUTS (4DB THROUGH LOSSES) PSU

Ref. 5796

Frequency range	MHz	5-2500
Through lossess VHF/UHF - SAT (IF)	dB	1 typ - 1,5 typ
Mains voltage	VAC	196-264
Mains voltage	Hz	50/60
Output voltage	Vdc	12
Maximum output current	mA	220

THE PSU THAT GUARANTEES THE MAST AMPLIFIER AND THE LNB RIGHT POWERING IN A TERRESTRIAL + SATELLITE SINGLE-CABLE INSTALLATION

TYPICAL APPLICATIONS

DAT HD BOSS — Ref. 5605

DAT HD BOSS — Ref. 5795

24V=130mA N/C OUT1 (VHF/UHF)
MATV (VHF/UHF) OUT 2
24V= MATV (VHF/UHF) OUT 2 OUT 1

DAT HD BOSS — Ref. 5796

V_{DC} N/C V_{LNB}
VHF/UHF - SAT (IF) VHF/UHF - SAT (IF)
DC = 12V/220mA
DC = V_{LNB}

VHF/UHF - SAT (IF)
V_{DC} V_{LNB} SAT RECEIVER

zAsHD

DOLBY DIGITAL PLUS

Full **HD** **1080p**

HD DTT Receiver   Ref.5124

Allows the reception of DTT channels in both, standard definition (SD) and HIGH DEFINITION (HD) formats

It's the perfect receiver for those HD compatible TV sets (FULL HD, HD READY, 1080p, 1080i, 720i, etc), regardless of the screen resolution, without MPG4 tuner.

Made in **SPAIN**

Televes

✓ **Dolby Digital (DD) / Dolby Digital plus (DD+)** decoding. Bitst ream available through the HDMI output for **Home Theaters** and compatible TV sets.

✓ Its USB 2.0 port allows:
   - PVR functionality.
   - Firmware upgrading.

✓ **Simple, fast and user friendly menus**, suitable for people with reduced visual capacity.

✓ Time Shift via USB 2.0, timer and EPG, 6 favorite lists.

✓ **European technology** for a product entirely designed and manufactured in Europe. State-of-art automated manufacturing processes guarantee the reliability and quality of the zAs HD.

TIMESHIFT	LOW CONSUMPTION	HIGH DEFINITON	USB PVR READY
		HDMI	REC

ZAS HD
the DTT in great detail

Technical Features

- ■ Standard DVB-T.
- ■ Free-to-Air channels (FTA).
- ■ Video: MPEG2 and MPEG4/H.264 compatible.
- ■ Audio: MPEG-1 (layer 1,2), Dolby Digital+, MPEG-4, AAC and HE-AAC compatible.
- ■ PVR via USB 2.0. External hard disk (FAT32) or "Pen Drive" (FAT32) needed (*).
- ■ Simple and user friendly menus. First installation guided.
- ■ Advanced reproduction functions: forward, rewind, previous/next, pause, go to, etc).
- ■ "Time Shift" via USB 2.0.
- ■ Timer.
- ■ Electronic Programmes Guide (EPG) up to seven days.
- ■ Up to 1.000 programmes and up to 6 favorite lists.
- ■ VBI teletext, OSD teletext, standard subtitles and teletext subtitles.
- ■ Parental lock.
- ■ Auto save function for last channel used.
- ■ Software Upgrading via USB 2.0.
- ■ HDMI Output (Auto, 576i, 576p, 720p, 1080i, 1080p).
- ■ Optical audio output.
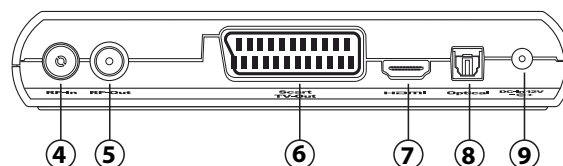- ■ Multi-video Scart output (CVBS, RGB).
- ■ Low consumption.

Connections

Front Panel
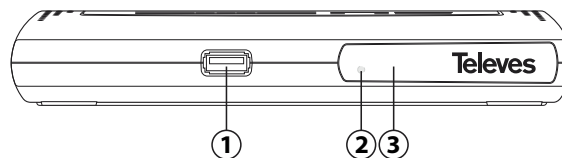
| Nº	Name	Function
1	HOST USB	Memory stick connection (PEN DRIVE), memory card reader or external hard disk (FAT 32) with external power supply.
2	LED	Operation LED. Red: Standby, Green: On
3	IR	IR sensor

Rear Panel

| Nº	Name	Function
4	RF-IN	Signal input from a terrestrial antenna (power supply +5V/100mA selec. through menu)
5	RF-OUT	RF signal output to connect a TV or VCR
6	SCART TV-OUT	To connect a TV through a SCART
7	HDMI	Interface for HD signal connection
8	OPTICAL	Optical output for Digital Audio
9	DC-IN 12V	AC adapter (12V) input
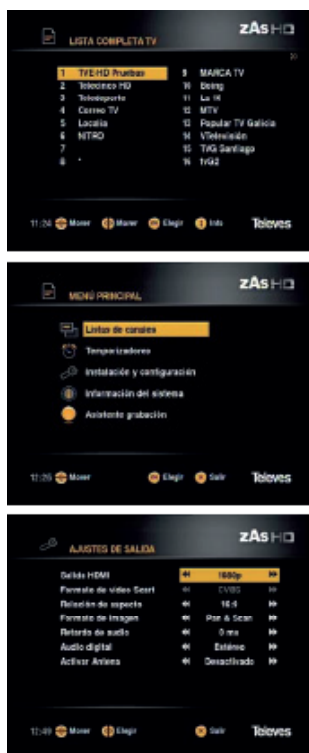
Typical application

TV with HDMI
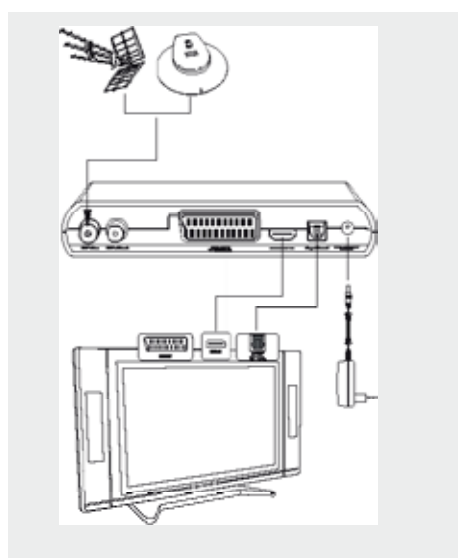
TV without HDMI (with SCART)
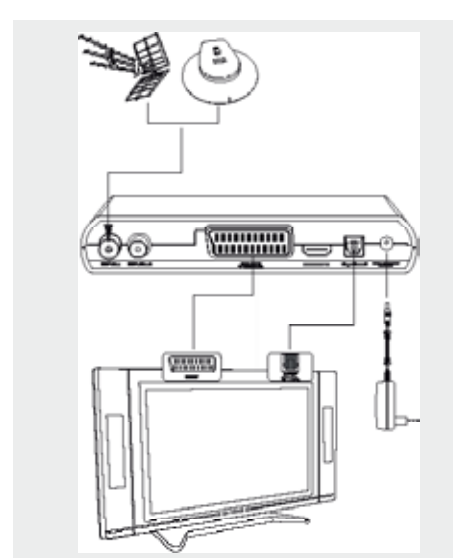
arantia.tv

We invite you to discover the digital world of arantia.

A window into information inspiring a digital world

IPTV — A NEW WAY OF WATCHING TV

where the merge between digital technology and advanced services produces unimaginable results.

Welcome to a world
where nothing is impossible

Arantia TV deliveres a new way of watching TV with the user deciding what he wants to watch and when he wants to watch it, thanks to a combination of direct services and channels, scheduled services and on-demand based totally interactive services (VOD).

- ■ A global solution for digital services.
- ■ Installation compatible with any available wiring system (coaxial, utp, phone line).
- ■ Compatible with any type of tv set.
- ■ Incredibly easy to use.
- ■ Totally customizable.

A SOLUTION for every need

We have sought inspiration from viewers to create a new interactive digital TV platform. This is a perfect combination of exclusive design and state-of-the-art techno-logy, giving the TV viewer a new and meaningful experience.

Arantia TV includes all the services needed to respond to its customers' requirements within a single IPTV platform in all kinds of projects, including hotels, hospitals, operators, companies and residential buildings, providing additional new tools to enhance business operations.

A window into information inspiring a digital world

You will relax while you are informed and entertained. Arantia TV will transport you to a major digital movie theater where you will laugh, cry and experience a whole new world of sensations.

Televes corporation
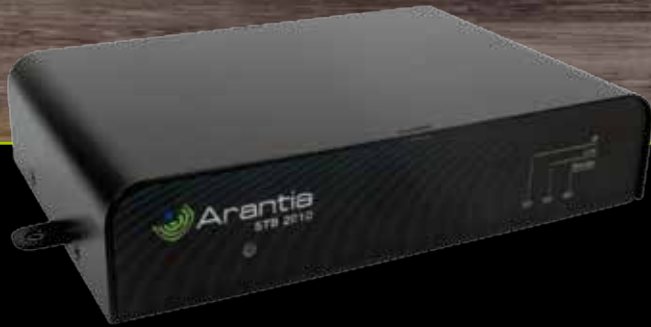
The **STB**2010
is an advance

HD-IPTV SET-TOP BOX

THE STB2010 IS AN ADVANCED, INTERACTIVE, DIGITAL HIGH DEFINITION SET-TOP BOX DESIGNED TO RECEIVE IP SERVICES ALONG

WITH THE ABILITY TO DEVELOP   INTERACTIVE APPLICATIONS AND SERVICES ON ITS INTEGRATED BROWSER.

KEY FEATURES

▌ **MPEG 2 and MPEG** 4 AVC / H264 hybrid platform.
▌ **High Definition** up to 720p and 1080i.
▌ **Advanced user interface navigation** via embedded browser.
▌ **HDMI interface** with HDCP copy protection.
▌ **Multiple Ethernet** interface.
▌ **USB 2.0 high speed** communication port.
▌ TV Interface (TVI) and IR extender.
▌ **Remote configuration** and management.
▌ Based on **open standards to facilitate rapid application** development.
▌ **Modular system** architecture ready for the evolution of features and services.

ACCESSORIES

• IR Extender - optional
• IR Keyboard - optional
• 220 VAC / 12VDC PSU
• Quickguide User Manual
• PSU Cord
• Universal Remote Control
• Analog Video Cable - optional
• HDMI Cable

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Arantia

THE IPTV-HE10 HEADEND ALLOWS THE RECEPTION OF DIGITAL SERVICES
THROUGH ITS INPUT MODULES DVB-T, DVB-S/S2, DVB-C, ASI AND ETHERNET,
FOR SUBSEQUENT ENCAPSULATION INTO IP PACKETS
AND STREAMING OVER AN IP NETWORK.

IPTV-HE10
Make The Smart Choice

IPTV COMPACT HEADEND

THE IPTV-HE10 SUPPORTS FREE-TO-AIR CHANNELS AND PAY SERVICES THROUGH THE DVB
COMMON INTERFACE ASSOCIATED TO EACH ENTRY.

THE IPTV-HE10 SUPPORTS ALL THE FORMATS USED IN OUR INDUSTRY:
MPEG-2 SD / HD, MPEG-4 SD / HD (H.264), MP3, AAC, DD + ...

Arantia

DVB-T 300mW, 1W, 5W, 10W, 20W and 50W
GAP FILLERS

Technical description

Gap filler equipment from the Broadcast range are developed to expand the DTT covering area where the direct signal from a transmitter is not correctly received.

Within the Broadcast range there are six power options: 300mW, 1W, 5W, 10W, 20W and 50W. Equipments are placed into a 19" subrack and the complete system comprises of one or two power supply units working in redundancy (optional). Each gap filler consists of DVB-T channel processor module and power amplifier.

A 19" subrack can house up to three 300mW, 1W or 5W gap fillers and up to two 10W, 20W or 50W ones. The multiplexing system can be integrated in a 19" subrack.

Main Characteristics

- Output power*: 300mW, 1W, 5W, 10W, 20W and 50W.

- Developed following the ETS 300 744 DVB-T standard.

- MFN and SFN compatible.

- Redundant ASI inputs.

- Very low phase noise oscillators with DDS technology.

- High rejection to adjacent channels.

- Optional echo canceller.

- LDMOS amplifiers.

- Frequency agility.

- Low consumption.

- Local management using an external programmer.

- Optional remote management (Ethernet, serial communication, GPRS/HSDPA, electrical relays interfaces).

- Electromagnetic compatibility and safety according to EC regulation norms.

- Optional power supply redundancy through the UCA.

- Independent switching off through the UCA.

* Output power level after filter combiner (2 dB losses)

▲ Three multiplex 300mW, 1W, 2W or 5W modular DVB-T transmitter.

▲ Two multiplex 10W, 20W or 50W modular DVB-T transmitter.

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European technology **Made in EUrope**