



Multiband Antenna (TV+FM+DAB+) Mimetized, H-V Polarization
470-694 MHz (DVB-T) 87-108 MHz (FM) and 185-235 MHz (DAB+)

Technical Data Sheet

Multi3H – Multi3V

Features

- Combined antenna system (DTT, FM, and DAB+) in a single mimetized container, active in DTT (DAB-T) and passive with planar technology in FM and DAB+, independent outputs for each band with F-type connector. Capable of receiving TV signals (DVB-T) in vertical or horizontal polarization (depending on model), vertical polarization in FM and DAB+. Specifically designed for installations where it is imperative to preserve the visual appearance of the environment without alterations, either collectively or domestically as a Digital TV, FM radio, and DAB+ digital radio headend, as well as installations in areas with adverse weather conditions.
- Excellent protection against snow and ice.
- Frequency ranges from 470 to 694 MHz, covering the entire CCIR DVB-T spectrum with ripple less than 3 dB. Includes dual-stage bandpass filter and band rejection filter 5G-700 MHz, 87 to 108 MHz in the FM band, and 185 to 235 MHz in the DAB+ band. Each antenna is individually tested to ensure its characteristics.
- Triple coaxial output (one per band or service), active (powered) in DTT and passive in FM and DAB+, impedance 75 Ω .
- Built-in ultra-stable, very low noise amplifier, $NF \leq 0.4$ dB in DTT.
- All electronics are powered (only necessary in DTT) via the coaxial cable from an injector/amplifier. Possibility of using DC power supplies, with injector in the range of 8 to 27 VDC, which gives it big service versatility.
- Very low power consumption, less than 1 W, which makes it possible to power it with batteries and solar generation.
- Small size, low weight, and robust construction make it an ideal solution for windy areas.
- Extremely low visual impact. Very suitable for locations where little or no visibility of the antenna itself is required. The fiberglass radome or protective housing simulates a concrete or stone appearance and can be painted in any color to further enhance mimetization.
- Easy installation. Wall mounting using 4 eyebolts (mounting template included), vertical mast or angled wall bracket, with a maximum diameter of 40 mm.
- Its design is the result of several years of joint studies between heritage protection specialists and electronic and telecommunications engineers, and arises in response to the need to combine gain, structural stability, and integration capacity in a single antenna, achieving a technologically advanced, small-sized solution to the problem of visual pollution caused by TV, FM, and DAB antennas.

Applications

- Application as a headend antenna in ICT installations (Common Infraestructure Telecommunications), avoiding the need to install three large separate antennas, one for each band and their associated hardware. A single Multi3H or Multi3V antenna combines the three antennas previously required in ICT installations, effectively achieving significant savings and ease of implementation.
- Specifically designed to operate in areas where visual impact needs to be minimized, it is also a sustainable alternative to obsolete Yagi and other types of antennas that cause visual pollution. Several projects already implemented in World Heritage sites attest to its performance and the visual decontamination achieved. See website for more details.
- Use in residential areas where you want to maintain a natural landscape without giving up digital TV and radio and FM.
- Antenna for individual TV receivers in areas with adverse weather conditions (ice, snow, strong winds etc).
- State-of-the-art technological solution, with a 90% reduction in size compared to a conventional antenna with lower or similar gain.



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Multi3H – Multi3V

Description

The Multi3H and Multi3V antenna system is the result of years of research into developing a small antenna capable of receiving digital television (DVB-T or DVB-T2), digital radio (DAB+), and analog radio signals (FM) with zero visual impact. The development of the system began with the collaboration of experts in Historical Heritage and Visual Pollution and Electrical and Telecommunications Engineering, with the ultimate goal of creating a new type of antenna that is completely camouflaged and small in size, but with the same or superior active characteristics as much larger systems. It is a unique product for TV, FM, and DAB+ users, designed from the outset to coexist with 5G 700 mobile phone systems with built-in filtering. This model incorporates two antennas using planar technology that eliminate the need for additional DAB+ and FM antennas in ICT-regulated installations.

Electrical and Electronic Specifications

- 75 Ω unbalanced impedance (coaxial cable feed for DVB-T, DVB+, and FM are passive).
- Gain (DVB-T TV): $\geq +21.5$ dBi (active).
- Gain (FM and DAB+): $\geq +1.5$ dBi.
- Vertical bandwidth (DVB-T) (-3 dB): 86°.
- Horizontal bandwidth (DVB-T) (-3 dB): 93°.
- Front-to-back ratio (DVB-T only): 15 dB.
- FM and DAB+ radiation patterns are nearly omnidirectional in the E plane.
- Power supply (external unit) 8...27Vdc, via coaxial cable (center F connector).
- 230V AC adapter or amplifier with current pass-through (12V or 24V).
- Low power consumption (at 24V DC): ≤ 1 W.
- Power connection (DTT) with current limiter: prevents blockages with certain amplifiers.

Mechanical and Climate Specifications

- Weight: 1.25 kg (2.65 lbs)
- Maximum wind speed: 150 km/h (95 MPH)
- Operating temperature: -20 to +80 °C
- Size (max): Width, Height, Depth 26 cm x 26 cm x 18 cm (10" x 10" x 7")
- Protective radome made of high-strength fiberglass and epoxy resin
- 4-point wall mounting and mast with a maximum diameter of 40 mm. Drilling template supplied

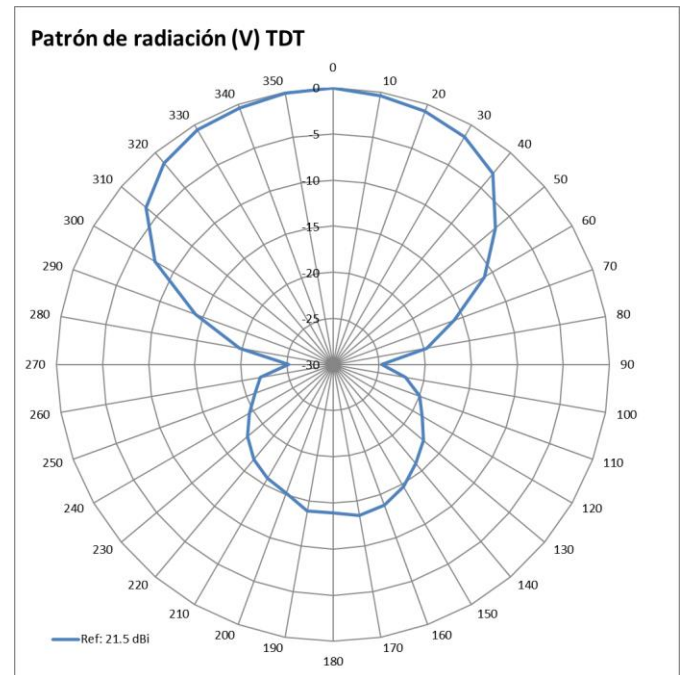
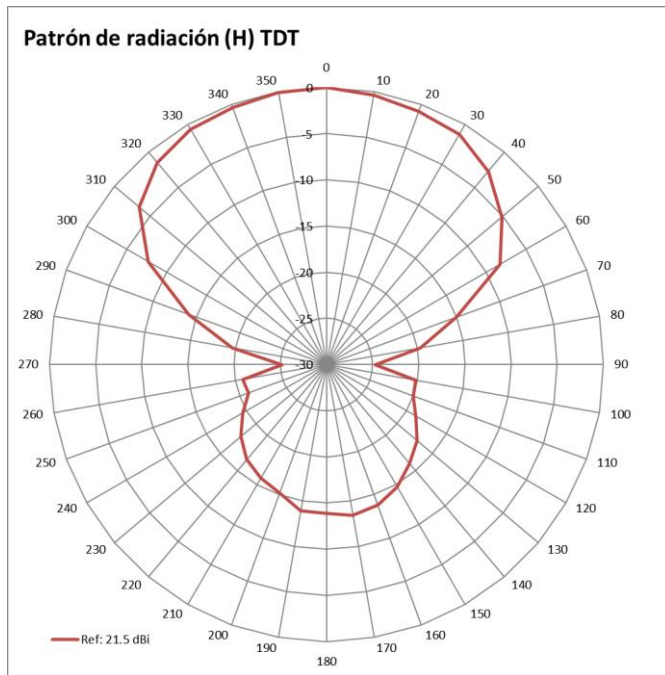


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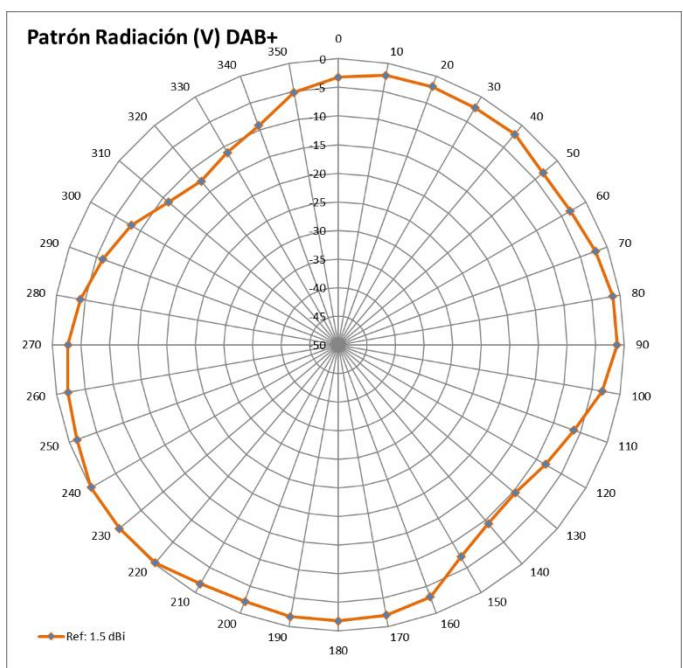
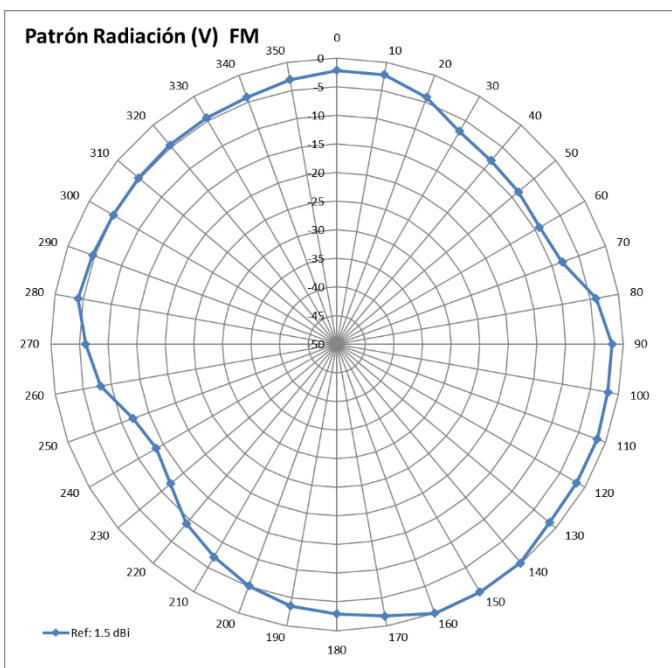
Technical Data Sheet

Multi3H – Multi3V

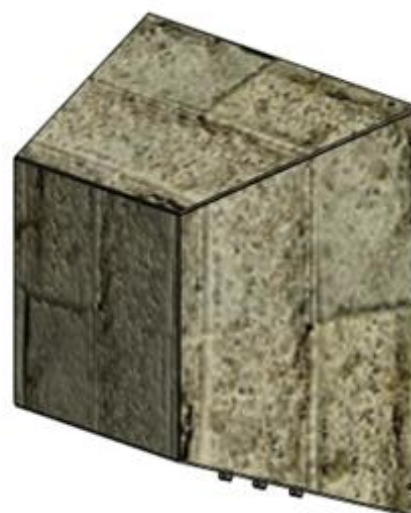
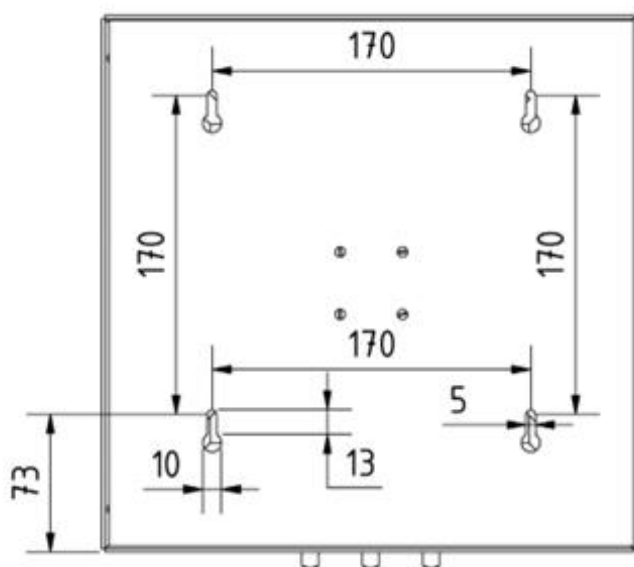
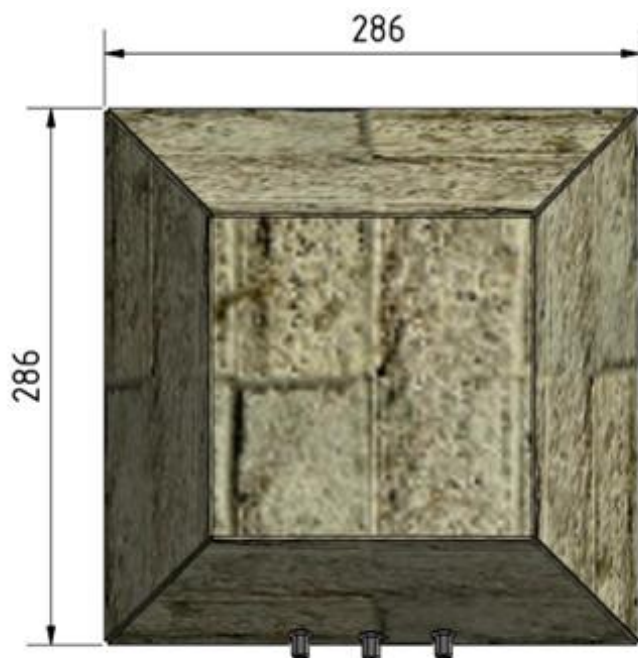
Radiation Patterns (E and V planes) DVB-T/T2 (TDT) (B-IV, B-V UHF)



Radiation Patterns (V plane in FM and DAB+) (B-II, B-III VHF)



Nota: 0 dB en los diagramas está referido a +21,5 dBi en DVB-T (antena activa) y a +1.55 dBi en FM y DAB+ (Bandas II y III VHF)



		CAD TFM21MMT			Antena Activa DVB-T de doble polarización para entornos protegidos Montaje en pared o muro  Las dimensiones están en milímetros si no se especifican otras unidades y deben considerarse sólo como referencia. Todos los derechos reservados propiedad de Sistelmicro Ingeniería.
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