

# EGATEL® TVW6000 Series

Ultra-Compact VHF & Multistandard Transmitter  
for Digital TV and Radio  
DVB-T/H, DVB-T2, ISDB-T/T<sub>B</sub>, ATSC, DAB/DAB+

Reliability, quality and efficiency  
Extremely easy installation, operation and maintenance



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The Ultracompact (1U) TVW6000 Transmitters family offers an unbeatable cost - performance (CAPEX / OPEX) ratio thanks to the highest efficiency in its power class and to an easy operation and maintenance.

It can operate as a multistandard transmitter or retransmitter (DVB-T/H/T2, ATSC, ISDB-T<sub>B</sub> and DAB/DAB+) with an output power up to 25 Wrms, managing several input interfaces depending on the mode of operation: ASI or TSoIP (transmitter) plus an RF input (retransmitter). This characteristic provides an ideal solution for extending digital TV networks.

It features a top-class Digital Adaptive Precorrection system to automatically cancel the amplifier distortion and a powerful WEB GUI to provide an easy and friendly way for local and remote control.

- Compact Design up to 25 Wrms in only 1U – 19”.
- Proprietary techniques to improve energy efficiency and use of spectrum.
- Multi-standard: DVB-T/T2, DVB-H, ATSC and ISDB-T/T<sub>B</sub>. Selection through the display or via web server.
- Input interfaces according to operation mode: ASI, TSoIP or RF.
- Seamless switch between inputs.
- Adaptive digital precorrection. Linear and Non-linear.
- “Output channel” and “Impulse channel response” show via web server.
- GNSS receiver (GPS & Glonass) on board, optional.
- Quality measure output signal (QoS) option. (DVB-T/T2 & ISDB-T/TB).
- Operation as transmitter or regenerative transposer (Re-transmitter).
- Remote software upgrade of all boards.
- Removable memory card to store the equipment settings.
- Friendly Web GUI providing ease of operation.
- Remote operation via SNMP, Web Server or Dry Contacts.
- N+1 redundancy ready.

## TECHNICAL SPECIFICATIONS

<b>DVB-T/-H/-T2</b>	
Standard	EN300744, EN302304, EN302755, TS102831, TS102773 (T2-MI).
Inputs	2xASI BNC (H), 75 ohm / TSoIP 10/100/1000 RJ45.
FFT	1K (DVB-T2), 2K, 4K, 8K, 16K (DVB-T2), 32K (DVB-T2).
Code rate	1/2, 2/3, 3/4, 5/6, 3/5 (DVB-T2), 4/5 (DVB-T2).
Guard interval	1/32, 1/16, 1/8, 1/4, 19/256 (DVB-T2), 19/128 (DVB-T2), 1/128 (DVB-T2).
Constellation	QPSK, 16QAM, 64QAM, 256QAM (DVB-T2). Rotated and non rotated (DVB-T2).
<b>ATSC</b>	
Standard	ATSC A/53, A/54, A/64, A/153, A/110B (opt.), A/110:2011 (opt.), SMPTE-310M.
Inputs	2xSMPTE BNC (F), 75 ohm - 2xASI BNC (F), 75 ohm.
Constellation	8VSB.
Symbol rate	10.76 Msymb./s.
Trellis coding	2/3.
Reed-Salomon encoder	207 / 187 / 10.
<b>ISDB -T/-TB</b>	
Standard	ARIB STB-B31, TR-B14.
Inputs	2xASI BNC (F), 75 ohm.
FFT	2K, 4K, 8K.
Code rate	1/2, 2/3, 3/4, 5/6, 7/8.
Guard interval	1/4, 1/8, 1/16, 1/32.
Carrier spacing	4 KHz, 2 KHz, 1 KHz.
Hierarchical modulation	Up to 3 layers.
Constellation	QPSK, 16QAM, 64QAM, DQPSK.
<b>DAB / DAB+</b>	
Standard	EN300 401 v1.4.1, ETI Interface: ETSI ETS 300 799 v1.5.1, ITU-T Recom. G.703, G.704 / G.823 (jitter).
Inputs	2xG703 input connectors – SMA 75 Ω, NI(G703), NA5376(G704), NA5592(G704) - Automat. detected.
DAB Mode	I, II, III and IV.
Bandwidth	1.7MHz.
<b>Clock and synchronization</b>	
Internal clock	10 MHz.
External 10MHz reference	BNC (F). Impedance = 50 ohm / high (selectable). Level = -10 to +10 dBm.
External reference 1pps	BNC (F). Impedance = 50 ohm / high (selectable).
SFN	SFN resolution = ± 100 ns. SFN configurable delay = ± 500ns.
<b>Digital Adaptive Precorrection (*)</b>	
Non-Linear	Amplitude: ±6 dB / Phase: 60°.
Linear	Amplitude: ±3 dB / Delay: ±500 ns.
Clipping	12 dB.
Operation mode	Continuous / Automatic (triggering: time/shoulder level).
Monitoring:	
- Shoulders level	Measurement of left and right shoulder level.
- Precorrection status	Running / Stopped.
<b>RF Output</b>	
Frequency range	170 ... 250 MHz.
Bandwidth	6,7,8 MHz plus 1.7, 5, 6, 10MHz for DVB-T2.
Resolution	1 Hz.
Output power (before the filter)	25 Wrms.
Connector	N (F) 50 ohm.
<b>Local and remote control</b>	
Display	Local operation through LCD display and keyboard located on the front panel.
RJ-45	Local operation and Remote Network management interface (Web Server and/or SNMP).
Parallel interface	Remote operation via parallel interface. Transmitter offers measurements, commands.
<b>General</b>	
Dimensions (WxHxD) (mm)	483 (19") x 44,4 (1U) x 472 mm.
Cooling	Forced air.
Relative humidity	95% max. (non-condensing).
Temperature	+0 ... 45°C.
Power supply	Single phase: 100Vac ... 240Vac, 47 ... 63Hz / 48Vdc.
Max. installation altitude	2500 m (> 2500 m on request).

(\*)Static linear and non-linear precorrection is included as default. Digital Adaptive Precorrection is optional but can be activated at any time through a software key.

**Remark:** To comply with the out-of-band emissions regulations and with the required shoulder attenuation, the RF output of the transmitters must be connected to an appropriate filter.