

EGATEL® TVH6000 Series

High Efficiency VHF and Multistandard Transmitter
for Digital TV and Radio

DVB-T/H, DVB-T2, ISDB-T/T_B, ATSC, DAB/DAB+

Reliability, quality and efficiency

Extremely easy installation, operation and maintenance



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The TVH6000 series extends the capabilities of the VHF product range providing a full power range of products satisfying any coverage architecture.

With its space-saving design (up to 100Wrms in only 2U) and top-class characteristics, minimizes total cost of ownership (CTO) throughout the product's lifecycle.

The series is based on wideband L-DMOS architecture characterized by high efficiency and excellent quality of service and can operate as a multistandard transmitter or retransmitter (DVB-T, DVB-T2, ATSC, ISDB-T_B and DAB/DAB+) managing several input interfaces depending on the mode of operation.

- Compact Design up to 100 Wrms in only 2U – 19”.
- Proprietary techniques to improve energy efficiency and use of spectrum.
- Multi-standard: DVB-T/T2, DVB-H, ATSC and ISDB-T/T_B. Selection through the display or via web server.
- Input interfaces according to operation mode: ASI, TSolP 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

EXCITER

DVB-T/H/T2	
Standard	EN300744, EN302304, EN302755, TS102831, TS102773 (T2-MI).
Inputs	2xASI BNC (F), 75 ohm / TSolP 10/100/1000 RJ45.
FFT size	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).
ATSC	
Standard	ATSC A/53, A/54, A/64, A/153, A/110B, SMPTE-310M.
Inputs	2xSMPTE BNC (F), 75 ohm - 2xASI BNC (F), 75 ohm.
Constellation	8VSB.
Data rate	19.39 Mbits/s.
Trellis coding	2/3.
Reed-Salomon encoder	207 / 187 / 10.
ISDB -T/-TB	
Standard	ARIB STB-B31, TR-B14.
Inputs	2xASI BNC (F), 75 ohm.
FFT size	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.
DAB / DAB+	
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.
Clock and synchronization	
Internal clock	10 MHz.
External reference	10 MHz BNC (F).
1pps reference	BNC (F).
SFN	SFN resolution = ± 100 ns. SFN configurable delay = ± 500ns.
Local and remote control	
Display	Local operation through the display and keyboard located on the front panel .
RJ-45	Remote network management and local operation interface (Web Server and/or SNMP agent).
Parallel interface	Floating contacts for messages and commands.

VHF TRANSMITTER

Digital Modulations (*)	
Output power (before output filter)	125 Wrms
Number of amplifiers	1
Number of racks	0 / 1
Output RF connector	7/16" (F) 50 ohm
General	
Frequency range	VHF: 170 - 240 MHz (resolution: 1 Hz)
Channel bandwidth	6, 7, 8 MHz plus 1.7, 5 and 10 MHz for DVB-T2 ISDB-T/TB, ATSC: 6 MHz, DAB/DAB+: 1.7 MHz
Dimensions	Exciter: 1U. Amplifier: 1U. Control Unit: 2U
Cooling	Forced air
Power supply	Single phase: 100VAC ... 240VAC, 47... 63Hz. Three phase. AC: 208V/220V/240V/380V/400V/440V (50/60 Hz)
Max. installation altitude	2500 m (> 2500 m on request)

(*) The models are referenced according to standard: TVH6xxx - DVB-T/H/T2, TVH6xxxB - ISDB-T/TB, TVH6xxxA - ATSC . Example: TVH6101- 100Wrms DVB-T/H/T2.

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.