



Maxiva™ PMTX-1

Low-Power UHF/VHF Outdoor
Transmitter / Transposer / Gap Filler



GatesAir's new Maxiva™ PMTX-1, is a complete self-contained, outdoor transmitter system. Housed in a completely environmentally sealed enclosure, the PMTX-1 includes many options, allowing configuration flexibility for many applications. The unit is capable of being configured as a Transmitter, Transposer (Translator), or an On-Channel Gap-Filler. Waste heat is efficiently dissipated via the metal housing and heatsink. This allows the unit to be mounted on a variety of structures, including tower, legs, poles, or building walls. For regions with extreme climate conditions, options for ambient air temperatures up to +50°C (122°F) and down to -40°C (-40°F) are available.

The compact dimensions (351W x 224D x 460H mm) of the Maxiva PMTX-1 chassis are key to this unique design, allowing installation on a wide variety of outdoor poles, or mast structures. Access is via a lockable and sealed door. The sealed metal housing of the PM-TX-1 has been engineered

to remove heat efficiently from the internal circuitry. The unique design of the PMTX-1 provides a high level of installation versatility, allowing it to be installed on virtually any suitable outdoor structure.

This versatile unit does not require a building, shelter or any additional outdoor enclosure. The totally sealed metal case has been designed specifically for outdoor environmental conditions, providing protection from all humidity levels, precipitation and wide temperature extremes.

The unit can be configured and operated as a 50W digital / 100W analogue transmitter, transposer or an on-channel gap-filler, with various input options. A satellite receiver card with CAM slot is also available. The unit includes an internal mask filter. The external power source requirement is 36-72 VDC (positive or negative).

Product Features

- Compact chassis:
351W x 224D x 460H mm
- Outdoor, pole-mounted, using
adapter plate
- Output Power (Post-Filter): 50W rms
Digital or 100W analogue
- Input interface options:
 - ASI, BTS, T2MI, SMPTE-310M, ETI
 - Gbe port (TS over IP)
- DVB-S/S2 Satellite Receiver input
(including CAM interface).
4 slots available.
- RF receiver input for Transposer/
Gap-Filler configuration
(Direct Conversion – zero IF)
- Regenerative receiver input option
for Transposer
- Supports DVB-T/H, ISDB-T/Tb, DVB-T2,
ATSC & Analogue modulations
- Embedded Re-Multiplexer/Layer
Combiner/TS to BTS (188 to 204 byte)
converter for ISDB-Tb
- Adaptive pre-correction circuits
- Optional High stability GPS / GLONASS
receiver with battery
- SNMP, Web Interface and Touch
Screen display
- RF combiner option for multiple
transmitter systems

Maxiva™ PMTX-1



PMTX-1 Front



PMTX-1 Rear



**Can be mounted on various
outdoor structures**



Wall-mounted PMTX-1

Maxiva™ PMTX-1 (preliminary specifications)

Specifications

Specifications and designs are subject to change without notice

General	
RF Output Frequency Range	PMTX-1-U: UHF Band, 470-810MHz PMTX-1-V: VHF Band III, 170-240MHz
Transmission Standards	ATSC, DVB-T, DVB-T2, ISDB-Tb, Analogue
RF Channel Bandwidth	6, 7 or 8MHz
Number of Transmitters per Unit	1
RF Power Output per Transmitter	At output of integrated filter: 50W average DTV, 100W analogue p.s.
VSWR Protection	Included
Mechanical Dimensions	351W x 224D x 460H mm
Power Supply Configuration	External DC power source, connected to bottom of unit.
Power Supply Voltage	DC: 36 to 72V
Remote Control	GPIO and Web Remote with SNMP
Pre-correction	Real Time Adaptive
Input Options (per tx module)	
RF Input	1 input - Type N (f) connector, 50 ohms
ASI/BTS/T2-MI//SMPTE-310M/ETI	1 input BNC (f), 75 ohms
GbE Port (TSolP)	1 input RJ-45
DVB-S/S2 Satellite Receiver	1 input Type F, CAM slot included, with Multi-Stream capabilities
Environmental	
Operational Temperature Range	Standard range: -20°C to +45°C Option 1: -40°C low ambient temperature option Option 2: +50°C high ambient temperature option (Both options may be selected)
Relative Humidity	0 to 90% non-condensing
Altitude	Up to 2,500m AMSL. Derate max. temperature 2°C per 300m of elevation. > 2,500m on request
Cooling Method	Via thermal conduction to suitable metal pole/mast and via radiation from housing. Contact Gate-sAir for more information.
Acoustic Noise	< 65dBA
DVB-T/T2 Transmitter Performance	
Standard	EN300744, EN302304, EN302755, TS101191, TS102773 (T2-MI), TS102034
Power Output Stability	0.5dB
RF Load Impedance	50 Ohms
Operating Load VSWR	Up to 1.4:1
MER	≥ 34dB
Shoulder Level	≤ -37dB
Spurious and Harmonics	-60dBc (After mask filter)
Channel Bandwidth	6-7-8 MHz
FFT	1K (DVB-T2), 2K, 4K, 8K, 8K ext. (DVB-T2), 16K & 16K ext. (DVB-T2), 32K & 32K ext. (DVB-T2)
Code Rate	All modes available according to the standard Block Short or Normal (DVB-T2) DVB-T: Reed-Solomon (204, 188) DVB-T2: BCH, LDPC
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)

SFN	Complies to ETSI EN 101 191
ISDB-Tb Transmitter Performance	
Standard	ABNT NBR 15601, ABNT NBR 15603
Inputs	4x ASI TS/BTS BNC (f), 75 Ohm or 2x ASI TS/BTS BNC (f), 75 Ohm and 2x RJ45 TS/BTS oIP
FFT	Mode 1 (2K), Mode 2 (4K), Mode 3 (8K)
Code Rate	1/2, 2/3, 3/4, 5/6, 7/8
Guard Interval	1/4, 1/8, 1/16, 1/32
Hierarchical Modulation	Up to 3 layers
Constellation	QPSK, 16QAM, 64QAM
Time Interleaver	Supported
Partial Reception	Supported
ATSC Specifications	
Standard	A/53, A/110
Power Output Stability	0.5dB
RF Load Impedance	50 Ohms
Operating Load VSWR	Up to 1.4:1
MER	≥ 34dB
Shoulder Level	≤ -37dB
Spurious and Harmonics	-60dBc (After GA provided mask filter)
Modulation	8-VSB
Input Bit Rate	19.39 Mbit/s
Bandwidth	6 MHz
Max. Processing Delay	Up to 1 second (programmable)
Satellite Receiver (option)	
Standard	ETSI EN 300 421 (QPSK) (DVB-S), ETSI EN 302 307 (QPSK, 8PSK, 16APSK) (DVB-S2) ETSI EN 50083-9 (ASI), ETSI EN 50221 (Common Interface)
DVB-S2	VCM, CCM, Multi Stream and Single Stream, Normal & Short FEC frames
Symbol Rate	1 - 45 Msymb/s (DVB-S) 2 - 45 Msymb/s (DVB-S2)
Constellation	QPSK, 8PSK, 16APSK
FEC	Automatic, All modes available according to the standard., Block Short or Normal DVB-S: Reed-Solomon (204,188), DVB-S2: BCH, LDPC
Roll-Off	0.2, 0.25, 0.35
Input Connector	F (f), 75 Ω
Frequency	L-band, 930–2250 MHz
LNB Control Voltage	Off, +13/18 Vdc, 22 KHz, 0.25 A (overload protection)
RF Input Level	40 - 100 dbμV (with attenuator)
ASI Output	Standard ASI-C MPEG-2 ISO / IEC 13818-1
Output Connector	BNC (f), 75 Ohm
Modality	188 bytes

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Max. Input Bitrate	80 Mbps (CAM limit: 72 Mbps)
CAMInterface	PCMCIA DVB-CI Common Interface
CA Mode (Conditional Access)	Multicrypt, Simulcrypt
CAS Support	Mediaguard, Viaccess, Irdeto, Conax, BISS with Professional multiprogram CAM (descrambling of up to 24 Elementary Streams) Betacrypt, Cryptoworks, Nagravision with standard consumer CAM (Descrambling of up to 4 services).
Transposer / Gap Filler Specifications	
RF Input	
Signal Type	One DTV channel (DVB-T/H/T2, ISDB-T/Tb, ATSC)
Frequency Range	170 to 862 MHz (agile tuning)
Sensitivity	-75 to -15 dBm
Selectivity	> 60 dB \pm 4.2 MHz
NF (Pi=-50 dBm)	< 6 dB
Conversion Type	Regenerative (Transposer only), or Direct Baseband Conversion (Zero IF) (Transposer and on-channel Repeater/Gap-Filler)
Return Loss	> 15 dB
Connector	N (f), 50 Ohm
Echo Canceller	
Cancellation Level	40 dB, typical
Cancellation Window	20 μ S
Doppler Cancellation	Yes
Maximum Echo Level	+15 dBc (over the main signal), typical
Total Delay	< 20 μ S