GATESAIR®

Connecting What's Next

Maxiva™ UAX-OP-AN / VAX-OP-AN

High-Efficiency UHF & VHF Air-Cooled Analogue TV Transmitters

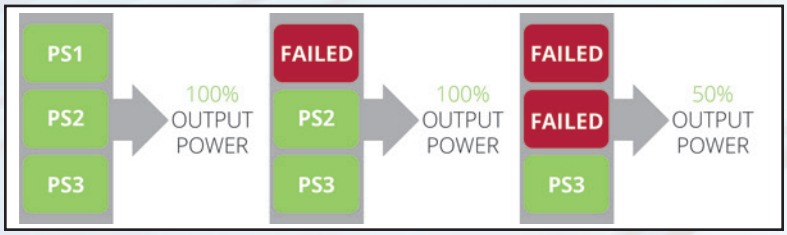
Maxiva™ UAX-OP-AN / VAX-OP-AN Product Overview

We did it again.

GatesAir has once again shattered the expectations of what is possible with high-power, solid-state transmitters in terms of efficiency, power density, and performance.

- Power levels from 600W to 28kW analogue peak of sync
- High-efficiency broadband Doherty power amplifiers for all bands (VHF and UHF)
- All models are upgradable via software for future digital operation
- The only transmitter on the market using Doherty amplifiers in analog-mode—highest efficiency!
- Hot-swappable power amplifiers
- Separate hot-swappable compact power supplies, 3 per PA; for 2 of 3 full power redundancy**
- Optimized for best performance using Real Time Adaptive Correction
- Innovative, highly efficient air-cooling system with variable speed cooling fans

**Power supply redundancy per PA module



Maxiva™ UAX-OP-AN / VAX-OP-AN Main Features

- High power-density, compact dimensions
- Power levels available up to 14kW peak sync analogue, per rack
- Multi-rack systems available up to 28kW peak sync power
- High-efficiency broadband Doherty PA design
- Dual drive option
- Enhanced Power Supply redundancy
- Modulations available: NTSC, PAL (NICAM sound option)
- S/W Upgradeable to: ATSC-1, DVB-T, DVB-T2, ISDB-T, DAB/DAB+
- Adaptive pre-correction included
- Optional Integrated high-stability GPS / GLONASS receiver with battery
- Control system with GPIO and Web Browser

Maxiva™ Air-Cooled Analogue Transmitter Systems

UAX-OP-AN-2500

UAX-OP-AN-3500

UAX-OP-4X AMPS

General	
Frequency Range	VHF & UHF TV Bands
Transmission Standards	NTSC, PAL, System B, G, D, K, M, N, I
Channel Bandwidth	6, 7 or 8 MHz (system dependent)
Rated Power Output	See table for details
Output Power Reduction Range	0 to-10 dB
RF Load Impedance	50 ohms
VSWR	Full power up to 1.3:1
Frequency Stability	Without precision frequency control/ GPS: ±150Hz/month ($2.3x10^{-7}$ ppm)
RF Output Connector	1-5/8", 3-1/8" or 4-1/16" EIA (dependent upon power level)
Transmitter Dimensions	See table for details
Transmitter Weight	Contact GatesAir for details

AC Mains	
AC Line Voltage	3 phase: 380 to 415 V, or 208 to 240 V, 47-63Hz- specify voltage when ordering
AC Line Variation	±15%, between 208 to 230 V or 380 to 400 V
Power Factor.	>0.95

Environmental	
Altitude	Up to 2,500 m (8,200 ft) elevation AMSL (>2,500m optional)
Indoor Ambient Temperature	-5° to +45° C (23° to 113° F) at sea level (upper limit derated 2° C (3.6°F) per 300 m (984 ft) elevation AMSL)
Storage Temperature	-10° to 65°C (14° to 149° F)
Humidity	95%, non-condensing
Cooling Method	Liquid-cooled, using 50/50 mix of ethylene glycol and water
Acoustic Noise	<65 dBA (measured 1 m (3.3 ft) in front of cabinet)

GPS/GLONASS	
Input Connector	N (f), 50 Ohm
Input/Monitor output 10 MHz	BNC (f), 50 Ohm
Input/Monitor output 1PPS	BNC (f), 50 Ohm
Phase Noise	-140 dBc/Hz @10kHz -150 dBc/Hz @100kHz
Stability	1e-12/24 Hr with disciplined TCXO
Hold-over Stability	5 µS after 5 hours (optional 1 µS after 24 hours)

Analog Specifications	
Frequency Bands	UAXTE: UHF Band- 470-806 MHz VAXTE: VHF Band III- 170-240 MHz VAXTE-L: VHF Band I- 54-88 MHz
Analog Standards	B, G, D, K, M, N, I
Color System	NTSC, PAL
Output Power	Power levels from 600W to 28kW p.s. available
Sound Power	-10dB relative to vision peak sync

Vision Performance	
Inputs	Video: BNC (f), 75 Ohm Audio: Tini-Q6 "Mini XLR", 6 Pin (m), 600 Ohm
Frequency Stability	2.3×10^{-7} / Month
Differential Gain	3%
Differential Phase	3°
LF Linearity	5%
ICPM	±3°
2T K Factor	3% or less
Spurious Emissions	-60dB, or better, relative to peak vision power, measured after GatesAir supplied filter
Harmonics	-60dB, or better, relative to peak vision power, measured after GatesAir supplied filter
In-Channel Intermodulation Distortion	-57dB, or better

Sound Performance	
Audio Input Level	0 to +10dBm, 600 Ohms
Pre-Emphasis	As required by system standard (50µS 75 µS)
Frequency Response	±0.5dB, 40Hz to 15kHz
Harmonic Distortion	<0.5%
FM Signal to Noise Ratio	>60dB after de-emphasis
AM Synchronous Noise	-40dB r.m.s. at 400Hz, ±25kHz deviation
NICAM Sound	Integrated NICAM encoder available- specifications available upon request

Remote Control	
Parallel Remote	TFT Touchscreen GPIO / Parallel Remote Web GUI SNMP

Mechanical	
Rack	See table for details
Width	600 mm (23.6"), per rack
Rack Height	30RU, 1,530mm/42RU 2,070 mm (70.9"/81.5")
Rack Depth	UHF models: 1,000 mm (39.4") VHF models: 1,200 mm (47.2")

Options
Contact GatesAir for details

Key Features

Transmitter Model	Power Before Filter (p.s. W)	Total Number of PA's	Configuration / Rack Style	Number of Tx Racks
UHF Models				
UAX-OP-AN-600	600	1	2+1 RU	Option
UAX-OP-AN-1200	1,200	1	3+1 RU	Option
UAX-OP-AN-2500	2,500	1	3+1 RU	Option
UAX-OP-AN-3000	3,000	1	3.5 + 1 RU	Option
UAX-OP-AN-3500	3,500	1	3.5 + 1 RU	Option
UAX-OP-AN-6000-R36	6,000	2	36 RU	1
UAX-OP-AN-6500-R36	6,500	2	36 RU	1
UAX-OP-AN-7000-R36	7,000	2	36 RU	1
UAX-OP-AN-10500R36	10,500	3	36 RU	1
UAX-OP-AN-12000R36	12,000	4	36 RU	1
UAX-OP-AN-13000R36	13,000	4	36 RU	1
UAX-OP-AN-14000R36	14,000	4	36 RU	1
UAX-OP-AN-28000R36	28,000	8	36 RU	2
VHF Band III Models				
VAX-OP-AN-600	600	1	2+1 RU	Option
VAX-OP-AN-1200	1,200	1	3+1 RU	Option
VAX-OP-AN-1500	1,500	1	3+1 RU	Option
VAX-OP-AN-2500	2,500	1	3+1 RU	Option
VAX-OP-AN-3000	3,000	1	3.5+1 RU	Option
VAX-OP-AN-4000	4,000	1	3.5+1 RU	Option
VAX-OP-AN-6000-R36	6,000	2	36 RU	1
VAX-OP-AN-7000-R36	7,000	2	36 RU	1
VAX-OP-AN-9000-R36	9,000	3	36 RU	1
VAX-OP-AN-10500R36	10,500	3	36 RU	1
VAX-OP-AN-12000R36	12,000	4	36 RU	1
VAX-OP-AN-14000R36	14,000	4	36 RU	1
VAX-OP-AN-21000R36	21,000	6	36 RU	2
VAX-OP-AN-28000R36	28,000	8	36 RU	2
VHF Band I Models				
VAX-OP-AN-2500L	2,500	1	3.5+1 RU	Option
VAX-OP-AN-3000L	3,000	1	3.5+1 RU	Option
VAX-OP-AN-3500L	3,500	1	3.5+1 RU	Option
VAX-OP-AN-7000L36	7,000	2	36 RU	1
VAX-OP-AN-14000L36	14,000	4	36 RU	1
VAX-OP-AN-21000L42	21,000	6	42 RU	1
VAX-OP-AN-28000L42	28,000	8	42 RU	1

GatesAir efficiently leverages broadcast spectrum to maximize performance for multichannel TV and radio services, offering the industry's broadest portfolio to help broadcasters wirelessly deliver and monetize content. With nearly 100 years in broadcasting, GatesAir's exclusive focus on the over-the-air market helps broadcasters optimize services today and prepare for future revenue-generating business opportunities. Until 2019, research, development and innovation has been driven from the company's facilities in Mason, Ohio and supported by the long-standing manufacturing center in Quincy, Illinois. In May 2019, the company acquired an Italian company operating as GatesAir S.r.l. which provides an additional research, development and service location within the EU.

GatesAir's turnkey solutions are built on two pillars: Transport and Transmit. The company is best known for powering over-the-air analog and digital radio/TV stations and networks worldwide with the industry's most operationally efficient transmitters. Groundbreaking innovations in low, medium and high-power transmitters reduce footprint, energy use and more to establish the industry's lowest total cost of ownership. Support for all digital standards and convergence with mobile networks ensure futureproof systems.

In television, GatesAir supplies proven, trusted wireless UHF and VHF solutions across all power requirements to support single-station over-the-air broadcasters on up to large national networks. The industry's most reliable software-definable exciters ensure broadcasters can optimize analog networks and quickly transition to digital TV in the field, with support for all major global DTV standards. GatesAir also supplies a wide array of over-the-air accessories to maximize transmitter control, network redundancy and signal compliance – along with installation, commissioning and ongoing support services – to deliver the industry's strongest turnkey approach for customers worldwide.

Contact Information

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For more information, please visit gatesair.com

Global Service Locations

Award Winning Service

From experienced installation and field service engineers to responsive factory experts, GatesAir provides the strongest service team in the broadcast transmission industry. Couple that team with reliable products, responsible service parts inventories and a demonstrated commitment to the industry, and you have a service offering that's perfectly matched to your equipment and your operations.

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CONNECTING WHAT'S NEXT

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