



5300 Kings Island Dr  
Mason, OH USA 45040  
1 800.622.0022  
gatesair.com

May 13, 2019

State of Nebraska  
Attn. Julie Dabydeen,  
State Purchasing Bureau  
1526 K Street, suite 130  
Lincoln, NE 68508

Dear Julie Dabydeen:

On behalf of GatesAir Inc., we are pleased to submit the following response to your Invitation to Bid #6079 OF "NET Displaced TV Translators (3 transmitters)".

We are proposing our Maxiva™ UAXTE Solid-State Air-Cooled UHF transmitter for the 50W, 600W & 1400W power levels required. These transmitters include the GatesAir PowerSmart® technology architecture providing high efficiency, allowing an increase in power density, lower operating costs, and reduced cost of ownership over the life of the transmitters. All GatesAir products are manufactured and assembled in Quincy, IL USA.

Should you require additional information or have any questions, please do not hesitate to contact Nick VanHaaster, Regional Sales Manager at 951-294-4365, or myself at 513-459-3482.

Thank you for your consideration. We look forward to a successful relationship.

Sincerely,

A handwritten signature in blue ink that reads "Rich Lohmueller". The signature is fluid and cursive.

Rich Lohmueller  
Proposal Manager  
GatesAir  
5300 Kings Island Drive  
Mason, OH 45040  
Ph.: 513-459-3482  
Email: [rlohmuel@gatesair.com](mailto:rlohmuel@gatesair.com)



## Publication Information

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### Sales Team

**Nick VanHaaster**

**Regional Sales Manager**

GatesAir

5300 Kings Island Drive

Mason, OH 45040

Phone: 951-294-4365

[Nick.VanHaaster@gatesair.com](mailto:Nick.VanHaaster@gatesair.com)

### Systems Architect

**Rich Lohmueller**

**Proposal Manager**

GatesAir

5300 Kings Island Drive

Mason, OH 45040

phone 1-513-459-3482

fax 1-513-459-3796

[rlohmuell@gatesair.com](mailto:rlohmuell@gatesair.com)

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GatesAir reserves the right, without notice to make such changes in equipment, design, specifications, components, or documentation as progress may warrant to improve the performance of the product.

### Trademarks

Maxiva™, Flexiva™, Intraplex®, PowerSmart® are trademarks of GatesAir or its subsidiaries. Microsoft® and Windows® are registered trademarks of Microsoft Corporation. All other trademarks and tradenames are the property of their respective companies.

### Contact Information

GatesAir has office locations around the world. For locations and contact information see: <http://www.gatesair.com/contact>

### Corporate Office:

5300 Kings Island Drive

Cincinnati, OH, USA, 45040

Tel: 1 800-622-0022

Fax: 513-459-3796

### Factory Location:

3200 Wismann Lane

PO Box 4290

Quincy, IL, USA, 62301

Tel: 217-222-8200





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# State of Nebraska - INVITATION TO BID

## ONE TIME PURCHASE

Return to:  
 State Purchasing Bureau  
 1526 K Street, Suite 130  
 Lincoln, Nebraska 68508

Telephone: 402-471-6500  
 Fax: 402-471-2089

<b>Date</b>	4/23/19	<b>Page</b>	1 of 2
<b>Solicitation Number</b>	6079 OF		
<b>Opening Date and Time</b>	05/13/19	2:00 pm	
<b>Buyer</b>	JULIE DABYDEEN (AS)		

**DESTINATION OF GOODS**  
**EDUCATIONAL TELECOMM COMM**  
 1800 N 33rd ST  
 Lincoln, NE 68503-1409

Per Nebraska's Transparency in Government Procurement Act, DAS is required to collect statistical information regarding the number of contracts awarded to Nebraska contractors. This information is for statistical purposes only and will not be considered for contract award purposes.

\_\_\_\_ NEBRASKA CONTRACTOR AFFIDAVIT: Bidder hereby attests that bidder is a Nebraska Contractor. "Nebraska Contractor" shall mean any bidder who has maintained a bona fide place of business and at least one employee within this state for at least the six (6) months immediately preceding the posting date of this ITB.

\_\_\_\_ I hereby certify that I am a Resident disabled veteran or business located in a designated enterprise zone in accordance with Neb. Rev. Stat. §73-107 and wish to have preference, if applicable, considered in the award of this contract.

One Time Purchase to supply and deliver NET Displaced TV Translators (3 transmitters) to the State of Nebraska as per the attached specifications.

A response to this Solicitation is subject to, but not limited to, the Standard Terms and Conditions. PLEASE READ CAREFULLY!

This form is part of the specification package and must be signed and returned, along with all documents, by the opening date and time specified.

No facsimile or email solicitation responses will be accepted on bids \$25,000 and over.

(bs 04/19/19)

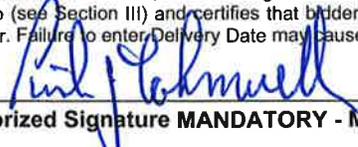
### INVITATION

Line	Description	Quantity	Unit of Measure	Unit Price	Extended Price
1	50W UHF TRANSMITTER, CHANNEL 27	1.0000	EA	\$7,280.00	\$7,280.00

### BIDDER MUST COMPLETE THE FOLLOWING

DISCOUNT PAYMENT TERMS: N/A %        DAYS

By signing this Invitation to Bid form, the bidder guarantees compliance with the provisions stated in this Invitation to Bid, agrees to the terms and conditions unless otherwise agreed to (see Section III) and certifies that bidder maintains a drug free work place environment. Vendor will furnish the items requested within 60 days after receipt of order. Failure to enter Delivery Date may cause quotation to be REJECTED.

Sign   
 Here (Authorized Signature MANDATORY - MUST BE SIGNED IN INK)

Enter Contact Information Below

VENDOR# \_\_\_\_\_  
 VENDOR: GatesAir Inc.  
 Address: 5300 Kings Island Dr.  
Mason, OH 45040

Contact Nick VanHaaster  
 Telephone 951-294-4365  
 Facsimile 513-459-3796  
 Email nick.vanhaaster@gatesair.com

# State of Nebraska - INVITATION TO BID CONTRACT

Return to:  
State Purchasing Bureau  
1526 K Street, Suite 130  
Lincoln, Nebraska 68508

Telephone: 402-471-6500  
Fax: 402-471-2089

<b>Date</b>	4/23/19	<b>Page</b>	2 of 2
<b>Solicitation Number</b>	6079 OF		
<b>Opening Date and Time</b>	05/13/19	2:00 pm	
<b>Buyer</b>	JULIE DABYDEEN (AS)		

**DESTINATION OF GOODS**  
AS MATERIEL - STATE PURCHASING  
1526 K ST STE 130  
LINCOLN NE 68508-2732

## INVITATION

Line	Description	Quantity	Unit of Measure	Unit Price	Extended Price
2	EXTERNAL HARMONIC FILTER (IF REQUIRED), CHANNEL 27	1.0000	EA	N/A	
3	MASK FILTER, CHANNEL 27	1.0000	EA	\$1,311.25	\$1,311.25
4	600W UHF TRANSMITTER CHANNEL 31	1.0000	EA	\$16,065.00	\$16,065.00
5	EXTERNAL HARMONIC FILTER (IF REQUIRED), CHANNEL 31	1.0000	EA	N/A	
6	MASK FILTER, CHANNEL 31 CHANNEL 31	1.0000	EA	\$3,177.35	\$3,177.35
7	1400W UHF TRANSMITTER CHANNEL 21	1.0000	EA	\$30,364.00	\$30,364.00
8	EXTERNAL HARMONIC FILTER (IF REQUIRED) CHANNEL 21	1.0000	EA	N/A	
9	MASK FILTER, CHANNEL 21	1.0000	EA	\$6,221.04	\$6,221.04
10	DUAL EXCITER CONFIGURATION CHANNEL 21	1.0000	EA	\$11,440.00	\$11,440.00
11	SHELF SPARE PA MODULE OPTION CHANNEL 21	1.0000	EA	\$5,100.75	\$5,100.75

**Form A**  
**Contractor Contact Sheet**  
**Invitation To Bid Number 6078 OF**

Form A should be completed and submitted with each response to this solicitation. This is intended to provide the State with information on the Contractor's name and address, and the specific person(s) who are responsible for preparation of the Contractor's response.

<b>Preparation of Solicitation Contact Information</b>	
<b>Contractor Name:</b>	GatesAir Inc.
<b>Contractor Address:</b>	5300 Kings Island Dr. Mason, OH 45040
<b>Contact Person &amp; Title:</b>	Rich Lohmueller
<b>E-mail Address:</b>	rlohmuell@gatesair.com
<b>Telephone Number (Office):</b>	513-459-3482
<b>Telephone Number (Cellular):</b>	513-288-0695
<b>Fax Number:</b>	513-459-3796

Each Contractor shall also designate a specific contact person who will be responsible for responding to the State if any clarifications of the Contractor's response should become necessary.

<b>Communication with the State Contact Information</b>	
<b>Contractor Name:</b>	GatesAir
<b>Contractor Address:</b>	5300 Kings Island Dr. Mason, OH 45040
<b>Contact Person &amp; Title:</b>	Nick VanHaaster
<b>E-mail Address:</b>	nick.vanhaaster@gatesair.com
<b>Telephone Number (Office):</b>	
<b>Telephone Number (Cellular):</b>	951-294-4365
<b>Fax Number:</b>	513-459-3796



Quote Number: Q-81758  
[www.gatesair.com](http://www.gatesair.com)

**To:**  
Nebraska ETV Commission  
1800 North 33rd Street  
MS02  
Lincoln NE, 68503 USA

**Attn:** Julie Dabydeen  
(407) 471-6500

**From:**  
GatesAir, Inc.  
5300 Kings Island Drive, Suite 101  
Mason OH, 45040 USA  
Nick Van Haaster  
Regional Sales Manager  
[nick.vanhaaster@gatesair.com](mailto:nick.vanhaaster@gatesair.com)

Summary – All Prices are in USD

Summary	Amount
50W Transmitter	\$7,280.00
50W Ch. 27 Mask Filter	\$1,311.25
600W Transmitter	\$16,065.00
600W Ch. 31 Mask Filter	\$3,177.35
1400W Transmitter	\$30,364.00
1400W Ch. 21 Mask Filter	\$6,221.04
Dual Exciter Configuration	\$11,440.00
Shelf Spare PA Module Option	\$5,100.75
<b>Total Quote Price (Optional Items Not Included)</b>	<b>\$80,959.39</b>

Is the purchase of this equipment or services exempt from sales tax? YES or NO  
If NO - sales tax will be added to your invoices at the rate assigned to the ship to address.

If YES - Sales Tax Exemption Number \_\_\_\_\_ COPY OF CERTIFICATE MUST BE ATTACHED

Who can we contact regarding sales tax questions on behalf of your company?

Name: \_\_\_\_\_

Phone Number: \_\_\_\_\_



**Bill To:**  
 Nebraska ETV Commission  
 1800 North 33rd Street  
 MS02  
 Lincoln NE, 68503 USA  
**Attn:**  
 Julie Dabydeen  
 (407) 471-6500

**Ship To:**  
 Nebraska ETV Commission  
 1800 North 33rd Street  
 MS02  
 Lincoln NE, 68503 USA  
**Attn:**  
 Julie Dabydeen  
 (407) 471-6500

**Quote #:** Q-81758  
**Payment Terms:** Net 30 Days  
**Effective Date:** May 13, 2019  
**Valid Through:** June 13, 2019  
 Send Orders to  
[orders@gatesair.com](mailto:orders@gatesair.com)  
**Freight Terms:** Destination Prepaid

50W Transmitter				
No.	Product #	Qty	Net Unit Price	Ext. Price
2	UAXTE-50	1	\$7,280.00	\$7,280.00
<p>UAXTE-50-C            Maxiva Series High Efficiency UAXTE-50-C Air-Cooled, Solid-State, Digital Television Transmitter. Band IV/V, 470-750MHz. Type N (F) transmitter output connector. Transmitter does not include a rack.            70W Average Power Out (Before Mask filter)            Single-Phase, 110-240 Volts -15%/+10%, 47-63Hz.</p> <p>TRANSMITTER INCLUDES:            (1) 2 RU Multi-Standard XTE Exciter/Driver with:            RTAC(TM) (Real-Time Adaptive Correction)            - Modulation software upgradeable            - Easy-to use operator interface via standard Web browser and external PC            - RTAC(TM) (Real-Time Adaptive Correction)            - Front panel display and control            - Built-in compliance monitoring            - (2) ASI/SMPTE-310 inputs with auto-switching            - (2) IP Transport inputs with auto-switching            - 10MHz and 1PPS input for timing reference            - Integrated GPS receiver (Antenna/cable sold separately)            - Built in battery UPS            - For ATSC 1.0 modulation, optional SFN (software key required)            - (1) UHF Broadband LDMOS Power Amplifier            - (1) PA Power Supply</p> <p>Included with Transmitter:            (1) Factory Test at Rated Customer Power            (1) Maxiva UAXTE Series Transmitter Manual</p> <p>Options (not included, sold separately):            - 23RU Standard Rack            - 37RU Standard Rack            - 44RU Standard Rack            - Mask Filter            - Pre-Mask Filter measurement coupler            - Post Mask filter measurement coupler</p>				
3	UAXTE-SW-AT	1	\$0.00	\$0.00
UAXTE ATSC Modulation Software				



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No.	Product #	Qty	Net Unit Price	Ext. Price
4	WNTY_EXTD_36MO	1	\$0.00	\$0.00
Extended Product Warranty: Warranty of GatesAir manufactured products valid 36 months from date of shipment. Refer to GatesAir Standard Terms and Condition of sales for warranty details.				
<b>50W Transmitter TOTAL:</b>				<b>\$7,280.00</b>

50W Ch. 27 Mask Filter				
No.	Product #	Qty	Net Unit Price	Ext. Price
5	FLUA-00125-6AT	1	\$780.00	\$780.00
Reflective Standard ATSC Mask Filter, 125W Air Cooled, UHF, 6 Pole filter, Factory Tunable Band Width 6MHZ, 7-16DIN Input & Output				
6	9710051028G	1	\$276.25	\$276.25
9710051028G KIT, 'N' COUPLER, POST-FILTER KIT 1EA 6200118000 ADAPTER, N, UG-57B/U PLUG/PLUG (depending on filter type) 1EA 6203187000 ADAPTER, 7/16 PLUG TO N JACK (depending on filter type) 1EA 9529248080 CABLE COAX EXTENDED COUPLER 1EA 9710023193 CPLR UHF/VHF NF 4-PORT 29/3X35DB				
7	9710078129	1	\$255.00	\$255.00
KIT, UAXTE, RF CABLE, N TYPE PRE FILTER CABLE KIT FROM TX TO BPF 1EA 6203187000 ADAPTER, 7/16 PLUG TO N JACK 1EA 9529265039 CABLE, EXTERNAL				
<b>50W Ch. 27 Mask Filter TOTAL:</b>				<b>\$1,311.25</b>

600W Transmitter				
No.	Product #	Qty	Net Unit Price	Ext. Price
9	UAXTE-3P-C	1	\$16,065.00	\$16,065.00
<p>UAXTE-3P-C            Maxiva Series High Efficiency UAXTE-3P-C Air-Cooled, Solid-State, Digital Television Transmitter, 4RU Design. Band IV/V, 470-750MHz.            7-16 DIN transmitter output connector.            600W Average Power Out (Before Mask filter)            Single-Phase, 208-240 Volts -15%/+10%, 47-63Hz.</p> <p><b>TRANSMITTER INCLUDES:</b>            (1) 4 RU Air Cooled Transmitter system and Multi-Standard XTE Exciter with:            - RTAC(TM) (Real-Time Adaptive Correction)            - Modulation software upgradeable            - Easy-to use operator interface via standard Web browser and external PC            - RTAC(TM) (Real-Time Adaptive Correction)            - Front panel display and control            - Built-in compliance monitoring            - (2) ASI/SMPTE-310 inputs with auto-switching            - (2) IP Transport inputs with auto-switching            - 10MHz and 1PPS input for timing reference            - Integrated GPS receiver (Antenna/cable sold separately)            - Built in battery UPS            - (1) PA Power Supply            - (3) UHF High efficiency LDMOS Power Amplifier Pallets</p>				



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No.	Product #	Qty	Net Unit Price	Ext. Price
- (1) Pre-filter measurement coupler  Additional Items included: (1) Low pass (Harmonic) Filter (1) Factory Test at Rated Customer Power (1) Maxiva UAXTE Series Transmitter Manual  Options (not included, sold separately): - 23RU Standard Rack - 37RU Standard Rack - 44RU Standard Rack - Mask Filter - Post Mask Filter Coupler - Cabling to mask filter - For ATSC 1.0 modulation, optional SFN (software key required)				
10	1P-UAXTE-BE-A	1	\$0.00	\$0.00
PAB, 1Pallet, UAXTE, 888E-TYPE, BAND A (470-608MHz) <b>**MUST INCLUDE A TRANSMITTER LINE ITEM**</b>				
11	UAXTE-SW-AT	1	\$0.00	\$0.00
UAXTE ATSC Modulation Software				
12	WNTY_EXTD_36MO	1	\$0.00	\$0.00
Extended Product Warranty: Warranty of GatesAir manufactured products valid 36 months from date of shipment. Refer to GatesAir Standard Terms and Condition of sales for warranty details.				
<b>600W Transmitter TOTAL:</b>				<b>\$16,065.00</b>

**600W Ch. 31 Mask Filter**

No.	Product #	Qty	Net Unit Price	Ext. Price
13	FLUA-00625-6AT	1	\$2,461.98	\$2,461.98
Reflective Standard ATSC Mask Filter, 625W Air Cooled, UHF, 6 Pole filter, Factory Tunable Band Width 6MHZ, 7-16DIN Input & Output				
14	9710078029	1	\$638.37	\$638.37
KIT, UAXTE RF ACCESSORIES 7/16DIN, Single LPU Post Filter RTAC Samples - Single Drive Includes: (1) Coupler 8-Port, 50DB (2) Attenuators, SMA (3) Coax Cables, RG-223/U w/Plugs				
15	9710078130	1	\$77.00	\$77.00
PRE FILTER CABLE KIT FROM TX TO BPF UAXTE, RF CABLE, 7-16 DIN CONNECTORS				
<b>600W Ch. 31 Mask Filter TOTAL:</b>				<b>\$3,177.35</b>



1400W Transmitter				
No.	Product #	Qty	Net Unit Price	Ext. Price
17	UAXTE-3R37	1	\$29,190.00	\$29,190.00
<p><b>UAXTE-3R37</b>            Maxiva Series High Efficiency UAXTE-3R37 Air-Cooled, Solid-State, Digital Television Transmitter. Band IV/V, 470-750MHz. 1-5/8in EIA Un-Flanged transmitter output connector. Transmitter installed in a 37 RU standard 19in rack.            1800W Average Power Out (Before Mask filter)            Single-Phase, 208-240 Volts -15%/+10%, 47-63Hz.            Optional: Three-Phase, 208-240 or 380-415 Volts, -15%/+10%, 47-63Hz (see Transmitter Technical Manuals for AC installation information)</p> <p><b>TRANSMITTER INCLUDES:</b>            (1) 2 RU Multi-Standard XTE Exciter/Driver with:            RTAC(TM) (Real-Time Adaptive Correction)            - Modulation software upgradeable            - Easy-to use operator interface via standard Web browser and external PC            - RTAC(TM) (Real-Time Adaptive Correction)            - Front panel display and control            - Built-in compliance monitoring            - (2) ASI/SMPTE-310 inputs with auto-switching            - (2) IP Transport inputs with auto-switching            - 10MHz and 1PPS input for timing reference            - Integrated GPS receiver (Antenna/cable sold separately)            - Built in battery UPS            - For ATSC 1.0 modulation, optional SFN (software key required)            - (1) UHF Broadband LDMOS Power Amplifier            - (1) PA Power Supply</p> <p><b>HIGH EFFICIENCY POWER AMPLIFIER BLOCK:</b>            (3) 3 RU High Efficiency Amplifier Block, including:            - (3) UHF High efficiency LDMOS Power Amplifier Pallets            - (1) High efficiency switch mode Power Supply            (1) PA Block combiner system with reject loads            (1) Pre-filter measurement coupler            (1) Low pass (Harmonic) Filter            (1) Factory Test at Rated Customer Power            (1) 37 RU standard Rack            (1) Maxiva UAXTE Series Transmitter Manual</p> <p>Options (not included, sold separately):            - Secondary Exciter (Dual Exciter Option)            - Redundant switch mode power supply            - Integrated I/O panel with wiring from transmitter to the I/O panel            - Internal Rack AC Distribution            - Mask Filter            - Post Mask Filter Coupler</p>				
18	UAXTE-SW-AT	2	\$0.00	\$0.00
UAXTE ATSC Modulation Software				
19	PA-UAXTE-E+-BAND-A	3	\$0.00	\$0.00
<p>ASSY, PA MODULE, UAXTE, TYPE 888E BAND "A"            "PALLET/MODULE TYPE 888E+ BAND A"            UHF 470-608MHz BANDED MODULE            "FOR PA MODULE SELECTION WITH MAIN TRANSMITTER LINE ITEM"            "MUST HAVE TRANSMITTER LINE ITEM"</p>				
20	9810090581	1	\$1,174.00	\$1,174.00
<p>ASSY, AC DISTRIBUTION OPTION FOR 3-PA UAXTE            380-415VAC INPUT 3PH WYE_            198-259VAC INPUT 3PH DELTA_</p>				



No.	Product #	Qty	Net Unit Price	Ext. Price
21	WNTY_EXTD_36MO	1	\$0.00	\$0.00
Extended Product Warranty: Warranty of GatesAir manufactured products valid 36 months from date of shipment. Refer to GatesAir Standard Terms and Condition of sales for warranty details.				
<b>1400W Transmitter TOTAL:</b>				<b>\$30,364.00</b>

**1400W Ch. 21 Mask Filter**

No.	Product #	Qty	Net Unit Price	Ext. Price
22	FLUA-02500-6AT	1	\$3,272.72	\$3,272.72
Reflective Standard ATSC Mask Filter, 2500W Air Cooled, UHF, 6 Pole filter, Factory Tunable Band Width 6MHZ, 1-5/8in Un-Flanged Input & Output				
23	STDLINEKT1-5810FT	1	\$2,135.23	\$2,135.23
KIT, RF XMSN LINE 1-5/8 10FT KIT CONTAINS: QTY (1) 10FT PIECE OF 1-5/8 XMSN LINE QTY (2) UNFLANGED TO FLANGED ADAPTERS QTY (4) BULLETS QTY (3) COUPLING SLEEVES WITH INNERS QTY (4) 90 DEGREE EQUAL LENGTH UNFLANGED ELBOW				
24	9710078032	1	\$813.09	\$813.09
KIT, UAXTE RF ACCESSORIES 1-5/8", DUAL LPU Post Filter RTAC Samples - DUAL DRIVE Includes: (1) Coupler, UHF, 1-5/8 8-Port, 50dB (3) Attenuators (3) Coax Cable, RG-223/U w/Plugs				
<b>1400W Ch. 21 Mask Filter TOTAL:</b>				<b>\$6,221.04</b>

**Dual Exciter Configuration**

No.	Product #	Qty	Net Unit Price	Ext. Price
25	UAXTE-DD	1	\$11,440.00	\$11,440.00
UAXTE Dual Driver / Exciter option Includes Driver/exciter & Auto switching system (1) 2 RU Multi-Standard XTE Exciter/Driver with: RTAC(TM) (Real-Time Adaptive Correction) - Modulation software upgradeable - Easy-to use operator interface via standard Web browser and external PC - RTAC(TM) (Real-Time Adaptive Correction) - Front panel display and control - Built-in compliance monitoring - (2) ASI/SMPTE-310 inputs with auto-switching - (2) IP Transport inputs with auto-switching - 10MHz and 1PPS input for timing reference - Integrated GPS receiver (Antenna/cable sold separately) - Built in battery UPS - For ATSC 1.0 modulation, optional SFN (software key required) - (1) UHF Broadband LDMOS Power Amplifier - (1) PA Power Supply				



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No.	Product #	Qty	Net Unit Price	Ext. Price
<b>Dual Exciter Configuration TOTAL:</b>				\$11,440.00

Shelf Spare PA Module Option

No.	Product #	Qty	Net Unit Price	Ext. Price
26	9810126306G	1	\$5,100.75	\$5,100.75
<b>Shelf Spare PA Module Option TOTAL:</b>				\$5,100.75

<b>TOTAL:</b>				\$80,959.39
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Quote Number: Q-81758  
[www.gatesair.com](http://www.gatesair.com)

This Quote, and any Order resulting from this Quote, is subject to the Standard Terms and Conditions of Sale for GATESAIR which can be located at <http://www.gatesair.com/company/legal-compliance/terms-conditions>, which are incorporated herein by reference. The Standard Terms and Conditions for GATESAIR shall apply to the exclusion of any other terms and conditions except where expressly agreed in writing and signed by GATESAIR. For a hard copy of the terms and conditions, please call U.S. (513) 459-3502 or fax your request to (513) 459-3796, Attn.: Legal Dept., or email your request to [GAContracts@gatesair.com](mailto:GAContracts@gatesair.com).

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As a part of its marketing efforts, GatesAir may publish general information about this order including customer name, solutions acquired, application for which the solutions are intended, and deal value. GatesAir will not publicize specific prices or other specific Confidential Information.

I do not authorize GatesAir to publicize this order.

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**Total Quote Price (Optional Items Not Included)**

**\$80,959.39**

GatesAir Approval: \_\_\_\_\_  
Nick Van Haaster , Regional Sales Manager

Customer Approval: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Purchase Order #: \_\_\_\_\_

Return signed quote to [orders@gatesair.com](mailto:orders@gatesair.com) or [nick.vanhaaster@gatesair.com](mailto:nick.vanhaaster@gatesair.com)



**II. TERMS AND CONDITIONS**

Contractors should complete Section II through VI as part of their proposal. Contractor is expected to read the Terms and Conditions and must initial either accept, reject, or reject and provide alternative language for each clause. The Contractor should also provide an explanation of why the Contractor rejected the clause or rejected the clause and provided alternate language using "Track Changes". Upon request an electronic copy of the proposal with "Track Changes" must be submitted in an editable Word format. By signing the solicitation, Contractor is agreeing to be legally bound by all the accepted terms and conditions, and any proposed alternative terms and conditions submitted with the proposal. The State reserves the right to negotiate rejected or proposed alternative language. If the State and Contractor fail to agree on the final Terms and Conditions, the State reserves the right to reject the proposal. The State is soliciting proposals in response to the solicitation. The State reserves the right to reject proposals that attempt to substitute the Contractor's commercial contracts and/or documents for this solicitation.

The Contractor should submit with their proposal any license, user agreement, service level agreement, or similar documents that the Contractor wants incorporated in the Contract. Upon notice of Intent to Award, the Contractor must submit a copy of these documents in an editable Word format. The State will not consider incorporation of any document not submitted with the Contractor's proposal. These documents shall be subject to negotiation and will be incorporated as addendums if agreed to by the Parties.

If a conflict or ambiguity arises after the addendums have been negotiated and agreed to, the addendums shall be interpreted as follows:

1. If only one (1) Party's document has a particular clause then that clause shall control;
2. If both Party's documents have a similar clause, but the clauses do not conflict, the clauses shall be read together;
3. If both Party's documents have a similar clause, but the clauses conflict, the State's clause shall control.

**A. GENERAL**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within Solicitation Response (Initial)	NOTES/COMMENTS:
RP			

The contract resulting from this solicitation shall incorporate the following documents:

1. Invitation to Bid and Addenda;
2. Amendments to the solicitation;
3. Questions and Answers;
4. Contractor's proposal response;
5. The executed Contract and any Addenda, if applicable, and properly submitted documents; and,
6. Amendments to the Contract

These documents constitute the entirety of the contract.

Unless otherwise specifically stated in a future contract amendment, in case of any conflict between the incorporated documents, the documents shall govern in the following order of preference with number one (1) receiving preference over all other documents and with each lower numbered document having preference over any higher numbered document: 1) Amendment to the executed Contract with the most recent dated amendment having the highest priority, 2) executed Contract and any attached Addenda, 3) Amendments to solicitation and any Questions and Answers, 4) the original solicitation document and any Addenda, and 5) the Contractor's submitted Proposal.

Any ambiguity or conflict in the contract discovered after its execution, not otherwise addressed herein, shall be resolved in accordance with the rules of contract interpretation as established in the State.

**B. NOTIFICATION**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within Solicitation Response (Initial)	NOTES/COMMENTS:
RJ			

Contractor and State shall identify the contract manager who shall serve as the point of contact for the executed contract.

Communications regarding the executed contract shall be in writing and shall be deemed to have been given if delivered personally or mailed, by U.S. Mail, postage prepaid, return receipt requested, to the parties at their respective addresses set forth below, or at such other addresses as may be specified in writing by either of the parties. All notices, requests, or communications shall be deemed effective upon personal delivery or five (5) calendar days following deposit in the mail.

Contractor Contract Manager	Agency Contract Manager Julie Dabydeen
Contractor	Agency Department of Administrative Services, State Purchasing Bureau
Contractor Street Address	Agency Street Address 1526 K Street, Suite 130
Contractor City, State, Zip	Agency City, State, Zip Lincoln, NE 68508

Either party may change its address for notification purposes by giving notice of the change, and setting forth the new address and an effective date.

**C. GOVERNING LAW (Statutory)**

Notwithstanding any other provision of this contract, or any amendment or addendum(s) entered into contemporaneously or at a later time, the parties understand and agree that, (1) the State of Nebraska is a sovereign state and its authority to contract is therefore subject to limitation by the State's Constitution, statutes, common law, and regulation; (2) this contract will be interpreted and enforced under the laws of the State of Nebraska; (3) any action to enforce the provisions of this contract must be brought in the State of Nebraska per state law; (4) the person signing this contract on behalf of the State of Nebraska does not have the authority to waive the State's sovereign immunity, statutes, common law, or regulations; (5) the indemnity, limitation of liability, remedy, and other similar provisions of the final contract, if any, are entered into subject to the State's Constitution, statutes, common law, regulations, and sovereign immunity; and, (6) all terms and conditions of the final contract, including but not limited to the clauses concerning third-party use, licenses, warranties, limitations of liability, governing law and venue, usage verification, indemnity, liability, remedy or other similar provisions of the final contract are entered into specifically subject to the State's Constitution, statutes, common law, regulations, and sovereign immunity.

The Parties must comply with all applicable local, state and federal laws, ordinances, rules, orders, and regulations.

**D. CHANGE ORDERS OR SUBSTITUTIONS**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within Solicitation Response (Initial)	NOTES/COMMENTS:
RJ			

The State and the Contractor, upon the written agreement, may make changes to the contract within the general scope of the solicitation. Changes may involve specifications, the quantity of work, or such other items as the State may find necessary or desirable. Corrections of any deliverable, service, or work required pursuant to the contract shall not be deemed a change. The Contractor may not claim forfeiture of the contract by reasons of such changes.

The Contractor shall prepare a written description of the work required due to the change and an Itemized cost sheet for the change. Changes in work and the amount of compensation to be paid to the Contractor shall be determined in accordance with applicable unit prices if any, a pro-rated value, or through negotiations. The State shall not incur a price increase for changes that should have been included in the Contractor's proposal, were foreseeable, or result from difficulties with or failure of the Contractor's proposal or performance.

No change shall be implemented by the Contractor until approved by the State, and the Contract is amended to reflect the change and associated costs, if any. If there is a dispute regarding the cost, but both parties agree that immediate implementation is necessary, the change may be implemented, and cost negotiations may continue with both Parties retaining all remedies under the contract and law.

**\*\*\*Contractor will not substitute any item that has been awarded without prior written approval of SPB\*\*\***

**E. NOTICE OF POTENTIAL CONTRACTOR BREACH**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within Solicitation Response (Initial)	NOTES/COMMENTS:
RL			

If Contractor breaches the contract or anticipates breaching the contract, the Contractor shall immediately give written notice to the State. The notice shall explain the breach or potential breach, a proposed cure, and may include a request for a waiver of the breach if so desired. The State may, in its discretion, temporarily or permanently waive the breach. By granting a waiver, the State does not forfeit any rights or remedies to which the State is entitled by law or equity, or pursuant to the provisions of the contract. Failure to give immediate notice, however, may be grounds for denial of any request for a waiver of a breach.

**F. BREACH**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within Solicitation Response (Initial)	NOTES/COMMENTS:
RL			

Either Party may terminate the contract, in whole or in part, if the other Party breaches its duty to perform its obligations under the contract in a timely and proper manner. Termination requires written notice of default and a thirty (30) calendar day (or longer at the non-breaching Party's discretion considering the gravity and nature of the default) cure period. Said notice shall be delivered by Certified Mail, Return Receipt Requested, or in person with proof of delivery. Allowing time to cure a failure or breach of contract does not waive the right to immediately terminate the contract for the same or different contract breach which may occur at a different time.

In case of breach by the Contractor, the State may, without unreasonable delay, make a good faith effort to make a reasonable purchase or contract to purchased goods in substitution of those due from the contractor. The State may recover from the Contractor as damages the difference between the costs of covering the breach. Notwithstanding any clause to the contrary, the State may also recover the contract price together with any incidental or consequential damages defined in UCC Section 2-715, but less expenses saved in consequence of Contractor's breach. OR In case of default of the Contractor, the State may contract the service from other sources and hold the Contractor responsible for any excess cost occasioned thereby.

The State's failure to make payment shall not be a breach, and the Contractor shall retain all available statutory remedies. (See Indemnity - Self-Insurance and Payment)

**G. NON-WAIVER OF BREACH**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within Solicitation Response (Initial)	NOTES/COMMENTS:
RL			

The acceptance of late performance with or without objection or reservation by a Party shall not waive any rights of the Party nor constitute a waiver of the requirement of timely performance of any obligations remaining to be performed.

**H. SEVERABILITY**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within Solicitation Response (Initial)	NOTES/COMMENTS:
RL			

If any term or condition of the contract is declared by a court of competent jurisdiction to be illegal or in conflict with any law, the validity of the remaining terms and conditions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the contract did not contain the provision held to be invalid or illegal.

**I. INDEMNIFICATION**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within Solicitation Response (Initial)	NOTES/COMMENTS:
RL			

**1. GENERAL**  
 The Contractor agrees to defend, indemnify, and hold harmless the State and its employees, volunteers, agents, and its elected and appointed officials ("the indemnified parties") from and against any and all claims, liens, demands, damages, liability, actions, causes of action, losses, judgments, costs, and expenses of every nature, including investigation costs and expenses, settlement costs, and attorney fees and expenses ("the claims"), sustained or asserted against the State for personal injury, death, or property loss or damage, arising out of, resulting from, or attributable to the willful misconduct, negligence, error, or omission of the Contractor, its employees, Subcontractors, consultants, representatives, and agents, resulting from this contract, except to the extent such Contractor liability is attenuated by any action of the State which directly and proximately contributed to the claims.

**2. INTELLECTUAL PROPERTY**  
 The Contractor agrees it will, at its sole cost and expense, defend, indemnify, and hold harmless the indemnified parties from and against any and all claims, to the extent such claims arise out of, result from, or are attributable to, the actual or alleged infringement or misappropriation of any patent, copyright, trade secret, trademark, or confidential information of any third party by the Contractor or its employees, Subcontractors, consultants, representatives, and agents; provided, however, the State gives the Contractor prompt notice in writing of the claim. The Contractor may not settle any infringement claim that will affect the State's use of the Licensed Software without the State's prior written consent, which consent may be withheld for any reason.

If a judgment or settlement is obtained or reasonably anticipated against the State's use of any intellectual property for which the Contractor has indemnified the State, the Contractor shall, at the Contractor's sole cost and expense, promptly modify the item or items which were determined to be infringing, acquire a

license or licenses on the State's behalf to provide the necessary rights to the State to eliminate the infringement, or provide the State with a non-infringing substitute that provides the State the same functionality. At the State's election, the actual or anticipated judgment may be treated as a breach of warranty by the Contractor, and the State may receive the remedies provided under this solicitation.

**3. SELF-INSURANCE (Statutory)**

The State is self-insured for any loss and purchases excess insurance coverage pursuant to Neb. Rev. Stat. § 81-8,239.01 (Reissue 2008). If there is a presumed loss under the provisions of this contract, Contractor may file a claim with the Office of Risk Management pursuant to Neb. Rev. Stat. §§ 81-8,829 through 81-8,306 for review by the State Claims Board. The State retains all rights and immunities under the State Miscellaneous (Section 81-8,294), Tort (Section 81-8,209), and Contract Claim Acts (Section 81-8,302), as outlined in Neb. Rev. Stat. § 81-8,209 et seq. and under any other provisions of law and accepts liability under this contract to the extent provided by law.

**J. ATTORNEY'S FEES**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within Solicitation Response (Initial)	NOTES/COMMENTS:
RP			

In the event of any litigation, appeal, or other legal action to enforce any provision of the contract, the Parties agree to pay all expenses of such action, as permitted by law and if ordered by the court, including attorney's fees and costs, if the other party prevails.

**K. ASSIGNMENT, SALE, OR MERGER**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within Solicitation Response (Initial)	NOTES/COMMENTS:
RP			

Either party may assign the contract upon mutual written agreement of the other party. Such agreement shall not be unreasonably withheld.

The Contractor retains the right to enter into a sale, merger, acquisition, internal reorganization, or similar transaction involving Contractor's business. Contractor agrees to cooperate with the State in executing amendments to the contract to allow for the transaction. If a third party or entity is involved in the transaction, the Contractor will remain responsible for performance of the contract until such time as the person or entity involved in the transaction agrees in writing to be contractually bound by this contract and perform all obligations of the contract.

**L. CONTRACTING WITH OTHER POLITICAL SUB-DIVISIONS OF THE STATE OR ANOTHER STATE**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within Solicitation Response (Initial)	NOTES/COMMENTS:
RP			

The Contractor may, but shall not be required to, allow agencies, as defined in Neb. Rev. Stat. § 81-145, to use this contract. The terms and conditions, including price, of the contract may not be amended. The State shall not be contractually obligated or liable for any contract entered into pursuant to this clause.

The Contractor may, but shall not be required to, allow other states, agencies or divisions of other states, or political subdivisions of other states to use this contract. The terms and conditions, including price, of this contract shall apply to any such contract, but may be amended upon mutual consent of the Parties. The State of Nebraska shall not be contractually or otherwise obligated or liable under any contract entered into pursuant to this clause. The State shall be notified if a contract is executed based upon this contract.

**M. FORCE MAJEURE**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within Solicitation Response (Initial)	NOTES/COMMENTS:
RL			

Neither party shall be liable for any costs or damages, or for default resulting from its inability to perform any of its obligations under the contract due to a natural or man-made event outside the control and not the fault of the affected party ("Force Majeure Event"). The Party so affected shall immediately make a written request for relief to the other party, and shall have the burden of proof to justify the request. The other Party may grant the relief requested; relief may not be unreasonably withheld. Labor disputes with the impacted party's own employees will not be considered a Force Majeure Event.

**N. CONFIDENTIALITY**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within Solicitation Response (Initial)	NOTES/COMMENTS:
RL			

All materials and information provided by the Parties or acquired by a Party on behalf of the other Party shall be regarded as confidential information. All materials and information provided or acquired shall be handled in accordance with federal and state law, and ethical standards. Should said confidentiality be breached by a Party, the Party shall notify the other Party immediately of said breach and take immediate corrective action.

It is incumbent upon the Parties to inform their officers and employees of the penalties for improper disclosure imposed by the Privacy Act of 1974, 5 U.S.C. 552a. Specifically, 5 U.S.C. 552a (i)(1), which is made applicable by 5 U.S.C. 552a (m)(1), provides that any officer or employee, who by virtue of his/her employment or official position has possession of or access to agency records which contain individually identifiable information, the disclosure of which is prohibited by the Privacy Act or regulations established thereunder, and who knowing that disclosure of the specific material is prohibited, willfully discloses the material in any manner to any person or agency not entitled to receive it, shall be guilty of a misdemeanor and fined not more than \$5,000.

**III. CONTRACTOR DUTIES**

**A. INDEPENDENT CONTRACTOR / OBLIGATIONS**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within Solicitation Response (Initial)	NOTES/COMMENTS:
AL			

It is agreed that the Contractor is an independent contractor and that nothing contained herein is intended or should be construed as creating or establishing a relationship of employment, agency, or a partnership.

The Contractor is solely responsible for fulfilling the contract. The Contractor or the Contractor's representative shall be the sole point of contact regarding all contractual matters.

The Contractor shall secure, at its own expense, all personnel required to perform the services under the contract. The personnel the Contractor uses to fulfill the contract shall have no contractual or other legal relationship with the State; they shall not be considered employees of the State and shall not be entitled to any compensation, rights or benefits from the State, including but not limited to, tenure rights, medical and hospital care, sick and vacation leave, severance pay, or retirement benefits.

By-name personnel commitments made in the Contractor's proposal shall not be changed without the prior written approval of the State. Replacement of these personnel, if approved by the State, shall be with personnel of equal or greater ability and qualifications.

The Contractor warrants that all persons assigned to the project shall be employees of the Contractor or a Subcontractor, and shall be fully qualified to perform the work required herein. Personnel employed by the Contractor or a subcontractor to fulfill the terms of the contract shall remain under the sole direction and control of the Contractor or the subcontractor respectively.

With respect to its employees, the Contractor agrees to be solely responsible for the following:

1. Any and all pay, benefits, and employment taxes and/or other payroll withholding;
2. Any and all vehicles used by the Contractor's employees, including all insurance required by state law;
3. Damages incurred by Contractor's employees within the scope of their duties under the contract;
4. Maintaining Workers' Compensation and health insurance that complies with state and federal law and submitting any reports on such insurance to the extent required by governing law;
5. Determining the hours to be worked and the duties to be performed by the Contractor's employees; and,
6. All claims on behalf of any person arising out of employment or alleged employment (including without limit claims of discrimination alleged against the Contractor, its officers, agents, or subcontractors or subcontractor's employees).

If the Contractor intends to utilize any subcontractor, the Subcontractor's level of effort, tasks, and time allocation must be clearly defined in the Contractor's proposal. The Contractor shall agree that it will not utilize any Subcontractors not specifically included in its proposal in the performance of the contract without the prior written authorization of the State.

The State reserves the right to require the Contractor to reassign or remove from the project any Contractor or Subcontractor employee.

Contractor shall insure that the terms and conditions contained in any contract with a sub-contractor does not conflict with the terms and conditions of this contract.

The Contractor shall include a similar provision, for the protection of the State, in the contract with any Subcontractor engaged to perform work on this contract.

**B. EMPLOYEE WORK ELIGIBILITY STATUS**

The Contractor is required and hereby agrees to use a federal immigration verification system to determine the work eligibility status of employees physically performing work within the State. A federal immigration verification system means the electronic verification of the work authorization program authorized by the Illegal Immigration Reform and Immigrant Responsibility Act of 1996, 8 U.S.C. 1324a, known as the E-Verify Program, or an equivalent federal program designated by the United States Department of Homeland Security or other federal agency authorized to verify the work eligibility status of an employee.

If the Contractor is an individual or sole proprietorship, the following applies:

- 1. The Contractor must complete the United States Citizenship Attestation Form, available on the DAS website at <http://das.nebraska.gov/materiel/purchasing.html>

The completed United States Attestation Form should be submitted with the solicitation response.

- 2. If the Contractor indicates on such attestation form that he or she is a qualified alien, the Contractor agrees to provide the U.S. Citizenship and Immigration Services documentation required to verify the Contractor's lawful presence in the United States using the Systematic Alien Verification for Entitlements (SAVE) Program.
- 3. The Contractor understands and agrees that lawful presence in the United States is required and the Contractor may be disqualified or the contract terminated if such lawful presence cannot be verified as required by Neb. Rev. Stat. § 4-108.

**C. COMPLIANCE WITH CIVIL RIGHTS LAWS AND EQUAL OPPORTUNITY EMPLOYMENT / NONDISCRIMINATION (Statutory)**

The Contractor shall comply with all applicable local, state, and federal statutes and regulations regarding civil rights laws and equal opportunity employment. The Nebraska Fair Employment Practice Act prohibits Contractors of the State, and their Subcontractors, from discriminating against any employee or applicant for employment, with respect to hire, tenure, terms, conditions, compensation, or privileges of employment because of race, color, religion, sex, disability, marital status, or national origin (Neb. Rev. Stat. §§ 48-1101 through 48-1125). The Contractor guarantees compliance with the Nebraska Fair Employment Practice Act, and breach of this provision shall be regarded as a material breach of contract. The Contractor shall insert a similar provision in all Subcontracts for goods or services to be covered by any contract resulting from this solicitation.

**D. DISCOUNTS**

Prices quoted shall be inclusive of ALL trade discounts. Cash discount terms of less than thirty (30) days will not be considered as part of the proposal. Cash discount periods will be computed from the date of receipt of a properly executed claim voucher or the date of completion of delivery of all items in a satisfactory condition, whichever is later.

**E. PRICES**

Prices quoted shall be net, including transportation and delivery charges fully prepaid by the contractor, F.O.B. destination named in the solicitation. No additional charges will be allowed for packing, packages, or partial delivery costs. When an arithmetic error has been made in the extended total, the unit price will govern.

All prices, costs, and terms and conditions submitted in the proposal shall remain fixed and valid commencing on the opening date of the proposal until an award is made or the ITB is cancelled.

The State reserves the right to deny any requested price increase. No price increases are to be billed to any State Agencies prior to written amendment of the contract by the parties.

**F. COST CLARIFICATION**

The State reserves the right to review all aspects of cost for reasonableness and to request clarification of any proposal where the cost component shows significant and unsupported deviation from industry standards or in areas where detailed pricing is required.

**G. PERMITS, REGULATIONS, LAWS**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within	NOTES/COMMENTS:
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		<b>Solicitation Response (Initial)</b>	
Rd			

The contract price shall include the cost of all royalties, licenses, permits, and approvals, whether arising from patents, trademarks, copyrights or otherwise, that are in any way involved in the contract. The Contractor shall obtain and pay for all royalties, licenses, and permits, and approvals necessary for the performance of the contract. The Contractor must guarantee that it has the full legal right to the materials, supplies, equipment, software, and other items used to execute this contract.

**H. NOTICE OF POTENTIAL CONTRACTOR BREACH**

<b>Accept (Initial)</b>	<b>Reject (Initial)</b>	<b>Reject &amp; Provide Alternative within Solicitation Response (Initial)</b>	<b>NOTES/COMMENTS:</b>
Rd			

If Contractor breaches the contract or anticipates breaching the contract the Contractor shall immediately give written notice to the State. The notice shall explain the breach or potential breach, and may include a request for a waiver of the breach if so desired. The State may, at its discretion, temporarily or permanently waive the breach. By granting a temporary waiver, the State does not forfeit any rights or remedies to which the State is entitled by law or equity, or pursuant to the provisions of the contract. Failure to give immediate notice, however, may be grounds for denial of any request for a waiver of a breach.

**I. ANTITRUST**

<b>Accept (Initial)</b>	<b>Reject (Initial)</b>	<b>Reject &amp; Provide Alternative within Solicitation Response (Initial)</b>	<b>NOTES/COMMENTS:</b>
Rd			

The Contractor hereby assigns to the State any and all claims for overcharges as to goods and/or services provided in connection with this contract resulting from antitrust violations which arise under antitrust laws of the United States and the antitrust laws of the State.

**J. CONFLICT OF INTEREST**

<b>Accept (Initial)</b>	<b>Reject (Initial)</b>	<b>Reject &amp; Provide Alternative within Solicitation Response (Initial)</b>	<b>NOTES/COMMENTS:</b>
Rd			

By submitting a proposal, Contractor certifies that there does not now exist a relationship between the Contractor and any person or entity which is or gives the appearance of a conflict of interest related to this solicitation or project.

The Contractor certifies that it shall not take any action or acquire any interest, either directly or indirectly, which will conflict in any manner or degree with the delivery of its goods and services hereunder or which creates an actual or an appearance of conflict of interest.

The Contractor certifies that it will not employ any individual known by Contractor to have a conflict of interest.

The Parties shall not knowingly, for a period of two (2) years after execution of the contract, recruit or employ any employee or agent of the other Party who has worked on the solicitation or project, or who had any influence on decisions affecting the solicitation or project.

**K. ADVERTISING**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within Solicitation Response (Initial)	NOTES/COMMENTS:
RF			

The Contractor agrees not to refer to the contract award in advertising in such a manner as to state or imply that the company or its goods and services are endorsed or preferred by the State. Any publicity releases pertaining to the project shall not be issued without prior written approval from the State.

**L. DRUG POLICY**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within Solicitation Response (Initial)	NOTES/COMMENTS:
RF			

Contractor certifies it maintains a drug free work place environment to ensure worker safety and workplace integrity. Contractor agrees to provide a copy of its drug free workplace policy at any time upon request by the State.

**M. WARRANTY**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within Solicitation Response (Initial)	NOTES/COMMENTS:
RF			

Despite any clause to the contrary, the Contractor represents and warrants that its services hereunder shall be performed by competent personnel and shall be of professional quality consistent with generally accepted industry standards for the performance of such services and shall comply in all respects with the requirements of this Contract. For any breach of this warranty, the Contractor shall, for a period of ninety (90) days from performance of the service, perform the services again, at no cost to Customer, or if Contractor is unable to perform the services as warranted, Contractor shall reimburse Customer the fees paid to Contractor for the unsatisfactory services. The rights and remedies of the parties under this warranty are in addition to any other rights and remedies of the parties provided by law or equity, including, without limitation actual damages, and, as applicable and awarded under the law, to a prevailing party, reasonable attorneys' fees and costs.

**IV. PAYMENT**

**A. PROHIBITION AGAINST ADVANCE PAYMENT (Statutory)**

Neb. Rev. Stat. §§81-2403 states, "[n]o goods or services shall be deemed to be received by an agency until all such goods or services are completely delivered and finally accepted by the agency."

**B. TAXES (Statutory)**

The State is not required to pay taxes and assumes no such liability as a result of this solicitation. The Contractor may request a copy of the Nebraska Department of Revenue, Nebraska Resale or Exempt Sale Certificate for Sales Tax Exemption, Form 13 for their records. Any property tax payable on the Contractor's equipment which may be installed in a state-owned facility is the responsibility of the Contractor.

**C. INVOICES**

Invoices for payments must be submitted by the Contractor to the agency requesting the services with sufficient detail to support payment. Mail invoices to NET, 1800 N 33<sup>rd</sup> St., Lincoln, NE 68503. The terms and conditions included in the Contractor's invoice shall be deemed to be solely for the convenience of the parties. No terms or conditions of any such invoice shall be binding upon the State, and no action by the State, including without limitation the payment of any such invoice in whole or in part, shall be construed as binding or estopping the State with respect to any such term or condition, unless the invoice term or condition has been previously agreed to by the State as an amendment to the contract.

**D. PAYMENT (Statutory)**

Payment will be made by the responsible agency in compliance with the State of Nebraska Prompt Payment Act (See Neb. Rev. Stat. §81-2403). The State may require the Contractor to accept payment by electronic means such as ACH deposit. In no event shall the State be responsible or liable to pay for any goods and services provided by the Contractor prior to the Effective Date of the contract, and the Contractor hereby waives any claim or cause of action for any such services.

**E. LATE PAYMENT (Statutory)**

The Contractor may charge the responsible agency interest for late payment in compliance with the State of Nebraska Prompt Payment Act (See Neb. Rev. Stat. §§ 81-2401 through 81-2408).

**F. SUBJECT TO FUNDING / FUNDING OUT CLAUSE FOR LOSS OF APPROPRIATIONS (Statutory)**

The State's obligation to pay amounts due on the Contract for a fiscal years following the current fiscal year is contingent upon legislative appropriation of funds. Should said funds not be appropriated, the State may terminate the contract with respect to those payments for the fiscal year(s) for which such funds are not appropriated. The State will give the Contractor written notice thirty (30) calendar days prior to the effective date of termination. All obligations of the State to make payments after the termination date will cease. The Contractor shall be entitled to receive just and equitable compensation for any authorized work which has been satisfactorily completed as of the termination date. In no event shall the Contractor be paid for a loss of anticipated profit.

**G. RIGHT TO AUDIT (First Paragraph Is Statutory)**

The State shall have the right to audit the Contractor's performance of this contract upon a thirty (30) day written notice. Contractor shall utilize generally accepted accounting principles, and shall maintain the accounting records, and other records and information relevant to the contract (Information) to enable the State to audit the contract. (Neb. Rev. Stat. § 84-304 et seq.) The State may audit and the Contractor shall maintain the information during the term of the contract and for a period of five (5) years after the completion of this contract or until all issues or litigation are resolved, whichever is later. The Contractor shall make the Information available to the State at Contractor's place of business or a location acceptable to both Parties during normal business hours. If this is not practical or the Contractor so elects, the Contractor may provide electronic or paper copies of the Information. The State reserves the right to examine, make copies of, and take notes on any Information relevant to this contract, regardless of the form or the Information, how it is stored, or who possesses the Information. In no circumstances will contractor be required to create or maintain documents not kept in the ordinary course of contractor's business operations, nor will contractor be required to disclose any information, including but not limited to product cost data, which is confidential or proprietary to contractor.

Accept	Reject	Reject & Provide	NOTES/COMMENTS:
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(Initial)	(Initial)	Alternative within Solicitation Response (Initial)	
R			

The Parties shall pay their own costs of the audit unless the audit finds a previously undisclosed overpayment by the State. If a previously undisclosed overpayment exceeds three percent (3%) of the total contract billings, or if fraud, material misrepresentations, or non-performance is discovered on the part of the Contractor, the Contractor shall reimburse the State for the total costs of the audit. Overpayments and audit costs owed to the State shall be paid within ninety (90) days of written notice of the claim. The Contractor agrees to correct any material weaknesses or condition found as a result of the audit.

## V. SCOPE OF WORK

The Contractor must provide the following information in response to this solicitation.

### A. SCOPE

The intent of this request for NET (Nebraska Educational Telecommunications) is to replace three low power TV transmitters at three sites that are displaced out of the 600MHz band. Displacement Applications for the three sites were granted by the FCC and expire in July 2021 therefore the project must be completed by that time. It is intended for these transmitters to be purchased together as a one-time purchase. The contractor must provide all three transmitters listed below.

50W UHF Channel 27  
600W UHF Channel 31  
1400W UHF Channel 21

A special consideration is required for the 600W transmitter listed above. This transmitter must be quoted as rack mountable but without rack. Transmitter will be installed in an existing outdoor rated air conditioned weathertight 19" equipment rack. Transmitter must be 8RU or smaller physical size. Enclosure dimensions available upon request.

For technical details regarding each of the power levels listed above, please see the sections labeled "Technical Specifications" later in this document.

It is the intent of this solicitation to issue a purchase order for the item(s) requested.

All items proposed shall be of the latest manufacture in production as of the date of the solicitation and be of proven performance and under standard design complete as regularly advertised and marketed. All necessary materials for satisfactory performance of the supplies shall be incorporated into the replacement of three low power TV transmitters that are displaced out of the 600MHz band whether or not they may be specifically mentioned below.

Complete specifications, manufacturer's current descriptive literature and/or advertising data sheets with cuts or photographs must be included with the proposal for the IDENTICAL items proposed. Any information necessary to show compliance with these specifications not given on the manufacturer's descriptive literature and/or advertising data sheets must be supplied in writing on or attached to the proposal document. If manufacturer's information necessary to show compliance with these specifications is not attached to the proposal document, the Contractor may be required to submit requested information within three (3) business days of a written request. Failure to submit requested descriptive literature or advertising data sheets may be grounds to reject the proposal.

**VI. TECHNICAL SPECIFICATIONS**

**A. CONTRACTOR INSTRUCTIONS**

Contractor must respond to each of the following statements. Specifications listed are minimum conditions that must be met in order for a Contractor to qualify for the award.

"YES" response means the Contractor guarantees they can meet this condition.

"NO" response means the Contractor cannot meet this condition and will not be considered.

"NO & PROVIDE ALTERNATIVE" responses should be used only with a narrative response in the NOTES/COMMENTS section explaining in detail any deviation from the Contractor's ability to meet the condition, and an explanation of how this would be determined to be an acceptable alternative to meeting the condition. Alternatives must be detailed in such a way that allows such deviations to be fully evaluated. The State shall determine at its sole discretion whether or not the Contractor's alternative is an acceptable alternative.

**B. NON-COMPLIANCE STATEMENT**

YES	NO	NO & PROVIDE ALTERNATIVE	
Y			1. Read these specifications carefully. Any and all exceptions to these specifications must be written on or attached to solicitation response. Any noncompliance may void your proposal. Non-compliance to any single specification can void your proposal.
Y			2. It is the responsibility of Contractors to obtain information and clarifications as provided below. The State is not responsible for any erroneous or incomplete understandings or wrongful interpretations of this solicitation by any Contractor.
Y			3. No interpretation related to the meaning of solicitation specifications or other pre-proposal documents will be made orally to any Contractor by the State. Any solicitation interpretation must be put in writing by the Contractor to: the State Purchasing Bureau, E-mail questions to SPB. <a href="mailto:as.materielpurchasing@nebraska.gov">as.materielpurchasing@nebraska.gov</a> by the last day to submit written questions per the Schedule of Events. (Inquiries received after the last day to submit written questions may not be addressed).
NOTES/COMMENTS:			

**C. TECHNICAL SPECIFICATIONS: 50W UHF Transmitter (50W at output of transmitter), for Channel 27. High-Efficiency, Solid State, Air Cooled, Digital UHF Transmitter, 120VAC 60Hz**

YES	NO	NO & PROVIDE ALTERNATIVE	
Y			1. Transmitter will be capable of producing 50W at output of the transmitter. Transmitter shall employ high-efficiency, solid state devices, air cooling, and broadband UHF amplifiers
Y			2. Transmitter power output shall be adjustable via front panel, parallel remote, web interface and SNMP interface from 0dB to -13dB of rated output power

Y			3. It shall be possible to turn the transmitter RF output ON and OFF from the front panel, parallel remote, web remote and SNMP interface
Y			4. AC power input shall accept 110VAC-240VAC, 50/60Hz
Y			5. Transmitter shall be designed for unattended remote control operation, compatible with standard commercial parallel remote control systems and must be capable of remote control from built-in web interface and SNMP protocol
Y			6. Sideband performance shall be compliant with FCC emission mask requirements, measured at the directional coupler located at the output of the mask filter provided
Y			7. Harmonic and Spurious performance shall meet all FCC requirements specified for UHF television over-the-air broadcast systems. If an external harmonic filter is required it shall be included in the proposal as a separate line item with the transmitter system
Y			8. The exciter shall include two, auto-switching ASI/SMPTE-310M inputs for ATSC 1.0. For ATSC 3.0 the exciter shall include at least one (1) native 1GBE TSoIP input. TSoIP input connectors shall be RJ-45, female
Y			9. Exciter shall be upgradeable to ATSC 3.0 mode with minimum effort. Exciter to be shipped with ATSC 1.0 configuration. Provide brief description of process for upgrading to ATSC 3.0 here or as attachment.  Load ATSC 3.0 software in exciter
Y			10. 6 pole external standard mask reflective bandpass filter for use with proposed transmitter broadcasting ATSC digital signal utilizing a 6MHz channel shall be provided as a line item in the system proposal.
Y			11. Mask Filter shall be tuned and tested for channel specified prior to shipment. Mask Filter shall be capable of being returned to any standard 6MHz channel across the UHF TV band
Y			12. Insertion loss of the Mask Filter shall be no greater 1.10 dB
Y			13. Mask Filter shall include a directional coupler at the output and provide a calibrated forward power sample.
<b>NOTES/COMMENTS:</b>			

**D. TECHNICAL SPECIFICATION: 600W UHF Transmitter (600W at output of transmitter), for channel 31, High-Efficiency, Solid State, Air Cooled, Digital UHF Transmitter, 110-240VAC 60Hz**

YES	NO	NO & PROVIDE ALTERNATIVE	
Y			1. Transmitter will be capable of producing 600 Watts at output of the transmitter. Transmitter shall employ high-efficiency solid state devices, air cooling, and broadband UHF amplifiers.
Y			2. Special consideration: This transmitter must be quoted as rack mountable but without rack. Transmitter will be installed in existing outdoor rated air conditioned weathertight 19" equipment rack. Transmitter must be 8RU or smaller physical size. Enclosure dimensions available upon request.

Y			3. Transmitter power output shall be adjustable via front panel, parallel remote, web interface and SNMP interface from 0dB to -10dB of rated output power
Y			4. It shall be possible to turn the transmitter RF output ON and OFF from the front panel, parallel remote, web remote and SNMP interface
Y			5. AC power input shall accept single-phase 110-240VAC, 50/60Hz
Y			6. Transmitter shall be designed for unattended remote control operation, compatible with standard commercial parallel remote control systems and must be capable of remote control from built-in web interface and SNMP protocol
Y			7. Sideband performance shall be compliant with FCC emission mask requirements, measured at the directional located at the output of the mask filtered provided
Y			8. Harmonic and Spurious performance shall meet all FCC requirements specified for UHF television over-the-air broadcast systems. If an external harmonic filter is required it shall be included in the proposal as a separate line item with the transmitter system
Y			9. The exciter shall include two, auto-switching ASI/SMPTE-310M inputs for ATSC 1.0. For ATSC 3.0 the exciter shall include at least one (1) native 1GBE TSolP input. TSolP input connectors shall be RJ-45, female
Y			10. Exciter shall be upgradeable to ATSC 3.0 mode with minimum effort. Exciter to be shipped with ATSC 1.0 configuration. Provide brief description of process for upgrading to ATSC 3.0 here or as attachment: 11. <u>Load ATSC 3.0 software in exciter</u>
Y			12. 6 pole external standard mask reflective bandpass filter for use with proposed transmitter broadcasting ATSC digital signal utilizing a 6MHz channel shall be provided as a line item in the system proposal.
Y			13. Mask Filter shall be tuned and tested for channel specified prior to shipment. Mask Filter shall be capable of being retuned to any standard 6MHz channel across the VHF Band I TV band
Y			14. Insertion loss of the Mask Filter shall be no greater 1.1 dB
Y			15. Mask Filter shall include a directional coupler at the output and provide a calibrated forward power sample.
<b>NOTES/COMMENTS:</b>			

**E. TECHNICAL SPECIFICATIONS: 1400W UHF Transmitters (1400W at output of transmitter), for Channel 21, High-Efficiency, Solid State, Air Cooled, Digital UHF Transmitter, 208-240VAC single phase 60Hz**

YES	NO	NO & PROVIDE ALTERNATIVE	
Y			1. Transmitter will be capable of producing 1400 Watts at output of the transmitter. Transmitter shall employ high-efficiency, solid state devices, air cooling, and broadband UHF amplifiers
Y			2. Shall include one shelf spare PA module as an option.

Y			3.	Transmitter power output shall be adjustable via front panel, parallel remote, web interface and SNMP interface from 0dB to -10dB of rated output power
Y			4.	It shall be possible to turn the transmitter RF output ON and OFF from the front panel, parallel remote, web remote and SNMP interface
Y			5.	AC power input shall accept single-phase 208-240VAC, 50/60Hz
Y			6.	Transmitter shall be designed for unattended remote control operation, compatible with standard commercial parallel remote control systems and must be capable of remote control from built-in web interface and SNMP protocol
Y				Sideband performance shall be compliant with FCC emission mask requirements, measured at the directional located at the output of the mask filtered provided
Y			7.	Harmonic and Spurious performance shall meet all FCC requirements specified for UHF television over-the-air broadcast systems. If an external harmonic filter is required it shall be included in the proposal as a separate line item with the transmitter system
Y			8.	The exciter shall include two, auto-switching ASI/SMPTE-310M inputs for ATSC 1.0. For ATSC 3.0 the exciter shall include at least one (1) native 1GBE TSolP input. TSolP input connectors shall be RJ-45, female
Y			9.	Exciter shall be upgradeable to ATSC 3.0 mode with minimum effort. Exciter to be shipped with ATSC 1.0 configuration. Provide brief description of process for upgrading to ATSC 3.0 here or as attachment: <u>Load ATSC 3.0 software in exciter</u>
Y			10.	Transmitter must include a dual exciter configuration.
Y			11.	6 pole external standard mask reflective bandpass filter for use with proposed transmitter broadcasting ATSC digital signal utilizing a 6MHz channel shall be provided as a line item in the system proposal.
Y			12.	Mask Filter shall be tuned and tested for channel specified prior to shipment. Mask Filter shall be capable of being retuned to any standard 6MHz channel across the UHF TV band
Y			13.	Insertion loss of the Mask Filter shall be no greater 0.60 dB
Y			14.	Mask Filter shall include a directional coupler at the output and provide a calibrated forward power sample.
<b>NOTES/COMMENTS:</b>				

**E. DELIVERY ARO**

YES	NO	NO & PROVIDE ALTERNATIVE	
Y			1. At the time of delivery, a designated State employee will sign the "invoice/packing slip." This signature will only indicate that the order has been received and that the items actually delivered agree with the delivery invoice. This signature does not indicate all items were received in good condition and/or that there is not possible hidden damage.
NOTES/COMMENTS:			

**F. DELIVERY LOCATIONS / INSTRUCTIONS (CONTRACTOR AGREES THAT THEY CAN MEET THE DELIVERY LOCATIONS/INSTRUCTIONS)**

YES	NO	NO & PROVIDE ALTERNATIVE	
Y			1. Nebraska Educational Telecommunications, 1800 N 33 <sup>rd</sup> St., Lincoln, NE 68503
NOTES/COMMENTS:			

**G. PACKAGING**

YES	NO	NO & PROVIDE ALTERNATIVE	
Y			1. Packages are to be clearly marked with size, weight, color, quantity, and the purchase order number.
Y			2. Packaging must be of suitable size and of sufficient strength to protect the contents during shipping, handling and storage.
NOTES/COMMENTS:			

H. ORDERS

YES	NO	NO & PROVIDE ALTERNATIVE	
Y			1. Orders will be placed either by, phone, e-mail or Internet (if available and not to the exclusion of the other methods).
Y			2. All orders must reference a purchase order number and the purchase order number must be referenced on the packing slip, and invoice. Invoices are to be sent to the "Invoice to" address on the purchase order.
<b>NOTES/COMMENTS:</b>			

I. QUALITY

YES	NO	NO & PROVIDE ALTERNATIVE	
Y			1. Product quality must meet specifications and be consistent for the term of the contract. All materials must be of first quality, under standard production by the manufacturer and be of standard design, complete as regularly advertised and marketed and be of proven performance.
Y			2. A guarantee of satisfactory performance by the contractor and meeting delivery dates are considered to be an integral part of the purchase contract resulting from this proposal invitation.
Y			3. Products are to be fully guaranteed and may be returned for full credit or replacement (at the State's option) for any reason during the initial warranty period with no additional charges for shipping or restocking.
<b>NOTES/COMMENTS:</b>			

J. GRAY MARKET PRODUCTS PROHIBITION

YES	NO	NO & PROVIDE ALTERNATIVE	
Y			1. The State will not accept Gray Market Products for this solicitation. Gray Market is defined as the trade of a commodity through distribution channels which, while legal, are unofficial, unauthorized, or unintended by the original manufacturer. Gray Market items are not designed to be sold in a particular market and cannot be supported by the authorized importer because of various reasons.
<b>NOTES/COMMENTS:</b>			

**K. WARRANTY**

YES	NO	NO & PROVIDE ALTERNATIVE	
Y			<p>1. The Contractor warrants for a period of three (3) years from the date of Acceptance that: (a) the Products perform according to all specific claims that the Contractor made in its response to the solicitation, (b) the Product is suitable for the ordinary purposes for which such Product is used, (c) the Product is suitable for any special purposes identified in the solicitation or for which the State has relied on the Contractor's skill or judgment, (d) the Product is designed and manufactured in a commercially reasonable manner, and (e) the Product is free of defects. Upon breach of the warranty, the Contractor will repair or replace (at no charge to the State) the Product whose nonconformance is discovered and made known to the Contractor. If the repaired and/or replaced Product proves to be inadequate, or fails of its essential purpose, the Contractor will refund the full amount of any payments that have been made. The rights and remedies of the parties under this warranty are in addition to any other rights and remedies of the parties provided by law or equity, including, without limitation actual damages, and, as applicable and awarded under the law, to a prevailing party, reasonable attorneys' fees and costs.</p>
<p><b>NOTES/COMMENTS:</b> 36 month warranty included in all GA transmitters offered.</p>			





For information about products or support services:

Call: North America + 1 217-222-8200

Website: http://www.gatesair.com

To register products or update company information visit:

www.ecustomer.gatesair.com

PROFESSIONAL SERVICES COMMITMENT

We are serious about our professional services business. We strive to provide the highest level of support in the industry and offer a complete set of integrated support solutions designed to help our customers across every phase of their business. GATESAIR works with you to provide the type of coverage you need. We are committed to service excellence.

Standard Warranty Services

- Technical support 9 hours a day, 5 days a week
After-hours emergency "Down or Off-air" phone support
5-day advance exchange of parts
Software updates and bug fixes

- Access to technical knowledge bank

Optional Gold ServicePAK

- Technical phone support 24 hours a day, 7 days a week
Next-day advance exchange of parts

GATESAIR STANDARD WARRANTY POLICY STATEMENT

Effective May 22, 2014

STANDARD EQUIPMENT WARRANTY

Unless otherwise provided in writing by GATESAIR, Inc. or a legally affiliated entity ("GATESAIR"), GATESAIR warrants that all GATESAIR-manufactured equipment will substantially conform to the GATESAIR specifications for such Equipment and be free of any defect in materials or workmanship (the "Standard Equipment Warranty") for the period of time specified in the table below (the "Equipment Warranty Period"); such period is measured from the date of shipment from a GATESAIR facility. This warranty is extended to customers and applies to all GATESAIR-manufactured equipment purchased, installed, and used for the purpose for which such equipment was originally designed.

Table with 2 columns: Product Family and Standard Equipment Warranty Period. Rows include: Over the Air Transmitters, Additional Products and Accessories, Customer Specials, B-Stock Equipment, Equipment Sold as Resale, Replacement Parts - within Equipment Warranty Period, Replacement Parts - Post Equipment Warranty Period, Used Equipment.

WARRANTY CLAIMS AND PROCEDURES

- 1. Upon breach of the Standard Equipment Warranty and GATESAIR's receipt of notice of such breach, the customer's sole and exclusive remedy will be, at GATESAIR's sole discretion and option, repair or replacement of the defective equipment or component with functionally equivalent equipment or components.
2. Before shipping any equipment or component to GATESAIR, the customer must obtain a written return authorization from GATESAIR and provide any proof of warranty eligibility requested by GATESAIR.
3. Upon receipt of replacement equipment or component, the customer has thirty (30) days to tender the defective equipment or component to the return carrier for shipment to the service center designated by GATESAIR.

blemishes; (iii) service, exchange or otherwise replace any equipment or component if the same would interfere with, impede or be redundant with normal or scheduled maintenance of such equipment or component; (iv) service, exchange or otherwise replace any equipment or component that is within sixty (60) days of the end of its production life; or (v) provide any application software support or service involving application hardware or replace any accessories. If GATESAIR elects to perform any such services at the customer's request, then such services will be deemed a service call and all labor, parts and materials used for the service call will be charged at GATESAIR's then-prevailing rates.

#### **EQUIPMENT WARRANTY EXCLUSIONS**

To the full extent permitted by law, GATESAIR does not warrant or guarantee, and is not responsible for:

1. Defects, failures, damages or performance limitations caused in whole or in part by (A) power failures, surges, failures in third-party communication networks, fires, floods, snow, ice, lightning, excessive heat or cold, highly corrosive environments, accidents, actions of third parties, or other events outside of GATESAIR's control, or (B) the customer's abuse, mishandling, misuse, computer viruses, negligence, improper storage, servicing or operation, or unauthorized attempts to repair or alter the equipment or component in any way. The customer shall provide qualified technical personnel to maintain and repair the equipment and components.
2. Equipment built to the customer's specifications that is later found not to meet the customer's needs or expectations.
3. The performance of the equipment or components when used in combination with equipment not purchased from GATESAIR, or specified or approved by GATESAIR in writing.
4. Signal coverage delivered by antenna equipment whether or not supplied by GATESAIR.

#### **ADDITIONAL WARRANTY NOTES**

1. OEM or third party equipment that is incorporated into GATESAIR equipment is covered for the same period as such GATESAIR equipment's Standard Equipment Warranty unless the OEM or third party equipment carries its own limited warranty.
2. **Items Sold As Resale.** Items sold as resale are such items that are not manufactured by GATESAIR but may be utilized in conjunction with, independently of or incorporated into, GATESAIR manufactured equipment (such as tubes, printers and antenna transmission lines) and are covered only by the specific warranty terms of the supplier or original equipment manufacturer of those items. IF AN ORDER COVERS EQUIPMENT NOT OWNED BY GATESAIR, IT IS SOLD SUBJECT TO GATESAIR'S ACQUISITION OF SUCH EQUIPMENT.
3. **B-Stock Equipment.** B-Stock equipment is defined as equipment repurchased or repurposed by GATESAIR that is reconditioned or refurbished for sale to a second generation owner by GATESAIR, and is covered for a period of ninety (90) days from the date such equipment is shipped.
4. **Used Equipment.** IF THE EQUIPMENT SPECIFIED IN AN ORDER IS DESCRIBED AS USED, IT IS SOLD "AS IS" AND WITH NO WARRANTY.

#### **SERVICES WARRANTY**

GATESAIR warrants that the services will be performed in a professional manner (the "Services Warranty"). Notice of a breach of the Services Warranty shall (i) specify in reasonable detail, the nature of the claim, and (ii) be received by GATESAIR within ninety (90) days from the last day of performance of the services. Upon breach of the Services Warranty and GATESAIR's notice of such breach, the customer's sole and exclusive remedy will be for GATESAIR to reperform the applicable services at GATESAIR's expense.

#### **SOFTWARE WARRANTY**

1. **Software.** Unless otherwise provided by GATESAIR in writing, GATESAIR warrants that the GATESAIR-manufactured software (the "Software") will operate substantially in compliance with GATESAIR's specifications for the Software (the "Standard Software Warranty") for a period of ninety (90) days from the date such Software is shipped or otherwise made available by GATESAIR (the "Software Warranty Period"). Upon breach of the Standard Software Warranty and GATESAIR's receipt of notice of such breach, the customer's sole and exclusive remedy will be, at GATESAIR's sole discretion and option, repair or replacement of the defective Software with functionally equivalent Software. GATESAIR does not warrant that the Software is error free or that the customer will be able to operate the Software without problems or interruptions. Corrections to the Software beyond the Software Warranty Period will only be made by GATESAIR pursuant to a ServicePAK agreement.
2. **Physical Media.** During the Software Warranty Period, GATESAIR warrants all physical media for the Software to be free of defects in material or workmanship. The customer's sole and exclusive remedy under this limited warranty will be, at GATESAIR's option, repair or replacement of the physical media for the Software.
3. **Software Warranty Exclusions.** The Standard Software Warranty does not apply to any Software that (A) has been altered or modified, except by GATESAIR; (B) has not been installed, operated, repaired, or maintained in accordance with instructions supplied by GATESAIR; (C) has been subjected to abnormal physical or electrical stress, misuse, negligence, or accident; or (D) is used in ultra-hazardous activities.

#### **DISCLAIMER OF WARRANTY**

**EXCEPT AS EXPRESSLY PROVIDED IN THIS STANDARD WARRANTY POLICY STATEMENT, GATESAIR HEREBY EXPRESSLY DISCLAIMS ALL REPRESENTATIONS, CONDITIONS AND WARRANTIES, WHETHER EXPRESS OR IMPLIED, INCLUDING BY WAY OF EXAMPLE AND NOT LIMITATION, THE IMPLIED WARRANTIES OF TITLE, MERCHANTABILITY, NONINFRINGEMENT AND FITNESS FOR A PARTICULAR PURPOSE.**

#### **LIMITATION ON LIABILITY**

**NOTWITHSTANDING ANYTHING HEREIN TO THE CONTRARY, IN NO EVENT WILL GATESAIR BE LIABLE FOR ANY SPECIAL, INCIDENTAL, PUNITIVE OR CONSEQUENTIAL DAMAGES WHATSOEVER, INCLUDING LOSS OF PROFITS, WHETHER ARISING IN CONTRACT, TORT, WARRANTY OR OTHERWISE, EVEN IF IT HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. THE LIMITATIONS SET FORTH HERE WILL APPLY EVEN IF THE REMEDIES OF ERROR CORRECTION, REPAIR OR REPLACEMENT, REPERFORMANCE OF SERVICES AND REFUND OF PAYMENTS COMPLETELY FAIL OF THEIR ESSENTIAL PURPOSE. NOTWITHSTANDING ANYTHING HEREIN TO THE CONTRARY, THE LIMIT OF GATESAIR'S LIABILITY (WHETHER IN CONTRACT, TORT, NEGLIGENCE, STRICT LIABILITY, BY STATUTE OR OTHERWISE) TO THE CUSTOMER OR TO ANY THIRD PARTY CONCERNING THE GATESAIR EQUIPMENT OR SOFTWARE LICENSES SOLD TO THE CUSTOMER AND WARRANTED HEREUNDER, GATESAIR'S PERFORMANCE OR NONPERFORMANCE, OR IN ANY MANNER RELATED TO THIS STANDARD WARRANTY POLICY STATEMENT, FOR ANY AND ALL CLAIMS WILL NOT IN THE AGGREGATE EXCEED THE ACTUAL AMOUNTS RECEIVED BY GATESAIR FOR THE SPECIFIC PRODUCT WITH RESPECT TO WHICH SUCH CLAIM IS MADE.**

#### **GOVERNING LAW AND JURISDICTION**

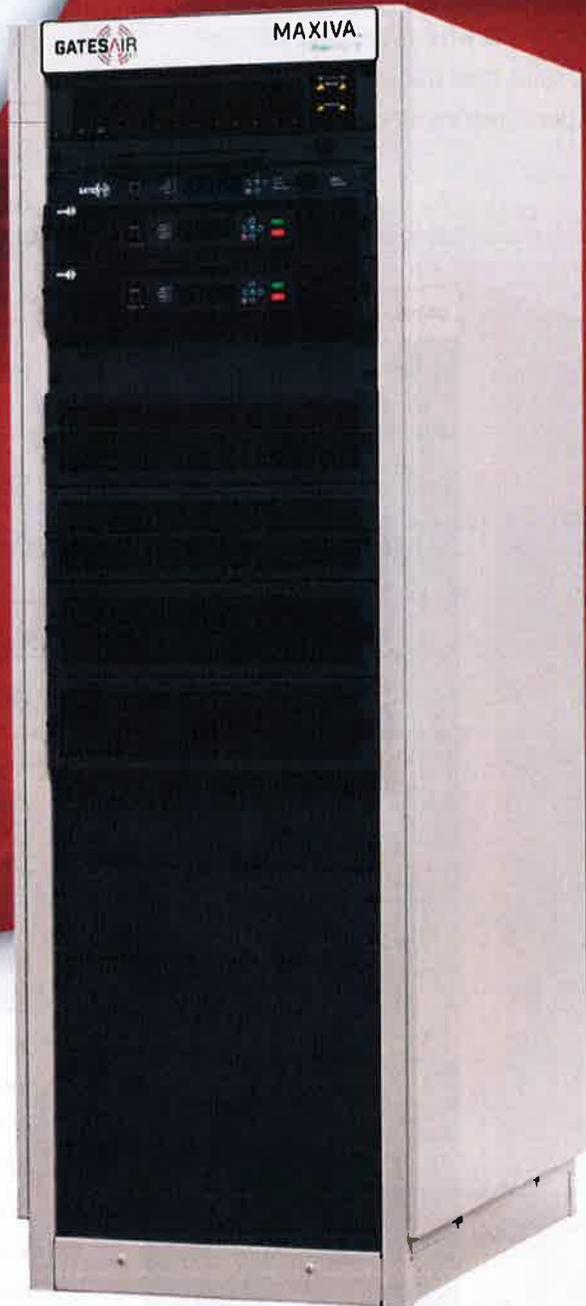
**Applicable Law, Venue and Jurisdiction.** This Standard Warranty Policy Statement, and any disputes related hereto, shall be governed by and interpreted in accordance with the laws of the state of Ohio, USA, regardless of any law principles requiring the application of any other law. The parties agree that the exclusive venue for any action related to the dispute or interpretation of this Standard Warranty Policy Statement shall be in the courts with the appropriate jurisdiction located in Mason, Ohio, and each party irrevocably submits to the jurisdiction of each such court in any such action and waives any objection it may now or hereafter have to venue or personal jurisdiction in each such court. The prevailing party in any action related to the dispute or interpretation of this Standard Warranty Policy Statement shall be entitled to recover its reasonable attorneys fees incurred in pursuing the action, including those fees incurred throughout all bankruptcy and appellate proceedings.

**Jury Waiver. THE PARTIES FURTHER AGREE, TO THE EXTENT PERMITTED BY LAW, TO WAIVE ALL RIGHTS TO A TRIAL BY JURY OF ANY ACTION RELATING TO THE DISPUTE OR INTERPRETATION OF THIS STANDARD WARRANTY POLICY STATEMENT, WHETHER SOUNDING IN CONTRACT, TORT, OR OTHERWISE. THE PARTIES SPECIFICALLY ACKNOWLEDGE THAT THIS WAIVER IS MADE KNOWINGLY AND VOLUNTARILY AFTER AN ADEQUATE OPPORTUNITY TO NEGOTIATE ITS TERMS.**





Connecting What's Next



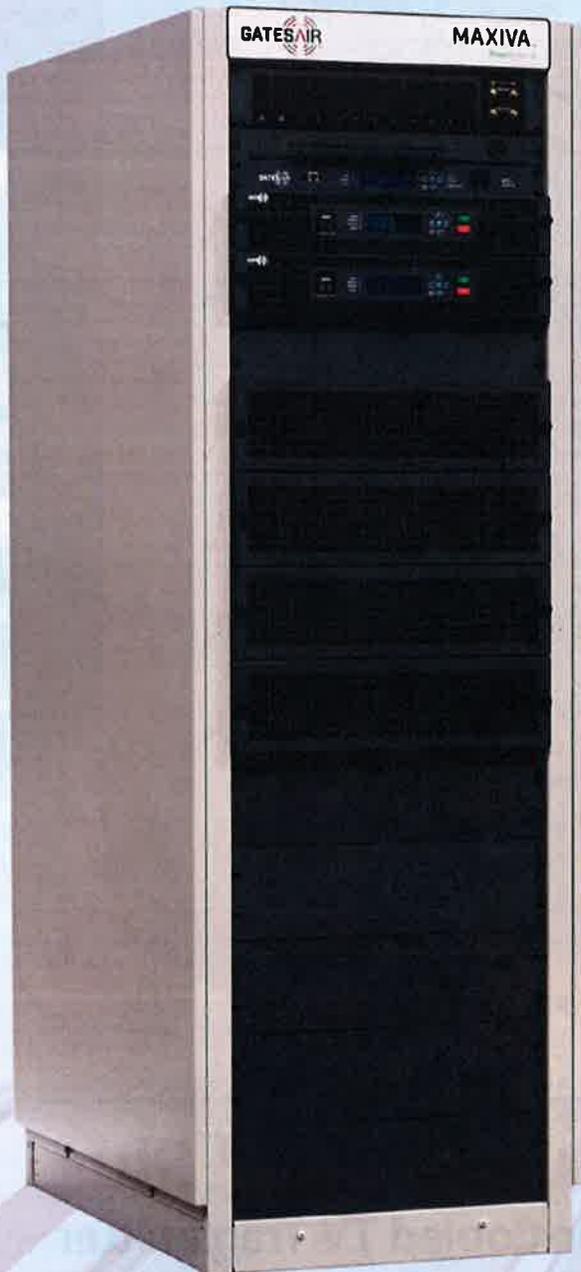
PowerSmart<sup>®</sup> Plus<sup>®</sup> Ⓞ

**Maxiva<sup>™</sup> UAXTE with PowerSmart<sup>®</sup> Plus**  
High-Efficiency UHF Air-Cooled TV Transmitter

# Maxiva™ UAXTE with PowerSmart® Plus

## We did it again.

GatesAir has once again shattered the expectations of what is possible with air-cooled, solid-state transmitters from a cost versus performance ratio.



High-efficiency Power Amplifiers optimized for equal power levels with either ATSC 1.0 or ATSC 3.0 modulation

Modular architecture for ease of installation. Multiple transmitters in a single rack saves valuable floor space.

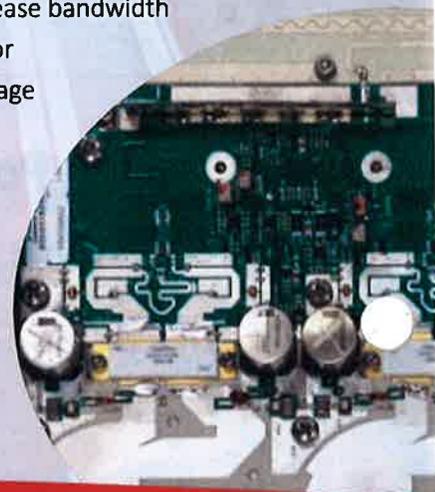
Power levels up to 19.2kW

Separate, hot-swappable, compact power supply for each PA. Redundancy options available.

Separate, hot-swappable, high-efficiency power amplifiers

Optimized Real-Time Adaptive Correction (RTAC™) provides the best performance all the time

More services usually means higher expenses. Higher operating expenses challenge the bottom line. Maxiva UAXTE transmitters with PowerSmart Plus technology drive down total cost of ownership while allowing broadcasters to get the most out of their spectrum. Optimized designs that increase bandwidth while simplifying maintenance. Superior power density that maximizes TV coverage while reducing transmitter size and weight. Unparalleled performance that enhances picture quality while lowering utility bills. GatesAir has once again shattered the expectations of what is possible with high-power, solid-state transmitters from a cost versus performance ratio.



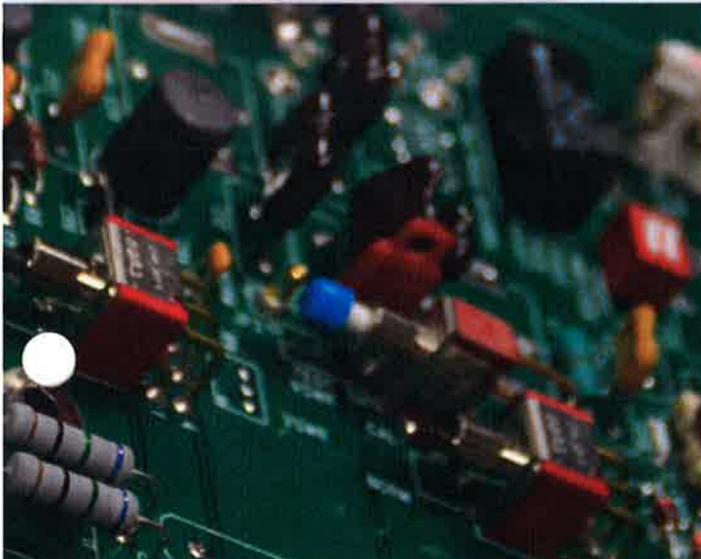
## Product Overview

The Maxiva UAXTE is a compact air-cooled TV transmitter that provides over the air delivery in the UHF spectrum. Built on GatesAir's groundbreaking PowerSmart Plus architecture, the Maxiva UAXTE provides an energy-efficient, broadband solution to reliably deliver rich, high-quality multiformat content to viewers at home or on the move.

The core PowerSmart Plus technology of Maxiva UAXTE assures lowest cost of ownership through reduced size, weight and energy use, while providing the highest reliability and performance.

The Maxiva UAXTE utilizes the latest generation 50 volt LDMOS amplifier devices, new compact high-efficiency power supplies and the Maxiva Compact series exciter/driver along with real-time adaptive correction (RTAC) for outstanding signal performance. The Maxiva UAXTE power amplifiers have been optimized to provide the best possible performance and efficiency for both ATSC 1.0 and ATSC 3.0. The UAXTE transmitter is rate for identical average power levels for both modulations, assuring a simple and cost-effective upgrade path for future ATSC 3.0 operation. The modular design further simplifies installation and reduces maintenance costs, dramatically lowering the total cost of ownership over the transmitters life-cycle.

Designed with future broadcasting needs in mind, the UAXTE transmitter is capable of multiple modulation types for UHF digital operation - including ATSC, ATSC 3.0, DVB-T/H, DVB-T2, ISDB-Tb, and future digital standards.



# Savings You Can Count On!

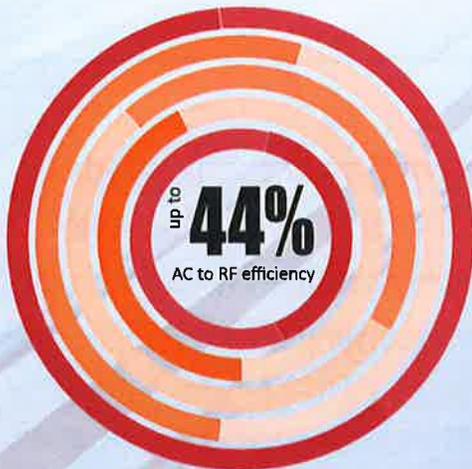
The Maxiva UAXTE with PowerSmart Plus is an efficiency-optimized UHF transmitter. This all-new design includes several energy saving features.



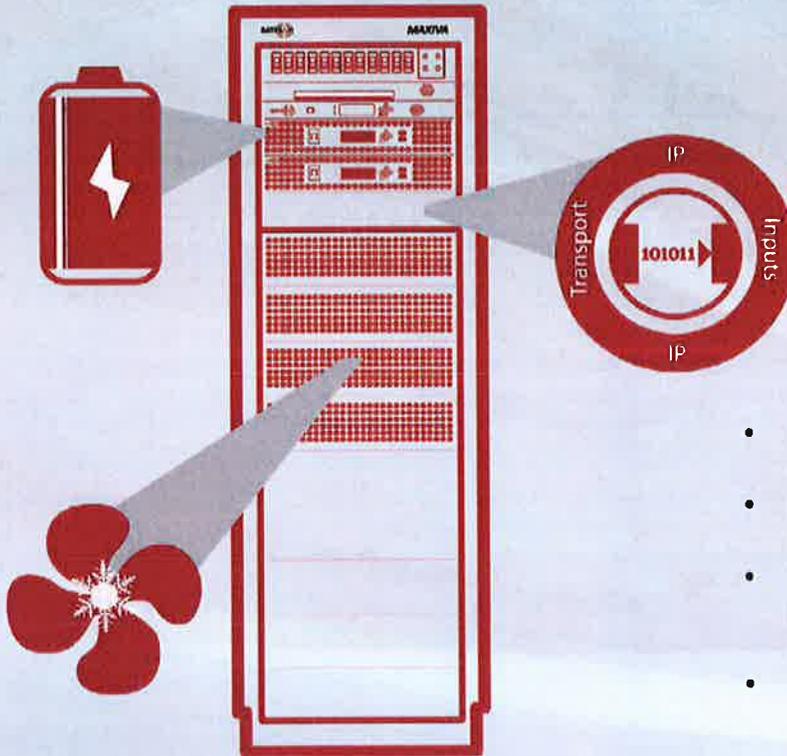
New PowerSmart® Plus amplifier technology for UHF provides a market-leading combination of efficiency and broadband operation

## Savings in The Details!

- Simple and cost-effective upgrade path from ATSC 1.0 to ATSC 3.0 at the same power level.
- Efficiency-optimized – for highest efficiency and lowest cost of ownership
- Variable speed fans to intelligently save energy
- Hot-swappable, compact, high-efficiency DC power supplies
- Hot-swappable, compact, high-efficiency power amplifiers
- Incorporates the XTE-based Maxiva Compact exciter/driver for best-in-class performance
- RoHS compliant / CE compliant
- Support for all worldwide digital modulation standards
- Modular & upgradeable architecture
- All-digital linear and nonlinear pre-correction: Real-Time Adaptive Correction (RTAC)
- Rugged, reliable design and construction
- Ideal for N+1 configurations since all transmitters are identical and use the same PA's, minimizing spares requirements
- Lowest energy usage
- Minimum operating cost



## Savings You Can Count On!



- Intelligent cooling system with variable speed fans to reduce energy consumption.
- Included UPS for the exciter section provides fastest system power-up following an AC power interruption.
- Smaller and lighter PA architecture provides higher RF power during PA or power supply removal and replacement.
- Separate power supplies are easily accessible and hot-swappable from the front of each PA module.

## Key Features

Features	Included	Available
Equal power levels for ATSC 1.0 and ATSC 3.0	•	
Fast-acting linear and non-linear Real-Time Adaptive Correction (RTAC) for optimum performance at all times	•	
Web remote with SNMP	•	
Parallel Remote Control	•	
Internal GPS/GLONASS receiver for SFN timing	•	
Exciter internal UPS option	•	
ASI/T2MI over IP / IP transport input (Ready for ATSC 3.0)	•	
Dual exciters and switcher		•
Redundant power supplies for each PA module		•
Local touch-screen GUI		•
N+1 systems and multi-transmitters per rack		•
Extended warranties and Service Level Agreements (SLA) to suit any requirement		•



## Maxiva UAXTE Drive — The Heart of the Transmitter

The software-defined Maxiva UAXTE Drive takes digital and mobile TV to the next level. Offering the most advanced exciter technology available, the core Maxiva XTE platform used in the UAXTE Drive employs advanced Real Time Adaptive Precorrection techniques, Native dual TSolP inputs and many other updates, providing a truly future-proof design.

Integrated within all Maxiva UAXTE air-cooled transmitters, the Maxiva UAXTE Drive delivers an RF signal with complete technical and regulatory compliance for all solid-state digital transmitters. The Maxiva XTE is the only exciter designed and manufactured in the USA that is 100% ready for ATSC 3.0.

### Real-Time Adaptive Correction

GatesAir's exclusive Real-Time Adaptive Correction (RTAC) technology, standard in Maxiva transmitters, keeps your station within compliance while maximizing coverage. Featuring simultaneous linear and nonlinear adaptive pre-correction, RTAC interoperates with the Maxiva Compact Drive exciter to continuously monitor transmitter output and performance while automatically adapting for system nonlinearities — delivering the optimal level of correction for your digital over-the-air signal.

### Advanced Global Monitoring and Control

In addition to local control, the Maxiva UAXTE transmitter can be controlled from anywhere in the world with an intuitive, browser-based graphical user interface (GUI) over TCP/IP via a telecom or network connection with password protection. A rear RJ-45 jack is provided for LAN/WAN connection.



Full Simple Network Management Protocol (SNMP) facilities are provided for network management of the entire transmission system using industry-standard MIB protocols.



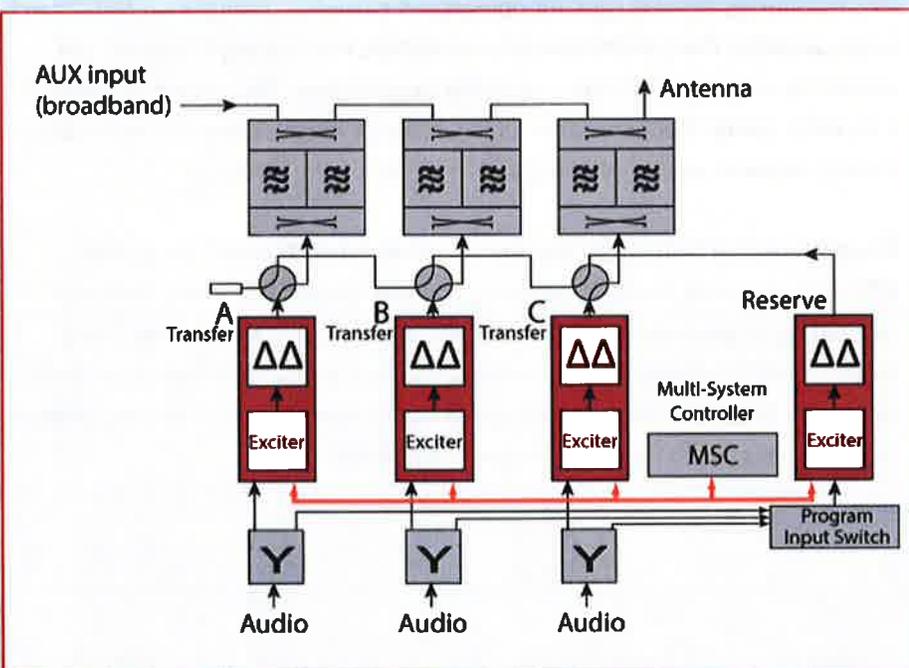
### Remote Communication

The following remote interfaces are available:

- GUI
- Ethernet network connection RJ-45 (10/100Base-T) with TCP/IP protocol
- Automated remote alarms in the event of a fault, which are sent via SNMP or e-mail with the connection to a network
- Simple, parallel interface to panels and legacy remote control systems

### Multi-System Controller (MSC3)

To support greater redundancy, the Multi-System Controller (MSC3) supports a range of backup options, including 1+1, full N+1 and dual-transmitter installations. The MSC3 monitors and controls the transmitter systems and controls RF switching.



## What is Total Cost of Ownership (TCO)?

TCO is the total cost to own and operate the transmitter system over time. This includes the initial equipment cost, installation/commissioning cost, routine and unscheduled maintenance costs, and ongoing repair and operational costs — and don't forget, rising energy costs. In fact, the lifetime operational expense of a transmitter is estimated at greater than five times the initial product cost.

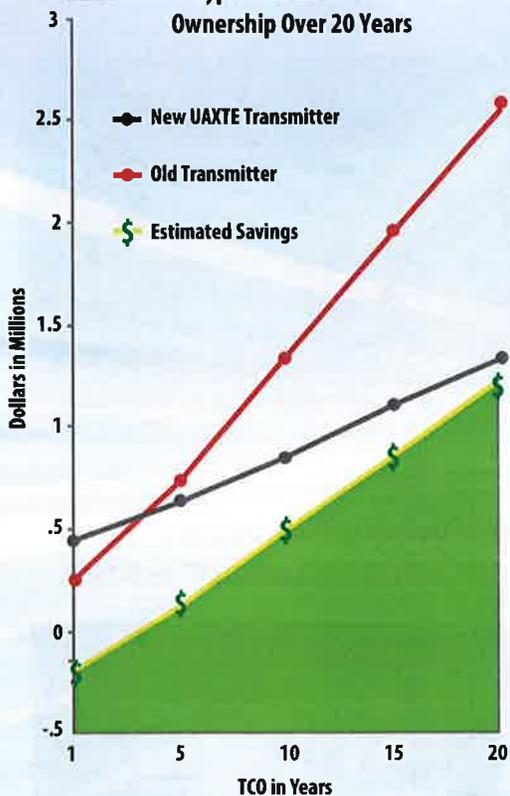
While power to the transmitter is the biggest item, other factors can also adversely affect the system efficiency. These include:

- AC transformers and voltage regulators ahead of transmitter
- Heat load to the room (affects HVAC costs)
- RF system losses
- RF feeder loss to antenna
- Antenna gain and pattern

Maxiva UHF transmitters now incorporate GatesAir PowerSmart Plus technology to help broadcasters save money and reduce carbon footprints. PowerSmart Plus technology delivers superior operational efficiency through fully broadband, single-amplifier designs that simplify installation, improve performance, and streamline ongoing operation — including maintenance. This comes courtesy of a modular design that eliminates tuning, reduces weight, enhances redundancy through separate power supplies, and minimizes overall labor.

PowerSmart Plus technology also lowers monthly bills through sharp power efficiency increases (up to 45 percent), and slashes rack space requirements (exceeding 50 percent) through a dramatic increase in power density. These industry-leading strides in performance and physical size reduction combine to deliver the best possible total cost of ownership over the life of the transmitter — and return money to the pockets of our customers.

Typical Total Cost of Ownership Over 20 Years



# PowerSmart<sup>®</sup> Plus

## **Broadband Amplification**

PowerSmart Plus incorporates groundbreaking broadband amplifier designs into Maxiva UAXTE transmitters. The Maxiva UAXTE power amplifiers have been optimized to provide the best possible performance and efficiency for both ATSC 1.0 and ATSC 3.0. The UAXTE transmitter is rate for identical average power levels for both modulations, assuring a simple and cost-effective upgrade path for future ATSC 3.0 operation. These designs also consolidate spare parts and eliminate tuning and adjustments to further simplify maintenance and ongoing operation.

## **Compact Design**

The reduced size of the UAXTE transmitter will minimize the use of valuable rack space in your transmitter facility. This provides space for other equipment, or multiple transmitters in a single rack, often eliminating the need for additional racks and the associated floor space needed.

## **Global Monitoring and Control**

The Maxiva UAXTE transmitter can be controlled from anywhere in the world with an intuitive, browser-based GUI or SNMP over TCP/IP via a telecom or network connection with password protection.

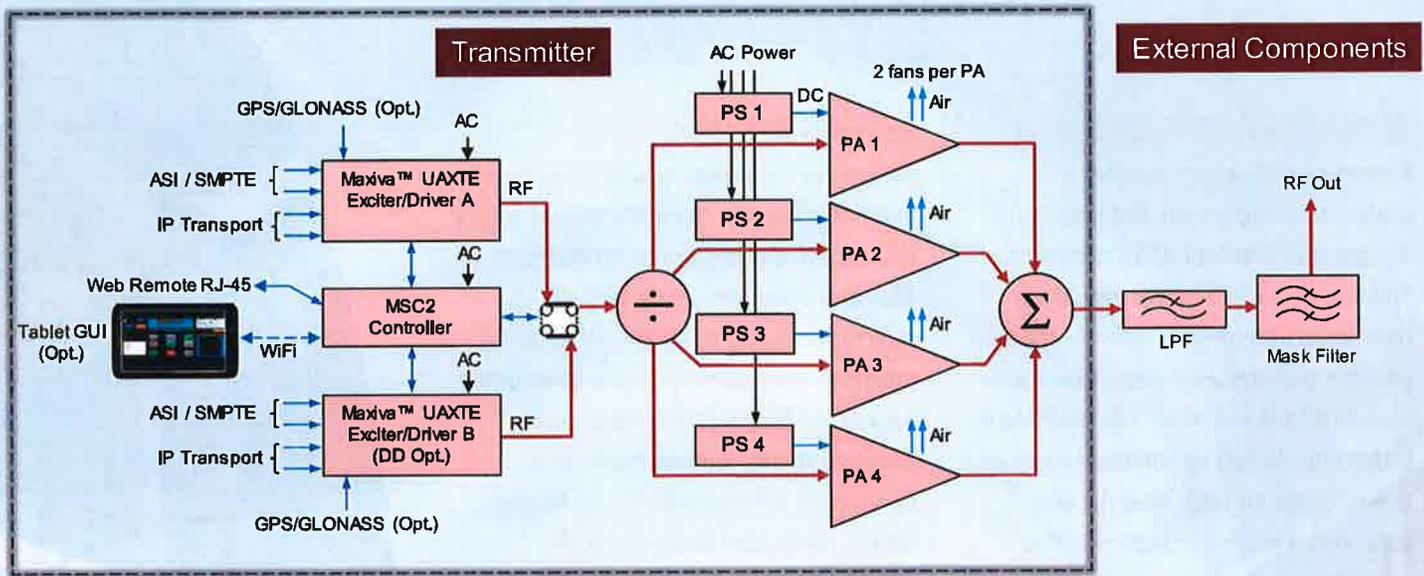
## **Reduced Service Costs**

Easy access to power amplifier modules and hot-pluggable universal power supply (PS) modules make on-air servicing easy and eliminate costly service interruptions. Light-weight universal PA pallets and modules facilitate overnight/same-day shipping for simple, cost-effective spares management. With lightweight subassemblies, the Maxiva UAXTE eliminates two-person lift requirements for routine maintenance and troubleshooting.



# Maxiva UAXTE Block Diagram

4 PA system with dual drive option shown  
(Models up to 32 PAs available)



## Maxiva UAXTE Models and Power Levels

Model Number	RF Power Before Filter (Watts) UWB PA's (470-750MHz)	RF Power Before Filter (Watts) Type "E" PA's (470-608MHz)	RF Output Connector	Total Rack Space (Single Drive)	Total Rack Space (Dual Drive)
UAXTE-10	16	16	N-F	2RU	5RU (1+1)
UAXTE-50	75	75	N-F	2RU	5RU (1+1)
UAXTE-100	150	150	N-F	2RU	5RU (1+1)
UAXTE-1P-C	165	200	DIN 7-16	4RU	9RU (1+1)
UAXTE-2P-C	312	400	DIN 7-16	4RU	9RU (1+1)
UAXTE-3P-C	500	600	DIN 7-16	4RU	9RU (1+1)
UAXTE-1	500	600	DIN 7-16	5RU / 37RU Rack	8RU / 37RU Rack
UAXTE-2	1,000	1,200	DIN 7-16	8RU / 37RU Rack	11RU / 37RU Rack
UAXTE-3	1,500	1,800	1-5/8" EIA	11RU / 37RU Rack	14RU / 37RU Rack
UAXTE-4	2,000	2,400	1-5/8" EIA	14RU / 37RU Rack	17RU / 37RU Rack
UAXTE-6	3,000	3,600	3-1/8" EIA	1 x 44RU Rack	1 x 44RU Rack
UAXTE-8	4,000	4,800	3-1/8" EIA	1 x 44RU Rack	1 x 44RU Rack
UAXTE-12	6,000	7,200	3-1/8" EIA	2 x 44RU Rack	2 x 44RU Rack
UAXTE-16	8,000	9,600	3-1/8" EIA	2 x 44RU Rack	2 x 44RU Rack
UAXTE-24	12,000	14,400	3-1/8" EIA	3 x 44RU Rack	3 x 44RU Rack
UAXTE-32	16,000	19,200	4-1/16"	4 x 44RU Rack	4 x 44RU rack

# Specifications

Specifications and designs are subject to change without notice.

General	
Frequency Range.....	UHF-TV
Transmission Standards .....	ATSC 1.0, ATSC 3.0, DVB-T, DVB-T2, ISDB-Tb (Contact GatesAir for availability of other standards)
Channel Bandwidth.....	6, 7 or 8 MHz (system dependent)
Rated Power Output .....	10W to 19.2kW (all modulations), measured before DTV mask filter
Output Power Reduction Range.....	Adjustable from 0 to -10 dB of rated transmitter power
RF Load Impedance .....	50 ohms
VSWR .....	Protected against open or short circuit, all phase angles. Capable of operation into infinite VSWR with user-adjustable foldback threshold. Factory pre-set to 4% of nominal nameplate power (VSWR = 1.5:1)
RF Output Connector.....	Dependent on transmitter power. Refer to GatesAir drawing for details

AC Mains	
AC Line Voltage.....	10W to 150W Models: Single-phase, 110-240V, 50/60Hz  Models over 150W: Three-phase: 380 to 415 V, or 208 to 240 V, 50/60 Hz, or single-phase 220 to 240 V, 50/60 Hz (specify when ordering)
AC Line Variation .....	±15%, between 208 to 230 V, or 380 to 400 V
Power Factor .....	>0.95 (typically >0.98)

Environmental	
Altitude .....	Up to 2,500 m (8,200 ft.) elevation above mean sea level (See temperature derating)
Ambient Temperature.....	0° to 45° C (32° 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 .....	0 to 95%, non-condensing
Cooling Method.....	Air-cooled with internal fans, air flow front to rear (external ducted air using optional front air plenum)
Acoustic Noise .....	<65 dBA (measured 1 m in front of cabinet), with external input air plenum/door
Frequency Stability .....	Internal OCXO: 5 x 10 <sup>-7</sup> ppm per year  With internal GNSS: ±0.5 Hz

External Inputs	
Internal GNSS antenna input .....	GPS/GLONASS, SMA female, 50 ohms, (+5 V DC @ 100 mA max output for active antenna)
1 PPS/10 MHz Input.....	SMA Female (rear of exciter/LPU). BNC female (racked systems), user selectable 50 Ohms, or high impedance termination

Monitoring Outputs	
RF monitor (exciter) .....	SMA female
1 PPS/10MHz Output .....	SMA Female (rear of exciter/LPU). BNC female (racked systems), 50 Ohms

ATSC 1.0/2.0 (8-VSB) Specification	
Power Output (average).....	10W to 19.2 kW models available, measured before mask filter [See power level table]
Standards.....	ATSC A-53, 8-VSB DTV standard
Transport Stream Inputs.....	2 x SMPTE-310M or ASI (user selectable), 19.39Mb/s
Impedance.....	75 ohms, unbalanced
Input Connector .....	2 inputs, HD-BNC female (rear of exciter). BNC female (racked systems)
Signal to Noise, EVM .....	>30 dB (typical >36 dB), EVM <2.9 (typical <1.5 %)
Shoulder Level .....	<-47 dB (Measured per ATSC doc. A/64B)
Sideband Performance .....	Compliant with FCC emission mask, when measured at the output of GatesAir supplied output filter
Harmonic Radiation & Spurious .....	Meets mask requirements specified in FCC 5th and 6th report and order

DVB-T / DVB-T2 / ISDB-Tb / ATSC 3.0 (OFDM) Specification	
Power Output (average).....	10W to 19.2 kW models available, measured before mask filter [See power level table]
Systems.....	DVB T: Standard EN 300744 v1.6.1  DVB -T2: Standard EN 302 755 v1.3.1/1.4.1; TS 102 773 v1.3.1  ISDB -Tb: Brazil ANATEL standard  ATSC 3.0: Standard A/322:2017 (Physical Layer Protocol)
Transport Stream Inputs.....	2 inputs BNC female; 75 ohms according to EN 50083-9. Supports seamless switching between ASI/T2MI inputs for DVB-T2
TSolP / IP Transport Inputs .....	2 inputs, 1GbE. IP Transport per ATSC 3.0. Supports seamless input switching.
Crest Factor .....	13 dB maximum
MER.....	>34 dB (typical >37 dB)
Shoulder Level (before mask filter) .....	<-37 dB (typically <-39dB)
Intermodulation .....	>37 dB
Harmonics (after filter).....	<-60 dB
Central Carrier Suppression .....	>75 dB
DVB-T2 Modes.....	Supports multiple PLP's (8), MISO, extended bandwidth mode, PAPR Reduction
SFN Delay .....	Static and Dynamic, 0 to 1 second per ETSI TS 101 191 V1.4.1 (2004-06)

Remote Control	
Parallel Remote .....	15 conductor D-sub for single-drive models, 25 conductor D-sub for dual-drive models. Optional I/O at top of rack.
Ethernet/SNMP .....	RJ-45, twisted pair
Compliance.....	RoHS 2011/65/EU Directive 2014/53/EU Safety: EN 60215 EMC: EN 301-489-1 FCC Part 73 Manufacturing: ISO 9001: 2008 Brazil ANATEL Russia GOST





# TV Transmitter Technical Engineering Data Sheet

**Transmitter Type:**

UAXTE-50

UHF, Air Cooled, Solid State Transmitter, 2RU

<p><b>Electrical Data:</b></p> <p>RF Out Put Line Size: N Type Female          Power Amplifier Type: <b>Broadband PA Pallet</b>          Frequency Range: 470-750 Mhz</p> <p>Nominal Pre Mask Filter RF Power Output ~ 75W *</p> <p>Quantity of PA Blocks:</p> <p>Typical Power Consumption ~575 VA</p> <p>Power Factor: &gt;0.95</p> <p>AC Main Currents (220-240V 1 Phase) 5.0Amp</p>			
<p>AC Main Configurations: 220-240 Single Phase          Earthing / Grounding: AC safety ground via third wire of mains inlets (PE green wire). AC safety ground should have unbroken connection back to earth post at mains distribution panel. Threaded ground stud provided on rear of amplifier chassis for connection to rack buss-bar where required by prevailing safety norms. Connection should be via unpainted surfaces and soldered/brazed for low resistance.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td> <p><b>Broadband PA</b></p> <p>Main breaker (220-240V 1P): 10Amp</p> </td> </tr> </table>		<p><b>Broadband PA</b></p> <p>Main breaker (220-240V 1P): 10Amp</p>	
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<p><b>Cooling System:</b></p> <p>Cooling system Type: Air Cooled          Air Flow: 1.7 m<sup>3</sup>/min 60.0 ft<sup>3</sup>/min          Exhaust air Temperature Rise: 6°C</p>			
<p><b>Environmental:</b></p> <p>Transmitter operating Temperature: 0 to 45° C          Transmitter Latent Heat to the Room: (At 25°C Room Ambient): ~525W          Transmitter Noise to the room: =&lt;65dBA</p>			
<p><b>Mechanical:</b></p> <table style="width: 100%;"> <tr> <td style="width: 50%;"> <p>Transmitter Dimensions:</p> <p>Width 48.26cm(19in)            Height 8.73cm(3.44in)            Depth 58.64cm(23.09in)</p> </td> <td style="width: 50%;"> <p>Single Drive/exciter            Transmitter Weight: 13kg (28.6LBS)</p> </td> </tr> </table>		<p>Transmitter Dimensions:</p> <p>Width 48.26cm(19in)            Height 8.73cm(3.44in)            Depth 58.64cm(23.09in)</p>	<p>Single Drive/exciter            Transmitter Weight: 13kg (28.6LBS)</p>
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See GatesAir Engineering for additional details.

\*Power level varies with frequency for the broadband/ wide band pallet.

\*\*The efficiency changes with frequency and power level.

Technical data is subject to change at any time without notification, GatesAir takes not responsibility for issues caused by the data provided.

Local or national laws and electrical codes may also require changes to the data provided and should be reviewed.



# TV Transmitter Technical Engineering Data Sheet

**Transmitter Type:**

UAXTE-P3-C

UHF, Air Cooled, 4RU Solid State Transmitter, 3 Power Amplifier pallet

<u>Electrical Data:</u>								
RF Out Put Line Size:	7-16 DIN Female	7-16 DIN Female						
Power Amplifier Type:	<b>Broadband PA Pallet</b>	<b>Banded Pallet E Type Device</b>						
Frequency Range:	470-750 Mhz	A) 470-590 Mhz						
Nominal Pre Mask Filter RF Power Output	~430 - 500W *	600W						
Quantity of PA Pallets:	3 PA pallet	3 PA pallet						
Typical Power Consumption	~2.1 KVA	~2.2 KVA						
Power Factor:	>0.95	>0.95						
AC Main Currents (220-240V 1 Phase)	9.7Amp	10.1Amp						
<p>AC Main Configurations: 220-240 Single Phase, 208V to 240V (3) Wire or 380V to 415V (4) Wire (with Neutral)            Earthing / Grounding: AC safety ground via third wire of mains inlets (PE green wire). AC safety ground should have unbroken connection back to earth post at mains distribution panel. Threaded ground stud provided on rear of amplifier chassis for connection to rack buss-bar where required by prevailing safety norms. Connection should be via unpainted surfaces and soldered/brazed for low resistance.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th><u>Broadband PA</u></th> <th><u>E Type Band A</u></th> </tr> </thead> <tbody> <tr> <td>Main breaker (220-240V 1P):</td> <td>20Amp</td> <td>20Amp</td> </tr> </tbody> </table>				<u>Broadband PA</u>	<u>E Type Band A</u>	Main breaker (220-240V 1P):	20Amp	20Amp
	<u>Broadband PA</u>	<u>E Type Band A</u>						
Main breaker (220-240V 1P):	20Amp	20Amp						
<u>Cooling System:</u>								
Cooling system Type:	Air Cooled							
Air Flow:	4.5 m3/min (159 ft3/min)							
Exhaust air Temperature Rise:	10°C							
<u>Environmental:</u>								
Transmitter operating Temperature:	0 to 45° C							
Transmitter Latent Heat to the Room: (At 25°C Room Ambient):	~1625W							
Transmitter Noise to the room:	=<65dBA							
<u>Mechanical:</u>								
Transmitter Cabinet Dimensions:	Width 482.6mm(19.0in) Height 170.3mm(6.7in) Depth 558mm(21.96in)	Transmitter Weight: 37.2kg (82LBS)						

See GatesAir Engineering for additional details.

\*Power level varies with frequency for the broadband/ wide band pallet.

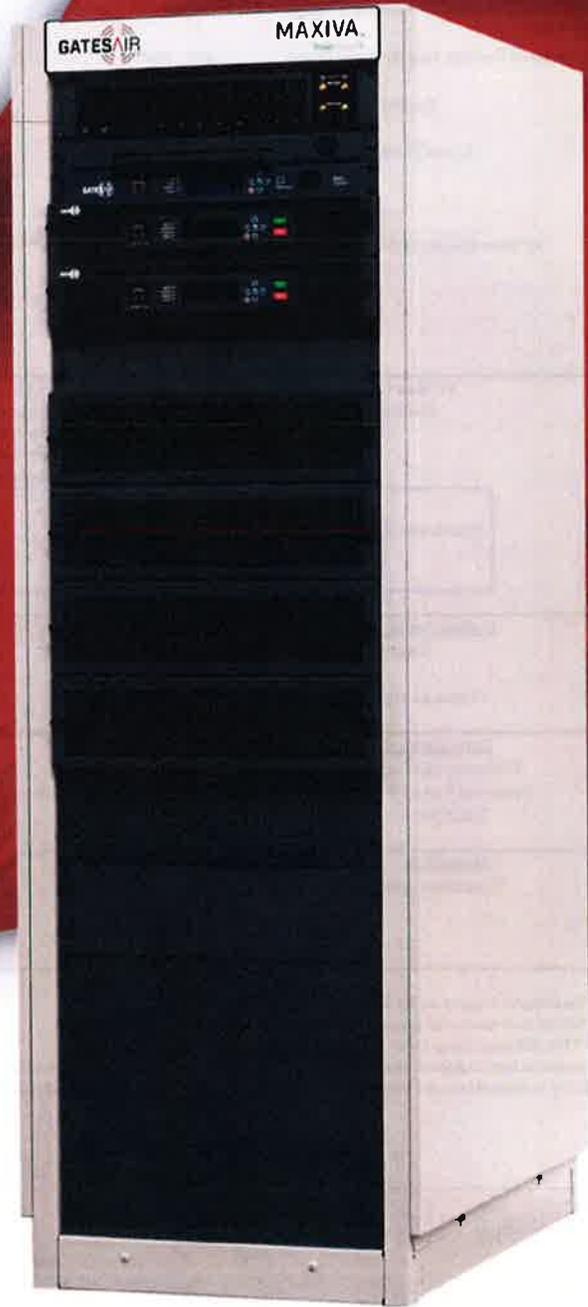
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Connecting What's Next



PowerSmart Plus 

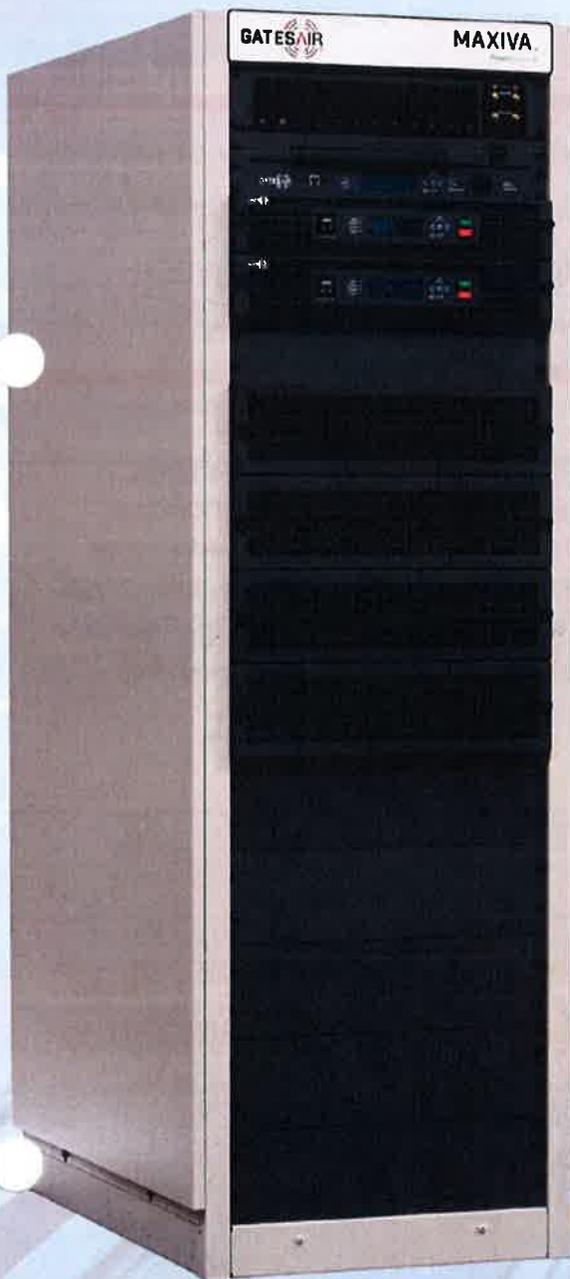
## Maxiva™ VAXTE with PowerSmart® Plus

High-Efficiency VHF Band I & Band III  
Air-Cooled TV & DAB Transmitters

# Maxiva™ VAXTE with PowerSmart® Plus

## We did it again.

GatesAir has once again shattered the expectations of what is possible with air-cooled, solid-state transmitters from a cost versus performance ratio.



High-efficiency Power Amplifiers optimized for all TV modulations and for Band III DAB/DAB+

Modular architecture for ease of installation. Multiple transmitters in a single rack saves valuable floor space.

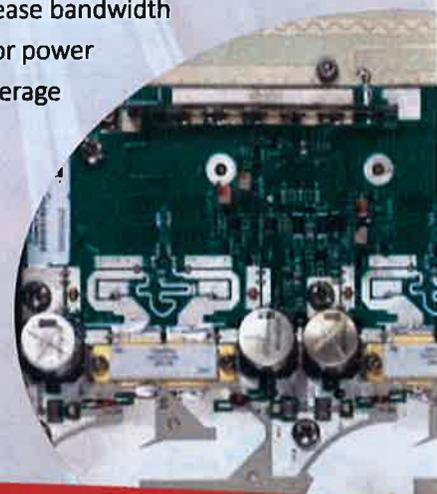
Power levels up to: 30kW Band I; 25.6kW Band III

Separate, hot-swappable, compact power supply for each PA. Redundancy options available.

Separate, hot-swappable, high-efficiency power amplifiers

Optimized Real-Time Adaptive Correction (RTAC™) provides the best performance all the time

More services usually means higher expenses. Higher operating expenses challenge the bottom line. Maxiva VAXTE transmitters with PowerSmart Plus technology drive down total cost of ownership while allowing broadcasters to get the most out of their spectrum. Optimized designs that increase bandwidth while simplifying maintenance. Superior power density that maximizes TV and DAB coverage while reducing transmitter size and weight. Unparalleled performance that enhances broadcast quality while lowering utility bills. GatesAir has once again shattered the expectations of what is possible with high-power, solid-state transmitters from a cost-versus-performance ratio.



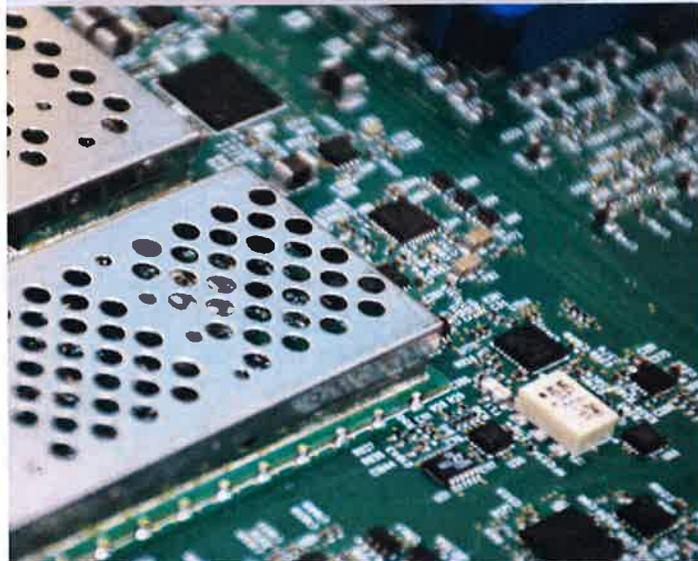
## Product Overview

The Maxiva VAXTE is a compact air-cooled TV & DAB transmitter that provides over the air delivery in the VHF spectrum. Built on GatesAir's groundbreaking PowerSmart Plus architecture, the Maxiva VAXTE provides an energy-efficient, broadband solution to reliably deliver rich, high-quality multiformat content to customers at home or on the move.

The core PowerSmart Plus technology of Maxiva VAXTE assures lowest cost of ownership through reduced size, weight and energy use, while providing the highest reliability and performance

The Maxiva VAXTE utilizes the latest generation 50 volt LDMOS amplifier devices, new compact high-efficiency power supplies and the Maxiva Compact series exciter/driver along with real-time adaptive correction (RTAC) for outstanding signal performance. The Maxiva VAXTE power amplifiers have been optimized to provide the best possible performance and efficiency for all modulations. For example, the VAXTE transmitter is rated for identical average power levels for 8-VSB and OFDM TV modulations, assuring a simple and cost-effective upgrade path for future ATSC 3.0 operation. The modular design further simplifies installation and reduces maintenance costs, dramatically lowering the total cost of ownership over the transmitters life-cycle.

Designed with future broadcasting needs in mind, the VAXTE transmitter is capable of equal power levels for all TV modulations.



# Savings You Can Count On!

The Maxiva VAXTE with PowerSmart Plus is an efficiency-optimized VHF transmitter. This all-new design includes several energy saving features.



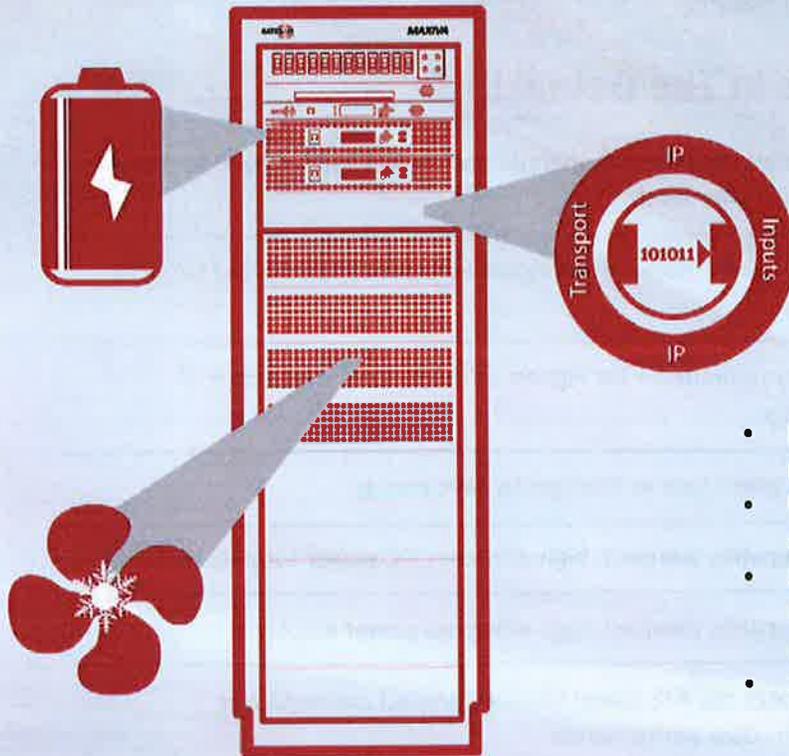
New PowerSmart® Plus amplifier technology for VHF provides a market-leading combination of efficiency and broadband operation

## Savings in The Details!

- Simple and cost-effective upgrade path from ATSC 1.0 to ATSC 3.0 at the same power level
- Includes TSoIP / Native IP Transport inputs for ATSC 3.0 and DAB EDI interfaces
- Efficiency-optimized – for highest efficiency and lowest cost of ownership
- Variable speed fans to intelligently save energy
- Hot-swappable, compact, high-efficiency DC power supplies
- Hot-swappable, compact, high-efficiency power amplifiers
- Incorporates the XTE-based Maxiva Compact exciter/driver for best-in-class performance
- RoHS compliant / CE compliant
- Support for all worldwide digital modulation standards
- Modular & upgradeable architecture
- All-digital linear and nonlinear pre-correction: Real-Time Adaptive Correction (RTAC)
- Rugged, reliable design and construction
- Broadband high-efficiency PA's support redundancy and N+1 applications
- Lowest energy usage
- Minimum operating cost



# Savings You Can Count On!



- Intelligent cooling system with variable speed fans to reduce energy consumption.
- Included UPS for the exciter section provides fastest system power-up following an AC power interruption.
- Smaller and lighter PA architecture provides higher RF power during PA or power supply removal and replacement.
- Separate power supplies are easily accessible and hot-swappable from the front of each PA module.

## Key Features

Features	Included	Available
Equal power levels for ATSC 1.0 and ATSC 3.0	•	
Fast-acting linear and non-linear Real-Time Adaptive Correction (RTAC) for optimum performance at all times	•	
Web remote with SNMP	•	
Parallel Remote Control	•	
Internal GPS/GLONASS receiver for SFN timing	•	
Exciter internal UPS option	•	
ASI/T2MI over IP / IP transport input (Ready for ATSC 3.0)	•	
EDI and ETI DAB/DAB+ inputs	•	
Dual exciters and switcher		•
Redundant power supplies for each PA module		•
Local touch-screen GUI		•
N+1 systems and multi-transmitters per rack		•
Extended warranties and Service Level Agreements (SLA) to suit any requirement		•



## Maxiva VAXTE Drive — The Heart of the Transmitter

The software-defined Maxiva VAXTE Drive takes digital and mobile TV and radio to the next level. Offering the most advanced exciter technology available, the core Maxiva XTE platform used in the VAXTE Drive employs advanced Real Time Adaptive Precorrection techniques, Native dual TSolP inputs and many other updates, providing a truly future-proof design. The ability to store two different modulations allows fast and easy future upgrades, for example from ATSC 1.0 to ATSC 3.0.

Integrated within all Maxiva VAXTE air-cooled transmitters, the Maxiva VAXTE Drive delivers an RF signal with complete technical and regulatory compliance for all solid-state digital transmitters. The Maxiva XTE is the only exciter designed and manufactured in the USA that is 100% ready for ATSC 3.0.

### Real-Time Adaptive Correction

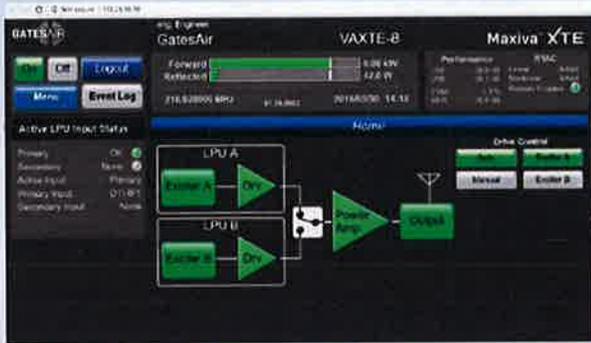
GatesAir's exclusive Real-Time Adaptive Correction (RTAC) technology, standard in Maxiva transmitters, keeps your station within compliance while maximizing coverage. Featuring simultaneous linear and nonlinear adaptive pre-correction, RTAC interoperates with the Maxiva Compact Drive exciter to continuously monitor transmitter output and performance while automatically adapting for system nonlinearities — delivering the optimal level of correction for your digital over-the-air signal.



### Advanced Global Monitoring and Control

In addition to local control, the Maxiva VAXTE transmitter can be controlled from anywhere in the world with an intuitive, browser-based graphical user interface (GUI) over TCP/IP via a telecom or network connection with password protection. A rear RJ-45 jack is provided for LAN/WAN connection.

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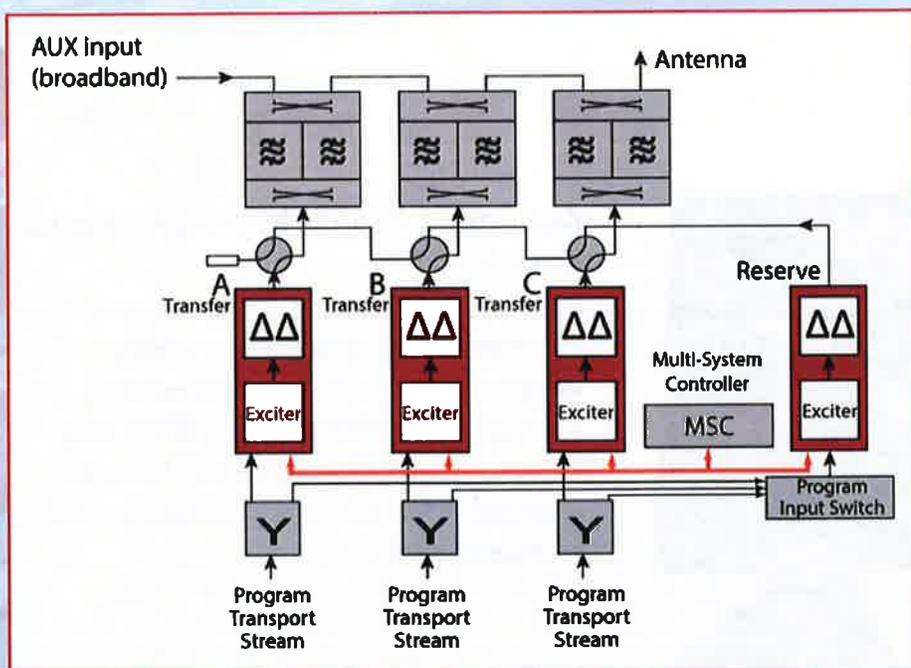
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The following remote interfaces are available:

- HTML5 Graphical User Interface (no Java or Flash required)
- Ethernet network connection RJ-45 (10/100/1000Base-T) with TCP/IP protocol
- Automated remote alarms in the event of a fault, which are sent via SNMP or e-mail with the connection to a network
- Simple, parallel interface to panels and legacy remote control systems

### Multi-System Controller

To support greater redundancy, the Multi-System Controller supports a range of backup options, including 1+1, full N+1 and dual-transmitter installations. The Multi-System Controller monitors and controls the transmitter systems and also controls RF switching.



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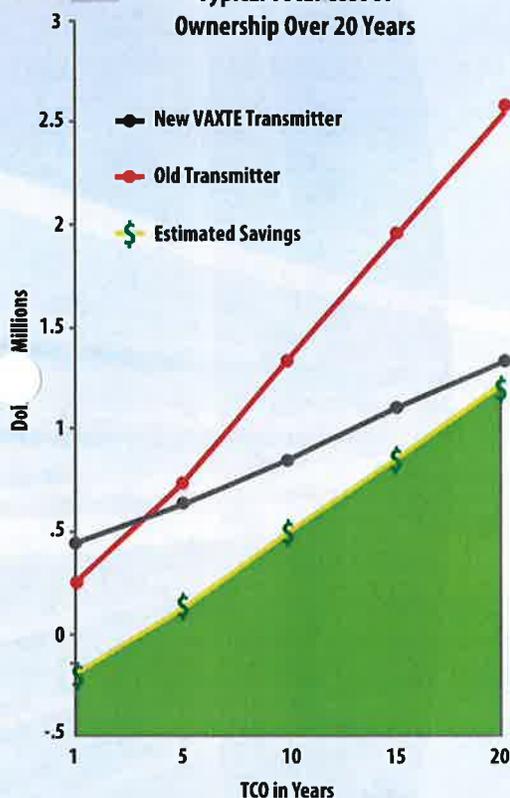
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The reduced size of the VAXTE transmitter will minimize the use of valuable rack space in your transmitter facility. This provides space for other equipment, or multiple transmitters in a single rack, often eliminating the need for additional racks and the associated floor space needed.

## **Global Monitoring and Control**

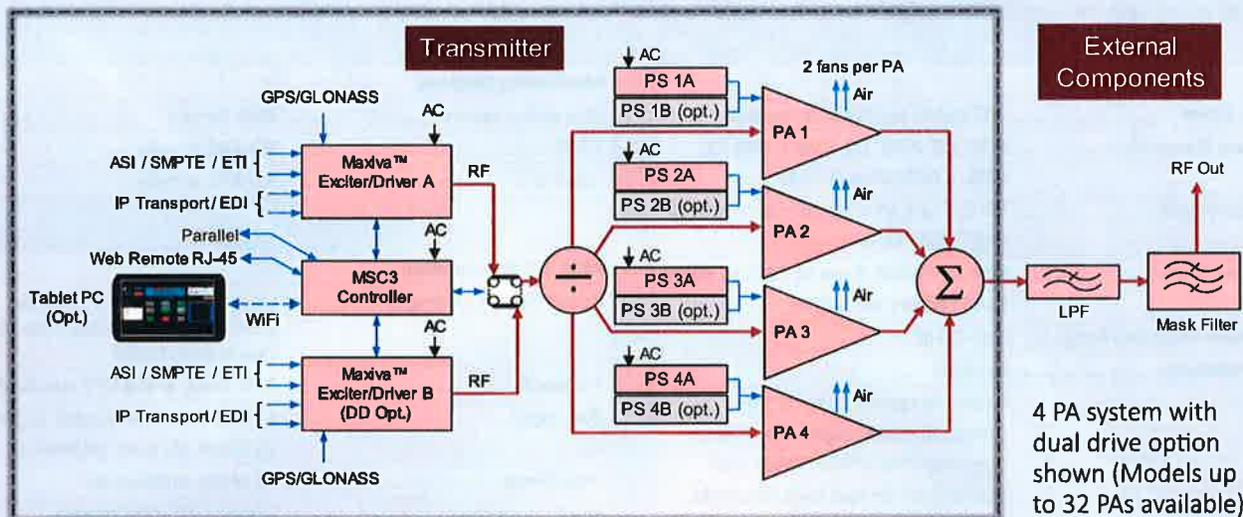
The Maxiva VAXTE transmitter can be controlled from anywhere in the world with an intuitive, browser-based GUI or SNMP over TCP/IP via a telecom or network connection with password protection.

## **Reduced Service Costs**

Easy access to hot-swappable power amplifier modules and power supplies, makes on-air servicing easy and eliminates costly service interruptions. Light-weight universal PA pallets and modules facilitate overnight/same-day shipping for simple, cost-effective spares management. With lightweight subassemblies, the Maxiva VAXTE eliminates two-person lift requirements for routine maintenance and troubleshooting.



## Maxiva VAXTE Block Diagram



## Maxiva VAXTE Models and Power Levels

### Band III TV

Model	HPA's	Rack Space	# Racks	Avg Power Pre-Filter (W)
VAXTE-10-C	0	2RU	0	15
VAXTE-100-C	0	2RU	0	100
VAXTE-200-C	0	2RU	0	200
VAXTE-1P-C	1 (1 pallet)	4RU	0	400
VAXTE-2P-C	1 (2 pallets)	4RU	0	800
VAXTE-1-1P	1 (1 pallet)	1 Rack (37RU)		400
VAXTE-1	1	1 Rack (37RU)		800
VAXTE-2	2	1 Rack (37RU)		1,600
VAXTE-3	3	1 Rack (37RU)		2,400
VAXTE-4	4	1 Rack (37RU)		3,200
VAXTE-6	6	1 Rack (37RU)		4,800
VAXTE-8	8	1 Rack (37RU)		6,400
VAXTE-12	12	2 Racks (37RU)		9,600
VAXTE-16	16	2 Racks (37RU)		12,800
VAXTE-24	24	3 Racks (37RU)		19,200
VAXTE-32	32	4 Racks (37RU)		25,600

### Band I TV

Model	HPA's	Rack Space	# Racks	Avg Power Pre-Filter (W)
VAXTE-100L-C	0	2RU	0	100
VAXTE-1-4PL	1	1 Rack (42RU)		750
VAXTE-1L	1	1 Rack (42RU)		1,250
VAXTE-2L	2	1 Rack (42RU)		2,500
VAXTE-3L	3	1 Rack (42RU)		3,750
VAXTE-4L	4	1 Rack (42RU)		5,000
VAXTE-6L	6	1 Rack (42RU)		7,500
VAXTE-8L	8	1 Rack (42RU)		10,000
VAXTE-12L	12	2 Racks (42RU)		15,000
VAXTE-16L	16	2 Racks (42RU)		20,000
VAXTE-24L	24	3 Racks (42RU)		30,000

### DAB / DAB+ / T-DMB

Model	HPA's	Rack Space	# Racks	Power Pre-Filter (W)
VAXTE-10-C	0	2RU	0	15
VAXTE-100-C	0	2RU	0	150
VAXTE-200-C	0	2RU	0	250
VAXTE-1P-C	1 (1 pallet)	4RU	0	500
VAXTE-2P-C	1 (2 pallets)	4RU	0	1,000
VAXTE-1-1P	1 (1 pallet)	1 Rack (37RU)		500
VAXTE-1	1	1 Rack (37RU)		1,000
VAXTE-2	2	1 Rack (37RU)		2,000
VAXTE-3	3	1 Rack (37RU)		3,000
VAXTE-4	4	1 Rack (37RU)		4,000
VAXTE-6	6	1 Rack (37RU)		6,000
VAXTE-8	8	1 Rack (37RU)		8,000

# Specifications

Specifications and designs are subject to change without notice.

General	
Frequency Range .....	VHF Band I and Band III models
Transmission Standards .....	ATSC 1.0, ATSC 3.0, DVB-T, DVB-T2, ISDB-T, DAB/DAB+/T-DMB
Channel Bandwidth.....	TV: 6, 7 or 8 MHz (system dependent) DAB: 1.536 MHz
Rated Power Output .....	10W to 25.6kW Band III, 10W to 30kW band I before mask filter
Output Power Reduction Range .....	0 to -10 dB
RF Load Impedance .....	50 ohms
VSWR.....	Protected against open or short circuit, all phase angles. Capable of operation into infinite VSWR with user-adjustable fold back threshold. Factory pre-set to 4% of nominal nameplate power (VSWR = 1.5:1)
RF Output Connector.....	Power level dependent. Consult GatesAir drawings for connector sizing

AC Mains	
AC Line Voltage .....	3 phase: 380 to 415 V, or 208 to 240 V, 50/60 Hz, or single phase 208 to 240 V, 50/60 Hz - specify voltage when ordering
AC Line Variation.....	Regulated for a $\pm 15\%$ input voltage variation, when operated between 208-230 V, or between 380-400V
Power Factor .....	>0.95

Environmental	
Altitude.....	Up to 8,200 ft (2,500 m) elevation above mean sea level
Ambient Temperature.....	32° to 113° F (0° to 45° C) at sea level (upper limit derated 3.6° F (2° C) per 984 ft (300 m) elevation AMSL)
Humidity.....	95%, non-condensing
Cooling Method .....	Air-cooled with internal fans, air flow front to rear (external air using optional front air plenum)
Acoustic Noise.....	<65 dBA (measured 1 m in front of cabinet), with external input air plenum/door
Frequency Stability .....	Without precision frequency control/GPS: $\pm 150$ Hz/month (2.3 x 10 <sup>-7</sup> ppm)

External Inputs (at each LPU)	
GPS Input .....	SMA female, 50 ohms, (+5 V DC @ 100 mA max output for active antenna)
1 PPS Input .....	HD-BNC female, user selectable 50 ohms or high impedance termination
10 MHz Reference Frequency Input...	HD-BNC female, 50 ohms

Monitoring Outputs	
RF monitor (exciter) .....	SMA female
1 PPS.....	HD-BNC female
10 Mhz .....	HD-BNC female

ATSC 1.0 Specification	
Power Output (average) .....	Up to 30 kW models available, measured before mask filter [See power level table]
Standards .....	ATSC A-53, 8-VSB DTV standard
Data Input .....	19.39 Mb/s, configurable as SMPTE-310M or ASI (user selectable)
Impedance .....	75 ohms, unbalanced
Input Connector.....	2 inputs, HD-BNC female
Signal to Noise (EVM) .....	>27 dB (EVM <4%), Typical >32 dB (EVM <2.5 %)
Phase Noise.....	<104 dBc/Hz @ 20 kHz offset (ATSC A/64)
Harmonic Radiation & Spurious .....	Meets mask requirements specified in FCC 5th and 6th report and order
Sideband Performance .....	Compliant with FCC radiation mask, when measured at the output of GatesAir-supplied output filter

ATSC 3.0 Specification	
Power Output (average) .....	Up to 30 kW models available, measured before mask filter [see table]
Standards .....	A/321:2016 System Discovery and Signaling A/322:2017 Physical Layer Protocol A/324: Scheduler / Studio to Transmitter Link
ASI/T2MI Inputs .....	2 inputs HD-BNC female; 75 ohms according to EN 50083-9. Supports seamless switching between ASI/T2MI inputs for DVB-T2 (for DVB-H: 2 main/2 hierarchical)
ASI/T2MI over IP / IP transport.....	2 inputs, 100/1000BASE-T
Crest Factor .....	13 dB maximum
Shoulder Level.....	<-37 dB (before mask filter)
END .....	<0.5 dB
MER.....	>34 dB (typical 36 dB)
Harmonics (before filter) .....	<-40 dB
Central Carrier Suppression.....	>75 dB
ATSC 3.0 Modes .....	Supports Multiple PLP's, LDM, Bandwidth Reduction, MISO, PAPR Reduction and other features per ATSC 3.0 Physical Layer Protocol A/322
SFN Timing .....	Per ATSC 3.0 standard A/324:2018, "Scheduler / Studio to Transmitter Link"

# Specifications

(continued)

<b>DVB-T, DVB-T2 &amp; ISDB-T Specification</b>	
Power Output (average) .....	Power levels available for all applications [see tables for Band I and Band III TV]
Standards .....	DVB-T/H: standard EN 300 744 DVB-T2, DVB-T2 Lite: standards EN 302755 v1.4.1, TS 102 831 v1.2.1, TS 102 773 v1.3.1 ISDB-Tb: Complies with Brazil ANATEL standard
ASI/T2MI Inputs .....	2 inputs HD-BNC female; 75 ohms according to EN 50083-9 Supports seamless switching between ASI/T2MI inputs for DVB-T2 (for DVB-H: 1 main / 1 hierarchical)
IP Transport Inputs.....	2 inputs, 10/100/1000Base-T, RJ-45
Crest Factor .....	13 dB maximum
Shoulder Level.....	<-37 dB (before mask filter)
END .....	<0.5 dB
MER.....	≥34 dB (typically >36 dB)
Harmonics (before filter) .....	<-60dB, or FCC 5th & 6th report and order, measured after Low Pass Filter
Central Carrier Suppression.....	>75 dB
Spurious Emissions .....	<-60dB, measured after Low Pass and Mask Filters
DVB-T2 Modes .....	Supports multiple PLP's, MISO, extended bandwidth mode, PAPR reduction, DVB-T2 Lite
SFN Delay .....	Static and Dynamic, 0 to 1 second per ETSI TS 101 191 V1.4.1 (2004-06)

<b>DAB / DAB+ / T-DMB Specification</b>	
Power Output (average) .....	15W to 8kW
Standards .....	DAB / DAB+ per ETSI EN 300 401 V2.1.1 (2017-01), ETSI EN 300 797 V1.3.1, ETSI TR 101 496-1 V1.1.1
Output Power Stability.....	≤ ±0.25 dB
Signal Inputs.....	2x ETI: (NI, G703) or 2x ETI (NA, G704), with automatic seamless input signal switchover 2 x EDI: 100/1000 Base-T RJ-45, per ETSI TS 102 693 V1.1.2 (2009-11) UDP/DCP, or TCP/DCP protocol. Supports Unicast and Multicast (IGMPv2 and IGMPv3)
Monitoring Output .....	Confidence monitor for ETI, 1 x 75 ohm HD-BNC
Crest Factor .....	13 dB maximum
Shoulder Level.....	<-37 dB
MER.....	Range is >25dB to >32dB, dependent on efficiency optimization settings
Harmonics and Spurious.....	Meets ETSI EN 302077-2 V1.1.1, after band-pass filter

<b>Remote Control</b>	
Parallel Remote .....	25 conductor D-sub for single drive basic rack, 12 conductor terminal block (mini Wago) on deluxe rack
Ethernet/SNMP/Web.....	10/100/1000Base-T, RJ-45

Compliance .....	RoHS 2011/65/EU Directive 2014/53/EU Safety: EN 60215 EMC: EN 301-489-1 FCC Part 73 Manufacturing: ISO 9001: 2008
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MODEL	COMPONENTS				RF POWER				TRANSMITTER AC POWER							
	# CABINETS	# PA BLOCKS	RF OUTPUT POWER (W) (NOTE 1) BROADBAND PAs	RF OUTPUT POWER (W) (NOTE 1) BANDPASS PAs (E PALLET)	RF OUTPUT INTERFACE (NOTE 2)	AC MAINS VOLTAGE (50/60 HZ)	AC POWER CONSUMPTION (VA) (TYP (MAX)) (TOTAL SYSTEM CONSUMPTION)	AC POWER CONSUMPTION (W) (TYP)	TYP POWER FACTOR	AC EFFICIENCY DF UP TO	LINE CURRENT (A) (MAX) 220 - 240 VAC 1PH #100-240VAC (10-100)	LINE CURRENT (A) (MAX) 208 - 240 VAC 3PH # G, DELTA	LINE CURRENT (A) (MAX) 380 - 415 VAC 3PH # N, WYE	RECOMMENDED BREAKER (A)	RECOMMENDED BREAKER (A)	
UAXTE-10	0	16	75	150	N-TYPE (FEMALE)	100 - 240 VAC 1 PH	200 (210)	190	0.98	6	3			10		
UAXTE-50							575 (600)	550	0.98	13	5			10		
UAXTE-100							800 (850)	785	0.98	18	7			10		
UAXTE-1-1P	1	165	200	300	7/16 DIN TYPE (FEMALE)	208 - 240 VAC 3 PH + G, DELTA 380 - 415 VAC 3 PH + N, WYE 220 - 240 VAC 1 PH	800 (980)	750	0.98	29	7	7	7	20	20	
UAXTE-1-2P							1500 (1600)	1400	0.98	30	8	8	8	20	20	
UAXTE-1							2100 (2400)	1950	0.98	33	10	10	10	20	20	
UAXTE-2	2	910	1200	1370	1-5/8" ETA, UN- FLANGED	208 - 240 VAC 3 PH + G, DELTA 380 - 415 VAC 3 PH + N, WYE 220 - 240 VAC 1 PH	3900 (4100)	3700	0.98	34	20	17	12	40	30	
UAXTE-3							5100 (5900)	5000	0.98	34	29	17	12	60	40	
UAXTE-4							7000 (7900)	6800	0.98	34	36	23	16	70	50	
UAXTE-6	6	2730	3600	3-1/8" ETA, UN- FLANGED	3-1/8" ETA, UN- FLANGED	208 - 240 VAC 3 PH + G, DELTA 380 - 415 VAC 3 PH + N, WYE 220 - 240 VAC 1 PH	9900 (11800)	9700	0.98	34	60	34	24	100	60	
UAXTE-8							13600 (15000)	13300	0.98	36	72	46	32	100	80	
UAXTE-12							20800 (22500)	20000	0.98	37	60	34	24	100	60	
UAXTE-16	16	7200	9600	4-1/16" ETA, UN- FLANGED	4-1/16" ETA, UN- FLANGED	208 - 240 VAC 3 PH + G, DELTA 380 - 415 VAC 3 PH + N, WYE 220 - 240 VAC 1 PH	27000 (32000)	26500	0.98	37	72	46	32	100	80	
UAXTE-24							40000 (44000)	39200	0.98	37	72	46	32	100	80	
UAXTE-32							54000 (58000)	52900	0.98	37	72	46	32	100	80	

- NOTES
- BEFORE BANDPASS FILTER
  - FINAL TRANSMITTER OUTPUT LINE SIZE
  - DOES NOT INCLUDE OPTIONAL EQUIPMENT
  - MEASURED 1 METER FROM FRONT CENTER OF TRANSMITTER
  - NUMBER BASED ON DUAL LPU SYSTEM WITH MSC2, IN A RACK
  - NUMBER BASED PER EACH CABINET, CURRENTS BASED PER CABINET AND PER EACH PHASE

REVISION	LTR	ZONE	DATE	DFTM	ENG	ECD NB
	D		6/29/17	CS	CS	P61912
	Revised AC Power consumption numbers					
E			9/11/17	CS	CS	P62285
UPDATED POWER LEVELS						

				AMBIENT AIR				MISC		
OPERATING AMBIENT TEMPERATURE RANGE				AIR FLOW (M3/MIN (CFM))	EXHAUST TEMP RISE (C) (NOTE 5)	TYP HEAT LOAD TO ROOM (W) (NOTE 3)	MAXIMUM HEAT LOAD TO ROOM (W) (NOTE 3)	TRANSMITTER WEIGHT (KG (LBS)) (NOTE 3)	FOOTPRINT (SQM (SQFT)) (NOTE 3)	SOUND LEVEL (dBS) (NOTE 3,4,5)
2.5(14)	2.5(14)	2.5(14)	0-45°C	1.7(60)	6	174	194	13(29)	0.3 (3)	<65
2.5(14)	2.5(14)	2.5(14)		1.7(60)	8	500	525	13(29)	0.3 (3)	<65
2.5(14)	2.5(14)	2.5(14)		1.7(60)	12	650	700	13(29)	0.3 (3)	<65
20	6(10)	6(10)		4.5(160)	8	535	685	188(415)		<65
20	6(10)	6(10)		4.5(160)	9	1000	1200	188(415)		<65
20	6(10)	6(10)		4.5(160)	10	1500	1800	188(415)		<65
20	6(10)	6(10)		7.36(260)	12	2700	2900	196(432)		<65
25	35(2)	6(10)		10.2(360)	14	3600	4400	225(496)	1.0(10)	<65 FRONT DOOR
30	35(2)	6(10)		13(460)	16	4500	5300	283(624)		<65 WITH FRONT DOOR
40	35(2)	35(2)		16(565)	17	6100	8900	450(992)		<65 FRONT DOOR
60	35(2)	35(2)		19(670)	20	9600	11400	566(1247)		<65 WITH FRONT DOOR
40	35(2)	35(2)		16(565)	17	13600	15400	450(992)	2.0(20)	<65 FRONT DOOR
60	35(2)	35(2)		19(670)	20	17400	22400	566(1247)		<65 WITH FRONT DOOR
60	35(2)	35(2)		19(670)	20	26000	30000	566(1247)	3.0(30)	<65 FRONT DOOR
60	35(2)	35(2)		19(670)	20	36000	40000	566(1247)	3.0(30)	<65 WITH FRONT DOOR

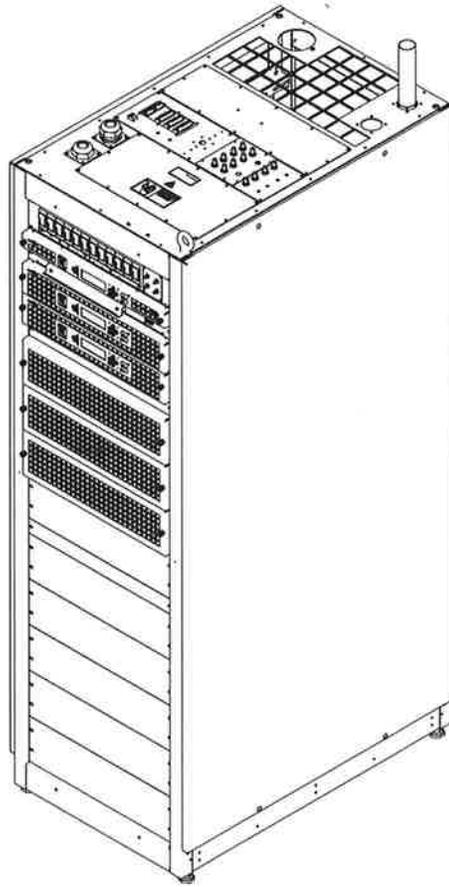
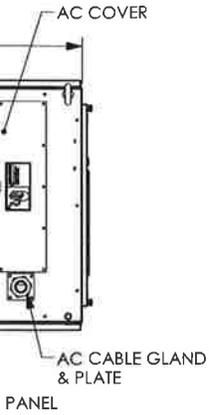
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TOLERANCES UNLESS NOTED .X ± .38 .XX ± .13 ANGLES ± 1 DEG ALL e INDICATES 3.2 MICROS		ALL DIMENSION IN MILLIMETERS UNLESS OTHERWISE NOTED MUST COMPLY WITH WORKMANSHIP STANDARDS SPEC 817-1152-001	
DRAWN BY C STOTTS	DATE 9-3-14	TITLE OUTLINE DRAWING, MAXIVA UAXTE TRANSMITTERS	
ENG CHK C STOTTS	PROJ ENG C STOTTS		
MFG ENG W OLSON	REV E	DWG NO. 8435622500	REV E
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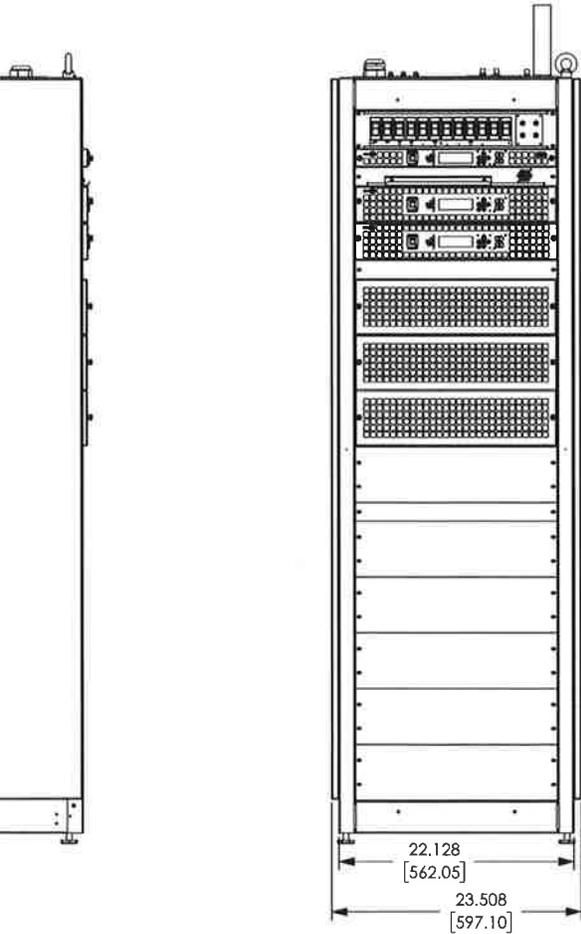


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FRONT VIEW

- AC DISTRIBUTION 2RU
- MSC 3 DD 1RU
- TABLET DISPLAY 1RU
- LPU 2RU
- OPTIONAL LPU 2RU (DUAL DRIVE)
- 1RU BLANK
- PAB 1 3RU
- PAB 2 3RU
- PAB 3 3RU
- 3RU BLANK
- 1RU BLANK
- 3RU BLANK

DWG SCALE: 1:8

TOLERANCES UNLESS NOTED  
 X ±0.030 XX ±0.015 XXX ±0.005  
 HOLES ±0.005 ANGLES ±1°  
 ALL √ INDICATES 125 MICRO INCH

ALL DIMENSIONS IN INCHES  
 UNLESS OTHERWISE NOTED

MUST COMPLY WITH WORKMANSHIP  
 STANDARDS SPEC 817-1152-001

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DRAWN BY K GLASCOCK

DATE 01/26/2017

MECH CHK K GLASCOCK

PROJ ENG C STOTTS

MFG ENG B OLSON

D SHEET 2 OF 3

TITLE:

**UAXTE-3,  
 IN 37RU CABINET**

GATESAIR P/N:

**9950185001**

DWG NO:

**8950185001**

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GatesAir efficiently leverages wireless spectrum to maximize performance for multichannel TV and radio services, offering the industry's broadest portfolio helping 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. All research, development and innovation is driven from the company's facilities in Mason, Ohio and fulfilled by the long-standing manufacturing center in Quincy, Illinois.

GatesAir's turnkey solutions are built on three pillars: Create, 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. Ground-breaking 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.

GatesAir has a well-established, on-the-ground presence in markets around the world. Every day, our more than 300 employees strive to deliver world-class solutions and service to customers in more than 130 countries. And we staff dozens of sales and support facilities in markets as diverse as France, Germany, China, Argentina, Mexico, Singapore, Australia and Dubai. This round-the-world presence ensures that every customer feels comfortable doing business with GatesAir.

### Contact Information

Americas +1 513 459 3400  
Americas@gatesair.com

Europe, Middle East  
Asia and Africa +33 1 47 92 44 20  
EMEA-APAC@gatesair.com

For more information, please visit [gatesair.com](http://gatesair.com)

### Global Service Locations



## Meeting Customer Requirements

GatesAir is a company that can serve any need — from a single component to the design and deployment of an entire facility. Customers who partner with GatesAir not only gain access to the industry's broadest technology portfolio, they also gain access to a team of industry insiders who will collaborate to specify a broadcast operation's technology requirements by business outcomes — enabling broadcast operations to work smarter, faster and more profitably.

## Technology Innovation

For nearly a century, GatesAir has pioneered the technologies that drive the world's leading television and radio broadcast operations. Our legacy of innovation has earned us nearly 250 global patents and more than 50 industry awards. From developing the world's first digital broadcast FM exciter, to helping launch the first commercial DTV station in the U.S., to enabling the first TV broadcast of a sporting event in 3D, GatesAir innovation helps our global customers keep pace with a continually evolving market.

## Company Ownership

GatesAir is a portfolio company of The Gores Group, a global investment firm headquartered in Los Angeles, California. Founded in 1987, The Gores Group has approximately \$3.3 billion in assets under management and a diverse portfolio that includes technology, telecommunications, business services, industrial, health-care, media & entertainment, and consumer products.

The Gores Group collaborates closely with portfolio companies to establish viable operational blueprints, launch marketing and product initiatives and determine areas to invest for growth, to build stronger and better companies. For more information, please visit [www.gores.com](http://www.gores.com)

## Global Service and Support

GatesAir provides unrivaled long-term customer support for users of GatesAir-branded hardware and GatesAir-developed software solutions, as well as GatesAir-distributed equipment.

One of the most compelling reasons for selecting broadcast equipment from GatesAir is the level of support you will receive. We call it sustaining support, because its purpose is to sustain your equipment to a level that provides the highest return on your investment. We also want to sustain your confidence in GatesAir as your preferred supplier.

## Service Bulletins

Service bulletins are produced to make customers aware of performance improvement, field modifications requirements and other corrective measures when it is considered to be of significant importance to the operation and performance of the equipment. GatesAir sends the bulletins to the original purchaser or if known, to the current user of the product in question. All bulletins are kept on file in the event there is a request for all bulletins of a particular model.

## Update Kits

In addition to the service bulletins mentioned above, GatesAir makes available update parts kits that may be purchased by customers wishing to keep their equipment up-to-date. In cases where the updates involve issues of safety or necessary corrections to meet specifications, the kits are provided at no cost to the end user.

## Hardware and Equipment

Our customers can call Field Service during our regular business hours, 8-5 M-F. Customers who require off-air emergency support can call 24 hours a day, 7 days a week and be connected with an on-call engineer. Call +1 217-222-8200 or e-mail:

[tsupport@gatesair.com](mailto:tsupport@gatesair.com); [tsupport.europe@gatesair.com](mailto:tsupport.europe@gatesair.com); [tsupport.asia@gatesair.com](mailto:tsupport.asia@gatesair.com)

## On Hand for Timely Delivery

Need something repaired? Notify the service support center for your product and region and call us for a RMA so we know it is coming. The GatesAir in-house technical repair facility provides our customers with the best repair, refurbishment, and upgrade opportunities available. Staffed by technically expert and product knowledgeable engineers and technicians, we perform services ranging from simple troubleshooting and component replacement to complete overhauls and refurbishments of all types of equipment. Our process includes testing your equipment using original factory test procedures. No repaired equipment will be returned until it performs to "as new" functionality or we will contact you to explain the problem and work out an alternative course of action. Need short term replacement modules? Our services also include a rental program, which enables you to stay on the air while your equipment is being repaired. We have over 60 modules available for rent to support the vast majority of GatesAir-built equipment in service. For a complete list of rental equipment please contact the repair call center at 1-888-534-8246.

## Onsite Support

When it's critical to have an added level of onsite support, GatesAir has an experienced team ready to assist you:

- ✦ Diagnose, troubleshoot, calibrate and check network interoperability
- ✦ Maintain, proof or evaluate current and existing systems
- ✦ Customize onsite support packages specifically to your needs.

## Specialized Services

**Onsite Field Checkout Commissioning Services:** One of our trained engineers will review and verify that your installation meets manufacturer specifications. They will ensure product integration and interfaces for interoperability, and make sure your new or existing project gets online quickly.

**GoLive Support Services:** For on-air cutovers or system launches. Arrange to have a factory-trained specialist onsite when your system goes live to make sure you have the support you need while you perform this critical operation.

**Radio and Television Transmission Services:** GatesAir's highly trained, highly experienced staff has installed, commissioned and maintained hundreds of radio and television transmitters worldwide. Transmission onsite field engineers from GatesAir provide these ongoing transmission services:

- ✦ Turnkey installations
- ✦ Installation assistance and commissioning
- ✦ Preventive and after-warranty maintenance
- ✦ Troubleshooting and equipment repair
- ✦ Program Management

## Support Pre-staging

Factory pre-staging is available on large system installs and makes sure everything is working as a complete system before it gets shipped to a remote location. It also reduces onsite setup time. Customers may preview their systems in person by visiting the factory for a Factory Acceptance Test.

## Interoperability

Understanding how your existing products will operate with new products is one of the key components to ensuring your systems' interoperability. At GatesAir we recognize this is critical to the build-out success, so we've defined a group of pre-qualified product, guaranteed to be interoperable. Whether your product came from GatesAir or from another third-party provider, GatesAir will test and evaluate the interoperability of those products, before you've designed the complete system. This is the GatesAir Interoperability Evaluation Service. For more information, contact us.

## Project Management

Make your next project a huge success with GatesAir's project management services. GatesAir Professional Services allows your organization to leverage our technology leadership, project management, and broadcast and media expertise to build and grow your business. Whether you are upgrading or expanding your current plant, designing a disaster recovery solution, building a new facility, or re-engineering your workflows, GatesAir has consultants that can help you plan and deliver successful projects.

## Training

Investing in the industry's most advanced and dependable broadcasting equipment is the first step to building a reliable and efficient operation. The second is securing the knowledge your team needs to maintain and operate your equipment at peak performance. GatesAir is also the only manufacturer to sponsor a training center with a full complement of general training classes as well as GatesAir product courses. Customized training is also available.

## International Training

As part of our commitment to helping broadcasters around the world, GatesAir offers an annual two-week training session for broadcast engineers from developing nations. This program is a joint effort between GatesAir and the United States Telecommunications Training Institute (USTTI). Since 1983 over 250 engineers from 60 countries have participated in this program.

## Service Agreements

GatesAir Service agreements ensure your products are supported after their standard warranty period expires. Have your service in place to take over when your warranty expires. GatesAir offers multiple levels of Services to fit your individual needs. Let us help you find the right level of support coverage.

GatesAir performs services ranging from simple troubleshooting and component replacement to complete overhauls and refurbishments of all types of equipment. Staffed by expert engineers and technicians, our process includes testing your equipment using original factory test procedures. GatesAir also offers a rental program, which enables you to stay on the air while your equipment is being repaired. We have modules available for rent to support the vast majority of GatesAir-built equipment in service.

## World's Largest Transmitter Facilities!

Meeting customer requirements for delivery and quality is foremost for Gatesair. GatesAir maintains an ISO9001 registered transmitter manufacturing facility in Quincy, IL USA.

Several buildings in the Quincy location are dedicated to manufacturing. The main manufacturing building at 30th and Wismann Lane is 125,000 square feet and houses the following functions: Sheet Metal and Machine Shop, Printed Wiring Board Assembly and Test, Cable Assembly, High Power Module Assembly and Test, L-Band/UHF/VHF Product Assembly and Test and FM Radio Product Assembly and Test. There are three leased buildings totaling 55,000 square feet used for AM Radio Product Assembly and Test and Phasor/Antenna Control Unit Assembly and Test. These buildings are located 3 miles north of the main manufacturing facility.

Beyond the manufacturing space in Quincy, Illinois there is a 100,000 square foot administrative building which houses Manufacturing Engineering, Finance, Order Administration, Service, Service Parts, Sales Support and the Order Administration functions. There is also a separate 15,000 square feet building where technical training courses are offered to customers.

## Production capacity

In any given day, there are approximately 15 different models of transmitters simultaneously being assembled and tested at the Quincy, Illinois manufacturing facilities:

- FM transmitters, a mix of solid state and tube units
- VHF transmitters, all solid state
- UHF transmitters, all solid state
- L-Band transmitters, all solid state

The mix and volume of product coming out of the GateAir factory is unmatched by any other transmitter manufacturer. The operation runs one full shift per day. There are only a couple of areas where there are 2 shifts running today, so future needs for expanded output will come from more personnel working on a second shift.

\$2-3 million of capital is invested in the Manufacturing operation each year. All GatesAir manufacturing plants are a subject of continuous improvement and capital investment. Most of the capital investment is driven by new technologies, new products and efficiency improvements for the operation. Formal customer acceptance is an option available that demonstrates the product performing to specification, at the same time, giving the customer an opportunity to confirm confidence by inspecting the manufacturing process.

### Quality

GatesAir manufacturing facilities have been ISO 9001 registered since December 1994. There is a comprehensive and documented quality system in place that covers all major facets of the operation: the management review process, product design, order administration, inspections, all manufacturing operations, purchasing, equipment calibration, and training. This system is monitored through an on-going internal and external audit program.

There is an intense focus on improving the manufacturing operation. A team of 10-15 people work to transform and change an area. The team is given a very specific mandate on what goals need to be achieved. The team is trained on some very specific principles, which will help them achieve the goals: once piece flow, waste identification and removal, spaghetti diagrams, kanban pull systems, and workplace organization. The team then implements the changes.

To ensure transmitters are manufactured under the most exacting conditions, GatesAir has voluntarily sought and achieved ISO Quality Standard registration. GatesAir is registered with current certification on file for the following manufacturing, testing, environmental and quality standards: ISO 9001:2008 – Certificate of Registration of Quality Management System; ISO 14001:2004 – Certificate of Registration of Environmental Management System; OSHAS 18001:2007 – Certificate of Registration of Occupational Health and Safety Management System

RoHS – All products/parts/materials offered conform fully with Directive 2011/65/EU – European Union (EU) Restriction on Hazardous Substances – sets limits on the use of restricted substances found in electronic equipment: Lead (Pb), Mercury (Hg), Cadmium (Cd), Hexavalent Chromium (Cr-VI), Polybrominated Biphenyls (PBB), Polybrominated Diphenyl Ethers (PBDE).

WEEE Directive – HBC is fully compliant with EU Directive 2002/96/EC – The European Union Directive on Waste from Electrical and Electronic Equipment

### Shipping

Our shipping and packing department is the best in the world for getting the orders to the customer on time and undamaged. The Shipping department ships product to over 100 countries each year. There is extensive traffic knowledge on how to ship product anywhere in the world using almost any mode of transportation. The packing and crating for all shipments (domestic and international) is done in-plant. The knowledge gained in preparing shipments for international shipment over the past 40 years is important to making sure the equipment arrives in good condition.



# NSAI

## Certificate of Registration of Occupational Health and Safety Management System to BS OHSAS 18001:2007

The National Standards Authority of Ireland certifies that:

**GatesAir, Inc.**  
**3200 Wismann Lane**  
**Quincy, IL 62305**  
**USA**

has been assessed and deemed to comply with the requirements  
of the above standard in respect of the scope of operations given  
below:

**Manufacturing, Order Management, Program Management,  
Supply Chain Management, Sustaining Engineering and  
Repair of Radio, Television, and Networking Products for  
use in Broadcast Communications and Related Media  
Industries.**

Approved by:  
Geraldine Larkin  
Chief Executive Officer

Approved by:  
Lisa Greenleaf  
Operations Manager

Registration Number: 18.4117X  
Certification Granted: Sep 04, 2007  
Effective Date: Jan 15, 2018  
Expiry Date: Feb 22, 2019



National Standards Authority of Ireland, 20 Trafalgar Square, Nashua, New Hampshire, NH 03063, USA T +1 603 882 4412



# NSAI

## Certificate of Registration of Quality Management System to ISO 9001:2015

The National Standards Authority of Ireland certifies that:

**GatesAir, Inc.**  
**3200 Wismann Lane**  
**Quincy, IL 62305**  
**USA**

has been assessed and deemed to comply with the requirements  
of the above standard in respect of the scope of operations given  
below:

**Manufacturing, Order Management, Program Management,  
Supply Chain Management, Sustaining Engineering and  
Repair of Radio, Television, and Networking Products for  
use in Broadcast Communications and Related Media  
Industries.**

Approved by:  
Geraldine Larkin  
Chief Executive Officer

Approved by:  
Lisa Greenleaf  
Operations Manager

Registration Number: 19.1841/A  
Certification Granted: Dec 22, 1994  
Effective Date: Jan 15, 2018  
Expiry Date: Feb 22, 2019



National Standards Authority of Ireland, 20 Trafalgar Square, Nashua, New Hampshire, NH 03063, USA T +1 603 882 4412



# NSAI

## Certificate of Registration of Environmental Management System to ISO 14001:2015

The National Standards Authority of Ireland certifies that:

**GatesAir, Inc.**  
**3200 Wismann Lane**  
**Quincy, IL 62305**  
**USA**

has been assessed and deemed to comply with the requirements  
of the above standard in respect of the scope of operations given  
below:

**Manufacturing, Order Management, Program Management,  
Supply Chain Management, Sustaining Engineering and  
Repair of Radio, Television, and Networking Products for  
use in Broadcast Communications and Related Media  
Industries.**

Approved by:  
Geraldine Larkin  
Chief Executive Officer

Approved by:  
Lisa Greenleaf  
Operations Manager

Registration Number: 14.4127X  
Certification Granted: Sep 04, 2007  
Effective Date: Jan 15, 2018  
Expiry Date: Feb 22, 2019



National Standards Authority of Ireland, 20 Trefalgar Square, Nashua, New Hampshire, NH 03063, USA T +1 603 882 4412