



Maxiva™ UAXT Ultra-Compact/ VAXT Ultra-Compact

Low Power UHF/VHF Transmitter / Transposer / Gap Filler



The new Maxiva™ UAXT & VAXT UltraCompact family of UHF solid-state Transmitters / Transposers / Translators and on-channel Gap Fillers expands upon the proven foundation of GatesAir low-power systems and

PowerSmart® high-efficiency technology. It provides today's digital broadcaster with a suite of compatible products to accommodate any coverage application, along with unmatched performance, reliability and quality. The Maxiva UAXT/VAXT Ultra-Compact family further extends the capabilities of the Maxiva series, providing a single family of transmission products capable of satisfying any coverage architecture. The Maxiva Ultra-Compact provides pre-filter power levels up to 600W, in an exceptionally compact and spacesaving 1, 2 or 3 RU packages.

Designed for digital broadcasting, the Maxiva UAXT/VAXT Ultra-Compact is a platform available in Transmitter, Transposer or SFN Gap Filler configurations for DVB-T/H, DVB-T2, ATSC, ATSC-MDTV, ISDB-Tb, CMMB and CTTB networks. The Maxiva Ultra-Compact Series provides an ideal solution for extending market coverage and filling in coverage gaps in challenging situations, including busy urban areas that require greater building penetration.

The Maxiva UAXT & VAXT Ultra-Compact family of Transmitters / Transposers / Translators provide efficient and reliable re-broadcast of the received signal in a space saving, reliable and robust package. The Gap Filler configuration adds a powerful echo cancellation feature to deliver exceptional on-channel performance. This combination of products enables broadcasters to address any network coverage requirement.

Product Features

Maxiva UAXT/VAXT Ultra-Compact Platform:

- High efficiency broadband amplifier technology, up to 38% OFDM
- Power levels up to 600W (pre-filter average power)
- Frequency agile design (two bands)
 - UHF Band IV/V, 470 to 862 MHz
 - VHF Band III, 170-242 MHz
- Extremely compact, space-saving, 1, 2 or 3 RU 19" chassis
- Full local/remote control capability including:
 - Local touch-screen display
 - Web GUI interface
 - SNMP
- Capable of SFN and MFN Operation
- Automatic Adaptive Pre-correction Circuitry

Transposer / Translator:

- Supports all COFDM and ATSC standards
- Direct baseband conversion (zero IF)

SFN Gap Filler:

- Includes a powerful echo cancellation circuit, 15dB of
- Gain Margin
- Low processing delay, < 10 µS
- Cancellation window 20 µS
- Selective cancellation window range 1.6 µS to 820 µs
- MER degradation < 2dB

Available Options

- Glonass/GPS Receiver for SFN Timing
- Dual Exciters, Switch Options
- Exciter UPS
- ASI over IP

Maxiva™ UAXT/VAXT Ultra-Compact

Specifications

Specifications and designs are subject to change without notice

General	
RF Output Frequency Range	UAXT Ultra-Compact: UHF Band IV/V, 470 to 862 MHz; VAXT Ultra-Compact: VHF band III, 170-242 MHz
Transmission Standards	ATSC; DVB-T/H; DVB-T; DVB-T2; ISDB-Tb; CTTB, DAB, DAB+, DMB
RF Channel Bandwidth	TV: 6, 7, or 8 MHz; DAB/DAB+: 1.5MHz
Rated Output Power	Up to 600 Watts (before mask filter)
Output Power Reduction Range	0 to -10 dB
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)
External Inputs	
GPS Input	SMA female, 50 ohms, (+5 V DC @ 100 mA max output for active antenna)
1 PPS Input	3NC female, user selectable 50 ohms or high impedance termination
10 MHz Reference Frequency Input	BNC Female, 50 Ohms
Inputs/Outputs	
RF Input Connector	1 x Type N Female, 50 ohms, front access
RF Output Connector	1 x Type N Female, 50 ohms, rear access, 7-16 DIN for 600 W
Ethernet	1 front, RJ-45
Control/Monitoring	TFT LCD Color Touchscreen, Web GUI, SNMP V. 2, GPIO
ASI/T2MI Inputs	2 or 4 Inputs BNC female 75 ohms according to EN 50083-9 (for DVB-H 2 main/2 hierarchical
ASi over IP (optional)	2 inputs, 10/100/1000BaseT
AC Power	
AC Power Input	100 to 240 V AC, 50/60 Hz, IEC320 C14 Plug, 380 V 3 Phase, 4 Wire 1 RU Module Optional
Power Factor (cos Ø)	> 0.95
Environmental	
Operational Temperature Range	0° to 45° C (32° to 113° F)
Storage Temperature Range	-40 to +70° C
Relative Humidity	0 to 90%, non-condensing
Altitude	Up to 2,500 m (8,202 ft) above sea level, derate 2° C (3.6° F) per 300 m (984 ft) of elevation. (Altitude > 2,500 m on request)
Cooling Method	Forced air-cooled, internal fans, airflow front to rear
Acoustic Noise	≤65 dBA (front 1 m)
Physical Dimensions (H X W x D)	1RU x 19" rack (dimensions: 44 H x 482 W x 461 D mm) 2RU x 19" rack (dimensions: 87 H x 482 W x 461 D mm) 3RU x 19" rack (dimensions: 132 H x 482 W x 461 D mm)



Maxiva™ UAXT/VAXT Ultra-Compact Front View (1RU)



Maxiva™ UAXT/VAXT Ultra-Compact Rear View (1RU)



Maxiva™ UAXT Ultra-Compact Front View (2RU)

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Transposer and Gap Filler (COFDM & ATSC) Performance	
Power Output Stability	±0.5 dB
RF Load Impedance	50 ohms
Operating Load VSWR	Up to 1.4:1 at full power
RF Input Frequency Range	Band III 168 to 242 MHz, or Band IV/V 470 to 862 MHz
RF Input	Type N-Female, 50 ohms, front access
RF Input Level	-80 dBm to -20 dBm
Selectivity	> 60 dB @ ± 4.2 MHz
Noise Factor	< 6 dB
Adaptive Echo Cancellation	Standard (applies to Gap Filler only)
Gain Margin	> -15 dB typical
Adjacent Channel Rejection	> 35 dB
Total Delay	< 10 µS
Echo Cancellation Window Size	20 µS
Selective Cancellation Window	1.6 µS (time shift from 2 to 820 µS)
Doppler Cancellation	Yes
MER	Up to 34 dB, dependent on input MER
MER Degradation	< 2 dB degradation referenced to input, at <34 dB input MER
Response Variation	0.2 dB, typical
Spurious Output	< -60 dBc (after mask filter)
Harmonics	< -60 dBc after mask filter, <-35 dB before mask filter
Compliance / Certifications	
RoHS 2011/65/EU	DVB-T: ETSI EN 300 744
Directive 2014/53/EU	DVB-T2: ETSI EN 302 755
Safety: EN 60215	DAB/DAB+/DMB: ETSI EN 300 401 & ETSI TR101 496-1
EMC: EN 301-489-1	CE Marked

Maxiva™ UAXT/VAXT Ultra-Compact Models & Power Levels

Transmitter Translator Model	Gap Filler Model	Frequency Band	Power Before Filter (Watts)	RF Output Connector	Total Rack Space
UAXT-30Rx-UC	UAXT-30Gx-UC	UHF	30	"N" Female	1RU
UAXT-50Rx-UC	UAXT-50Gx-UC	UHF	50	"N" Female	1RU
UAXT-80Rx-UC	UAXT-80Gx-UC	UHF	80	"N" Female	1RU
UAXT-130Rx-UC	UAXT-130Gx-UC	UHF	130	"N" Female	1RU
UAXT-100Rx-UC	UAXT-100Gx-UC	UHF	100	"N" Female	1RU
UAXT-200Rx-UC	UAXT-200Gx-UC	UHF	200	"N" Female	2RU
UAXT-350Rx-UC	UAXT-350Gx-UC	UHF	350	"N" Female	2RU
UAXT-600Rx-UC	UAXT-600Gx-UC	UHF	600	7-16 DIN	3RU

x = Channel bandwidth (6, 7 or 8MHz)

**VAXT-UC for VHF only 100W version available