

# ATSC 3.0 EXCITER



## Introduction

The Anywave ATSC 3.0 Exciter delivers a compact and versatile ATSC 3.0 / ATSC 1.0 dual configuration Exciter / Translator with support for multiple PLPs and sub-frames, TDM/FDM/LDM modes, and MFN/SFN operation. Combined with Anywave's ATSC 3.0 Gateway / Signaling Server and an ATSC 3.0 Encoder, this flexible platform provides a complete ATSC 3.0 solution to meet all of the Broadcaster's NextgenTV needs. With Anywave's powerful ADPC™ (Adaptive Digital Pre-Correction) algorithm and patented multi-dimensional pre-correction technology, this new platform delivers exceptional RF performance.

## Key Features

- ✓ Multi-standard capability: ATSC 3.0 / ATSC 1.0, DVB-T/H, DVB-T2, and ISDB-T/Tb
- ✓ All-Band operation (VHF I, VHF III, and UHF)
- ✓ ATSC 3.0 / 1.0 RF Translator modes, ATSC 3.0 to 1.0, ATSC 1.0 to 3.0
- ✓ Supports ATSC 3.0 / ATSC 1.0 standards, with dual mode operation to change between standards with a reboot of the equipment
- ✓ Flexible architecture allows Broadcasters to implement studio / transmitter integrated or split configurations
- ✓ Supports Multiple PLPs / sub-frames, TDM/FDM/LDM modes, and MFN/SFN operation
- ✓ DDRF™ (Direct Digital RF) – achieves near perfect RF performance with innovative automatic broadband balancing technology: MER: 40 dB (typical), Shoulder Levels < -60 dB, out of band spurious < -60 dB
- ✓ Continuous measurement and real-time display of transmitted signal SNR and Shoulders
- ✓ Control and monitoring with easy to use web interfaces and SNMP

# Specifications

## Signal Input

- 4 x 1GigE RJ-45 ports (2 for STL IP inputs)
- ATSC 3.0 features: TDM/FDM/LDM, multiple PLPs and sub-frames, SFN/MFN
- ATSC 3.0 / 1.0 RF Tuner input (UHF/VHF) – Translator mode, Level: -85 dBm ~ -15 dBm, BNC 50 Ω
- 2 x ASI Inputs: auto switching, BNC 75 Ω
- ASI loop out: BNC 75 Ω
- GPS Inputs: 1 Antenna N-Type 50 Ω, 1 x 1PPS BNC 50 Ω, 1 x 10MHz BNC 50 Ω (optional internal GPS RCVR)
- Dual Feedback Correction Samples: BNC 50 Ω, feedback Level: -35 dBm ~ 0 dBm
- GPIO / RS232-485: DB9 connector

## Signal Output

- RF Out: N-Type 50 Ω
- Frequency: VHF/UHF in steps of 1 Hz, spectrum shifting up to ± 50 KHz
- Level: -25 dBm ~ +5 dBm in steps of 0.05 dB
- Level Stability: < ±0.1 dB
- Frequency Stability: <  $0.5 \times 10^{-7}$  (with onboard 10MHz REF), <  $0.1 \times 10^{-7}$  (with Int. GPS), or in accordance with the Ext. GPS accuracy

## Signal Output (continued)

- MER: 40dB (typical)
- Amplitude Flatness: < ±0.5 dB
- IMD Shoulder Lvl: < -60 dB
- Out of Band Spurious: < -60 dB
- Return Loss: > 15 dB
- Phase Noise (@20 kHz): < -115 dBc/Hz

## Linear and Non-linear ADPC™

- Dual Feedback Samples: BNC female 50 Ω
  - Feedback level: -35 dBm ~ 0 dBm
  - Adaptive and Automatic Correction: No additional instruments or manual operations required
  - Continuous measurement and display of SNR and IMD
- High Precision:
- 64-bit signal processing
  - Over 20,000 independent points of amplitude and phase correction
- High Performance:
- In-band flatness: < ±0.5 dB
  - Process up to 7<sup>th</sup> intermodulation product

**Cost Effective 100%**

**Reliable 100%**

**Scalable 100%**

**Dependable 100%**

**We have your broadcast transmission needs covered**  
**[www.anywavecom.net](http://www.anywavecom.net)**

## Anywave Communication Technologies

**Email:** [sales\\_us@anywavecom.com](mailto:sales_us@anywavecom.com)  
**Phone:** +1 (847) 415 2258  
**Fax:** +1 (847) 415 2112  
**Address:** 100 N Fairway Drive, Suite 128  
Vernon Hills, IL 60061  
**Website:** [www.anywavecom.net](http://www.anywavecom.net)

