ANYWAVE

X-Series

X-SERIES Exciter
PRODUCT SPECIFICATIONS

DIGITAL AND ANALOG EXCITERS

Introduction

The Anywave 5X+, 7X, and 9X digital exciters offer the most advanced and highest performing correction technology in the world. The exciters powerful ADPC™ (Adaptive Digital Pre-Correction) algorithm and patented multi-dimensional pre-correction technology delivers RF performance metrics (SNR/MER and Shoulders) never before realized. The Exciter operates as a standard transmitter or as an RF translator across all digital TV standards including DVB-T, DVB-T2, ATSC 1.0, ISDB-T, DTMB, as well as NTSC and PAL.

Key Features

- ✓ Multi-standard capability: DVB-T, DVB-T2, ATSC 1.0, ISDB-T, DTMB, NTSC, and PAL
- ✓ All-Band operation (VHF I, VHF III, and UHF)
- ✓ DDRF™ (Direct Digital RF) – achieves near perfect RF performance with innovative automatic broadband balancing technology: MER > 40 dB, shoulder levels < -60 dB, out of band spurious < -60 dB
- ✓ Continuous measurement and real-time display of transmitted signal SNR and Shoulders, receive signal SNR and Strength
- ✓ Monitoring and control with easy to use man-machine interface via Web Browser, RS232, GPIO, and front panel
- ✓ Options include:
  - ✓ TSoIP input with ASI loop out
  - ✓ Performance & Quality Monitoring
  - ✓ PSIP/TSID Editing
  - ✓ GPS receiver
  - ✓ RF-to-ASI
  - ✓ SFN (ISDB-T only)
  - ✓ Static Picture Feature (SPF) in the event of loss of input compliant signal still transmitted

Specifications

Signal Inputs
- DVB-ASI (2): BNC female 75Ω
- TSoIP: Optional on 5X and 9X, standard on 7X; RJ-45
- SMPTE-310M: Optional on 7X only; SMA
- RF Input: Frequency: VHF and UHF; BNC female 50Ω, Level: -85 dBm ~ -15 dBm; Standard on 5X, optional on 7X
- Analog TV Inputs: Composite Video and Audio inputs, optional on 9X only

RF Output (Exciter Only)
- Connector (RF Out): N-Type female 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 x 10^{-7} (with onboard 10MHz REF), < 0.1 x 10^{-7} (with Int. GPS), or in accordance with the Ext. GPS accuracy
- MER: > 40dB
- Amplitude Flatness: < ±0.5 dB
- IMD Shoulder Lvl (± 500KHz): < -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
- RF IN B: Feedback Signal Before BPF
- RF IN A: Feedback Signal After BPF
- Feedback level: -35 dBm ~ 0 dBm (suggested value: - 15 dBm ~ -5 dBm)
- Adaptive and Automatic Correction: No additional instruments or manual operations required
- Continuous measurement and display of SNR and IMD

High Efficiency: Less than 10 minutes

High Precision:
- 64-bit signal processing
- Over 20,000 independent points of amplitude and phase correction

High Performance:
- Correction of amplitude, phase and group delay
- Up to 10 dB of MER improvement
- Up to 15 dB of shoulder improvement
- In-band flatness: < ±0.5 dB
- Process up to 7th intermodulation product

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