



# Diamondback

## ATSC 1.0/3.0 Exciter/Modulator



### High-End ATSC 1.0/3.0 Exciter

**Diamondback** is a high-end ATSC 1.0/3.0 Exciter supporting ATSC 8VSB and all required ATSC 3.0 Modulation and Coding combinations.

### Adaptive Precorrection

**Diamondback** features the latest state-of-the-art Digital Adaptive Pre-correction (DAP) circuits achieving unequalled performances thanks to the Green Adaptive Processing (GAP©). As a result, very high level of MER and shoulders can be reached with less power consumption.

### Up to 8 PLPs and 2 subframes

As the most powerful ATSC 3.0 modulator/exciter on the market, **Diamondback** supports up to 8 PLPs / 2 Subframes as well as MFN and SFN broadcast to match any requirements.

### Automatic Gain Control

Based on its real-time power measurement probes (Forward & Reflected powers), **Diamondback** can control/adjust your Transmitter thanks to its smart Automatic Gain Control (AGC).

### Applications

- ✓ ATSC 1.0 to ATSC 3.0 Conversions
- ✓ ATSC 3.0 OTA transmission
- ✓ ATSC 1.0 or 3.0 Laboratory
- ✓ ATSC 3.0 Interop Testing

### Key Features

- ✓ ATSC 1.0 & ATSC 3.0 (option)
- ✓ DVB-T2 (option)
- ✓ GAP/enhanced DAP (option)
- ✓ TSoIP ATSC 1.0 input (option)
- ✓ Automatic Gain Control (option)

**VISION + INNOVATION**

March 2024. Specifications subject to change without notice.



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### Inputs

<b>DATA</b> 2 x ASI/SMPTE input – BNC 75Ω 4 x Ethernet ports 1 GigE – RJ45 -UDP, IP, IGMP (V2 & V3) -STL/T2-MI/MPEG-TS	<b>CONTROL</b> 3 x Ethernet ports 1 GigE – RJ45 2 x GPI inputs 4 x GPO outputs (external switch – PA control)
<b>RF Inputs</b> 2 x RF inputs for adaptive linear and non-linear precorrections – SMA 50Ω 2 x RF inputs for power measurement (AGC control) – SMA 50Ω	<b>SYNCHRONIZATION</b> 1 GPS Input Antenna – SMA 50Ω 1 PPS input/output – BNC 50kΩ 1 x 10 MHz input – BNC 50Ω

### Outputs

<b>MAIN RF OUTPUT</b> UHF/VHF band I & III – N 50Ω 0 dBm max. or + 14 dBm max.	<b>RF MONITORING OUTPUT</b> Copy of Main RF Output 30dB below main
<b>DATA</b> 1 x ASI output – BNC 75Ω	<b>SYNCHRONIZATION</b> 10 MHz output – BNC 50Ω

### Features

<b>STANDARDS</b> ATSC 3.0: A/322:2017, A/324:2018 (STL) ATSC 1.0: A/53, A/54, A/64 DVB-T2: EN 302 755 v1.4.1, TS 102 831, TS 102 773 (T2-MI)	<b>DIGITAL ADAPTIVE PRECORRECTIONS</b> Linear adaptive precorrections with specific Sharp Filter profiles Non-linear adaptive precorrections with GAP® option Crest Factor Reduction (PAPR) and Protection clipping
<b>AUTOMATIC GAIN CONTROL</b> Based on VDC (external sensor) or RF input - user selectable User-configurable AGC high limit Reflected Power protection mechanism	<b>STREAM PROCESSING &amp; MODULATION</b> Input Stream redundancy management Transmission modes: MFN, SFN Test modes: PRBS, Sinus, Spectrum Gap, Null Symbol
<b>MONITORING</b> MER, Shoulders, Crest factor Forward and Reflected power	<b>CONTROL &amp; MONITORING</b> HTML5 Web GUI, SNMP, and Log file LCD Front Panel Display

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