# technetix

AIMA-RRAG

- **Upstream bandwidth 5 - 204 MHz with EuroDOCSIS and DOCSIS 3.1 support**

- **RF output 48 dBmV with a -20 dBm optical input and an OMI of 10%**

- **1260 - 1620 nm operating wavelength, to suit CWDM, DWDM, and RFoG applications**

- **Wide optical input from -28dBm to -12dBm**

- **19-inch 4RU chassis supports up to 16 Application Modules**

- **A single RRAG module has 4 optical inputs; a full chassis supports up to 64 channels**

- **Real-time alarm monitoring**

- **Plug-and-play hot-swappable**

- **Easy to install, with blind mate RF connectors**

- **Independent RF test points for ease of setup and maintenance**

- **A single receiver consumes less than 2 W of power**

- **Fully FCC, CE, and RCM compliant**

Overview

The Technetix AIMA3000 RRAG series Analog Return Receiver-RFoG is designed for multi-service operators to increase network return capacity and meet an ever-growing demand for bandwidth, while minimizing physical headend space and increasing power efficiency. The RRAG plugs into Technetix latest generation Advanced Intelligent Multi-Service Headend Platform (AIMA3000). The RRAG is specially designed to accommodate low power optical input as low as -28 dBm.

The RRAG incorporates four independent optical return-path receivers that operate at wavelengths between 1260-1620 nm. The design allows up to 64 independent receivers in 4 RU of space. The user can set each receiver individually for manual gain control (MGC) mode. The unit has a low noise profile and high-performance amplifiers to ensure good signal-to-noise ratio as well as low distortion characteristics. With versatile RF outputs, the RRAG is flexible for various headend configurations.

Block diagram
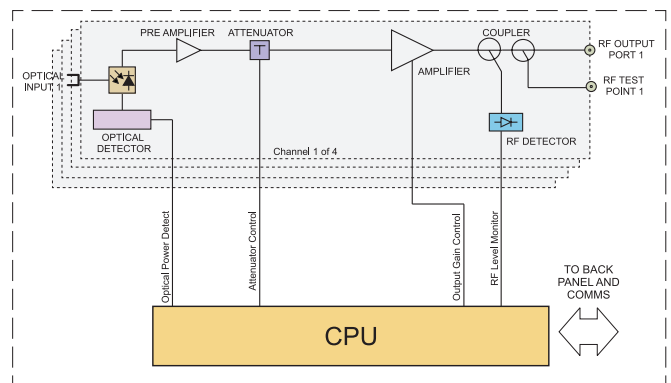
Specifications

Optical Performance

Optical wavelength	1260 nm to 1620 nm
Optical inputs	-26 dBm to -10 dBm
Optical return loss	> 55 dB
Optical connectors	4 x SC/APC [1], FC/APC, LC/APC, E2000/APC

RF Performance

RF bandwidth	5 MHz to 204 MHz
RF output level [2]	> 28 dBmV/Per channel @ -21dBm, 7% OMI Total 43 dBmV
RF flatness	± 0.75 dB
Gain range	Up to 45 dB in 0.5 dB increments
RF impedance	75 Ω
RF return loss	> 18 dB
Port to Port Isolation	> 65 dB
RF test point relative to RF output port	-20 dB ± 1 dB
RF connectors	4 x GSK-type female
RF test points	4 x Mini-SMB
Alarms and status	Front-panel LEDs, SNMP Traps

Link Performance

CNR [2]	> 44 dB
IMD2 [2]	< -60 dBc
NPR (@ -20 dBm) [3]	30 /15 dB

General

Power supply	Powered via AIMA3000 backplane
Power consumption	< 5W per receiver
Operating temperature	0 oC to +55 oC
Storage temperature	-40 oC to +70 oC
Operating humidity	90% (non-condensing)
Storage humidity	90% (non-condensing)
Dimensions (WxDxH)	24.6 x 410 x 152.5 mm
Weight	0.87 kg

Note:

1. Standard option. Contact a Technetix sales representative for availability of other options.

2. Measured in a typical system with a -20 dBm optical input, an OMI of 30%, and gain set to typical (the stated RF output level may differ with other optical input levels). And dBuV= 60 + dBmV.

3. Measured in a typical Technetix system with -20 dBm input, using 37 MHz noise loading.