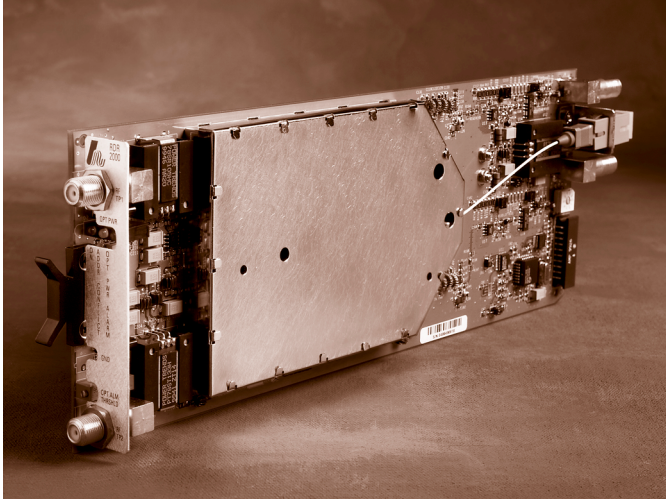


Digital Return Path Receiver



Product Description

Harmonic's RDR2000 is a return digital receiver for the HTR2000D transceiver chassis. The receiver takes an optical data stream at 2.125 Gbps. The input is demultiplexed into its two component data streams. These are converted back to analog waveforms by two digital to analog (D/A) converters.

The RDR2000 uses state-of-the-art technologies to provide high-speed capabilities, flexible configurability, and high input responsivity. The RF output bandwidth is 5-48 MHz and is DOCSIS-compliant. The RDR2000 is used in conjunction with the Harmonic NDT family of digital transmitters.

- Plug-in card for the HTR2000D (or above) platform
- PIN diode receiver with -20 dBm (optical) receiver sensitivity.

- Input line rate: 2.125 Gbps
- Two analog output channels, 5-48 MHz each
- -31 dBmV/Hz RF output
- -20 dB RF test point relative to the output (one for each output)
- Status monitoring via NETWatch™ of optical power and optical power alarm

Advantages

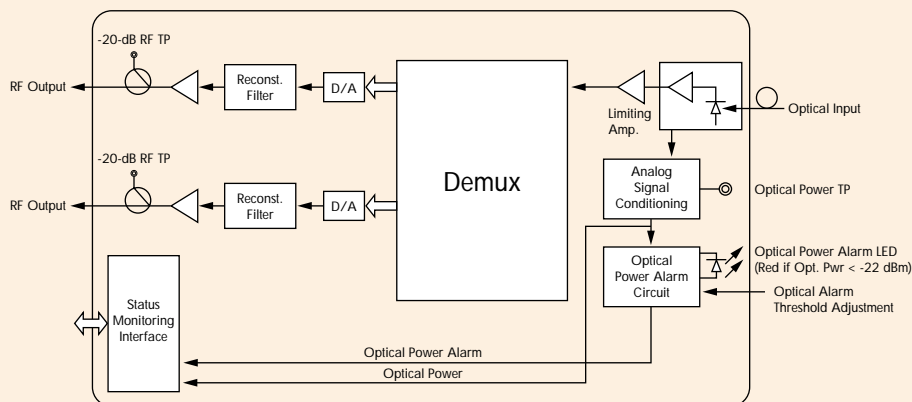
The use of digital return path in a network offers the operator several advantages for expanding network services and increasing system reliability:

- The performance of a digital return transmission system is independent of link loss over the operating range of the receiver. This allows digital links to have outstanding performance over very long links.
- Offers increased system reliability and reduced operation costs from increased network segmentation

Applications

- High-speed internet communications
- Pay-per-view
- Video-on-demand
- Telephony
- Security
- Alternative access
- Local origination
- Direct customer feeds

Standard Configuration



Optical Input

Number of Fiber Optic Inputs: 1
Maximum Input: 0 dBm
Minimum Input: -20 dBm
Wavelength: 1250 to 1600 nm
Input Line Rate: 2.125 Gbps

RF Output

Number of Analog Outputs: 2
Passband: 5-48 MHz
Output RF level¹: -31 dBmV/Hz
Impedance: 75 Ω
Flatness²:
10-48 MHz: ± 0.5 dB or less

Optical Interface

Connector Type:
RDR2000-AS: SC/APC
RDR2000-US: SC/UPC

User Interface

RF test point connectors: Type "F"
Total number of RF test point connections: 2 accessible
from the front
RF output test point: -20 ± 1.0 dB
Optical level test point: 1 V/mW
DC power: Green LED
Optical power alarm: Red LED

Element Monitoring System - NETWatch™/HEM

Optical power alarm — monitor
Optical power — monitor

Power Requirements

Maximum power: 12.5 W

Environmental

Operating temperature range: -20° to $+65^{\circ}\text{C}$
Storage temperature range: -40° to $+85^{\circ}\text{C}$

Physical

Dimensions: 12.5"L x 0.8"W x 4.1"H
Mounting: Plug-in card for the HTR2000D (or above) platform

Notes:

1. For a digitized Gaussian noise signal at 0 to -20 dBm of received average optical power.
2. When used in conjunction with the Harmonic family of digital transmitters.