

# Headend Optics Platform (CH3000)

## DR3421

Dual Return Channel Digital Receiver  
(5-65 MHz Passband)

### FEATURES

- Dual D-A conversion provides discrete RF signals from two return segments per optical input
- High RF output ( $-33$  dBmV/Hz typical)
- Superior noise performance
- RF output level independent of optical input power provides output level stability in alternate routing applications
- Front access  $-20$  dB test points for each return path
- Hot plug-in/out
- Local and remote status monitoring
- Occupies one full-depth slot



### PRODUCT OVERVIEW

The DR3421 Dual Return Channel Digital Receiver utilizes state-of-the-art technology for digital return path applications, and its capabilities allow deployment of compact and robust high-speed digital broadband systems. The advanced design provides simultaneous conversion of digital return path traffic from two RF return segments to two discrete RF output ports. Used in combination with DT4232N Digital Transceivers in optical nodes or DT3515C Digital Transmitters, the DR3421 allows quick and cost effective doubling of the amount of return bandwidth available from any node in the network. These dual-segment digital return receiver modules are primarily used in traditional HFC systems, where larger node sizes are the norm. Two dual-channel transceivers, when used in a fully segmented node in combination with DWDM techniques, and two DR3421 dual-channel digital return path receivers can provide four discrete return paths from a single node location over a single return fiber.

The DR3421 receiver interfaces with the BP3100C-00 Optical Receiver Back Plate, enabling the equivalent of up to eight digital receivers to be installed in four adjacent module slots of ARRIS's 3RU CH3000 chassis. A total 24 receivers (and three associated BP3100C back plates), with provision for redundant chassis power supplies, can therefore be accommodated in each chassis.

Each DR3421 terminates one return path optical fiber through an RR40x0-00-PI SFP Dual Optical Receiver which is inserted into the BP3100C Back Plate. Data extracted from the optical link is converted through high-speed DACs to two analog RF signal outputs. Optionally, messaging traffic from the node-mounted transceiver and the receiver is multiplexed with messaging signals received from the adjacent receiver module and forwarded to the next receiver module in the chain.

## SPECIFICATIONS

Characteristics	Specification
<b>Physical</b>	
Dimensions	13.0" D x 4.3" H x 1.0" W (3RU) (33 cm x 11 cm x 2.5 cm)
Weight	1.6 lbs (0.72 kg)
<b>Environmental</b>	
Operating temperature range	-20° to +65°C (-4° to 149°F)
Storage temperature range	-40° to +85°C (-40° to 185°F)
Humidity	5% to 95% non-condensing
<b>Optical Interface</b>	
Optical connectors	LC/UPC in RR40x0-00-PI SFPs (on BP3100C-00 Back Plate)
<b>Electrical Interface</b>	
Main RF outputs (each channel)	F-type female connector (on Back Plate BP3100C-00)
Output test points (each channel)	G-type female connector (front panel, -20 dB)
<b>Power Requirements</b>	
Input voltage	12 V <sub>DC</sub> (provided via chassis mid-plane connection)
Power consumption	17 W (excluding power feed to BP3100C-00)
<b>General</b>	
	Hot plug-in/out
	Manual gain alignment
	External RF A/B switch support (Model AB02S1S)
<b>Electrical (RF path - each channel)</b>	
Passband	5-65 MHz
Frequency response	± 0.5 dB
Nominal output level	-33 dBmV/Hz with 5-65 MHz loading
Output RF level adjustment range	0-58 dB (1 dB increments)
Output return loss	18 dB min
Isolation between RF channels	-60 dB
Level stability	± 0.5 dB
Level repeatability	± 1.0 dB
<b>Optical</b>	
	See the RR40x0-00-PI data sheet for details.

## RELATED PRODUCTS

CH3000 Chassis	Optical Patch Cords
Optical Nodes	Optical Passives
BP Back plates	Installation Services

ORDERING INFORMATION

Module Part Number

D	R	3	4	2	1	-	A	S

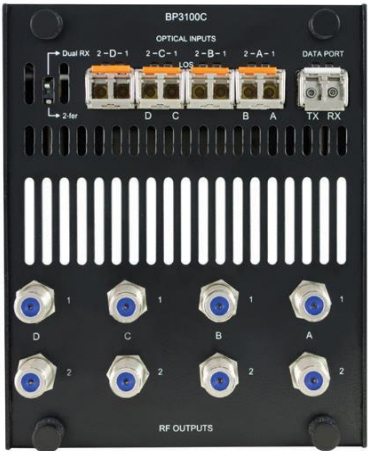
Dual Digital Receiver

Module Back Plate  
(Back plate must be ordered separately.)

B	P	3	1	0	0	C	-	0	0

Optical Receiver Back Plate

Module Back Plate



Each back plate accommodates up to four DR3421 receiver modules.

Model BP3100C-00

Customer Care

Contact Customer Care for product information and sales:

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**Note:** Specifications are subject to change without notice.

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