

# Headend Optics Platform (CH3000)

## DT3550N

### Digital Return Transmitter With Dual RF Inputs

## FEATURES

- Digitizes 5–100 MHz RF return paths
- Multiplexes two return segments into a single data stream
- SFP socket for DWDM, CWDM, 1310 nm, and 1550 nm optical output options
- Hot plug-in/out
- Local and remote status monitoring
- High density: occupies one half-depth slot in the CH3000 Chassis



## PRODUCT OVERVIEW

The DT3550N Digital Transmitter digitizes two RF return paths (with 5–100 MHz passband), multiplexes them, and transmits them on a single return wavelength. By combining two RF returns on a single wavelength, the DT3550N alleviates fiber exhaustion and greatly simplifies the network by enabling the use of WDM transport from hubs to the headend. The SFP optical transceiver socket supports options of DWDM, CWDM, 1310 nm or 1550 nm returns.

The high density half-depth packaging enables network operators to install up to 24 transmitters with 48 RF returns per 3RU chassis, with redundant power supplies, all of which can be monitored remotely or locally. The compact design minimizes rack space requirements in hubs.

## SPECIFICATIONS

Characteristics	Specification
<b>Physical</b>	
Dimensions	6.6" D x 4.3" H (3RU) x 1.0" W (16.8 cm x 11 cm x 2.5 cm)
Weight	1.2 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>Interface</b>	
Optical connector	LC/UPC (in SFP transceiver)
RF input connectors	Two F-type connectors on front panel
RF input test points	Two G-type male connectors on front panel
<b>Power Requirements</b>	
Input voltage	12 V <sub>DC</sub> (provided via chassis mid-plane connection)
Module power consumption	10 W (including SFP transceiver)
<b>General</b>	
Hot plug-in/out	
Optical transmission bit rate	4.25 Gbps
Manual gain alignment	
<b>Optical Output</b>	
Supports TKx series SFP Transceivers	Please see individual TKx SFP data sheets for technical specifications
<b>RF Inputs</b>	
Number of inputs	2
Channel characteristics (each channel)	
Passband	5–100 MHz
Frequency response	± 0.5 dB
Input return loss, min	16 dB
Level stability	± 0.5 dB
Input level RF test point	-20 ± 0.5 dB
Test point return loss, min	18 dB
System minimum gain	27 dB (with DR3450N receiver)
Isolation between channels	55 dB 5-90 MHz, 50 dB 90-100 MHz (with DR3450N receiver)
<b>Distortions</b>	
Input, nominal	-61 dBmV/Hz (7 dBmV/6.4 MHz channel)
Loading, nominal	5–100 MHz (64 QAM carriers or equivalent Gaussian noise)
Dynamic range@ 40 dB CNR	11 dB with full 5–100 MHz channel loading
Peak NPR	47 dB

## ORDERING INFORMATION

Part Number	Description
DT3550N-99-00	5 – 100 MHz Return Passband Digital Transmitter with Dual RF Inputs

## RELATED PRODUCTS

CH3000 Chassis      DR3450N

## Customer Care

Contact Customer Care for product information and sales:

- United States: 866-36-ARRIS
- International: +1-678-473-5656

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

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