

# Headend Optics Platform (CH3000)

## OP3524

Light-Plex™ Optical Narrowcast Demux with BC/NC Combiner (with Optical Power Level Management)

### FEATURES

- Low loss integrated narrowcast demultiplexer with broadcast splitter and broadcast/narrowcast combiner
- Non-service-interrupting local and remote power level monitoring and management (setting narrowcast attenuation levels)
- Simplifies installation and reduces rack space requirements
- Eliminates most fiber jumpers normally associated with BC-NC combining
- Hot plug-in/out
- Occupies one half-depth slot



### PRODUCT OVERVIEW

The Model OP3524 is a combined narrowcast demultiplexer and broadcast/narrowcast combiner with integrated power level monitoring and management capabilities. The OP3524 features four optical input ports (one carrying the DWDM narrowcast services and the other three for either a single four-way split or dual two-way splits of broadcast services) and five output ports (one narrowcast services pass-through port and four combined broadcast/narrowcast ports). Each OP3524 demultiplexes up to four DWDM wavelengths and is available in various wavelength combinations.

One broadcast optical signal can be equally split four ways or each of two independent broadcast signals can be split two ways, while the narrowcast carriers are separated by a four channel ITU-grid demultiplexer (on the 100 GHz-spaced ITU grid). Each narrowcast optical carrier is then multiplexed with one of the common broadcast optical signals and passed to one of the four output ports. DWDM optical carriers whose wavelengths are not dropped by the demux are passed through to the DWDM output port.

As new video and/or data carriers are added to the system, or as the configuration of the network is changed, the power levels of the optical carriers can change. To ensure optimal network performance, the optical power level management feature of the OP3524 allows power levels to be realigned remotely via SNMP interface to an element management system or locally via the chassis power supply display or local craft port interface. With the OP3524, broadband networks can be easily expanded by adding optical wavelengths without needing to break physical connections or install optical attenuators to realign the optical carrier power levels. By adding optical narrowcast carriers, the OP3524 allows MSOs to offer new, revenue generating services, such as digital video, video-on-demand, high-speed data and telephony, more easily and cost-effectively than ever before.

#### RELATED PRODUCTS

CH3000 Chassis	Optical Patch Cords
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Optical Transmitters	Optical Passives
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BP Back plates	Installation Services
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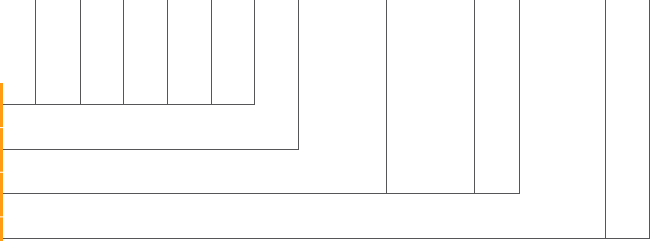
## SPECIFICATIONS

Characteristics	Specification
<b>Physical</b>	
Dimensions	7.3" D x 4.3" H x 1.0" W (3RU) (18.5 cm x 11 cm x 2.5 cm)
Weight	1.5 lbs (0.68 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	SC/APC
Inputs	DWDM INP (narrowcast content), BROADCAST A, B1, B2
Outputs	<ul style="list-style-type: none"> <li>• DWDM OUT (pass-through of all DWDM wavelengths not dropped)</li> <li>• #1, #2, #3, #4 (combined broadcast and one dropped DWDM NC)</li> </ul>
<b>Power Requirements</b>	
Input voltage	12 VDC (100 mA)
Power consumption	1.2 W
<b>Optical</b>	
Optical return loss	45 dB min
Polarization Dependent Loss (PDL)	0.25 dB max
Directivity	55 dB min
<b>Broadcast:</b>	
Insertion loss (including connectors)	<ul style="list-style-type: none"> <li>• Broadcast Input Port A: 7.1 dB max (&lt; 6.7 dB typ)</li> <li>• Broadcast Input Ports B1, B2: 4.2 dB max (&lt; 3.7 dB typ)</li> </ul>
Uniformity (including connectors)	0.6 dB max (< 0.4 dB typ)
Passband	At any given output port, the pass band for the BC signal transverses the entire C-band (or EDFA gain band), excluding the NC wavelength to be dropped at that port.
Wavelength Passthrough	Only 1424.5–1617.5 nm input and output
<b>DWDM Narrowcast:</b>	
ITU channels dropped	See <i>ITU Channel Plans</i>
Passband @ 0.5 dB (centered on DWDM ITU grid)	± 0.11 nm
Ripple within passband	0.5 dB
Insertion loss (including connectors)	<ul style="list-style-type: none"> <li>• DWDM IN to #n OUT: 3.9 dB max (&lt; 2.8 dB typ)</li> <li>• DWDM IN to DWDM OUT: 1.4 dB max (&lt; 0.8 dB typ)</li> </ul>
Paired insertion loss (including connectors)	4.9 dB max (Paired insertion loss measured when combined with a single correspondent 4-λ mux module, models OP35M4x-x-xx-AS or BP35M4x-0-xx-AS, Ch. yy INP to Ch. yy OUT)
Optical channel isolation	<ul style="list-style-type: none"> <li>• Adjacent: 55 dB min (&gt; 65 dB typ)</li> <li>• Non-adjacent: 55 dB min (&gt; 65 dB typ)</li> </ul>
Uniformity	0.6 dB max (difference between max and min output power across the four output ports)
Attenuation range	12 dB min
Attenuation control step size	0.1 dB
Attenuation control accuracy	± 0.25 dB
Output power stability	0.15 dB p-v (on 0-12 dB attenuation range)
<b>General</b>	
	Hot plug-in/out
Optical input power range	<ul style="list-style-type: none"> <li>• Broadcast (A, B1 and B2): +3 to +22 dBm</li> <li>• Narrowcast: -6 to +17 dBm/λ per wavelength</li> </ul>
Optical output power range, max	<ul style="list-style-type: none"> <li>• Broadcast (A): -5 to +16 dBm</li> <li>• Broadcast (B1 and B2): -2 to +19 dBm</li> <li>• Narrowcast: -10 to +15 dBm/λ per wavelength</li> </ul>
<b>ITU Channel Plans</b>	
	ARRIS supports DWDM network architectures with a variety of products on the standard DWDM ITU Grid (ITU-T G.694.1). For more complete description of available DWDM ITU Grid channels and ARRIS's partitioning into convenient logical channel groups for DWDM mux and demux applications, please refer to the ARRIS DWDM ITU Grid Channel Plan data sheet.

ORDERING INFORMATION



- Optical Narrowcast Demux with BC/NC/Combiner
- \* = ITU Channel Plan Group: J, K, L, M, N, P, R, S, T, or U
- (Reserved Fields)
- AS = SC/APC Connector



## Customer Care

Contact Customer Care for product information and sales:

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

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