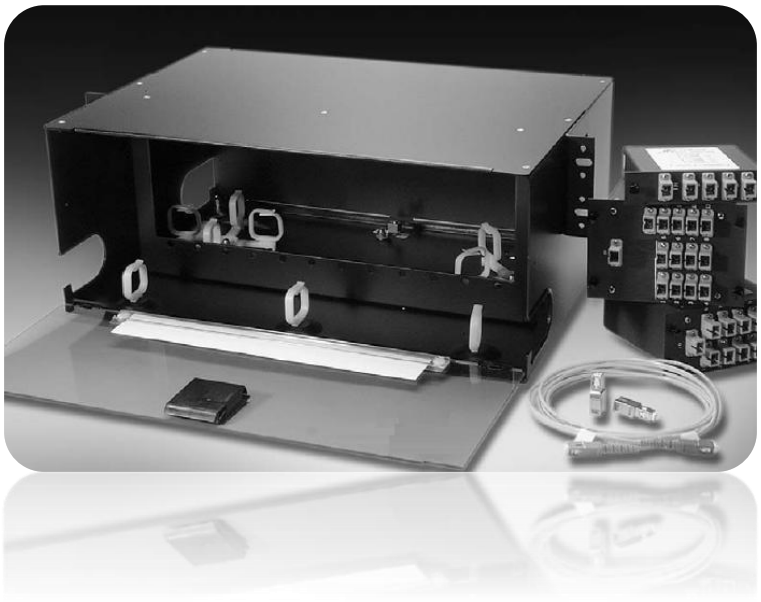
Optical Passives for HFC, FTTx & RFoG Solutions



- Full Line of Optical Passives and Accessories
- WDM/CWDM/DWDM
- Optical Splitters
- Dispersion Compensation Module (DCM)
- ITU G.694 standard compliant
- Excellent Wavelength Stability
- Cost Effective Solution
- High Port Isolation
- Low Insertion Loss
- Flexibility for Customization

ACT offers a complete line of DWDMs, CWDMs, WDMs, OADMs, Couplers, DCM, Optical Shelf and Accessories. The Wavelength Division Multiplexers (WDMs) feature low insertion loss, high isolation and excellent wavelength stability.

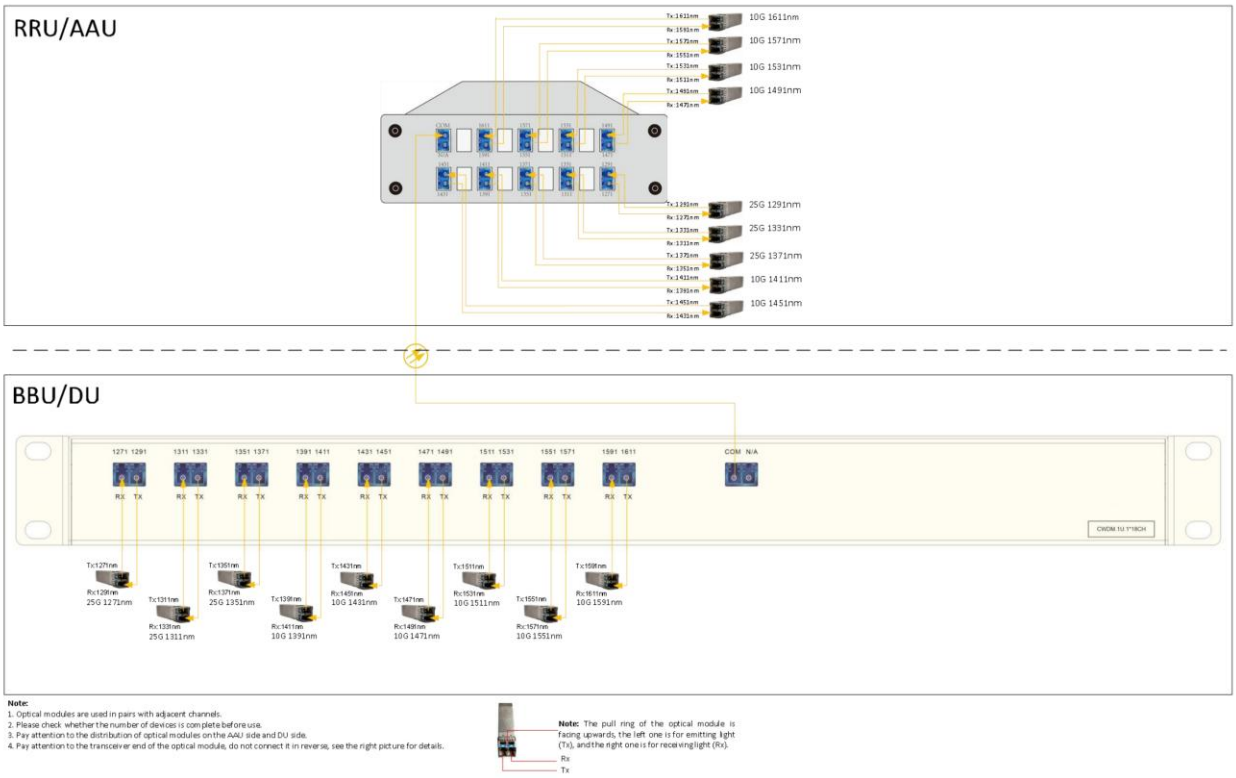
The CWDM/DWDMs are designed to multiplex (mux) or de-multiplex (demux) optical signals in full optical spectrum with CWDM/DWDM multiple channels at an ITU standards ITU-T defined spacing. It comes as different form factor packages, 1RU 19” rack-mount chassis, standard LGX modules or flat box assemblies.

ACT also developed special range of WDM units which are suitable for HFC, FTTx (P2P, P2MP), RFOG (Radio Frequency over Glass) applications, permitting DOCSIS and HFC to operate over a EPON/GPON compliant Passive Optical Network (PON) as commonly deployed for Fibre to the Home (FTTH) developments solution in high density FTTX networks to bring the video services to business and home premises.

Key Features

- Cost-effective Full Line of Optical Passives and Accessories
- WDM/CWDM/DWDM/OADM, Optical Coupler, Attenuator etc.
- ITU G.694 standard compliant
- Excellent Wavelength Stability
- High Port Isolation, low Insertion Loss
- Customization option available
- SC/APC, LC/UPC, LC/APC, FC/APC and E2000/APC connectors available.
- Optional 1311 nm port for forward path transmission to HFC nodes
- Either single port or with internal splitter to match number of CWDM ports for feeding multiple HFC nodes over one fibre
- Options for assembly into 19” sub-racks, LGX chassis, or flat box, ready for deployment.

Sample CCWDM Block Diagram (5G Fronthaul)



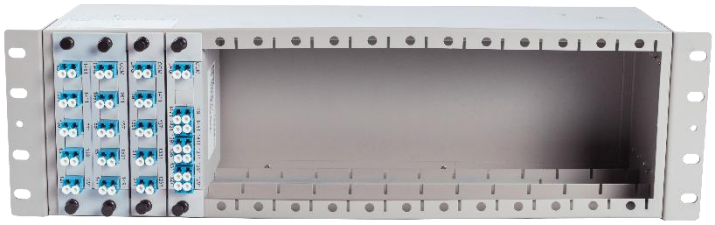
BBU/RRU Passive Platform

A1600 1U, 3U Passive shelfs and outdoor fiber termination box are compact in size. With the deepening of wireless network deployment, the construction scale of large-capacity distributed base stations is also expanding, and the deep coverage of base stations requires that deployment locations be closer to users. The passive optical fiber device utilizes the characteristics of a single optical fiber that can transmit multiple optical carriers of different wavelengths at the same time. It effectively solves the problem of the lack of optical fiber cable resources between 4G BBU (Baseband Unit) and RRU (Remote Radio Unit), 5G DU and AAU in the C-RAN architecture, and meets the requirements for deep coverage and flexible expansion of carrier base stations

- Support CWDM/DWDM.
- Low insertion loss and high channel isolation.
- Support upgrade and expansion.
- Optical wavelength customization.
- High reliability and stability.
- Waterproof, dust-proof and resistant to high and low temperatures, passive.

Rack-Mounted OADM/ODM Equipment

1U transmission platform



3U transmission platform

A1600T Waterproof Fiber Optic Enclosure is suitable for fiber optic access network in the wiring cable and home leather cable junction point, can adapt to the user's different installation environments (such as wall-mounted installation, holding pole installation, placed on the workbench), is a sealed, waterproof, dustproof, portable mini-encapsulated box. The splitter box can be built-in cassette, which can realize the compact installation of the cassette.

Outdoor Pole Mount Termination Box

CWDM Specifications

Single Fiber CCWDM Indoor Unit (Connect to BBU)

Items	Specifications	Note
Number of Channel	18	
Central Wavelength	Ch 1-Tx: 1271 nm; Ch 1-Rx: 1291 nm	
	Ch 2-Tx: 1311 nm; Ch 2-Rx: 1331 nm	
	Ch 3-Tx: 1351 nm; Ch 3-Rx: 1371 nm	
	Ch 4-Tx: 1391 nm; Ch 4-Rx: 1411 nm	
	Ch 5-Tx: 1431 nm; Ch 5-Rx: 1451 nm	
	Ch 6-Tx: 1471 nm; Ch 6-Rx: 1491 nm	
	Ch 7-Tx: 1511 nm; Ch 7-Rx: 1531 nm	
	Ch 8-Tx: 1551 nm; Ch 8-Rx: 1571 nm	
	Ch 9-Tx: 1591 nm; Ch 9-Rx: 1611 nm	
Function	Mux/ Demux	
Filter Technology	CCWDM	
Passband from CCWDM Filter to Center Wavelength (nm)	± 6.5	
Channel Spacing (nm)	20	
Insertion Loss (dB)	≤ 2.2	
Isolation Adjacent (dB)	≥ 30	
Isolation Non-Adjacent (dB)	≥ 45	
PDL (dB)	< 0.2	
PDM (ps/nm)	< 0.1	
Channel Passband Ripple (dB)	< 0.5	
Directivity (dB)	> 50	
Return Loss (dB)	> 45	
Connectors	LC/UPC	
Maximum Power Handling (mW)	500	
Operating Temperature (°C)	-5°C to +70°C	
Storage Temperature (°C)	-40°C to +85 °C	
Compliance	ITU-T G.694.2, CE, RoHS	
Protection Class	IP25	
Casing Material	Metal, powder coated	
Size	440*220*44mm - Rack 19”	

Single Fiber CCWDM Outdoor (Connect to RRU)

Items	Specifications	Note
Number of Channel	18	
Central Wavelength	Ch1-Tx: 1291nm; Ch1-Rx: 1271nm	
	Ch2-Tx: 1331nm; Ch2-Rx: 1311nm	
	Ch3-Tx: 1371nm; Ch3-Rx: 1351nm	
	Ch4-Tx: 1411nm; Ch4-Rx: 1391nm	
	Ch5-Tx: 1451nm; Ch5-Rx: 1431nm	
	Ch6-Tx: 1491nm; Ch6-Rx: 1471nm	
	Ch7-Tx: 1531nm; Ch7-Rx: 1511nm	
	Ch8-Tx: 1571nm; Ch8-Rx: 1551nm	
	Ch9-Tx: 1611nm; Ch9-Rx: 1591nm	
Function	Mux/ Demux	
Filter Technology	CCWDM	
Passband from CCWDM Filter to Center Wavelength (nm)	± 6.5	
Channel Spacing (nm)	20	
Insertion Loss (dB)	≤ 2.2	
Isolation Adjacent (dB)	≥ 30	
Isolation Non-Adjacent (dB)	≥ 45	
PDL (dB)	< 0.2	
PDM (ps/nm)	< 0.1	
Channel Passband Ripple (dB)	< 0.5	
Directivity (dB)	> 50	
Return Loss (dB)	> 45	
Connectors	LC/UPC	
Maximum Power Handling (mW)	500	
Operating Temperature (°C)	-5°C to +70°C	
Storage Temperature (°C)	-40°C to +85 °C	
Compliance	ITU-T G.694.2, CE, RoHS	
Protection Class	IP55	
Casing Material	Plastic, equipped with a security lock	

Ordering Information

Product Name	Product Description
A1600DC-C18D-LU	1RU CCWDM Unit 18-wavelength (Ch1-Tx: 1271nm/Ch1-Rx: 1291nm, Ch2-Tx: 1311nm/Ch2-Rx: 1331nm, Ch3-Tx: 1351nm/Ch3-Rx: 1371nm, Ch4-Tx: 1391nm/Ch4-Rx: 1411nm, Ch5-Tx: 1431nm/Ch5-Rx: 1451nm, Ch6-Tx: 1471nm/Ch6-Rx: 1491nm, Ch7-Tx: 1511nm/Ch7-Rx: 1531nm, Ch8-Tx: 1551nm/Ch5-Rx: 1571nm, Ch9-Tx: 1591nm/Ch9-Rx: 1611nm), LC/UPC interface, 1RU 19in packaging
A1600DT-C18A-LU	CCWDM 18-wavelength (Ch1-Tx: 1291nm/Ch1-Rx: 1271nm, Ch2-Tx: 1331nm/Ch2-Rx: 1311nm, Ch3-Tx: 1371nm/Ch3-Rx: 1351nm, Ch4-Tx: 1411nm/Ch4-Rx: 1391nm, Ch5-Tx: 1451nm/Ch5-Rx: 1431nm, Ch6-Tx: 1491nm/Ch6-Rx: 1471nm, Ch7-Tx: 1531nm/Ch7-Rx: 1511nm, Ch8-Tx: 1571nm/Ch8-Rx: 1551nm, Ch9-Tx: 1611nm/Ch9-Rx: 1591nm), LC/UPC interface, Pole mount fiber termination packaging

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