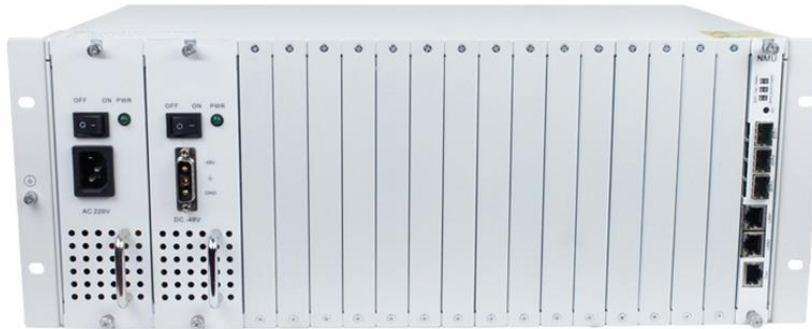


# 4U CWDM/DWDM System

## CWDM/DWDM System



### Specification

The 4U integrated transmission equipment is highly integrated and small. It adopts 19 inch standard 4U rack to provide 1+1 redundant backup of power (AC/DC optional), and is easy to install and use. 4U integrated transmission equipment can provide up to 16 service slots, support different service cards to mix and insert and hot swap, support in-band and out-of-band network management; select each channel bandwidth according to needs to meet different needs of customers; remote online upgrade , maintainability.

### Functions and features

- Flexible networking, occupies less space, and super expansibility.
- Supporting CWDM/DWDM/EDFA/OLPS/OTAP and other business cards hot-swapping mode.
- Supporting SDH/SONET/POS/EPON/GPON/CPRI/SAN/ETHERNET service access at various rates.
- Supporting single-fiber unidirectional, single-fiber bidirectional, dual-fiber bidirectional chain, star and ring types and other networking methods.
- Supporting client access from different vendors, interconnecting with devices from multiple vendors, supporting client devices as single mode (1310nm/1550nm), multi-mode (850nm/1310nm), electrical port (RJ45), etc., can realize OADM optical add-drop multiplexing function, and intermediate nodes can be up and down wavelength.
- Supporting SNMP-based unified network management platform, the network management methods include CLI, WEB, NetRiver (graphical interface).
- Supporting 1 + 1 power hot swapping redundant backup, AC and DC power supply is optional.

## Parameters

System Parameter	Technical Index	
Maximum capacity of single system	4, 8, 16, 40, 48, 80 and 96 waves.	
Wavelength range	Compliance with ITU-T G.692, ITU-T G.695 standard	
Service access types	PDH, EPON, GPON, SDH: STM-1/STM-4/STM-16/STM-64/STM-256 SONET: OC-3/OC-12/OC-48/OC-192/OC-768, FE, GE, 10GE, 40GE, 100GE, CPRI 1~7, POS, FICON, ESCON, CATV.	
Optical port transmission mode	Adopts 2R transmission mode, each channel supports 32M~111.81Gbit/s rate transparent transmission. Adopts 3R transmission mode, each channel supports 155Mbit/s, 622Mbit/s, 1.25Gbit/s, 2.488Gbit/s, 4GFC, 8GFC, 10GFC, 11.3Gbit/s, 40Gbis/s, 100Gbis/s rate. (Optional)	
Physical network topology	Chain type, Star type and Ring type.	
Fiber type	G.652, G.653 (not recommended), G.655.	
Network management mode	CLI, NetRiver, WEB.	
Product dimension	440 (W)*177(H)*250(D)(mm).	
Environmental requirements	Working temperature	-10°C ~ 70°C
	Storage temperature	-40°C ~ 80°C
	Relative humidity	5% ~ 95% no condensation
Power supply requirements (standard value)	220V/AC, 50Hz; -48V/DC (optional)	
Safety and EMC	Compliance with FCC, UL, CE, TUV, CSA standard.	
Power consumption	<300W.	

## Networking Applications

The products are mainly used in the backbone core layer, metro core layer, metro aggregation layer, access layer and data center interconnection, etc. To achieve multi-service, large capacity, full transparent transmission function, which can meet the needs of operators for ultra-large capacity and ultra-long distance transmission, and provides a stable platform for operators to operate in multiple services and upgrade and expand the network in the future.

### Application 1: Point-to-Point Networking

Point-to-point transmission utilizes one or two core optical fiber resources to multiplex dozens of times of optical fiber channel to realize the transmission of multiple different types of services (SDH, SONET, Internet, SAN, etc.) in one or two core optical fibers.

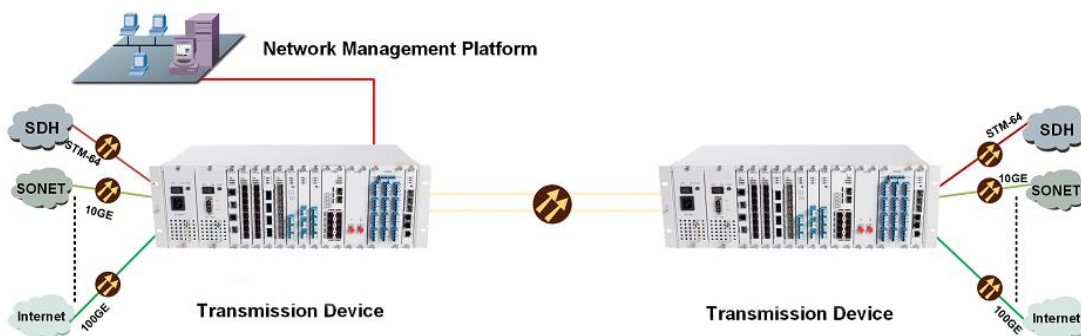


Figure 1: Point-to-Point Networking

### Application 2: Chain Networking

Chain transmission uses wavelength division multiplexing (WDM) equipment and optical add-drop multiplexing (OADM) equipment to cooperate with each other. In addition, the multi-path service between each node is constructed to construct a chain network in the metro optical communication to realize the interconnection and interoperability of multiple different types of services (SDH, SONET, Internet, SAN, etc.) between each node in one or two core optical fibers.

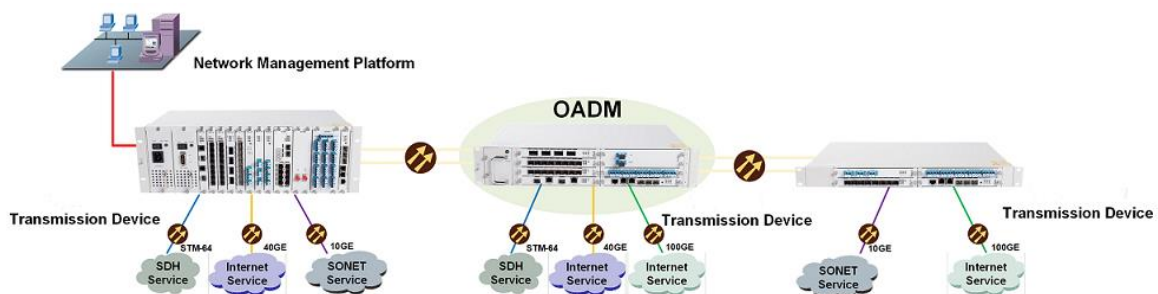


Figure 2: Chain Networking

### Application 3: Ring Networking

The ring network transmission uses the upper and lower multi-path services between each node of WDM equipment to construct the ring network transmission network in metro optical communication. It realizes the interconnection and interoperability of multiple different types of services (SDH, SONET, Intern et, SAN, etc.) between each node in one or two core optical fibers.

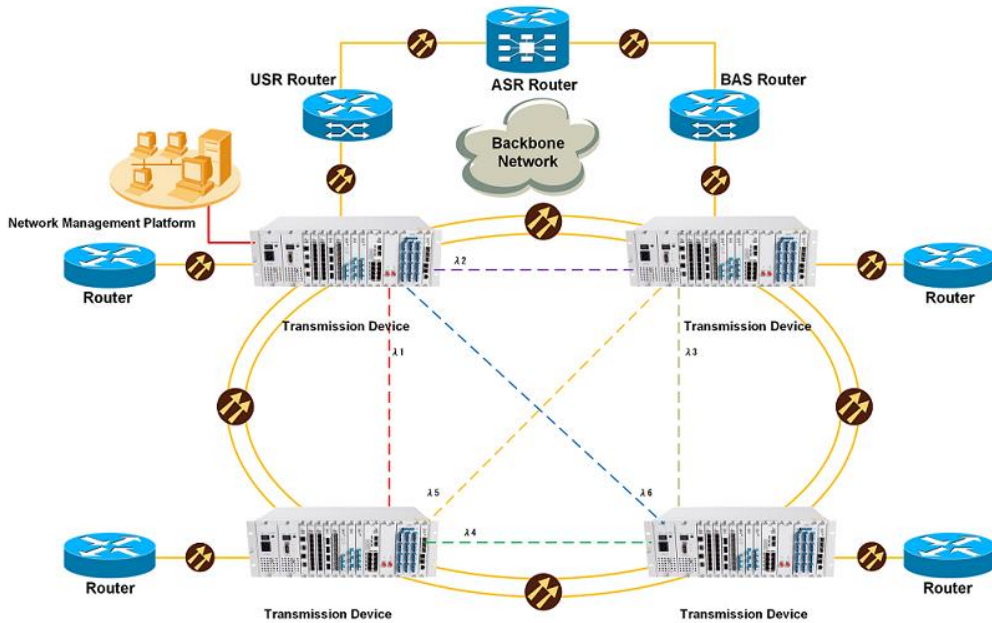


Figure 3: Ring Networking