

Components

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3.1.1.2 Components

The OptiX RTN 950A adopts a split structure. The system consists of the IDU 950A and the ODU. Each ODU is connected to the IDU 950A through an IF cable.

IDU 950A

The IDU 950A is the indoor unit for an OptiX RTN 950A system. It receives and multiplexes services, performs service processing and IF processing, and provides the system control and communications function.

[Table 1](#) lists the basic features of the IDU 950A.

Table 1 Features of the IDU 950A

Item	Description
Chassis height	2U
Pluggable	Supported
Number of radio directions	1 to 6
RF configuration mode	<ul style="list-style-type: none"> • 1+0 non-protection configuration • N+0 non-protection configuration ($N \leq 6$) • 1+1 protection configuration • N+1 protection configuration ($N \leq 5$) • XPIC configuration
Service interface type	<ul style="list-style-type: none"> • E1 interface • STM-1 optical/electrical interface • FE optical/electrical interface • GE optical/electrical interface


Figure 1 Appearance of the IDU 950A



ODU

The ODU is the outdoor unit for the OptiX RTN 900. It converts frequencies and amplifies signals.

The OptiX RTN 900 product series can use the RTN 600 ODU and RTN XMC ODU, covering the entire frequency band from 6 GHz to 42 GHz.

 **NOTE:**

Unlike the other frequency bands that use 14 MHz, 28 MHz, or 56 MHz channel spacing, the 18 GHz frequency band uses 13.75 MHz, 27.5 MHz, or 55 MHz channel spacing.

Table 2 RTN XMC ODUs that the OptiX RTN 950A supports

Item	Description	
	High-Power ODU	Low Capacity ODU
ODU type	XMC-2	XMC-1
Frequency band	6/7/8/11/13/15/18/23/26/28/32/38/42 GHz	7/8/11/13/15/18/23 GHz
Microwave modulation scheme	QPSK/16QAM/32QAM/64QAM/128QAM/256QAM/512QAM/1024QAM (6/11/13/15/18/23/26/28/32/38/42 GHz) QPSK/16QAM/32QAM/64QAM/128QAM/256QAM (7/8 GHz)	QPSK/16QAM
Channel spacing	7/14/28/40/50/56 MHz	3.5/7/14/28 MHz

Table 3 RTN 600 ODUs that the OptiX RTN 950A supports

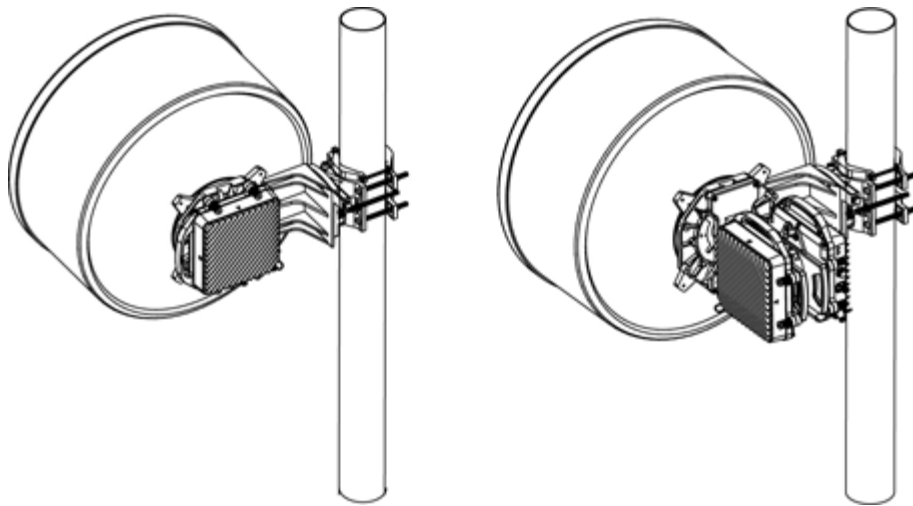
Item	Description	
	High-Power ODU	Standard Power ODU
ODU type	HP, HPA	SP, SPA
Frequency band	6/7/8/10/10.5/11/13/15/18/23/26/28/32/38 GHz (HP) 6/7/8/11/13/15/18/23 GHz (HPA)	7/8/11/13/15/18/23/26/38 GHz (SP ODU) 6/7/8/11/13/15/18/23 GHz (SPA ODU)
Microwave modulation scheme	QPSK/16QAM/32QAM/64QAM/128QAM/256QAM	QPSK/16QAM/32QAM/64QAM/128QAM/256QAM
Channel spacing	7/14/28/40/56 MHz (6/7/8/10/11/13/15/18/23/26/28/32/38 GHz) 7/14/28 MHz (10.5 GHz)	3.5/7/14/28 MHz

There are two methods for mounting the ODU and the antenna: direct mounting and separate mounting.

- The direct mounting method is generally adopted when a small- or medium-diameter and single-polarized antenna is used. In this situation, if one ODU is configured for one antenna, the ODU is directly mounted at the back of the antenna. If two ODUs are configured for one antenna, an RF signal combiner/splitter (hence referred to as a hybrid coupler) must be mounted to connect the ODUs to the antenna. [Figure 2](#) illustrates the direct mounting method.

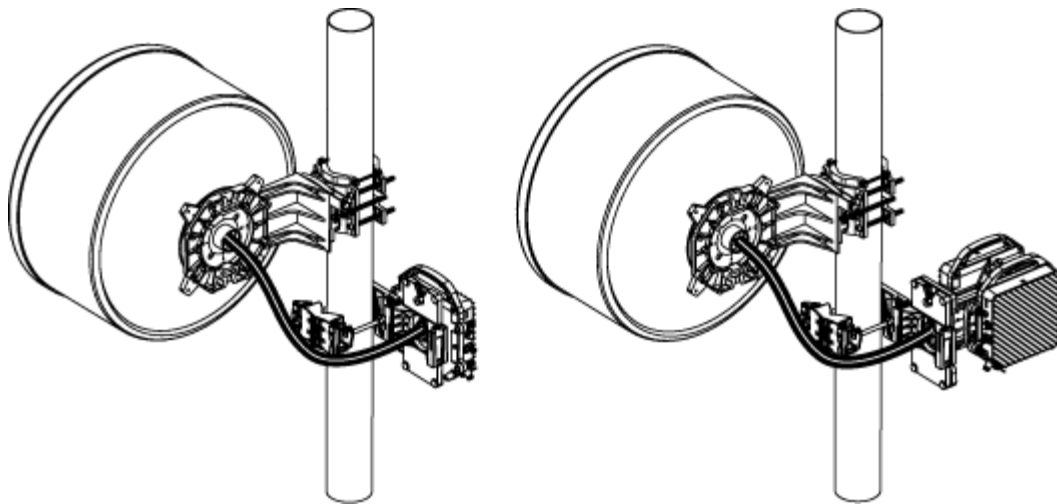
The direct mounting method can also be adopted when a small- or medium-diameter and dual-polarized antenna is used. Two ODUs are mounted onto an antenna using an orthomode transducer (OMT). The method for installing an OMT is similar to that for installing a hybrid coupler.

Figure 2 Direct mounting



- The separate mounting method is adopted when a large- or medium-diameter and single- or dual-polarized antenna is used. [Figure 3](#) shows the separate mounting method. In this situation, a hybrid coupler can be mounted (two ODUs share one feed boom).

Figure 3 Separate mounting



NOTE:

The OptiX RTN 950A provides an antenna solution that covers the entire frequency band, and supports single-polarized antennas and dual-polarized antennas with diameters of 0.3 m to 3.7 m along with the corresponding feeder system.

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