RTN 950



Features

The RTN 950 is the new-generation of IP radio transmission equipment developed by Huawei. The equipment, 2U high, supports a maximum of six RF directions. With various service interfaces, the RTN 950 can be configured flexibly and installed easily. The equipment can be applied not only in the 3G/WiMAX/ LTE backhaul but also in the radio access of private network services and private line services for VIP customers.

IP Radio Transmission with AM

- Supports adaptive modulation (AM) and QoS, improving the efficiency of bandwidth usage and quality of services.
- Supports the pseudo wire emulation edge to edge (PWE3) technology, and adopts high-performance and unified pure packet switching.
- Provides a variety of OAM functions and fast fault-isolation methods, simplifying packet network maintenance.
- Supports end-to-end service configuration, improving the flexibility of radio network planning and reducing OPEX.

Robust IP Service-Processing Capability

- Provides 10 Gbit/s switching capacity, and supports the VLAN, flow control, and MPLS functions.
 - Supports basic MPLS functions and service forwarding, and supports static LSPs.
 - Adopts the LSP tunnel technology and the PWE3 technology to form an MPLS network where access of multiple services is allowed.
- The advanced header compression technology for Ethernet IPV-4 and IPV-6 achieves maximum capacity of 1 Gbps backhaul.
- Supports 8-class QoS, provides a wide range of services, and ensures the quality of services with high priorities.
- Supports MPLS OAM features, making management and maintenance in IP networks similar to those in SONET networks.

Excellent Protection Schemes

- Protection schemes for radio links
- 1+1 HSB/SD/FD protection
- LAG protection for Ethernet services
- Network-level protection schemes
- Ethernet ring protection switching (ERPS)
- MPLS tunnel 1:1 protection
- PW 1:1 protection
- Equipment-level protection schemes
 - 1+1 hot backup for the input power supply

- 1+1 hot backup for internal power modules
- 1+1 hot backup for the control, switching, and timing board

ATPC

The automatic transmit power control (ATPC) technology enables the RTN 950 to automatically change the output power of the transmitter within the ATPC control range according to the received signal level. As a result, the interference to the neighboring system and the residual error rate are reduced.

XPIC

The RTN 950 supports Cross-Polarization Interference Cancellation (XPIC) technology, which helps to double the service capacity of a microwave channel at the same spectrum and bandwidth.

Easy Maintenance

- Supports different types of loopbacks at the service port and the IF port.
- Supports RMON performance events.
- Supports MPLS OAM, PW OAM, and Ethernet OAM functions.
- Provides a built-in test system to perform the pseudo-random binary sequence (PRBS) error test at the IF port.
- Supports remote data and software loading by using the NMS. Thus, the entire network can be upgraded rapidly.
- Supports in-service software upgrades.

Multiple Methods for Network Management

- Uses the iManager U2000 to manage the RTN devices and Huawei optical transport devices. Hence, quick fault isolation, quick service provisioning, and visual IP service management are achieved, and the OPEX is reduced.
- Uses the Web LCT to manage a single RTN NE or multiple RTN NEs in a centralized manner.
- Enables users to query alarms and performance events through the simple network management protocol (SNMP).
- Supports the inband DCN scheme. Hence, dedicated DCN channels are not required, and the network construction cost is reduced.

Clock and Synchronization

- Supports the radio link clock and synchronous Ethernet clock.
- Supports the sync status message (SSM) protocol.

Technical Specifications

RF Specification	ons								
Frequency Band			6GHz	11 G	iHz	18 GHz	23 GH	z	
Channel Spacing (MHz)				30	40		40/50	40/50	
channel opdenig	9 (11112)	QPSK		30	26		24	24	
		16QAM		28	20		21	21	
Maximum Trans	mit Power (dBm)	32QAM		26.5	24		21	21	
		64QAM/128QAM		25	22		19.5	19.5	
		256QAM			23 20		16.5	17.5	
		QPSK		-89	-88.	5	-87.0	-88.0	
		30 MHz	16QAM	-81	-80.		-79.0	-80.0	
			32QAM	-77.5	-80.		-75.5	-80.0	
		Channel	64QAM	-75	-74.		-73.0	-74.0	
				-72	-74.		-70.0	-74.0	
			128QAM	-69	-/1.		-67.0	-/1.0	
			256QAM						
		@ 40 MHz Channel	QPSK	-	-87.		-86.0	-87.0	
	e		16QAM	-	-79.		-78.0	-79.0	
	Sensitivity (RSL@		32QAM	-	-76.		-74.5	-75.5	
BER=10-6)			64QAM	-	-73.		-72.0	-73.0	
			128QAM	-	-70.		-69.0	-70.0	
			256QAM	-	-67.	5	-66.0	-67.0	
			QPSK	-	-		-85.0	-86.0	
			16QAM	-	-		-77.0	-78.0	
		50 MHz	32QAM	-	-		-73.5	-74.5	
		Channel	64QAM	-	-		-71.0	-72.0	
			128QAM	-	-		-68.0	-69.0	
			256QAM	-	-		-65.0	-66.0	
RF Direction				A maximum of six RF directions					
				1+0 non-protect					
				N+0 non-protec					
RF Configuration	n			1+1 HSB/FD/SD protection					
				N+1 protection					
				XPIC configuration					
Equalization				Adaptive time d		on			
	Throughput (airint	erface, Mbit/s)		,, parte anne u					
	5	Channel/Modu	lation	QPSK	16QAM	32QAM	64QAM	128QAM	256QAM
		30 MHz		43 to 55	87 to 111	109 to 139	138 to 176	161 to 205	186 to 236
Base Throughpu	ut	40 MHz		58 to 75	122 to 155	152 to 194	186 to 238	217 to 276	250 to 318
			50 MHz		148 to 189	190 to 241	234 to 300	274 to 350	315 to 396
		Channel/Modulation		73 to 94 QPSK	16QAM	32QAM	64QAM	128QAM	256QAM
With L2 Frame Header Compression				43 to 68	87 to 136	109 to 170	138 to 216		186 to 287
		30 MHz						162 to 253	
		40 MHz		58 to 91	122 to 189	152 to 238	187 to 291	217 to 338	250 to 388
		50 MHz		74 to 115	148 to 230	190 to 295	234 to 362	274 to 428	315 to 488
With L2+L3 Frame Header		Channel/Modulation		QPSK	16QAM	32QAM	64QAM	128QAM	256QAM
		30 MHz		43 to 139 57 to 182	88 to 281	110 to 350	139 to 444	162 to 518	187 to 596
	PV6)	40 MHz	40 MHz 50 MHz		114 to 366	148 to 474	182 to 583	216 to 691	251 to 800
Compression (IP	,				149 to 474		235 to 747	276 to 875	316 to 1000
Compression (IP	,	50 MHz		74 to 237	149 10 474	191 to 608	25510747	2/0100/0	
Compression (IP Service Specif		50 MHz		74 to 237	149 (0 4/4	191 to 608	233 10 747		
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	fications	FE electrical inte GE optical inter	face: 1000Base-SX	- T(X) and 1000Base-LX	149 (0 474	191 to 608	233 (674)		
Service Specif	fications	FE electrical inte GE optical inter		- T(X) and 1000Base-LX	149 (0 474	191 to 608	233 10 141		
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