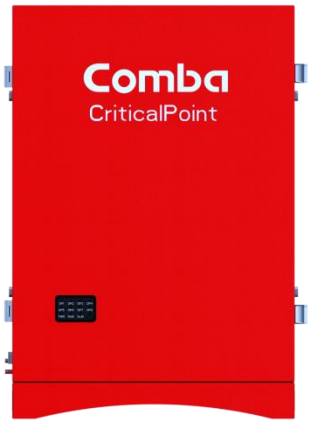
Public Safety Distributed Antenna System

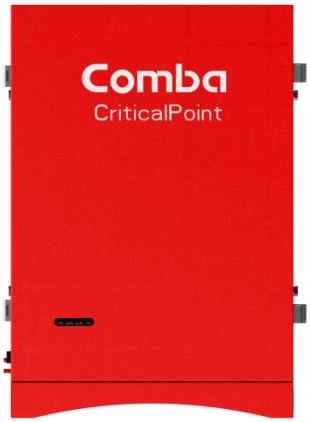
RH-7W22 PS 700/800MHz DAS (DC Version)
UL2524 Standard Certified

Features

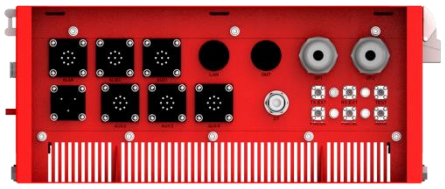
- Dual-band configuration supports 700MHz and 800MHz public safety bands
- Supports P25 P1/P2, digital and conventional analog communications simultaneously
- Supports FirstNet™ LTE Band 14 (Class B)
- Up to 32 narrow band filters (Class A) / 3 wide band filters (Class B)
- 2W output power per band
- One Master Unit supports up to 4 or 8 Remote Units, only single strand of fiber is required from MU to RU
- Supports up to 32 Remote Units when cascading optional Fiber Expansion Units
- Channelized Auto Level Control (ALC) supported (Class A)
- Channelized uplink squelch supported (Class A)
- Web based GUI for intelligent configuration, SNMP supported
- Built-in mandatory isolation test to prevent oscillation
- NFPA 1221 compliant dry contact alarms, UL50E Type 4 / NEMA 4 enclosure on MU / RUs
- **FCC**: Class A: **PX8RH-7W22-D**, **PX8RH-7W22-R**, Class B: **PX8RH-7W22B-D**, **PX8RH-7W22B-R**
- **IC Class A: MU 1919A-RHV1A33M, RU 11919A-RHV1A33R, Class B: MU 1919A-RHV1B33M, RU 11919A-RHV1B33R**
- **UL2524 2nd Edition Listing with SGS, Nationally Recognized Testing Laboratory (NRTL) approved by OHSA for UL2524 Standard Certified – SGS Certificate No.: MU: SGSNA/20/GZ/00075, RU: SGSNA/20/GZ/00073**



Master Unit



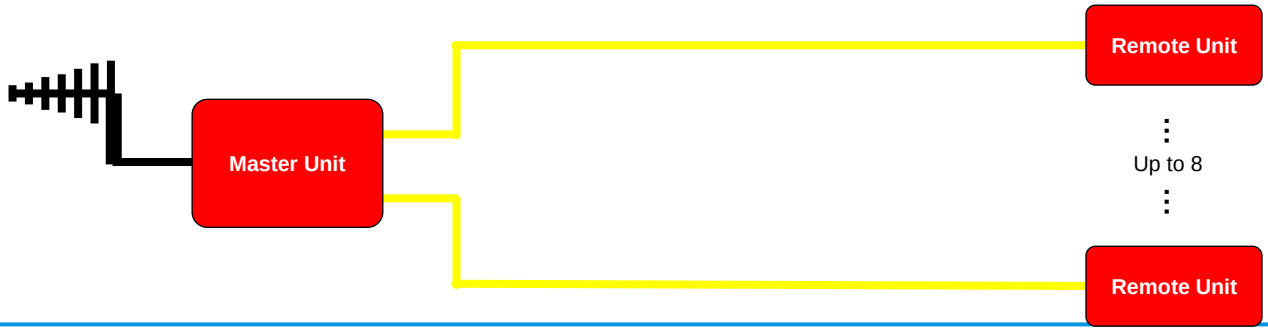
Remote Unit



Master Unit

Remote Unit

Functional Block Diagram



DS-Control: 0-0-5 / 0922

Specifications

Optical			
System			700MHz,800MHz
Optical Fiber			Single Mode
Optical Wavelength		nm	1550, 1310 + WDM
Optical Output Power	MU	dBm	-4 to -2
	RU	dBm	3 to 5
Maximum Optical Loss		dB	8
Fiber Connectors			MU: SC/APC, RU: SC/APC

Electrical (Class A)				
			700MHz	**800MHz**
Frequency Range	Uplink	MHz	US: 799-805 CA: 798-806	US: 806-817 CA: 806-824
	Downlink		US: 769-775 CA: 768-776	US: 851-862 CA: 851-869
Filter Bandwidth			12.5/25/75KHz	12.5/25/75KHz
Number of Filters			32	32
Total Output Power, Uplink		dBm	27	
Total Output Power, Downlink			33	33
Maximum System gain		dB	95	
Gain Adjustment Range (1dB step)		dB	MU: 0-30, RU: 0-30	
Pass Band Ripple (p-p)		dB	≤ 3	≤ 3
Spurious emission			FCC Compliance	FCC Compliance
Intermodulation		dBm	-13	-13
Uplink Noise Figure at Maximum Gain		dB	≤ 5	
System Delay		μsec	17-37	
Max UL Input w/o Overdrive		dBm	-30	
Max UL Input w/o Damage		dBm	10	
ALC Range		dB	60	
Input VSWR			≤ 1.5	
Impedance		Ω	50	

Electrical (Class B)				
			700MHz	**800MHz**
Frequency Range	Uplink	MHz	US: 788-805 CA: 798-806	US: 806-824 CA: 806-824
	Downlink		US: 758-775 CA: 768-776	US: 851-869 CA: 851-869
Filter Bandwidth			200KHz – 10MHz	200KHz – 10MHz
Number of Filters			3	3
Total Output Power, Uplink		dBm	27	
Total Output Power, Downlink			33	33
Maximum System gain		dB	95	
Gain Adjustment Range (1dB step)		dB	MU: 0-30, RU: 0-30	
Pass Band Ripple (p-p)		dB	≤ 3	≤ 3
Spurious emission			FCC Compliance	FCC Compliance
Intermodulation		dBm	-13	-13
Uplink Noise Figure at Maximum Gain		dB	≤ 5	
System Delay		μsec	8.5	
Max UL Input w/o Overdrive		dBm	-30	
Max UL Input w/o Damage		dBm	10	
ALC Range		dB	60	
Input VSWR			≤ 1.5	
Impedance		Ω	50	

Mechanical – MU		
Dimensions, H x W x D	in(mm)	22.4 x 15.4 x 8.5 (570 x 390 x 215)
Weight without Bracket	lb(kg)	66 (30)
Power Supply	VDC	-40 ~ -58
Power Supply	VAC	/
Power Consumption (approx.) / BTU	W	85 (288.15 BTU/Hr)
RF Connectors		N-Female, duplex
Fiber Connectors		SC/APC
Operating Temperature	ºC	-40 to +55
Operating Humidity		≤ 95%
Ingress protection		UL50E Type 4 / NEMA 4
Enclosure Cooling		Convection
MTBF	hr	100,000 @ 77ºF

Mechanical – RU		
Dimensions, H x W x D	in(mm)	22.4 x 15.4 x 8.5 (570 x 390 x 215)
Weight without Bracket	lb(kg)	66 (30)
Power Supply	VDC	-40 ~ -58
Power Supply	VAC	/
Power Consumption (approx.) / BTU	W	Dual Band: 100 (327.36 BTU/Hr), Single Band: 80 (265.98 BTU/Hr)
RF Connectors		N-Female, duplex
Fiber Connectors		SC/APC
Operating Temperature	ºC	-40 to +55
Operating Humidity		≤ 95%
Ingress protection		UL50E Type 4 / NEMA 4
Enclosure Cooling		Convection
MTBF	hr	100,000 @ 77ºF

Note: Typical specifications at room temperature

Part Numbers

Product Type US version	Part Number	
Class A	**DC version**	**AC version**
MU Dual Band 700/800MHz, 1 to 4 x RUs	RH78V1-MA48E4-UL	Refer to AC Model
MU Dual Band 700/800MHz, 1 to 8 x RUs	RH78V1-MA48E8-UL	Refer to AC Model
RU Single Band 700MHz	RH07V1-RA3348-UL	Refer to AC Model
RU Single Band 800MHz	RH08V1-RA3348-UL	Refer to AC Model
RU Dual Band 700/800MHz	RH78V1-RA3348-UL	Refer to AC Model
Class B		
MU Dual Band 700/800MHz, 1 to 4 x RUs	RH78V1-MB48E4-UL	Refer to AC Model
MU Dual Band 700/800MHz, 1 to 8 x RUs	RH78V1-MB48E8-UL	Refer to AC Model
RU Dual Band 700/800MHz	RH78V1-RB3348-UL	Refer to AC Model
Fiber Expansion Unit (for both Class A and Class B)		
Fiber Expansion Unit, 4 port	RH78V1-FEXPE4-UL	
Fiber Expansion Unit, 8 port	RH78V1-FEXPE8-UL	
License (For Class A)		
Dual Band (700/800MHz) License	RH7W22-L783233	

Product Type CA version	Part Number	
Class A	**DC version**	**AC version**
MU Dual Band 700/800MHz, 1 to 4 x RUs	RH78V1-MA48E4-CA	Refer to AC Model
MU Dual Band 700/800MHz, 1 to 8 x RUs	RH78V1-MA48E8-CA	Refer to AC Model
RU Single Band 700MHz	RH07V1-RA3348-CA	Refer to AC Model
RU Single Band 800MHz	RH08V1-RA3348-CA	Refer to AC Model
RU Dual Band 700/800MHz	RH78V1-RA3348-CA	Refer to AC Model
Class B		
MU Dual Band 700/800MHz, 1 to 4 x RUs	RH78V1-MB48E4-CA	Refer to AC Model
MU Dual Band 700/800MHz, 1 to 8 x RUs	RH78V1-MB48E8-CA	Refer to AC Model
RU Dual Band 700/800MHz	RH78V1-RB3348-CA	Refer to AC Model
Fiber Expansion Unit (for both Class A and Class B)		
Fiber Expansion Unit, 4 port	RH78V1-FEXPE4-UL	
Fiber Expansion Unit, 8 port	RH78V1-FEXPE8-UL	
License (For Class A)		
Dual Band (700/800MHz) License	RH7W22-L783233	