

CriticalPoint™ Public Safety Bi-Directional Amplifier

UHF BDA specifically configured for El Segundo, CA

Features

- Supports P25 P1/P2, digital and conventional analog communications simultaneously
- Up to 32 narrow band filters (Class A)
- Channelized Auto Level Control (ALC) supported (Class A)
- Channelized uplink squelch supported (Class A)
- Uplink PA shutdown during no traffic periods to minimize noise being introduced to the network” (Class A)
- Built-in mandatory isolation test to prevent BDA oscillation
- Auto shutdown with alarm upon oscillation detection
- Web based GUI for intelligent configuration, SNMP supported
- NFPA 1221 / IFC compliant dry contact alarms
- DC: UL50E Type 4 / NEMA 4 enclosure, AC: NEMA 4 enclosure
- **FCC Class A: PX8-RX4122-A**
- **DC: UL2524 Standard Certified – SGS Certificate No.: SGSNA/20/GZ/00054**
- **AC: UL 60950-1 & UL 60950-22 Standards Certified – SGS Certificate No.: SGSNA/18/GZ/00076**



Specifications

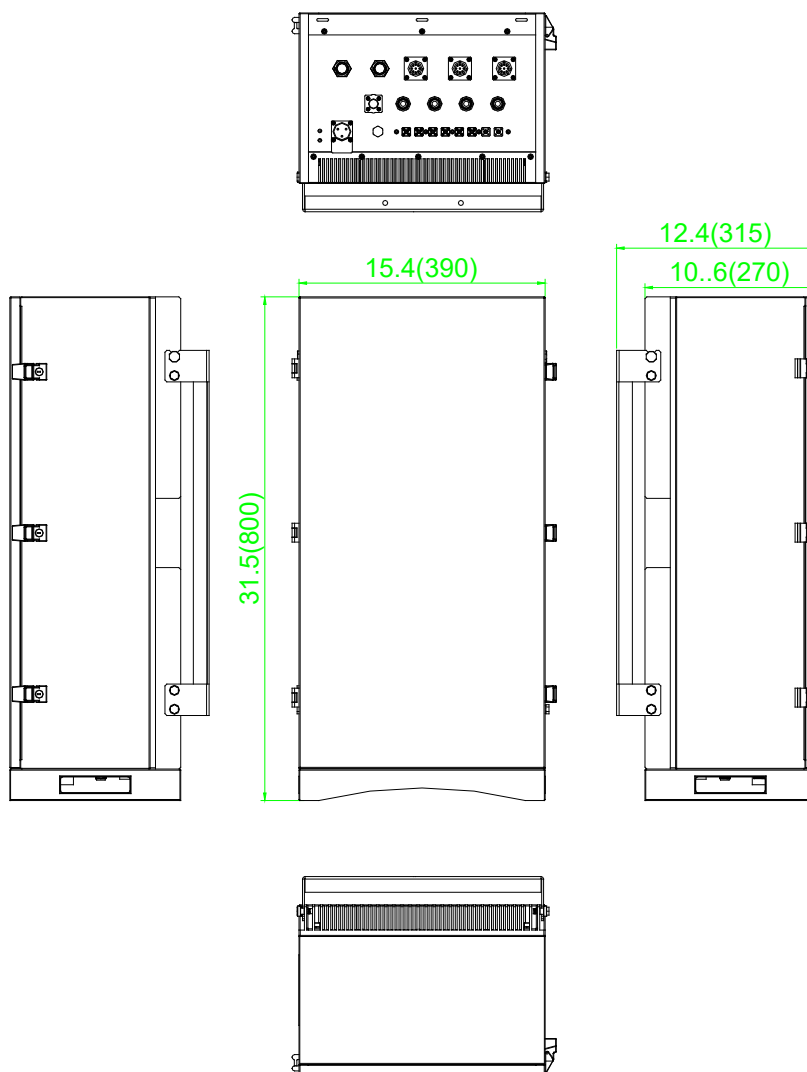
Electrical		Unit 1	Unit 2
Passband 1 (Downlink / Uplink)	MHz	DL: 470.0125 - 472.5375 UL: 473.0125 - 475.5375	DL: 482.5 - 482.6 UL: 485.5 - 485.6
Passband 2 (Downlink / Uplink)		NA	DL: 506.0 - 507.0 UL: 509.0 - 507.0
Total Output Power, Uplink	dBm	See Channel List	See Channel List
Total Output Power, Downlink	dBm	See Channel List	See Channel List
Maximum System Gain	dB	See Channel List	See Channel List
Gain Adjustment Range (1dB step)	dB	0-30	0-30
Pass Band Ripple, p-p	dB	≤3	≤3
Uplink Noise Figure	dB	≤7	≤7
Intermodulation	dBm	≤ -13	≤ -13
Spurious	dBm	FCC Compliance	FCC Compliance
Maximum RF Input Level without Damage	dBm	0	0
Maximum RF Input Level without Overdrive	dBm	-10	-10
Input VSWR		≤ 1.5	≤ 1.5
Impedance	Ω	50	50

Number of Filters (Class A)		32	32
Filter Bandwidth Out-of-Band Suppression System Group Delay	6.25KHz	≥ 60dBc @ filter center + 60KHz, 35us	≥ 60dBc @ filter center + 60KHz, 35us
	12.5KHz	≥ 60dBc @ filter center + 65KHz, 35us	≥ 60dBc @ filter center + 65KHz, 35us
	25KHz	≥ 50dBc @ filter center + 75KHz, 27us	≥ 50dBc @ filter center + 75KHz, 27us
	75KHz	Not supported	≥ 60dBc @ filter center + 200KHz, 15us

Mechanical		Unit 1	Unit 2
Dimensions, H x W x D	in(mm)	31.5x15.4x12.4 (800x390x315)	31.5x15.4x12.4 (800x390x315)
Weight without Bracket	lb(kg)	140 (63.5)	140 (63.5)
Power Supply	VDC	-40 to -58	-40 to -58
	VAC	120	120
Power Consumption	W	85	85
RF Connectors		N-Female	N-Female
Operating Temperature	°F(°C)	-27 to +140 (-33 to +60)	-27 to +140 (-33 to +60)
Operating Humidity		≤ 95%	≤ 95%
Environmental Class		DC: UL50E Type 4 / NEMA 4 AC: NEMA 4	DC: UL50E Type 4 / NEMA 4 AC: NEMA 4

Note: Typical specifications at room temperature

Outline Drawing (Identical for Unit 1 and Unit 2)

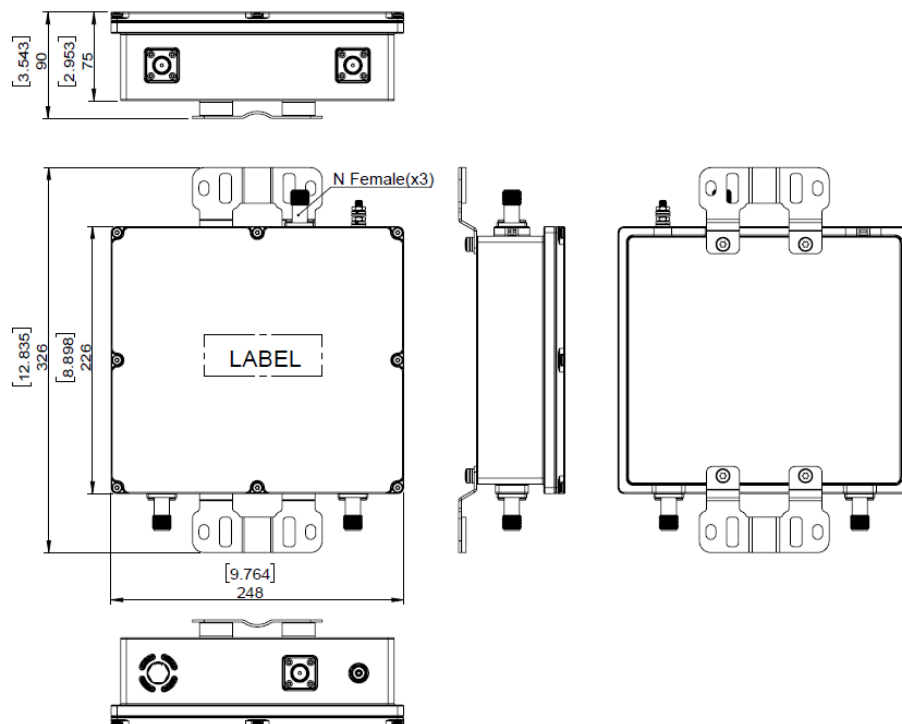


External Combiner Specifications (CM-RX45V1-ELS-2)

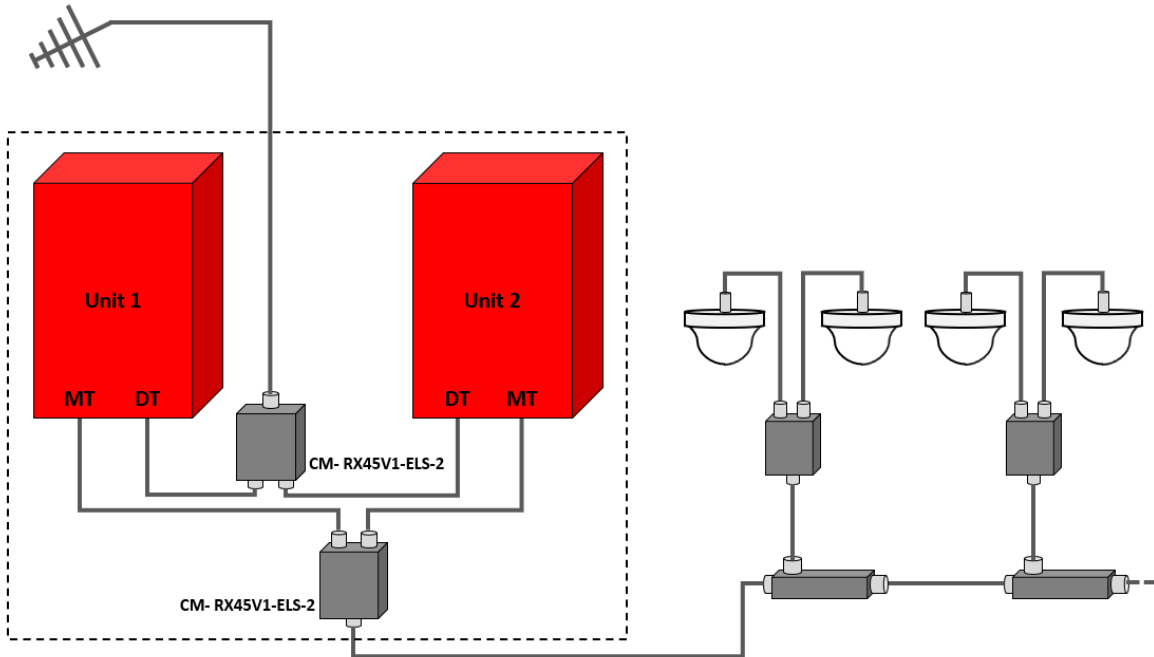
Mechanical		Port 1	Port 2
Passband	MHz	470 - 476	482 - 510
Insertion Loss	dB	0.5 Max	
Return Loss	dB	18 Min	
Isolation	dB	40 Min	
Impedance	Ω	50	
Power	dBm	43 avg 53 peak	
Environmental Class		IP66	
Operating Temperature	$^{\circ}\text{F} (^{\circ}\text{C})$	-40 to +185 (-40 to +85)	
Operating Humidity		$\leq 95\%$	
Grounding		M6 Screw	
Connector		N-Female	

Note: Typical specifications at room temperature

Outline Drawing



System Diagram



Part Numbers

Part Number	Description
RX45V1-ADC-ELS-UL	Class A, DC, including Unit 1, Unit 2 and 2 x Combiners, for El Segundo, UL2524 Standard Certified
RX45V1-AAC-ELS	Class A, AC, including Unit 1, Unit 2 and 2 x Combiners, for El Segundo

Unit 1 will be labeled RX45V1-ADC-ELS-UL-1 / RX45V1-AAC-ELS-1.

Unit 2 will be labeled RX45V1-ADC-ELS-UL-2 / RX45V1-AAC-ELS-2.

Jumper cables between units and combiners are not provided. Please provide (4) N-Male to N-Male jumper cables.

Channel list:

Downlink	Max. Gain	Max. PWR	Uplink	Max. Gain	Max. PWR	System	Remark	
470.01250	95	24	473.01250	75	14	Trunked Simulcast System	cc	Unit 1
470.03750	95	24	473.03750	75 - 95	14 - 18	Trunked Simulcast System	cc	Unit 1
470.31250	95	24	473.31250	75 - 95	14 - 18	Trunked Simulcast System		Unit 1
470.81250	95	24	473.81250	75 - 95	14 - 18	Trunked Simulcast System		Unit 1
471.11250	95	24	474.11250	75 - 95	14 - 18	Trunked Simulcast System		Unit 1
471.33750	95	24	474.33750	75 - 95	14 - 18	Trunked Simulcast System		Unit 1
482.50000	95	24	485.50000	95	18	Trunked Simulcast System	cc	Unit 2
482.60000	95	24	485.60000	95	18	Trunked Simulcast System	cc	Unit 2
506.01250	95	24	509.01250	95	18	Trunked Simulcast System		Unit 2
506.03750	95	24	509.03750	95	18	Trunked Simulcast System		Unit 2
506.16250	95	24	509.16250	95	18	Trunked Simulcast System		Unit 2
506.50000	95	24	509.50000	95	18	Trunked Simulcast System		Unit 2
506.67500	95	24	509.67500	95	18	Conventional Repeater System		Unit 2
472.53750	75	20	475.53750	95	18	Conventional Repeater System		Unit 1

Numbers estimated under ALC Mode 3. Effective Max Gain will fall within Gain Range as indicated.