CriticalPoint™ Public Safety Bi-Directional Amplifier

UHF BDA (DC Version)
UL2524 Standard Certified

Features

- Supports P25 P1/P2, digital and conventional analog communications simultaneously
- Simplex and internal Duplexing supported
- Up to 32 narrow band filters (Class A)
- Up to 4 wide band filters (Class B)
- Channelized Auto Level Control (ALC) supported (Class A)
- Channelized uplink squelch supported (Class A)
- **NetProtect™** 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
- UL50E Type 4 / NEMA 4 enclosure
- **FCC Class A: PX8-RX4122-A, Class B: PX8-RX4122-B**
- **UL2524 Standard Certified – SGS Certificate No.: SGSNA/20/GZ/00054**

Specifications

Electrical		
Frequency Range	MHz	450 - 512
Total Output Power, Uplink	dBm	27 (Typical TX/RX duplexed), 30 (TX/RX separate)
Total Output Power, Downlink	dBm	33 (Typical TX/RX duplexed), 36 (TX/RX separate)
RF Passbands (RF windows)		Up to 3 *See Note below
Maximum System Gain	dB	95
Gain Adjustment Range (1dB step)	dB	0-30
Pass Band Ripple, p-p	dB	≤3
Uplink Noise Figure	dB	≤7
Intermodulation	dBm	≤ -13
Spurious	dBm	FCC Compliance
Maximum RF Input Level without Damage	dBm	0
Maximum RF Input Level without Overdrive		-10
Input VSWR		≤ 1.5
Impedance	Ω	50

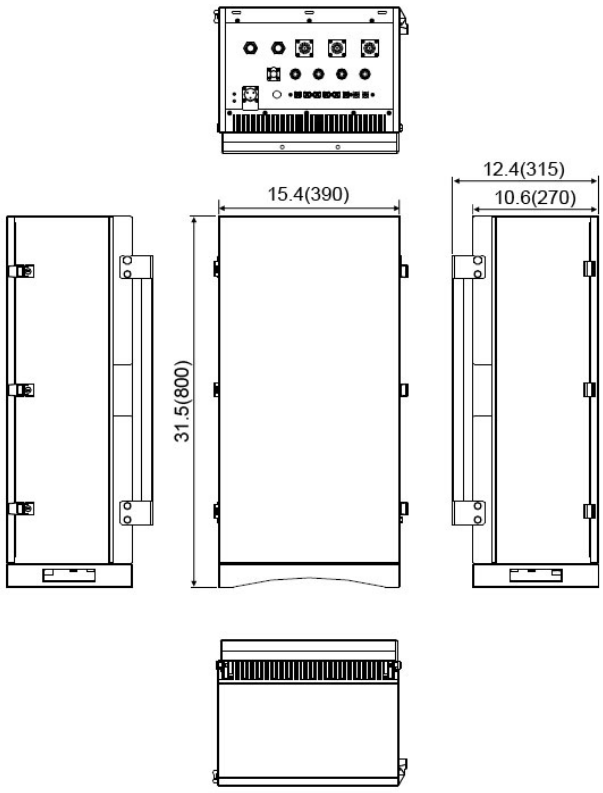
*Note:
A set of contiguous downlink/uplink channel pairs count as one passband (one window)
Consult with a Comba technical representative for passband and window configurations before ordering

Class A			
Number of Filters			32
Filter Bandwidth / Out-of-Band Suppression / System Group Delay	Bandwidth: 6.25KHz		≥ 60dBc @ filter center + 60KHz, 35us
	Bandwidth: 12.5KHz		≥ 60dBc @ filter center + 65KHz, 35us
	Bandwidth: 25KHz		≥ 50dBc @ filter center + 75KHz, 27us
	Bandwidth: 75KHz		≥ 60dBc @ filter center + 200KHz, 15us
Class B			
Number of Filters			4
Filter Bandwidth			200KHz – 5MHz
System Group Delay		μsec	6.5
Out-of-Band Suppression			≥ 45dBc @ filter edge + 0.6MHz ≥ 60dBc @ filter edge + 1MHz

Mechanical		
Dimensions, H x W x D	in(mm)	31.5x15.4x12.4 (800×390×315)
Weight(without bracket)	lb(kg)	77 (35) without filter, 140 (63.5) with filter
Power Supply	VDC	-40 to -58
Power Consumption	W	85
RF Connectors		N-Female
Operating Temperature	ºF(ºC)	-27 to +140 (-33 to +60)
Operating Humidity		≤ 95%
Environmental Class		UL50E Type 4 / NEMA 4

Note: Typical specifications at room temperature

Outline Drawing



Part Numbers

Part Number	Description
RX45V1-A36DCSP-UL	Class A, DC, 36/30dBm Downlink/Uplink Power, 95dB Gain, Simplex DT/MT, No Filter, UL2524 Standards Certified
RX45V1-B36DCSP-UL	Class B, DC, 36/30dBm Downlink/Uplink Power, 95dB Gain, Simplex DT/MT, No Filter, UL2524 Standards Certified
RX45V1-A36DCSA-UL	Class A, DC, 36/30dBm Downlink/Uplink Power, 95dB Gain, Simplex DT/MT, Filter Type SA, UL2524 Standards Certified
RX45V1-B36DCSA-UL	Class B, DC, 36/30dBm Downlink/Uplink Power, 95dB Gain, Simplex DT/MT, Filter Type SA, UL2524 Standards Certified
RX45V1-A36DC1A-UL	Class A, DC, 33/27dBm Downlink/Uplink Power, 95dB Gain, Duplexed DT/MT, Filter Type 1A, UL2524 Standards Certified
RX45V1-B36DC1A-UL	Class B, DC, 33/27dBm Downlink/Uplink Power, 95dB Gain, Duplexed DT/MT, Filter Type 1A, UL2524 Standards Certified
RX45V1-A36DC1B-UL	Class A, DC, 33/27dBm Downlink/Uplink Power, 95dB Gain, Duplexed DT/MT, Filter Type 1B, UL2524 Standards Certified
RX45V1-B36DC1B-UL	Class B, DC, 33/27dBm Downlink/Uplink Power, 95dB Gain, Duplexed DT/MT, Filter Type 1B, UL2524 Standards Certified
RX45V1-A36DC1X-UL	Class A, DC, 33/27dBm Downlink/Uplink Power, 95dB Gain, Duplexed DT/MT, Filter Type 1X, UL2524 Standards Certified
RX45V1-B36DC1X-UL	Class B, DC, 33/27dBm Downlink/Uplink Power, 95dB Gain, Duplexed DT/MT, Filter Type 1X, UL2524 Standards Certified
RX45V1-A36DC2A-UL	Class A, DC, 33/27dBm Downlink/Uplink Power, 95dB Gain, Duplexed DT/MT, Filter Type 2A, UL2524 Standards Certified
RX45V1-B36DC2A-UL	Class B, DC, 33/27dBm Downlink/Uplink Power, 95dB Gain, Duplexed DT/MT, Filter Type 2A, UL2524 Standards Certified
RX45V1-A36DC2B-UL	Class A, DC, 33/27dBm Downlink/Uplink Power, 95dB Gain, Duplexed DT/MT, Filter Type 2B, UL2524 Standards Certified
RX45V1-B36DC2B-UL	Class B, DC, 33/27dBm Downlink/Uplink Power, 95dB Gain, Duplexed DT/MT, Filter Type 2B, UL2524 Standards Certified
RX45V1-A36DC2X-UL	Class A, DC, 33/27dBm Downlink/Uplink Power, 95dB Gain, Duplexed DT/MT, Filter Type 2X, UL2524 Standards Certified
RX45V1-B36DC2X-UL	Class B, DC, 33/27dBm Downlink/Uplink Power, 95dB Gain, Duplexed DT/MT, Filter Type 2X, UL2524 Standards Certified
RX45V1-A36DC3A-UL	Class A, DC, 33/27dBm Downlink/Uplink Power, 95dB Gain, Duplexed DT/MT, Filter Type 3A, UL2524 Standards Certified
RX45V1-B36DC3A-UL	Class B, DC, 33/27dBm Downlink/Uplink Power, 95dB Gain, Duplexed DT/MT, Filter Type 3A, UL2524 Standards Certified

Filter Types

Filter Type	Number of Windows	Filter Passband	Filter Guardband	Window to Window Guardband
SA	N/A	Filters pass entire downlink passband or uplink passband for simplex units	N/A	N/A
1A	1	< 2.0MHz in 450-470MHz < 1.0MHz in 470-512MHz	≥ 3.0 MHz in 450-470 MHz or ≥ 2.0 MHz in 470-512 MHz	N/A
1B	1	< 2.5MHz in 450-470MHz < 1.5MHz in 470-512MHz	≥ 2.5 MHz in 450-470 MHz or ≥ 1.5 MHz in 470-512 MHz	N/A
1X	1	1 Window Customized Bandwidth, Confirm with Comba		
2A	2	Each window meets: < 2.0MHz in 450-470MHz or < 1.0MHz in 470-512MHz	Each window meets: ≥ 3.0 MHz in 450-470 MHz or ≥ 2.0 MHz in 470-512 MHz	> 3.0 MHz in 450-470 MHz or > 2.0 MHz in 470-512 MHz
2B	2	Each window meets: < 2.5MHz in 450-470MHz or < 1.5MHz in 470-512MHz	Each window meets: ≥ 2.5 MHz in 450-470 MHz or ≥ 1.5 MHz in 470-512 MHz	> 2.5 MHz in 450-470 MHz or > 1.5 MHz in 470-512 MHz
2X	2	2 Window Customized Bandwidth, Confirm with Comba		
3A	3	3 Window Customized Bandwidth, Confirm with Comba		