

TXRX Systems Series 64 Bi-Directional Amplifier System



DS039132-2C
8/16/2024

UHF Band Capable BDA

NFPA-compliant Emergency Responder Communications Enhancement System (ERCES) or private land mobile radio (LMR) system

Class A or B Operation

Class A operation includes 16 filters per band with individual filter bandwidths from 12.5KHz to 75KHz, and wideband operation of up to 5.0MHz UHF.

Available in a 4-port simplex model, several duplexed passband versions, as well as custom dual window versions.



Product Features

- UHF: 450-512 MHz frequency range
- Supports both digital and analog modulation including P25 phase 1 & 2
- 37 dBm (5W) DL power & 27 dBm (1/2W) UL power (before mechanical filtering)
- 85 dB +/-1.5 gain for UL and DL (before mechanical filtering)
- Redundant power supply capable, operates on 110VAC or 24VDC
- Uplink and Downlink squelch adjustment per filter
- Independent gain control per filter
- Intelligent oscillation management and built-in isolation test.
- Integrated VSWR antenna monitoring
- Built-in battery charging and alarm circuitry
- NEMA Type 4 enclosure with conduit glands for AC, battery & alarms
- Compliant to UL/CSA 2524, UL/CSA 62368-1, UL50E Type 4
- NFPA/UL2524 alarm capabilities
- User-friendly web GUI
- Supports SNMP
- Optional remote annunciator panel connection.

Compliances

- NFPA 72:2022
- NFPA 1225:2022
- Oscillation alarm in compliance with California Fire Code 2022

Digital Filter Specification

Propagation Delay by Filter Width								
	CLASS A				CLASS B			
Filter width	12.5 KHz	25.0 KHz	50.0 KHz	75.0 KHz	0.7 MHz	2.0 MHz	3.5 MHz	5.0 MHz
Delay	60 uS	36 uS	25 uS	15 uS	6 uS	6 uS	6 uS	6 uS
60 dB Filter Rejection (from band edge)								
Filter width	12.5 KHz	25.0 KHz	50.0 KHz	75.0 KHz	0.7 MHz	2.0 MHz	3.5 MHz	5.0 MHz

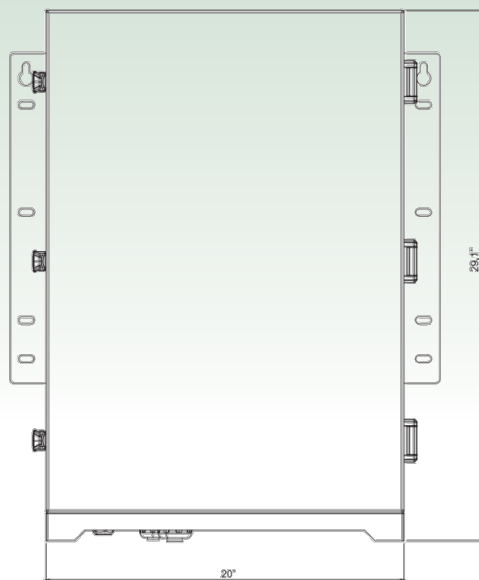
Offset/-60 dB	30	50	105	210	>1	>1	>1	>1
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Specifications

Electrical	
Main power input	100-240 VAC, 50/60 Hz, 2.0 A
AC power consumption (max.)	200 Watts (Max)
Battery charger output	28VDC
DC input range	24 - 30VDC
DC power consumption	150 Watts (Max)
RF output power	DL output power: 37dBm (5W) (Before Filtering) UL output power: 27dBm (0.5W) (Before Filtering)
RF Gain	DL gain: 85dB +/- 1.5dB (Before Filtering) UL gain: 85dB +/- 1.5dB (Before Filtering)
Gain adjustment range	30 dB (adjustable by filter)
AGC dynamic range	60 dB
Noise figure @ max. gain	<7 dB typ.
Squelch adjustment range	-60 to -90dBm
VSWR	<1.5:1
Number of filters:	Class A operation: 16 Class B operation: 4
Filter bandwidths	Class A operation: 12.5KHz, 25KHz, 50KHz, 75KHz Class B operation: 0.7MHz, 2MHz, 3.5MHz, 5MHz
Max input power	UL max power in: +10dBm UL max power in: 0dBm
Mechanical	
Dimensions (H x W x D)	29.1 x 20.0 x 13.8 in 739.1 x 508.0 x 250.5 mm
Approximate weight (lbs.)	79 lbs. to 135 lbs., depending on filters
Mounting	Wall mount (see outline dwg)
Enclosure	IP65/NEMA Type 4
Cable feedthroughs	Cordgrips and flex conduit fittings included
RF Connectors	N female
Alarm Connections	Screw terminals
AC & DC power	Screw terminals
Network Connection	RJ-45
Remote Annunciator Connection	RJ-45
Operating temperature F (C)	-22° (-30°) to 122° (50°)
Color	Red

Note: All gain and power values are prior to filters, varies by model.

Mechanical Outline



Model ordering

64-68-5-85-2-RD-NF	Simplex (4-port) 450-470 MHz, 5W, 85dB Gain, Red NFPA
64-70-5-85-2-RD-NF	Duplexed (2-port) 450-470 MHz, 5W, 85dB Gain, 2.0 MHz PB, Red NFPA
64-70-5-85-1-RD-NF	Duplexed (2-port) 450-470 MHz, 5W, 85dB Gain, 1.0 MHz PB, Red NFPA
64-70-5-85-050-RD-NF	Duplexed (2-port) 450-470 MHz, 5W, 85dB Gain, 0.5 MHz PB, Red NFPA
64-70-5-85-015-RD-NF	Duplexed (2-port) 450-470 MHz, 5W, 85dB Gain, 150 KHz PB, Red NFPA
64-71-5-85-2-RD-NF	Duplexed (2-port) 470-490 MHz, 5W, 85dB Gain, 2.0 MHz PB, Red NFPA
64-71-5-85-1-RD-NF	Duplexed (2-port) 470-490MHz, 5W, 85dB Gain, 1.0 MHz PB, Red NFPA
64-71-5-85-050-RD-NF	Duplexed (2-port) 470-490MHz, 5W, 85dB Gain, 0.5 MHz PB, Red NFPA
64-71-5-85-015-RD-NF	Duplexed (2-port) 470-490MHz, 5W, 85dB Gain, 150 KHz PB, Red NFPA
64-72-5-85-2-RD-NF	Duplexed (2-port) 490-512 MHz, 5W, 85dB Gain, 2.0 MHz PB, Red NFPA
64-72-5-85-1-RD-NF	Duplexed (2-port) 490-512 MHz, 5W, 85dB Gain, 1.0 MHz PB, Red NFPA
64-72-5-85-050-RD-NF	Duplexed (2-port) 490-512 MHz, 5W, 85dB Gain, 0.5 MHz PB, Red NFPA
64-72-5-85-015-RD-NF	Duplexed (2-port) 490-512 MHz, 5W, 85dB Gain, 150 KHz PB, Red NFPA

Note: Consult with TX RX Systems for multiple window and custom filtering configurations.

Accessories

95-CAB-01-BB	Battery Cabinet NFPA compliant (NEMA 3R)
95-BAT-45	45AH sealed lead-acid Battery (2 required). Sold in each. 12V-45AH batteries (2 required for holdover with generator backup)
95-BAT-100	100AH sealed lead-acid Battery (2 required). Sold in each. 12V-100AH batteries (2 required, 12-hour)
95-BAT-160	160AH sealed lead-acid Battery (2 required). Sold in each. 12V-160AH batteries (2 required, 24-hour) per NFPA
95-ANC-REMOTE	Single Unit Remote Annunciator for monitoring single device.
95-ANC-NFPA	Universal Interface Annunciator Kit to link BDA to Remote Annunciator Panel. Will work with any BDA / BBU System. Needed for Class B BDA. Kit Includes: (1 ea.) Interface Unit and (1 ea.) Single Remote Annunciator.

Note:

*To achieve UL 2524, the BDA must be installed with remote annunciator and battery backup. These items can be purchased from TX RX Systems as shown above.

