

DESCRIPTION

Channelized 5W Digital Repeater for Public Safety 700/800 MHz

The ADRF-PSR-78-9537-X is a revolutionary digital public safety repeater designed to protect the lives of first responders and building occupants.

Through the use of digital signal processing (DSP) filtering technology, the ADRF-PSR-78-9537-X helps eliminate adjacent channel interference to allow band selectivity and support for 700 MHz and 800 MHz Public Safety frequencies including FirstNet. Up to two non-contiguous wideband and thirty-two non-contiguous narrowband filters can be simultaneously supported in the 700 MHz and 800 MHz Public Safety frequencies via ADRF's celebrated web-based GUI, which provides versatility and total control to the user.

The ADRF-PSR-78-9537-X is the best-in-class public safety repeater with FirstNet support and it is fully compliant with International Fire Code (IFC) and National Fire Protection Association (NFPA).



FEATURES/BENEFITS

- Tested and approved under UL 2524, Second Edition by MET Laboratories, Inc. as comprehensive solution with an annunciator and ADRF-BBx-X Series battery backups
- NFPA 72-2013, NFPA 1221-2016/2019, IFC 2015/2018 code compliant and FirstNet compliant
- Alarming output to supervised circuits for: antenna, amplifier, AC or DC power supply, battery, and charger failure including oscillation detection with automatic amplifier shutdown routine
- NEMA 4 enclosure for both indoor and outdoor environments
- Supports FCC Part 90 Class A narrowband and Class B wideband repeater designation
- Up to 95 dB of gain and up to 37 dBm downlink and 30 dBm uplink output power per band
- Supports P25 Phase 1/Phase 2 analog and digital systems

TECHNICAL FEATURES

ELECTRONIC SPECIFICATIONS			
Frequency Range	B14 + PS700	758 ~ 768 / 769 ~ 775 MHz	788 ~ 798 / 799 ~ 805 MHz
	PS800	851 ~ 861 MHz	806 ~ 816 MHz
Composite Output Power	B14 / PS700 / B14 + PS700	37 dBm	30 dBm
	PS800	37 dBm	30 dBm
	B14 + PS700 + PS800	40 dBm (37 dBm + 37 dBm)	30 dBm
System Gain		95 dB	95 dB
Filter Selection	Wideband	2 (non-contiguous)	
	Narrowband (N Mode)	Up to 16 (non-contiguous) @ PS700 Up to 16 (non-contiguous) @ PS800	
	Narrowband (S1 Mode)	Up to 12 (non-contiguous) @ PS700 Up to 20 (non-contiguous) @ PS800	
	Narrowband (S2 Mode)	Up to 20 (non-contiguous) @ PS700 Up to 12 (non-contiguous) @ PS800	
	Narrowband (S7 Mode)	Up to 32 (non-contiguous) @ PS700	
	Narrowband (S8 Mode)	Up to 32 (non-contiguous) @ PS800	
Filter Bandwidth	Wideband	3, 5, 6, 10 MHz	
	Narrowband	12.5, 25, 75, 75 (LD), 100, 150, 200 KHz	
Filter Roll-off	Wideband	60 dBc @ Filter Bandwidth Edge + 1 MHz	
	Narrowband	≥ 55 dBc @ Filter Bandwidth Edge + 4 x Filter BW	
	Narrowband (75KHz LD)	≥ 55 dBc @ Filter Bandwidth Edge + 3 x Filter BW	
Spurious Emission	FCC Rule Compliant		
Passband Ripple	± 2 dB		
ALC Dynamic Range	≥ 60 dB		
Gain Dynamic Range	45 dB		
Noise Figure	≤ 5 dB @ Max Gain		
System Group Delay	Wideband	≤ 6.5 μs	
	Narrowband	≤ 46 μs @ 12.5 KHz, ≤ 28 μs @ 25 KHz, ≤ 18 μs @ 75 KHz, ≤ 15 μs @ 100 KHz, ≤ 13 μs @ 150 KHz, ≤ 12 μs @ 200 KHz	
	Narrowband (75KHz LD)	≤ 15 μs @ 75 KHz	
Power Supply	110 ~ 240 VAC, 60 Hz (Free Voltage, w/ battery backup function)		

TECHNICAL FEATURES

Power Consumption	< 263 W
Max RF Input Power w /out Over Drive	-20 dBm
Enclosure Cooling	Convection
Impedance	50 Ω
Dry Contacts	NFPA 1221 2016 Code Compliant
Remote Alarming / Network Management	Dry Contacts, Web-GUI, SNMP (External Wireless Modem Required)
Humidity	5% ~ 95% RH
Operating Temperature	-40°F to +140°F (-40°C to +60°C)
Certification	MET Classified for UL 2524 Fire & Shock; FCC: Part 90 Class A / Class B
Annunciator Decibel Level	100 dB @ 1m
Uplink Squelch Control	Narrowband / Broadband: -110 to -80 dBm (5 dB step)
MECHANICAL SPECIFICATIONS	
Dimension (Repeater; Annunciator)	12.0 x 11.9 x 21.3 in (w/o bracket); 5.9 x 2.8 x 6.3 in (w/o bracket)
Weight (Repeater; Annunciator)	64.0 lbs (w/o bracket); 2.5 lbs (w/o bracket)
RF Connector	4.3-10 (Female)
Weather Resistance	NEMA 4

