

FiRe-78-4

Fight Fire with FiRe™
(Fiber-optic Repeater)



ADRF's FiRe™ is a revolutionary FirstNet compliant in-building wireless solution which combines ADRF's PSR-78-9533 public safety 700/800 MHz channelized repeater with the industry's most flexible ADXV Series distributed antenna system (DAS) Head End (HE) in a single compact enclosure.

Through the use of digital signal processing (DSP) filtering technology, the FiRe-78-4 helps eliminate adjacent channel interference to allow band selectivity and support 700 MHz and 800 MHz Public Safety frequencies including FirstNet. FiRe-78-4 can reduce the equipment cost up to 40% and also allow savings for overall infrastructure spending by providing all equipment in an IP66 rated enclosure eliminating the need to purchase additional enclosures.

A single FiRe-78-4 can cover over 500K sq. ft. and can be monitored via ADRF's celebrated web-based GUI, which provides versatility and total control to the user. Simple and reliable, ADRF's FiRe-78-4 is a perfect public safety communication solution for enterprises.



Product Features

- ▶ Channelized 700/800 Repeater and DAS Head End (HE) in a single unit
- ▶ Up to 32 narrowband channel support (PS 700 & PS 800)
- ▶ Supports up to 4 Remote Units
- ▶ NFPA 1221 2016 Code Compliant
- ▶ Up to 33 dBm composite output power per remote
- ▶ IP66 compliant enclosure
- ▶ Supports Battery Backup & Dry Contact Alarming
- ▶ Repeater alarming output to supervised circuits for antenna, amplifier, AC or DC power supply, battery, and charger failure
- ▶ Optional alarming of remotes available via connection to external alarm box
- ▶ Simultaneously supports FCC Part 90 Class A narrow-band and Class B wideband repeater designations

MAKING CONNECTIVITY UBIQUITOUS

ADRF provides a one-stop shopping experience to enable ubiquitous public safety wireless connectivity in any venue.



Donor Antenna

ADRF's high isolation donor antenna provides exceptional signal strength, transceiving RF signals to/from cellular or public safety towers.



Server Antenna

ADRF's omni server antennas are mounted to the ceiling and transceive all frequency bands between the coaxial cables and wireless devices.



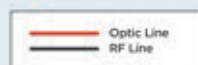
ADXV-R-3378P-N4X

ADRF's Public Safety Mid-Power Remote Unit amplifies RF signals and converts optical signals for transport over coaxial cables to server antennas.



FiRe-78-4

ADRF's FiRe-78-4 combines public safety repeater with DAS Head End in a single compact IP66 compliant enclosure.



Coverage
Ubiquitous coverage for medium to large size venue



Technology
Consolidated system with full technical features and benefits of DAS and a repeater



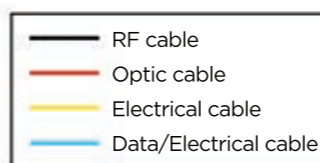
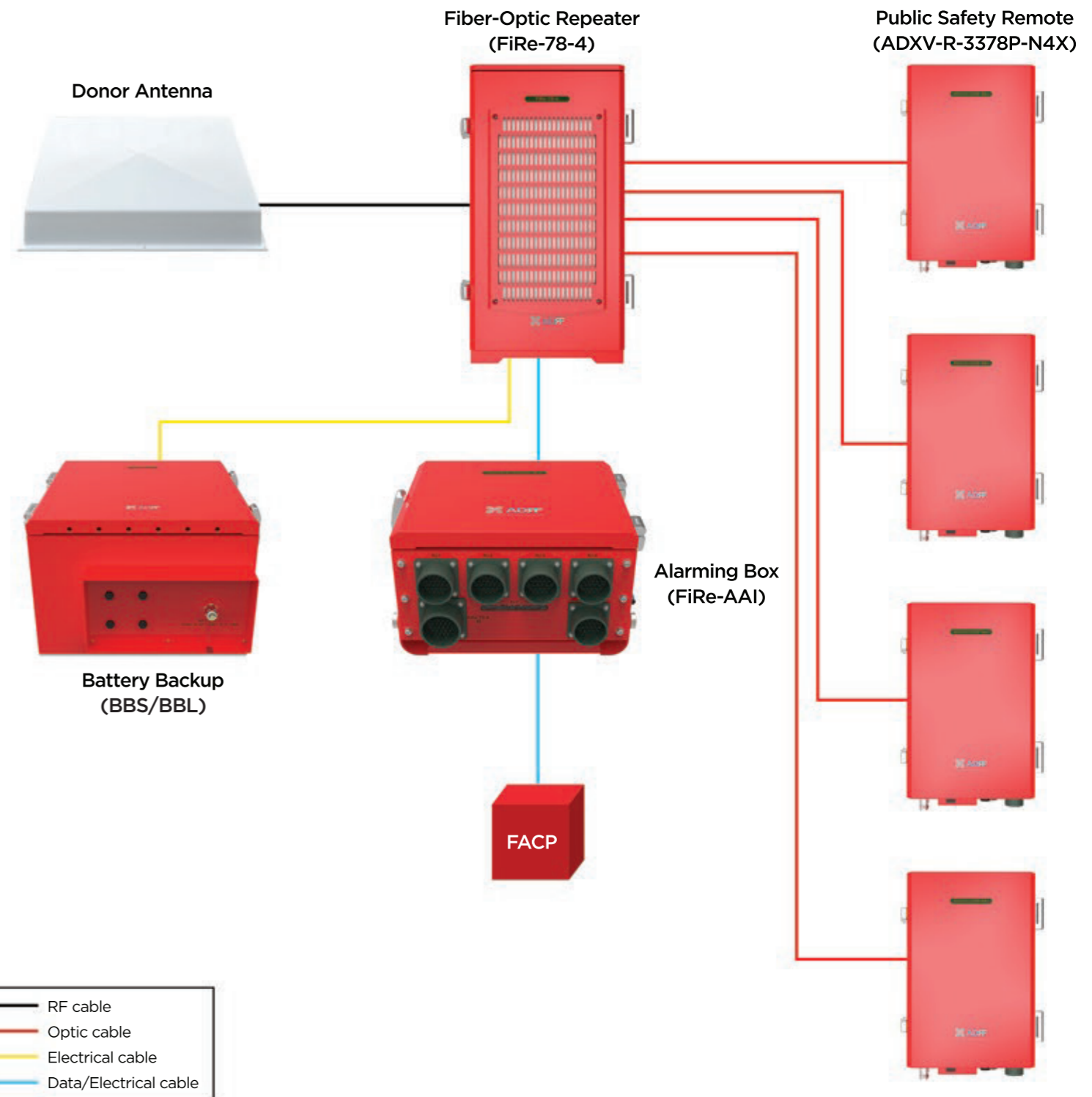
Code-Compliant
NFPA 1221 2016 Code Compliant



Simple
Simple design, commission, and maintain



Compact
Reduced space requirement with consolidated system design



Product Specifications

FiRe-78-4 (Fiber-optic Repeater for Public Safety 700/800 MHz)



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Electronic Specifications

		Downlink	Uplink
Frequency Range (MHz)	FirstNet+ PS 700	758 - 768 MHz 769 - 775 MHz	788 - 798 MHz 799 - 805 MHz
	PS 800	851 - 861 MHz	806 - 816 MHz
Composite Output Power of FiRe-78-4	FirstNet / PS 700 / FirstNet + PS 700	-24 dBm	30 dBm
	PS 800	-24 dBm	30 dBm
	FirstNet + PS 700 + PS 800	-21 dBm	30 dBm
	FirstNet / PS 700 / FirstNet + PS 700	-33 dBm	30 dBm
Composite Output Power of FiRe-78-4 + ADXV-R-3378P-N4X	PS 800	-33 dBm	30 dBm
	FirstNet + PS 700 + PS 800	-33 dBm	30 dBm
Total System Gain (FiRe-78-4 + ADXV-R-3378P-N4X)		95 dB	85dB
Filter Selection	Wideband	2 (non-contiguous)	
	Narrowband (N Mode)	Up to 16 (non-contiguous) @ PS 700 Up to 16 (non-contiguous) @ PS 800	
	Narrowband (S1 Mode)	Up to 12 (non-contiguous) @ PS 700 Up to 20 (non-contiguous) @ PS 800	
	Narrowband (S7 Mode)	Up to 32 (non-contiguous) @ PS 700	
	Narrowband (S8 Mode)	Up to 32 (non-contiguous) @ PS 800	
Filter Bandwidth	Wideband	3, 5, 6, 10 MHz	
	Narrowband	6.25, 12.5, 25, 75, 200 KHz	
Filter Roll-off	Wideband	60 dBc @ Filter Bandwidth Edge + 1 MHz	
	Narrowband	≥ 60 dBc @ Filter Bandwidth Edge + 3 x Filter BW	
Spurious	FCC Rule Compliant		
Passband Ripple	± 2 dB		
ALC Dynamic Range	≥ 60 dB		
Gain Dynamic Range	40 dB		
Channel Setting Resolution	0.025 KHz		
System Group Delay	Wideband	≤ 6 μs	
	Narrowband	≤ 85 μs @ 6.25 KHz BW, ≤ 46 μs @ 12.5 KHz BW, ≤ 28 μs @ 25 KHz BW, ≤ 18 μs @ 75 KHz BW, ≤ 12 μs @ 200 KHz BW	
Power Supply	110 - 240 VAC, 60 Hz (Free Voltage)		
Power Consumption	< 121 W		
Max 78P DL RF Input	-20 dBm		
Max VU DL RF Input	-20 dBm		
UL Noise Figure @ Max. Gain	5.0 dB @ Center Frequency		
No Damage Max Input Power	+10 dBm		
Enclosure Cooling	Natural Convection		
Impedance	50 Ω		
VSWR	<1.5:1		
Remote Unit Support	Up to 4 Remote Units		
Dry Contacts	NFPA 72 2016 Code Compliant		
Remote Alarming/Network Management	Dry Contacts, Web-GUI, SNMP, (External Wireless Modem Required)		
Relative Humidity	5% - 95%		
Operating Temperature	-40°F to +140°F (-40°C to +60°C)		

Mechanical Specifications

Dimension (W x H x D)	11.0 x 10.0 x 21.2 in
Weight	60.5 lbs (w/o wall-mount bracket), (64.0 lbs w/ wall-mount bracket)
RF Connector	4.3-10 (Female)
Expansion port for VHF/UHF	2 SMA (Female)
Weather Resistances	IP66

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