

ATLAS™ 4200 Multimode Simulcast Station



Compact scalable IP based simulcast station that simplifies deployment and support while reducing lifetime ownership costs.

The ATLAS 4200 Multimode Simulcast Station offers market-leading simulcast capabilities for analog and P25 mixed-mode in a robust, reliable, and compact form factor. Designed and built to exceed industry standards and specifications, it is available in a range of frequency bands including VHF, UHF, 700, and 800 MHz.

FLEXIBLE ARCHITECTURE

- Support for analog and P25 conventional simulcast and P25 trunked simulcast operation
- Synchronized timing throughout the network is enabled with an integrated time synchronization interface and GPS receiver input
- Integrated simulcast manager provides launch time for all repeaters of a simulcast channel
- P25 and analog voting functionality implemented with an integrated voter comparator
- Compact 2RU form factor maximizes rack space usage

EASE OF USE AND MAINTAINABILITY

- Intuitive configuration programming interface to enable quick and trouble-free installation
- Interactive front panel design displays status and diagnostics for rapid troubleshooting
- Flexible upgrades of software

ADVANCED NEXT GENERATION DESIGN AND PERFORMANCE

- Built for continuous duty cycle operation with ruggedized modules, boards, and components
- High efficiency power amplifier heatsink design maximizes heat dissipation and equipment longevity
- Low current consumption in transmit and receive modes
- Supports external high stability frequency reference to achieve ± 0.1 ppm frequency accuracy



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TECHNICAL DATA

GENERAL	VHF	UHF	700 MHz	800 MHz
Mounting	19" rack or shelf			
Dimensions (HxWxD)	3.5" x 19" x 14"			
Weight	20 lbs.			
Temperature Range	-30°C to +60°C			
Input Voltage	13.8VDC ±10%			
Power Consumption	100 W Tx - 220 W 15 W Rx		100 W Tx - 300 W 15 W Rx	
Frequency Resolution	12.5 kHz			
FCC Compliance	Parts 15 and 90			

TRANSMITTER	Analog		Digital		Analog		Digital		Digital		Analog		Digital	
Frequency Range	135-160, 148-174 MHz				370-400, 400-435, 435-470, 455-490 MHz				769-775 MHz				851-869 MHz	
RF Output Power	25 W - 100 W													
Duty Cycle	100%													
Output Impedance	50 Ohms													
Spurious Emissions	100 dB													
Harmonic Emissions	100 dB													
Maximum Deviation	± 2.5 kHz	± 3110 kHz	± 2.5 kHz	± 3110 kHz	± 3110 kHz	± 5 kHz	± 3110 kHz	± 5 kHz	± 3110 kHz	± 5 kHz	± 3110 kHz	± 5 kHz	± 3110 kHz	± 3110 kHz
Audio Response	As per TIA													
Audio Distortion	2%	N/A	2%	N/A	N/A	2%	N/A	N/A	2%	N/A	2%	N/A	N/A	N/A
Emission Designators	11K0F3E	8K10F1E, 8K10F1D	11K0F3E	8K10F1E, 8K10F1D	8K10F1E, 8K10F1D	16K0F3E, 14K0F3E	8K10F1E, 8K10F1D	16K0F3E, 14K0F3E	8K10F1E, 8K10F1D	16K0F3E, 14K0F3E	8K10F1E, 8K10F1D	8K10F1E, 8K10F1D	8K10F1E, 8K10F1D	8K10F1E, 8K10F1D
Hum & Noise (TIA)	45 dB	N/A	45 dB	N/A	N/A	50 dB	N/A	N/A	50 dB	N/A	50 dB	N/A	N/A	N/A
Frequency Stability (-30°C to +60°C)	± 1.0 PPM													

RECEIVER	Analog		Digital		Analog		Digital		Digital		Analog		Digital	
Channel Spacing					12.5 kHz						25, 12.5 kHz		12.5 kHz	
Frequency Range	135-160, 148-174 MHz				370-400, 400-435, 435-470, 455-490 MHz				799-805 MHz				806-824 MHz	
Sensitivity: 12dB SINAD	-117 dBm	N/A	-117 dBm	N/A	N/A	-117 dBm	N/A	N/A	-117 dBm	N/A	-117 dBm	N/A	N/A	N/A
Sensitivity: for 5% BER	N/A	-117 dBm	N/A	-117 dBm	-117 dBm	N/A	-117 dBm	-117 dBm	N/A	-117 dBm	N/A	-117 dBm	N/A	-117 dBm
Selectivity	72 dB	60 dB	72 dB	60 dB	60 dB	60 dB	60 dB	60 dB	78 dB	60 dB	78 dB	60 dB	60 dB	60 dB
Signal Displacement Bandwidth	± 1 kHz													
Frequency Stability (-30°C to +60°C)	± 0.1 PPM													
Intermodulation Rejection	82 dB													
Spurious & Image Rejection	90 dB													
Audio Response (1000 Hz ref.)	As per TIA													
Audio Distortion (at 1000 Hz)	2%	As per TIA	2%	As per TIA	As per TIA	2%	As per TIA	As per TIA	2%	As per TIA	2%	As per TIA	As per TIA	As per TIA
Hum & Noise (TIA)	45 dB	As per TIA	45 dB	As per TIA	As per TIA	50 dB	As per TIA	As per TIA	50 dB	As per TIA	50 dB	As per TIA	As per TIA	As per TIA
RF Input Impedance	50 Ohms													

STANDARDS COMPLIANCE

EFJohnson's stations comply with the following standard specifications:

P25 Digital Operation	TIA 102.CAAB-C
Analog FM Operation	TIA 603-D
EMI/EMC	NTIA Manual Chapter 5
PSTN Line Isolation	FCC Part 68 (USA)