

P25 Mission Critical

ATLAS 4500 Base Station

VHF, UHF, and 700/800 MHz

The smallest, fully software definable IP based linear base station operating in P25 Phase 1 and P25 Phase 2.



The ATLAS 4500 Multimode Base Station offers market-leading analog and P25 Phase 1 and Phase 2 TDMA mixed-mode capabilities 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, and 700/800 MHz.

Flexible Architecture

Leverages a common hardware platform to support 12.5 kHz Analog, 12.5kHz FDMA P25 Phase I and 6.25 kHz P25 Phase 2 TDMA and operates in Analog/P25 Conventional, P25 Trunked and Linear Simulcast mode

Smallest P25 Phase 2 base station in the industry packaged in an ultra compact 2RU size chassis maximizing rack space usage

Supports dynamic P25 Phase 1 and P25 Phase 2 mixed mode operation

AC or DC power input

P25CAP Compliant

Supports P25 voice and data capability

Ease Of Use And Maintainability

Modular architecture allows flexible expansion of sites and seamless scalability of the system

Interactive front panel design displays status and diagnostics for rapid troubleshooting

Flexible upgrades of software

Advanced Next Generation Design And Performance

Improved multi band receiver design provides higher sensitivity along with very high intermodulation immunity for congested prime site locations

High power ultra linear ultra compact RF power amplifier uses new state of the art digital and RF techniques and components that greatly simplify operation

Full spectrum coverage in VHF, UHF, and 700/800 MHz



Making Safe, Simple™

ATLAS 4500 Base Station Specifications

General	VHF	UHF	700 / 800 MHz
Mounting	19" rack or shelf		
Dimensions (Hx Wx D)	3.5" x 19" x 17.9" (89 x 483 x 455mm)		
Weight	24.25 lbs. (11 kg)		
Operating Temperature Range	-30°C to +60°C		
Power Requirements	AC: 90-264 VAC, 47-63 Hz or DC: 24-58 VDC positive or negative ground.		
Power Consumption	100W Tx 480W 40 W Rx (C4FM) / 230 W Rx (LSM)		
RF Interconnects	TX:N Female, RX: N Female		
Channel Spacing	12.5 kHz		
FCC Compliance	Parts 15 and 90		
Modulation	TX: C4FM, H-DQPSK (Linear and Linear Simulcast), RX: C4FM,H-CPM, FM		

Transmitter	VHF	UHF	700 / 800 MHz
Frequency Range	136-174 MHz	380-520 MHz	763-776 MHz, 850-870 MHz
RF Power Output	5-100 Watts		
Electronic Switching Bandwidth	Full Bandwidth		
Duty Cycle	100%		
Output Impedence	50 Ohms		
Spurious Emissions	90 dB		
Harmonic Emmissions	90 dB		
Modulation Fidelity	<3%		
Intermodulation Attenuation	40 dB, 80 dB With External Isolator		
Audio Response	As per TIA		
Analog Audio distortion	<2%		
Frequency Stability (-30°C to +60°C)	± 1.0 PPM (Internal) ± 0.1 PPM (External Ref: GPS Synchronized)		
Digital Emission Designator	8K10F1E, 8K10F1D, 9K80F7E		
Analog Emission Designator	11K0F3E	11K0F3E	16K0F3E, 14K0F3E, 11K0F3E
Analog FM Hum & Noise (S/N Ratio)	45 dB		
Maximum Deviation (Analog)	± 2.5 kHz	± 2.5 kHz	± 5 kHz
Maximum Deviation (Digital)	± 3110 Hz	± 3110 Hz	± 3110 Hz

Receiver	VHF	UHF	700 / 800 MHz
Frequency Range	136-174 MHz	380-520 MHz	792-825 MHz
Analog Sensitivity: 12dB SINAD	-119 dBm	-119 dBm	-119 dBm
Digital Sensitivity: for 5% BER	-119 dBm	-119 dBm	-119 dBm
Signal Displacement Bandwidth	± 1 kHz		
Frequency Stability (-30°C to +60°C)	0.5 PPM		
Analog Adjacent Channel Rejection (TIA603D)	72 dB		
Digital Adjacent Channel Rejection	60 dB		
Intermodulation Rejection	82 dB		
Spurious and Image Response Rejection	90 dB		
Audio Response	+1, -3 dB From 6 dB per Octave De-Emphasis; 300-3000 Hz Referenced to 1000 Hz at Line Output		
Analog Audio distortion (at 1000 Hz)	2%		
Digital Audio distortion (at 1000 Hz)	As per TIA		
Analog Hum & Noise (TIA)	45 dB		
Digital Hum & Noise (TIA)	As per TIA		
RF Input Impedence	50 Ohms		

Standards Compliance

EFJohnson's stations comply with the following standard specifications:	
P25 Digital Operation	TIA-102.CAAB-D
P25 Phase 2 (TDMA) Operation	TIA-102.CCAB-A
Analog FM Operation	TIA 603-D
EMI/EMC	NTIA Manual Chapter 5
PSTN Line Isolation	FCC Part 68 (USA)

All specifications are subject to change without notice. Please check the website for the latest version. V.070518 © Copyright 2018 EF Johnson Technologies, Inc. (E.F. Johnson Company is operating entity) AMBE+2™ is a trademark of Digital Voice Systems Inc.

EF Johnson Technologies, Inc.

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1440 Corporate Drive, Irving, TX 75038-2401
Phone: 800.328.3911 • efjohnson.com