OFFGRID
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COCKATOO SERIES MESH RADIO

INTRODUCTION

Exicom Cockatoo Series: Empowering India's Defence Forces with Indigenous Communication Solutions

The Exicom Cockatoo Series is a cutting-edge, indigenous communication solution designed to meet the unique demands of India's defence forces. This robust, secured, and tactical (OTM|OTH) communication data link enables seamless transfer, exchange, of critical data, including Realtime Video, Audio, High-Speed data, Fire Control (FC), and Battlefield Management Systems (BMS) information.

The Exicom Cockatoo Series is designed to operate in challenging environments, providing reliable connectivity even in non-line-of-sight (NLOS) situations, making it ideal for use in dense forests, hilly terrain, and urban areas, where it delivers unparalleled performance and guarantees uninterrupted communication.

The Exicom Cockatoo Series showcases India's defence manufacturing capabilities, providing a secure and scalable self-healing networking architecture for On-the-Move (OTM) and On-the-Halt (OTH) elements, including AFVs, UGVs, USVs, and UAS Ground Control Terminals.

Vehicle Mount

GCS

FEATURES AND BENEFITS

- Secured Encryption: AES encryption for secure data transmission, ensuring confidentiality and integrity of sensitive information.

- Anti-Jamming: Robust anti-jamming capabilities to prevent interference and ensure uninterrupted communication.

- Static Frequency Hopping: Advanced frequency hopping technique to minimize interference and ensure secure communication.

- Real-time Communication: Enables seamless transfer of critical data, including real-time video, audio, and high-speed data.

- Reliable Connectivity: Maintains connectivity even in non-line-of-sight (NLOS) situations and challenging environments.

- Multi-Platform Compatibility: Supports various plat forms, including AFVs, UGVs, USVs, and UAS Ground Control Terminals.

- Interoperability & Teaming: Enables seamless communication and teaming between manned and unmanned elements across air, ground, and sea domains.

- 4-Way Diversity: Improves On-the-Move (OTM) and NLOS performance, ensuring reliable communication in challenging environments.

- High-Speed Data Transfer: Enables fast and reliable transfer of critical data, supporting mission-critical operations.

- Dual Band: Operates on two frequency bands, providing flexibility and adaptability in various operational scenarios.

- MIL Qualified: Meets rigorous MIL standards for Environmental Stress Screening (ESS) and Electromagnetic Interference/Electromagnetic Com patibility (EMI/EMC).

- Indigenous Development: Proudly designed, developed, and manufactured in India, supporting the country's defence modernization efforts.

Cockatoo Series: Developed and Designed by Exicom for the Forces, by the Forces –"Empowering India's Defence"

MADE IN INDIA

COCKATOO SERIES MESH RADIO

TECHNICAL SPECIFICATION

DESCRIPTION	TECHNICAL PARAMETERS
Model /Part No.	Cockatoo XX87-HX-4D/RE
Topology	Mesh | Point to Point | Point to Multipoint
Transmission Technique	Time Division Multiplexing | Frequency Division Multiplexing
Operational Performance	Line of Sight | Non Line of Sight
Frequency Range	UHF : 320-470 MHz L Band: 1200 -1700 MHz S Band: 1980 –2550 MHz C Band: 4400- 5000 MHz Dual Band Radio*
Channel Bandwidth	Ultra Narrow Band: 1.25, 1.5 & 1.75 MHz Narrow Band: 2.5, 3.0,4.0 ,5.0, 6.0 & 8.0 MHz Wide Band: 10,12,14,16 & 20 MHz
GPS	Internal: GLONASS |Galileo | NaVIC/IRNSS * External: USB | Ethernet | RS 232
Frequency Tunning	125 kHz
Video Encoding	On-board Adaptive Video Streams : 1920 x 1080 p30
Encoding Technique	Compression: H.264 Encoding Bitrates: Adaptive | Manual Encoding delay: 10ms to 1s
Audio Technique	Talkback or Stereo pair Coding mode: MPEG Compression: G726 Audio comms: Headphone/Microphone
Preset	16 Radio Parameter 32 Audio Talk groups
Storage	64 | 128 GB
Management Port	Ethernet | GUI
Diagnosis	Built-in Test (BIT) | Spectrum scan | Node Occupancy | Detailed Summary IP Traffic | SNR – RSSI Level | Quality Matrix | Video Stream Occupancy | Mesh Network Diagnostic | Power monitoring
Data Rate	Smart Mesh Adaptive Encoder: 17 Mbps (SISO) | 20 Mbps (MIMO) Advance Mesh Architecture : 80 Mbps
Latency (Data)	10mSec
Nodes in Mesh Network	Adaptive Encoder: 16 | 20 Nodes High Speed Robust Mesh: 24 Nodes High Performance Mesh: 70 Nodes High Density Mesh: 140 Nodes
Transmitter	
RF Module	2 Individual RF Streams
Power Output	4W | 10W | 20W | 30W***

Continued..

EXICOM TECHNOLOGIES INDIA PRIVATE LIMITED   MADE IN INDIA

COCKATOO SERIES MESH RADIO

TECHNICAL SPECIFICATION

DESCRIPTION	TECHNICAL PARAMETERS
Receiver	
Receiving sensitivity	-100 @ 2.5 MHz
Diversity Technique	Spatial Diversity | Frequency Diversity
Waveforms & Modulation	
Waveform	SISO | MIMO | Advance Mesh : High Speed Robust Mesh , High Density Mesh, High-Performance Mesh Architecture
RF Technique	Quasi Beamforming | Advance Beamforming | Space Diversity
Modulation	COFDM "Coded Orthogonal Frequency Division Multiplexing" Carrier Modulation: (Adaptive) • Narrow Band: BPSK + QPSK + 16 QAM • Wide Band : BPSK + QPSK + 16 QAM + 64 QAM
Carrier	360
Forward Error Correction	1/2 , 2/3 (Adaptive)
Power Input	
Input Power	12-48VDC
Power Consumption	4W: 50W @ 12V
	10W:80W @ 12V
	20W: 150W @ 12V
Propriety Security Protocol	
Communication Security	Advance Encryption Standard 256 Bit FIBS 140-2 to FIBS 140-3** • Data link • Transport Stream (Video)
Key	16
Web Security	Secure Sockets Layer/Transport Layer Security
Spectrum Management Techniques	
RF Silence	Activated to reducing the device's visibility to unauthorized parties. (Transmission OFF)
Spread Spectrum	Splits and Spreads data across a wide frequency band to resist the interference
Frequency Hopping	Adaptive Channel Switching is a technique used to mitigate interference in wireless communication systems. Noise level Monitoring | Threshold detection
Interference Avoidance Scheme	Ensure Frequency Switching automatically when interference is experienced.
Roaming	Roam between two different Mesh Network.
Interfaces	
Antenna Port	Connector: N-Type [F] Ports: 4 [2 x TX/RX & 2 x RX Only]
Video Input	SDI | Composite or HDMI*

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TECHNICAL SPECIFICATION

DESCRIPTION	TECHNICAL PARAMETERS
Management	Circular Ethernet Connector [Amphenol | Rotary or Equivalent] Interface: PoE (RJ 45) 10/100 BaseT
Data Interface	Circular Ethernet Connector [Amphenol | Rotary or Equivalent] Interface: RJ 45 100/1000- BaseT L2 Bridge Interface
External Interface	USB | RS 232
Environmental	
Vibration and Shock	MIL-STD-810G for tracked and wheeled vehicles
Bump/Bounce	MIL-STD-810G for tracked and wheeled vehicles
Temperature (LOW/HIGH)	MIL-STD-810G
Mould Growth	MIL-STD-810G
Ingress Protection/ Rain	MIL-STD-810G (IP 66)
Sand/Dust/Salt/Fog	MIL-STD-810G
EMI/EMC	MIL-STD-461E
Physical	
Dimension	L: 220mm x W: 190mm x H: 52mm
Weight	< 2000 grams
Colour	Black | Military Green
Networking	
Interlink	Connect two Different Mesh Network
Secured mode	HTTPS
RIP	RIP V2
STP	Enable STP (PVST Cisco) allows external routers to check for IP Loss
IGMP	IGMP v2 | v3 Compatible
VLAN	VLAN Tagging
IP Protocol	IPv4 | IPv6

*   Optional
**   Licensed Options
*** Custom Product

Rev 1.5