OFFGRID
By EXICOM

CONDOR SERIES MESH RADIO

INTRODUCTION

Exicom's Condor Radios are ruggedised Mesh System, designed considering critical UxV applications and particularly suitable for applications that require rugged system capable to sustain and perform in high vibrations, shock, temperature, Environmental conditions. This series has radios in 100mW, 1W, 2W and 5W, these systems have dual high profile H.264 independent encoders on board, a feature truly rare in competing systems and enables the radio to stream extremely low latency videos.

Exicom Waveform technology provides unbeatable, robust and secure long range communication for unmanned platforms (UAVs, UGVs, USVs) repeatedly demonstrating Non Line-of-Sight (NLOS) and Beyond Visual Line-of-Sight (BVLOS) performance superior to competing solutions. With a comprehensive product portfolio, from simple digital video links to the latest Mesh Radio systems.

100mW RF power

FEATURES AND BENEFITS

WAVEFORM

- MIMO Technology
- Receiver Diversity
- Quasi Beamforming
- Auto Adaptive Modulation
- Interference Avoidance Scheme

CARRIER WAVE

- COFDM Modulation
- Robust Signal
- Greater Ranges Penetration
- Extreme NLOS Performance
- 1.25MHz to 20MHz B/W
- 1000 Low Data Carriers
- Forward Error Correction

2x1W RF power

NETWORK

- Token Passing
- Masterless TDMA
- Self-Forming & Self-Healing
- 120 Nodes in a Single Network
- Interlink

VIDEO

- Dual SD/HD Encoder
- H.264 Compression
- Stream Voice, Video & Data Simultaneously
- 128GB Storage
- Push Back

2x2W RF power

ENCRYPTION

- AES 256Bit*
- AES 128Bit*
- Standard DES

AUDIO COMMUNICATION

- 32 Voice Groups
- Dual PTT*

2x5W RF power

EXICOM TECHNOLOGIES INDIA PRIVATE LIMITED   MADE IN INDIA

CONDOR SERIES MESH RADIO

TECHNICAL SPECIFICATION

PARAMETERS	CONDOR 100mW	CONDOR 1W	CONDOR 2W	CONDOR 5W
Type	State-of-Art HIGH CAPACITY IP Mesh MANET & COFDM P2P Video, Audio & Data ON-THE-MOVE			
Bandwidth [Data Rate]	87Mbps			
RADIO				
Band	UHF-Band : 320MHz to 470MHz*, L-Band : 1.14GHz to 1.50GHz*, LS-Band : 1.67GHz to 2.35GHz*, S-Band : 1.98GHz to 2.70GHz*, C-Band : 4.40GHz to 5.00GHz*			
Mode	COFDM [Transmitter and Receiver], IP Mesh Manet			
GPS	Supported			
	GLONASS/NavIC/GAGAN*			
IPMESH				
Operational Mode	Single Mesh, MIMO Mesh, Ultra Mesh, Diversity, Beamforming			
Channel Bandwidth	1.25, 1.5, 1.75, 2.5, 3.0, 5.0, 6.0, 7.0, 8.0, 10, 12, 14, 16, 20MHz			
Transmit Output	2 X RF Out Interface [SMA/TNC/N-Type]			
Transmit Power	20dBm per Port [100mW]	30dBm per Port [1W]	33dBm per Port [2W]	37dBm per Port [5W]
Transmit Power Control	0.25dBm			
Modulation	COFDM			
Constellation	BPSK, QPSK, 16QAM, 64QAM [Adaptive]			
Forward Error Correction	Supported			
Bandwidth Allocation	Automatic			
Diversity	Supported			
Beamforming	Quasi Beamforming Supported			
Encryption Over Radio	AES128 / 256 Bit FIBS 140-2 to FIBS 140-3 Approved**			
Encryption Over Transport Stream	AES128 / 256 Bit FIBS 140-2 to FIBS 140-3 Approved**			
Nodes	Up to 120 Nodes			
Channel Spacing	125kHz			
Receiver Sensitivity	-98dBm at 1.25MHz			
COFDM POINT TO POINT **				
Modulation	COFDM			
Constellation	Narrow Band : 8PSK, BPSK, QPSK, 16QAM			
	DVB-T : QPSK, 16QAM, 64QAM			
Channel Bandwidth	Ultra Narrow Bandwidth : 625kHz			
	Narrow Bandwidth : 1.25 & 2.5MHz			
	Constellation : 6, 7 & 8MHz			
FEC	Narrow Band : 1/2, 2/3			
	DVB-T : 1/2, 3/4, 5/6, 7/8			

CONDOR SERIES MESH RADIO

TECHNICAL SPECIFICATION

PARAMETERS	CONDOR 100mW	CONDOR 1W	CONDOR 2W	CONDOR 5W
Graud Interval	Narrow Band : 1/8, 1/16			
	DVB-T : 1/8, 1/16, 1/32			
COFDM POINT TO POINT [Receiver]**				
Receiver Sensitivity	-110dBm at 625KHz			
Channel Spacing	125KHz			
TELEMETRY**				
Telemetry Receiver	433 - 434MHz or 902 - 928MHz*			
Power	-11dBm power dependent			
Receiver Sensitivity	-114dBm			
VIDEO				
Encoder	Built-in Dual H.264 Encoder			
Video Input interface	2 X SD/ HD-SDI			
Video Format	Automatic 576i50 (PAL) 480i59 (NTSC) 720p25, 720p29, 720p30, 720p50, 720p59, 720p60, 1080i50, 1080i59, 1080i60, 1080p23, 1080p24, 1080p25, 1080p29, 1080p30, 1080psf23, 1080psf24, 1080psf25, 1080psf29, 1080psf30			
Video Compression	H.264			
Encoder Latency	≥10ms (mode dependent)			
Streaming	UDP, TCP, RTSP, UDP, Multicast, RTP, RTP-Z			
AUDIO*				
Analogue	High gain microphone stereo pair 10V microphone bias			
Digital	SD/HD-SDI de-embedding			
Audio	Push to talk (External attachment)			
Audio Encoder	MPEG Layer I MPEG Layer II MPEG Layer III			
Audio Bitrate	32 - 448Kbits/s			
Encoder Mode	Stereo Left Mono, Right Mono, Dual Mono			
Audio Channel (Talk Group)	32 Groups			
NETWORKING				
DHCP Server/Client	Supported			
Routing	Supports RIP V2			
STP	Support SIP, Planning Tree, Protocol (PVST cisco) to allow all external routers to check for IP loops in the network			
IGMPv2	All nodes supports IGMPv2 protocol used for establish multicast group membership			
	IGMP modes allows more efficient use of resources			
VLAN	Support VLAN			
VLAN Tag	Support Tag 1-4090			
Static Routes	The radio supports static routes, tag, subnet, mask, gateway & metric			
Interface	Ethernet POE, RS232 & 485, SDI for Video			
Latency Data	≥10ms			

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TECHNICAL SPECIFICATION

PARAMETERS	CONDOR 100mW	CONDOR 1W	CONDOR 2W	CONDOR 5W
USB Support*	USB 2.0, Supports Peripherals such as 3G/4G/Wi-Fi Dongles			
ADDITIONAL FEATURES				
P2MP Mode	P2MP mode configures the network to act as a point to multipoint system. The downlink is the central receiver node and the uplink is a mobile node.			
Split frequency	Split UPLINK and DOWNLINK Frequency			
Interface Avoidance Mode	Master Less IAS feature			
Radio Preset	16 Preset			
Storage	128GB Built-in			
DIAGNOSTIC TOOLS				
Spectrum	Built-in spectrum			
GPS information	The GUI of individual radio must displays the GPS coordinates of its location			
MAPs	The radio GUI interface allows to select and upload the maps. The system supports jpg, .png, .gif, .bmp			
MECHANICAL				
Dimensions	L 88mm	L 120mm	L 157mm	L 177mm
	W 69mm	W 92mm	W 133mm	W 175mm
	H 31mm	H 32mm	H 34mm	H 48mm
Weight	350gms	575gms	1.03kg	1.5Kg
POWER				
DC Input	8VDC to 18VDC Reverse Polarity Protected			
Typical Power Consumption	Typically 7.5W(SD), 8.5W(HD),9.5W (DUAL) 4W Receiver	Typically 10W Mesh	12.5W (SD), 13.5W(HD), 14.5W(DUAL)	85W
ENVIRONMENTAL				
Temperature	-20°C to 60°C			
Humidity	Less than 85% non-condensing			
Sealing	Designed For IP67			
MANAGEMENT				
USB	For configuration, data transfer and connect USB camera			
Ethernet	Web GUI Control			
Access	User, Super User and Admin Accounts			
Configuration Software	GUI based software for configuring addition command & control software			
Software Scalable Radio (licensed)	IP MESH, COFDM, IP ENCODER, VIDEO, AUDIO			

\#   Frequency range would be from 100-200MHz only
*   Options
** Licensed Options

Note: Exicom is constantly seeking to improve quality and performance. Therefore Specifications, Configurations and Processes are subject to change without notice.