EXICOM

EXCELLENCE IN COMMUNICATION

MULTI CHANNEL RADIO RELAY

CONNECTING THE UNCONNECTED

MADE IN INDIA

EXICOM TECHNOLOGIES INDIA PRIVATE LIMITED

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INTRODUCTION

EX-5200-IP is Exicom's latest generation Multi Channel Radio Relay. It supports Multiple modes like Point to Point, Point to Multipoint and also acts as a Repeater in both Line of Sight and Near Line of Sight Scenarios. The Radios are designed to work in challenging operational areas and deliver Mission-Critical IP Video and Data Communication. Exicom's Tactical Waveform has been designed from the ground up to provide Robust performance in demanding dynamic environment. EX-5200-IP also provides Interference Avoidance Scheme which support in enabling interference free Communication.

EX-5200-IP delivers Greater Ranges with the help of Noise-optimized RF Design, High performance LDPC error correction coding, together with Tactical waveform and automatic MIMO mode switching.

FEATURES

CARRIER WAVE

- COFDM Modulation
- Greater Ranges Penetration
- Extream NLOS Performance
- 1.25MHz to 20MHz B/W
- 1000 Low Data Carriers
- Forward Error Communications
- MIMO Technology
- Receiver Diversity
- Quasi Beamforming

VIDEO/ AUDIO

- Dual SD/HD Encoder
- H.264 Comperssion
- Order Wire

TOOL'S

- NMS
- GPS
- MAP Integration
- Spectrum Scanning
- Firmware

ENCRYPTION

- AES 128Bit
- AES 256Bit

COGNITIVE FEATURES

- Auto Adaptive Modulation
- Interference Avoidance Scheme
- Auto MIMO to Diversity

IDU

- Voice upto 16 ports (FXO/FXS)
- TDM upto 16 ports
- Ethernet 1000 Base -T

NETWORK ALGORITHM

- Point to Point
- Point to Multipoint
- Repeater
- Token Passing

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TECHNICAL SPECIFICATION

MULTI CHANNEL RADIO RELAY

IDU

EX-5200-IP

ODU

PARAMETERS	MCRR-IP	
Product Architecture	ODU and IDU Concept	
Topology	Point to Point Point to Multipoint Multiple Point to Point Repeater**	
Mode	Line of Sight Near Line of Sight Non Line of Sight	
ODU [Outdoor Unit]		
Model Number	EX-5200-IP	
Supported Band	UHF : 320MHz to 470MHz* L-Band : 1140MHz to 1500MHz* LS-Band : 1670MHz to 2350MHz* S-Band : 1980MHz to 2700MHz*	
Range	Up to 100 KM / 62 miles	
Bandwidth [Data Rate]	05Mbps 10Mbps** 25Mbps** 50Mbps**	
Channel Bandwidth	Configurable: 1.25/1.5/1.75/2.5/3.0/5.0/6.0/7.0/8.0/10/12/14/16/20MHz	
Modulation	COFDM [BPSK/QPSK/16QAM/64QAM]	
Error Correction	LDPC -Auto Adaptive	
Duplex Technology	TDD, Configurable Uplink/Downlink	
Cognitive Feature	Modulation Type	Adaptive
	Routing	Automatic on SQT Table [Signal Quality table]
	Auto MIMO to R-MIMO	Automatic Drops from Full MIMO to Reduce MIMO depending on Signal Quality
	Interference Avoidance scheme	Exicom Interference Avoidance Scheme (IAS) takes things one step further, offering **TRUE COGNITIVE** radio capabilities. Automatically witching frequency to avoid RF interference

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TECHNICAL SPECIFICATION

PARAMETERS	MCRR-IP	
Data Carrier	1k	
Radio Access Scheme	Full MIMO or Reduce MIMO & Diversity	
Beamforming	Quasi Beamforming Supported	
GPS	Supported	
Spectrum Viewer	Supported	
Latency	10msec end to end	
Network Algorithm	TDMA, Token Passing	
RF Interface	2 X RF Out Interface [SMA/TNC/N-Type]	
Transmit Power*	2W (33dbm) per port 4W (36dbm) total	5W (37dbm) per port 10W (40dbm) total
Channel Spacing	125kHz	
Receiver Sensitivity	-102dBm	
Encryption Over Radio	AES128 / 256 Bit FIPS 140-2 Approved**	
Interface*	Ethernet: 1000 BaseT Serial: RS 232 , 485 and 422 Video: HD/SDI Order Wire: Audio Channel	
ORDER WIRE*		
Headphone output	Mono headphone driver	
Analogue	High gain microphone stereo pair 10V microphone bias	
Audio Encoder	MPEG Layer I MPEG Layer II MPEG Layer III	
MECHANICAL		
ODU	H 307mm X W 200mm X D 83mm	
ODU-Clamps	L- Clamp with U-Clamp	
Weight	2200g	
ENVIRONMENTAL		
Operating Temperature	-15° C to 55° C	
Humidity	95% condensing and outdoor protected radio	
EMC	FCC, ETSI	
Support Indoor Unit	IDU EX-5200VD	
INDOOR UNIT MODEL		
Voice Interface	16, 8, 4 ports	
Type	FXO /FXS/ FXO & FXS/ TDM-E1	
PoE	01 x Power Over Ethernet	
Ethernet Interface	2 x 1000 BaseT	
Voice	G.711A/U LAW, G.723.1, G.729A/B Supports T.38 DTMF and Pulse	
SIP Protocol	SIP v2.0, SDP, RTP/RTPC, RFC2198	

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TECHNICAL SPECIFICATION

PARAMETERS	MCRR-IP	
TDM*	Type	E1/T1
	Framing	Unframed
	Timing	Independent timing per port TX, RX
	Jitter & Wander	According to ITU-T G.823, G.824
	Latency	5-20 msec
NETWORKING		
Routing	Supports RIP V2	
STP	Supports 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	Supports VLAN	
VLAN Tag	Supports Tag 1-4090	
QoS	Supports QoS	
Static Routes	The radio supports static routes, tag, subnet, mask, gateway & metric	
Interface	Ethernet, RS232 & 485*	
Latency Data	10ms	
ADDITIONAL FEATURES		
Split frequency	Split UPLINK and DOWNLINK Frequency	
Radio Preset	16 Preset	
DIAGNOSTIC TOOLS		
Spectrum	Built-in spectrum	
GPS information	The GUI of individual radio must display the GPS coordinates of its location	
MAPs	The radio GUI interface allow to select and upload the maps The system must support jpg, .png, .gif, .bmp.	
Management	SNMP, HTTP web based	
Firmware	Software upgradeable	
MECHANICAL DIMENSION		
IDU	H 47mm X W 480mm X D 160mm	
Weight	1700g	
POWER		
Power Feeding	Power Provided via PoE over ODU-IDU	
Input Power	24V	
Consumption	110W	

* Options
** Licensed Options

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MULTI CHANNEL RADIO RELAY

By Exicom Technologies India Private Limited

MULTI CHANNEL RADIO RELAY

Rev 1.3

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