

## 400 MHz Serial Software Defined Industrial Radio

The **Xeta4 Serial** radio is an extremely capable and flexible industrial software defined radio covering 403 to 470 MHz frequency band (model dependent). The **Xeta4** is based on the XetaWave patented **Dual Decode Digital Architecture™** that offers significant receiver performance.

The **Xeta4** supports multiple modulation schemes and features that can selectively switch to achieve optimal data throughput given the available channel size and environmental noise.

The **Enhanced MultiPoint (XetaEMP)** mode provides an increase in throughput and decreased in latency over our standard modes and against competitive products.

All Xeta4 radios are over-the-air compatible and the Xeta1 also **supports compatibility with MDS 4710/4790 and SD4 master and repeater radios.**



## Key Features

**High Speed** Over-the-air data transfer rates from 5 to 216 kbps plus higher throughput with payload compression and in the **XetaEMP** mode.

**Selective Modulation** Multiple MSK, PSK, and QAM modulations.

**Dual Mode** Duplex and single channel operations.

**Network Types** Point to Point, Point to MultiPoint, CSMA peer to peer, Enhanced MultiPoint (**XetaEMP**).

**Adjustable RF Output** 10 mW to 8 Watts (+10 to +39 dBm) RF output.

**Secure** Over-the-air data encryption using 128-bit and 256-bit AES.

**MultiSpeed Multipoint** Enables Access Points communicate with Endpoints operating at different RF Data Rates.

**XetaEMP** Enhanced MultiPoint protocol with increased throughput and decreased latency.

# Xeta4 Serial Specifications

Transmitter	FCC	IC/FCC	ETSI/RED
Frequency Range	450 to 470 MHz	406 to 430 & 450 to 470 MHz	406 to 470 MHz
Output Power	10 to 8000 mW (10 to 39 dBm)		
Modulation	MSK, QSPK, 8PSK, 16QAM, 32QAM, 64QAM		
Data Rate	5 to 216 kbps		5 to 61 kbps
Channel Bandwidth	6.25, 12.5, 25 & 50 kHz		6.25 & 12.5 kHz
Frequency Stability	1.0 ppm		
Range	70+ miles		

Receive sensitivity numbers below are with FEC disabled. With FEC enabled, these typically improve by 3 dBm.

Receiver Modulation	6.25 kHz Channel		12.5 kHz Channel		25 kHz Channel	
	Sensitivity	Data Rate	Sensitivity	Data Rate	Sensitivity	Data Rate
MSK	-112 dBm	5 kbps	-115 dBm	10 kbps	-114 dBm	18 kbps
QPSK			-104 dBm	20 kbps	-107 dBm	29 kbps
8PSK			-100 dBm	31 kbps	-101 dBm	44 kbps
16QAM			-95 dBm	41 kbps	-98 dBm	59 kbps
32QAM			-91 dBm	51 kbps	-95 dBm	76 kbps
64 QAM			-90 dBm	61 kbps	-89 dBm	91 kbps

Receiver Modulation	50 kHz Channel	
	Sensitivity	Data Rate
MSK		43 kbps
QPSK		72 kbps
8PSK		105 kbps
16QAM		144 kbps
32QAM		180 kbps
64 QAM		216 kbps

# Xeta4 Serial Specifications

## Power

Transmit	945 mA @ +12 Vdc
Receive	300 mA @ +12 Vdc
Idle	176 mA @ +12 Vdc

## Interfaces

Power	2-pin Phoenix / +12 to +32 Vdc
Date	RJ45 / up to 1Mbps / RS232/422/485
Control	RJ45 / 115.2 kbps / RS232
RF	TNC / 50 Ohms

## Environmental/Physical

Op. Temperature	-40°C to +60°C
Humidity	95% @ +40°C non-condensing
Safety	UL Class 1 Div 2
Dimensions (LxWxH)	6.62" x 3.45" x 1.83"
Weight	700 grams

## Functionality

Operating Modes	Point to Point, Point to MultiPoint, Enhanced MultiPoint, Peer to Peer
Roles	Access Point, Endpoint, Repeater
Compatibility Modes	As an Endpoint compatible with MDS 4710/4790 and SD4
Error Handling	CRC, FEC, Retransmit on error
Error Correction	Golay, Small Block, Reed-Solomon
Data Encryption	128 & 256-bit AES Payload Data Encryption
RF Encryption	128-bit AES RF Overhead Encryption
Repeater	Store-and-forward
MultiMaster	Synchronization of Collocated Access Points or Multiple Access Points within a Network
MultiSpeed	Up to 4 Data Rates within the Same Channel Bandwidth
Diagnostics	Network Scan, RF Ping, RF Throughput, RF Statistics

## Ordering

XETA4-10MMNFB	Metal Enclosed, 2 Serial
---------------	--------------------------

