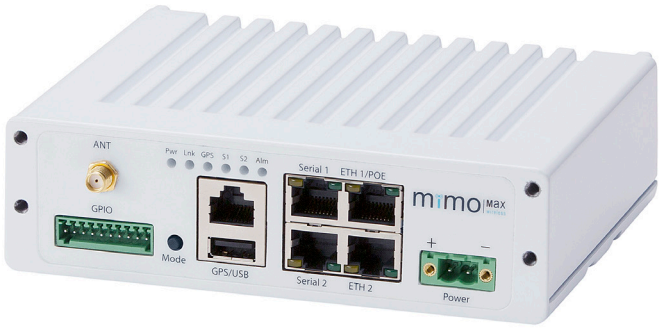
mimomax




Up to 38.4 kb/s in a 50kHz channel

# PYXIS

The cost-effective solution to optimize data throughput
for your SCADA and telemetry requirements

# PYXIS

## Key Benefits

Easy installation due to Network Auto Discovery and LED diagnostics

Sophisticated Network Management incorporating Over the Air Programming, Fault Management, Configuration, Administration Performance and Security

Fast, effective network scripting due to Command Line Interface

Secure with AES 265-bit encryption and penetration tested for compliance with US Homeland Security Requirements

Data Acceleration via sophisticated compression techniques for virtual bandwidth increase

Contention-free for data transmission due to random access option and priority scheduling algorithms

GPIO port offering both analog and digital input and a digital output, working over a 60-volt range

Two serial ports – independently software configurable between RS232 and RS485 for greater immunity to electrical noise

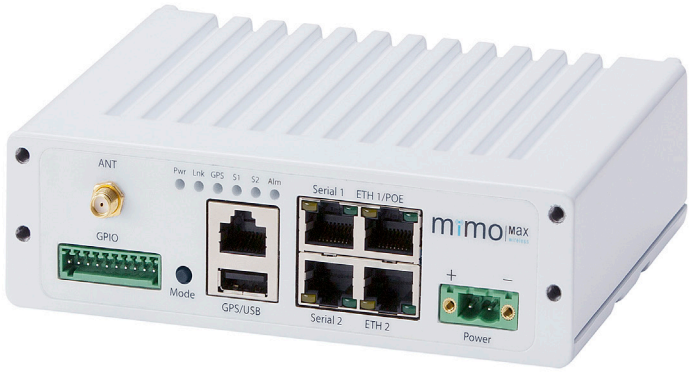
Wide range isolated input power supply from 10.5 to 60 volts, allowing fewer spares to be carried

Power over Ethernet for easy deployment and fewer cables

GIS Information via USB port, for easy tracking of equipment

Designed to operate either as a stand-alone solution or integrated with the Mimomax Tornado as part of a multi-tier network, the Mimomax Pyxis radio is a cost-effective solution for your SCADA, critical infrastructure IoT and telemetry needs.

Offering simple antenna solutions (directional and omni-directional) and network auto discovery for fast, effortless deployment, the Pyxis utilises sophisticated data compression techniques to optimise data throughput in narrowband channels.




Mimomax Pyxis

## Features

### Compliant Security

Offering AES 256-bit encryption, firewall protection, ACL support, Sticky MAC port security and under-going cyclic penetration testing, the Pyxis radio also incorporates proprietary software designed to prevent eavesdropping.

### Media Access Control

Mimomax's proprietary Media Access Control (MAC) incorporates priority scheduling where data is ranked and prioritised either based on pre-programmed priorities or on sets of user-configurable rules. This ensures mission-critical data throughput is guaranteed while a hybrid approach allowing both random access and traditional polling provides contention-free data transmission. Offering random access for remotes to request an allocated timeslot also creates greater efficiency as remotes are not polled unnecessarily while lying idle.

**Available in 700MHz Frequency Bands**

### Dual Serial Ports

The provision of two serial ports allows the connection of two serial SCADA devices. Each serial port is software configurable between RS232 and RS485 providing compatibility with most serial SCADA devices. With RS485 providing greater immunity to electrical noise than RS232, the Pyxis is an ideal choice, for SCADA applications in noisy environments such as power utilities.

### Wide Range Input Power Supply

Unlike many radios on the market, the Pyxis offers a very wide input power range – from 10.5 volts to 60 volts. Making the radio suitable across sites with varying input power supplies, the benefit of this wide range is that fewer spares need to be carried as they are more readily interchangeable.

### Incorporates GPIO Port

With both analog and digital input and a digital output in addition to an output working over a 60-volt range, the Pyxis allows more flexibility in terms of connections to other equipment, resulting in fewer products in the network.

## Applications

Offering lower data capacity and speed than the Tornado radio, the Pyxis radio is ideally suited to SCADA, telemetry, DA and AMI applications requiring simple data transmission but where reliability of data throughput is critical.

Whether the aim is accident-prevention, preventative maintenance, monitoring flow rates to ensure delivery of service or simply collection of data to be used for billing - even small packets of data can remain a crucial part of your business.

### Suggested Applications for Pyxis

- *Power Utility:* as a stand-alone radio solution or as a lower cost, tier II endpoint in a multi-tier system - providing connectivity to, and aggregating data from, devices such as advanced solar inverters, circuit sensors, meters and capacitor banks
- *Gas, Oil or Water Utility:* monitoring flow rates, pipeline leak detection, water turbidity levels
- *Mining:* monitoring valves in bore fields supplying water to a mine
- *Civil Defence:* flood monitoring for public safety
- *Rail:* sensor monitoring track or locomotives for preventative maintenance
- *Transport:* remote control of highway signs to update information

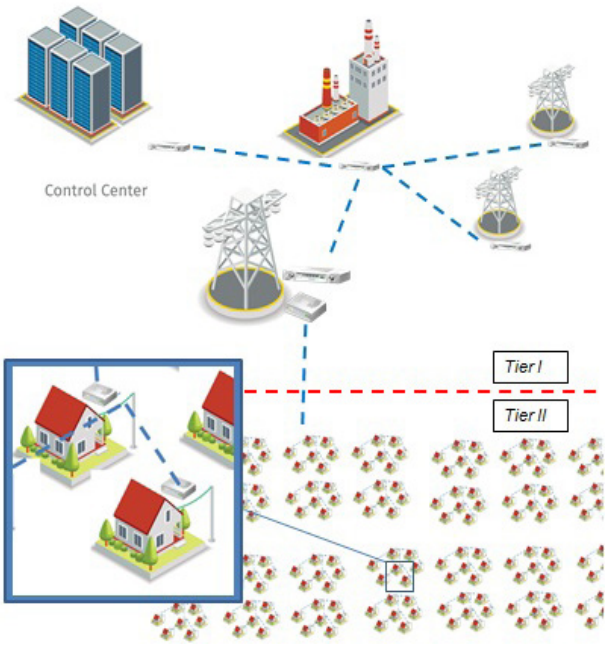
### Mimomax Tornado Radio (Tier I)

In additon to Pyxis, Mimomax also offers the Tornado radio.

With a full duplex aggregate data rate of up to 1280 kb/s in 50kHz, the Mimomax Tornado can be configured in Point-to-Point and Point-to-Multipoint networks.

Applications include teleprotection, SCADA, DA, AMI, backhaul/linking. Tornado can form its own network or be deployed alongside Pyxis as a high capacity, Tier I endpoint in a multi-tier network.

### Utility to Customer Premise SCADA Application




Example of Pyxis and Tornado operating in a multi-tier SCADA solution.

mimomax

## Innovate your Infrastructure

Offering ultra-spectral efficiency and extremely low latency, our innovative wireless communication solutions underpin mission-critical infrastructure and enhance visibility and control - right to the edge of network.

Mimomax combines this ultra-spectral efficiency with very low latency and low jitter to create a customised, resilient solution for essential operations. With ease of integration into legacy protocols and a low total cost of ownership in comparison to fiber and microwave, the Mimomax solution allows customers full independent control of their data communications.

## Contact Us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### Mounting Options

Mimomax Pyxis is available with multiple mounting options including wall & surface, Tornado piggyback,1U Rack (two Pyxis or Pyxis + Tornado configuration) and TS35 DIN Rail.

Wall/surface mounting option

Tornado Piggyback mounting option

| RF Specification | |
|---|---|
| Frequency Range | 757-758 / 787-788 MHz |
| Modulation | 4 GFSK |
| Channel Size | 25 KHz<br>50 KHz |
| Power Consumption (Typical) | <20W Max<br>Typical at 13.5VDC input, 1W RF output with Serial, Ethernet and GPS active <15W |
| Frequency Stability | 1.0 ppm |
| RF Impedance | 50 Ohms |
| Transmitter Output Power | 1 mW to 1 W (<0.4dB <10mW) |

| Receiver Sensitivity (dBm) @ Data rate | 4 GFSK | 25KHz | 50KHz |
|---|---|---|---|
| | | 19.2 kbps<br>-109.5dBm | 38.4 kbps<br>-106.5dBm |

| Interfaces and Security | |
|---|---|
| Serial Data | 2x RS232 / 422 / 485 (2x RJ45 connectors) |
| Ethernet | 2x 10/100 base T (2x RJ45 connectors) |
| Data Encryption | AES 256 |

| Physical | |
|---|---|
| Operating Voltage | 10.5-60 VDC (Isolated) |
| Transmit Current | <1.1 @ 13.8V @ 1W RF |
| RF Connector | SMA |
| Dimensions (L x W x H) | 5” x 6” x 1.75” (127mm x 150mm x 44mm) |
| Weight | 20oz (550 grams) |
| Operating Temperature Range | -40F to 140F (-40C to 60C) |
| Transmit Duty Cycle | Continuous TDD Operation |

| Compliances | |
|---|---|
| Radio Performance | FCC 47CFR part 27 |
| EMC | FCC 47CFR part 15 |
| Safety | IEC 60950-1: 2005, Am 1: 2009 |