

## WELCOME TO THE FIRST ISSUE OF THE MIMOMAX QUARTERLY FOR 2016!

### FEATURE ARTICLE: Data Rate Requirements - Not What You Might Think

With advancing technologies and clever ways to achieve high data rates and spectral efficiency it's reasonable to have a grey area of understanding around data rate requirements. No application is exactly the same and competing technologies utilise and achieve data rates in different ways.

This article is not about explaining how MiMOMax achieves its high data rates, but it is about pointing out the key fact around the misconceptions around data rate requirements and what is required to understand needs of an application.

#### **FACT: Raw Data Rates alone should not be used to determine suitability for a particular application**

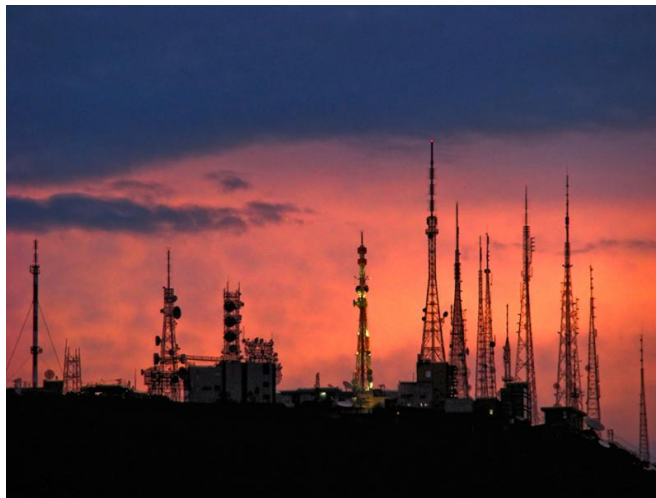
Variable modulation schemes and bandwidth options available make calculating a systems data rate requirements an art rather than a generic rule.

In the case of MiMOMax technology, it is of importance to understand an application's data transport requirements in relation to how

the MiMOMax link transports and manages data over-the-air. Understanding the data management of MiMOMax radios enables prospective customers to recognise how a MiMOMax solution will perform in their application rather than taking a view of Raw (Gross) data rate capability and comparing against competing technologies.

In all cases it is worth discussing with the MiMOMax team about your particular application rather than assuming or dismissing the radio's capability to meet your needs based on Raw data rate specifications. It is commonly found that due to MiMOMax's advanced technology that much more can be achieved through a narrower bandwidth than the direct competition.

As part of our exceptional customer support offering, The MiMOMax team will seek to understand the data transport requirements of an application and how the MiMOMax radio can be integrated within your application, in order to maximise the performance of the final solution. MiMOMax recognises at least four different types of data specifications for determining the data rates and capacity of a linking solution. All of which need to be considered when specifying a linking solution.



### VHF Tornado Release

The MiMOMax Tornado is now available in the VHF Spectrum. Offering all the same great features of the UHF Tornado radio we are pleased to now be able to offer this product to those of you who have access to VHF spectrum.

For more details see our website [here](#)

### Region under the Spotlight: North America



Paul Reid, North American Director of Technical Sales

Thanks to everyone who dropped by the MiMOMax/Tait stand at the 2016 Distributech exhibition in Orlando, Florida. It was a busy few days for me at the booth as both old and new customers alike dropped in to catch-up on the latest that MiMOMax had to offer. I would like to thank everyone for making the effort and taking the time to track me down.

It is apparent that more

### i) Raw (or Gross) Data Rate

This is the total over-the-air system data rate, including all forward error correction, system management and maintenance data. It is a function of the symbol rate and the modulation scheme used and of course our underlying full duplex MiMO technology which gives us 4x improvement over half duplex SiSO.

### ii) Net Data Rate

This is the over the air data rate as specified in the MiMOMax data sheets. It is less than the Raw Data Rate as it excludes all of the overhead data defined above. The Net Data Rate specifies the minimum that can be expected, however, the typical measured data rate will generally be significantly higher.

### iii) Effective Data Rate

The Effective Data Rate is the measured over-the-air rate, which can be achieved by using one or more of the MiMOMax M-DAP options. The Effective Data Rate can be greater than the Raw or Net Data Rate by a factor of several times depending on data types.

### iv) Virtual Data Rate

This is a notionally "equivalent" data rate that can be achieved when compared to other systems that do not have the capability to manage the over-the-air data, in a spectrally efficient manner. It provides a notional performance equivalency. The MiMOMax product family, because of its progressive data management, has demonstrated it is an effective narrow band linking solution, which significantly outperforms wideband linking solutions when servicing the same application. In determining the best fit, it is important that the characteristics of the data requirements are well understood and that Net Data Rate alone is recognised as not the best, and certainly not the only, determinant of performance for the total system.

To discuss your specific application data requirements, [Contact Us](#).

MiMOMax Tornado Specifications including the Raw (Gross) data rates can be found on our [website](#).

## On the World Stage: Upcoming Engagements

You will find the MiMOMax team at the following events in the coming months.

CommsConnect,  
14-15th April 2016  
Wellington, New Zealand

UTC Telecom & Technology  
2nd -6th May 2016  
Denver, Colorado, USA



If we aren't in your area but you'd like to speak to us you can contact us [here](#).

and more Utilities are looking to make the move toward packet based IP networks. As we know IP brings visibility, control and automation and promises to drive efficiency for the future.

This promise is now being driven to the fringe of the network simply due to availability of IP compatible devices that were once considered the domain of asynchronous serial.

MiMOMax's recently released product, the full duplex 900MHz Tornado with 50kHz bandwidth running QAM256, allows 1.28Mbps aggregate throughput (gross) and sub 3ms latency. This product was well received and is well positioned to provide solutions in both point-to-multipoint SCADA and point-to-point Tele-protection.

I also got to talk a lot about the up-coming release of our 700MHz Upper A block product and encourage customers to pre-book trial equipment. Please let me know if a 700MHz trial is of interest and we will get you booked in. MiMOMax can now assist with obtaining spectrum for a 700MHz trial.

I have promised a follow-up webinar and information session to many of you. If you haven't booked a webinar with me and want to catch up on the latest that

MiMOMax has to offer then feel free to drop me a line,  
[paul.reid@mimomax.com](mailto:paul.reid@mimomax.com).

I am Houston based as of February. For our US and



## Changes at MiMOMax

Current MiMOMax CEO Christine Lewis will be leaving MiMOMax this month to pursue her own personal business venture. We wish her all the best and thank her for her hard work over the last 18 months.

David Wade, one of our independent Directors, has stepped in as interim-CEO until a permanent appointment is made. David has a long history with MiMOMax and was Chairman of the Board from 2007 to 2012, and brings a wealth of financial, commercial and market knowledge. MiMOMax also has the pleasure announce Ant Howard as the new Chairman of the Board. Ant has a strong background in Sales and Marketing and Strategy Development and will be a real asset in supporting MiMOMax grow by continuing to develop and supply superior linking and SCADA products across the globe.



Interim CEO David Wade

With new leadership MiMOMax remains committed to providing excellent customer service and highly effective solutions to our customers.

For all of the latest stories and photos please visit our [Website](#)

Or

View our profile on 

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Canadian customers feel free to pick up the phone and give me a call, I'm now in your time zone (give or take a few hours), so no fear of ringing me at 2:00am.

Until next time,  
Paul

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### Recent Customers

Emcom  
Vysiion  
Zehetner Elektronik  
Orion NZ Ltd  
NZ Defence  
Esscom Communications  
Unison  
Karera Communications  
Logic Wireless  
Altalink  
Mainpower  
Buller Networks  
Ergon Energy QLD  
Rio Tinto WA