

Features of XA Series™ Devices

- ◆ Optimized for Low Power Consumption
- ◆ Ability to use a 1 Watt/5 Watt Solar Panel
- ◆ Support call out on Alarm Functions
- ◆ Field reconfigurable call-in windows
- ◆ Wireless communications ready

Performance Statements

- ◆ Antenna selection can dramatically effect the reliability of wireless communications. Many factors such as tree cover, location of buildings in the area, weather conditions, tower locations and other obstacles can cause devices to not communicate properly. Eagle Research has a staff of trained engineers and technicians available to assist our customers in identifying these problems and determining possible solutions or workarounds. Contact your local sales representative for a quote for these services.
- ◆ All wireless communications mediums are not created equal where call-in on Alarm requirements exist. Some communications types can have lengthy delays in delivering Alarm messages that in some cases can exceed several hours between event and delivery. In many cases, where "mission critical" alarms are necessary, some wireless communications pathways may not be appropriate choices. Eagle Research Corporation has no control over the length of time a particular carrier takes in communicating an alarm back to the host computer. Serious consideration must be given when choosing a wireless medium where "mission critical" operations alarms are required by the system being deployed. Eagle Research Corporation will be pleased to assist in helping our customer understand the constraints of the various communications pathways for moving data.
- ◆ Depending on power availability, poll on demand communication may not always be available. In these cases a call-in system may be a viable alternative. In order to conserve power, many times a communications device may be placed in a power conservation or sleep mode. In circumstances where full-time two-way communication is a requirement, appropriate power supplies must be provided to meet this requirement. Eagle Research Corporation will size the power supply and battery backup to meet customer requirements.

Design Considerations

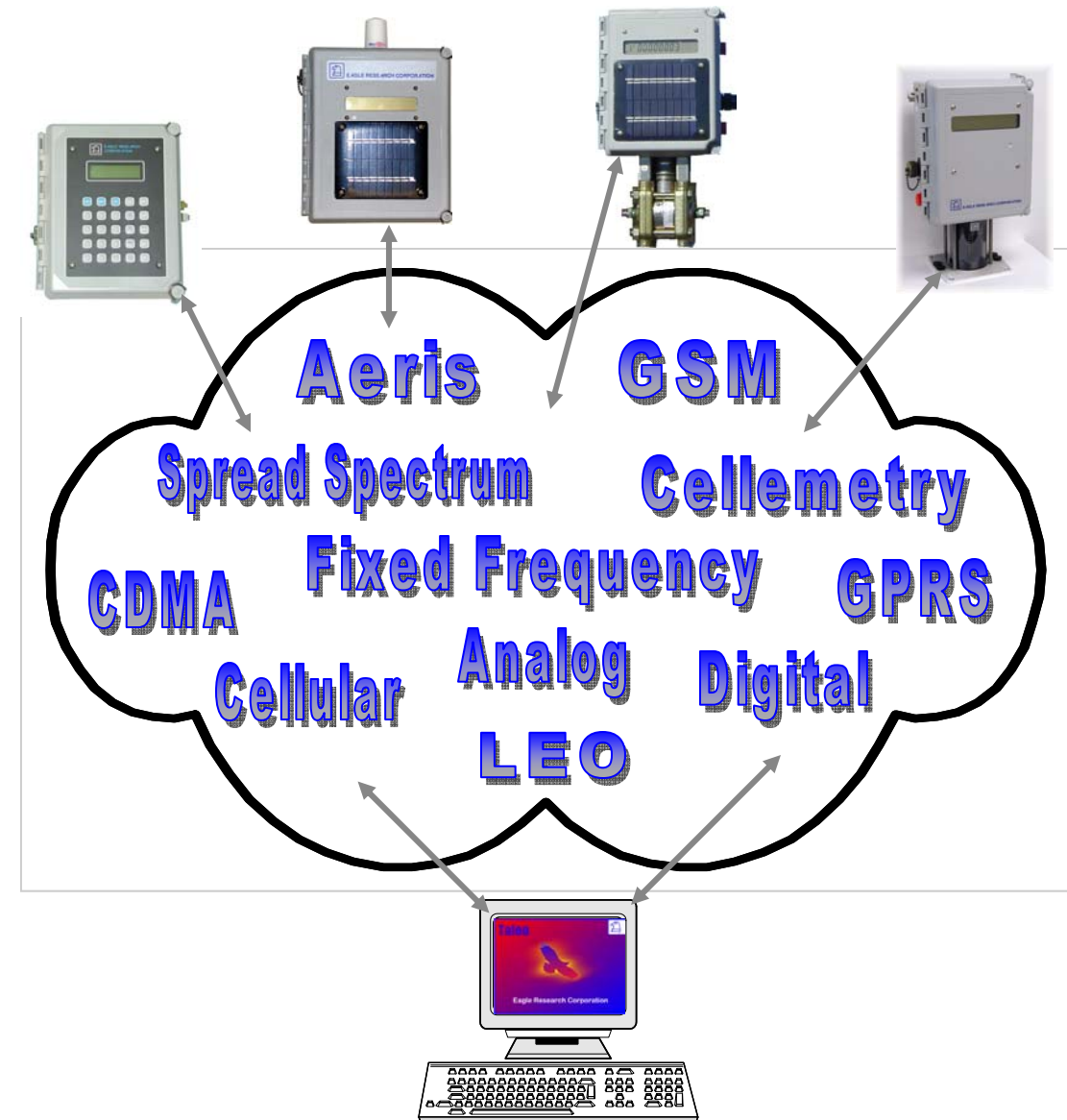
Design of systems employing wireless communications requires considerable knowledge and effort to develop and deploy. These systems require knowledge of not only the hardware, but the varied nuances of cellular systems in the case of CDMA and GPRS/GSM, both of which are available in the conventional dial-up as well as TCP/IP formats. Eagle Research Corporation has deployed numerous cellular based wireless solutions and is here to assist our customers in demystifying the wireless communications cloud in order to provide a "best-in-class" wireless solution.



EAGLE RESEARCH CORPORATION
Product Information

PRODUCT DATA

Wireless Communication Technologies



Confused about Wireless technologies and your choices for moving data from the field to the office?

The growth of the wireless communications industry has brought with it a corresponding level of increased complexity in choosing the most efficient and cost effective medium to transfer data from field device to the office. Eagle Research Corporation can be an asset to our customers in determining what mediums are available, who the available carriers are and in understanding the pricing structure for the communications type ultimately chosen by the customer. All Eagle Research Corporation XA Series™ RTU's and Flow Computers are shipped wireless ready or with the wireless device pre-installed to customer specifications. Many factors determine the choice of wireless communications infrastructure, i.e. required antenna choices, and power requirements. In many instances these communications require a window be poked in network firewall in order to transfer the data to the host computer. Eagle Research Corporation is available to assist our customers with all of their needs and requirements to make the transition to wireless data as seamless as possible.

Wireless Communications—Overview

Full 2-Way Communications							
Device Type	Communications		Carrier Specific Information	Communications Specific Information	Polls		Alarms
	Type	Mode			1 X Day	Hourly	
CDMA Switched Circuit	Dial-Up	Digital	Sprint 1.9 Ghz, Verizon 800 Mhz - Hardware Specific	SMS Paging, DNS(DHCP), Fixed IP	1 Watt	5 Watt	Yes
CDMA Packet Switched	IP (1XRTT)	Digital	Sprint 1.9 Ghz, Verizon 800 Mhz - Hardware Specific		1 Watt	5 Watt	Non-Critical
GSM Switched Circuit	Dial-Up	Digital	T-Mobile, USA Cellular, Cingular		1 Watt	5 Watt	Yes
GPRS Packet Switched	IP	Digital		Plan Support for SMS Paging - AT&T	1 Watt	5 Watt	Non-Critical
AMPS Switched Circuit	Dial-Up	Analog			1 Watt	5 Watt	Yes
CDPD Packet Switched	IP	Analog			1 Watt	5 Watt	Non-Critical
Low Power Spread Spectrum	P to P P to MP S & Fwd	Digital			1 Watt	5 Watt	Yes
1 Watt Spread Spectrum	P to P P to MP S & Fwd	Digital			Pwr Supply or Solar Array		Yes
Spread Spectrum IP	P to P P to MP S & Fwd	Digital			Pwr Supply or Solar Array		Yes
High Power Fixed Frequency	P to P P to MP S & Fwd	Analog			Pwr Supply or Solar Array		Yes
802.11b		Analog	Coming				Could be
One-Way / Limited 2-Way							
Device Type	Communications		Carrier Specific Information	Communications Specific Information	Polls		Alarms
	Type	Mode			1 X Day	Hourly	
Aeris	Proprietary	Analog		Page or Config CMD (12 Bits) Very Short Packet (84-Bit Encoded Binary)	1 Watt	5 Watt	Yes (Limited)
Aeris CDMA	Proprietary	Digital	Coming		1 Watt	5 Watt	Yes (Limited)
Cellemetry	Proprietary	Analog		Page Only Very Short (32-Bit Encoded Binary)	1 Watt	5 Watt	Yes (Limited)
Cellemetry CDMA	Proprietary	Digital	Coming		1 Watt	5 Watt	
ORBCOMM LEO Satellite	Proprietary	Digital		Short Packet (256 Bytes) One way or 2-Way	5 Watt	40 Watt	Non-Critical (delayed)