Remote Site Monitoring with Codan

Codan Radio Communications now offers Remote Site Monitoring options that provide live site information, giving you the power to respond intelligently to communications failures that affect your system today, and to prevent the ones that will happen tomorrow.

"What Happened to Our Comms?"

They are many things that can go wrong at a remote radio infrastructure site; from vandalism, to weather damage, to pwer failure. When a communications problem is encounted at a site, the system operator has no way of knowing what caused the problem and therefore determining the appropriate course of action becomes challenging.

Since access of remote sites is often difficult, the action of sending personnel to a radio site without any knowledge of the root cause of the problem often proves to be expensive and inefficient.

In a routine operation, these types of problems can be time-consuming nuisance. However, when a problem with remote infrastructure is not detected until critical communications are required but are suddenly unavailable; it is in situations like this that being able to respond intelligently becomes crucial.

Predicting Problems

The ability of reacting to problems is very advantageous, but being able to deal with problems before they happen can give the operator of a radio system that peice of mind that comes with complete situational control.

When real time data is collected and logged, trends and pattern in the data can be used to indicate problems before they happen; this allows the radio system operator to predict and develop a strategy to deal with maintenance issues in the most cost effective and efficient way, without harmful disruption of service.

Codan Remote Site Monitor

Whether real-time information or predictive trending is of foremost concern, Codan now offers a standard remote site monitoring kit that includes all of the required equipment for most monitoring applications.

The kit includes sensor points on key operational lines of a Codan MT-4E repeater or remote base station, as well as external sensors for monitoring temperature, enclosure entry and AC Power availability.

IP Network Solution

Continous monitoring of multiple IP capable radio sites is made possible with installation of Remote Site Monitoring sensors and Summit controller at the radio sites; the Summit controller interprets the sensors and generates SNMP events. A PC equipped with the Apex monitoring software at the central location monitors the LAN for these SNMP events and displays them via a Windows-based interface; a variety of visual and audible notifications alert the user, and an event log is generated for future analysis.

Using the flexible client-server architecture, the data can be easily accessed by one or multiple operators. This allows each operator to monitor, control and be alerted to alarms from multiple locations across various systems.

Radio Link Solution

For sites that do not have IP available, radio link monitoring can be put in place to do regular scheduled checks of Codan Radio infrastructure sites.

In this configuration, each remote site is equipped with a set of Remote Site Monitoring sensors connected to a siteCOMMANDER unit. When a site status check is required, an operator at a central site equipped with a siteCOMMANDER Gateway unit polls the remote site using FFSK data signals sent over dedicated or shared RF links. The selected remote site(s) then return site status information over these same links. The information is displayed on a PC at a central site equipped with the remote monitoring software.

Note that this poling process also works if the remote site is only accessible via one or more repeaters, meaning that even more complex communications networks can benefit from remote site monitoring functionality.
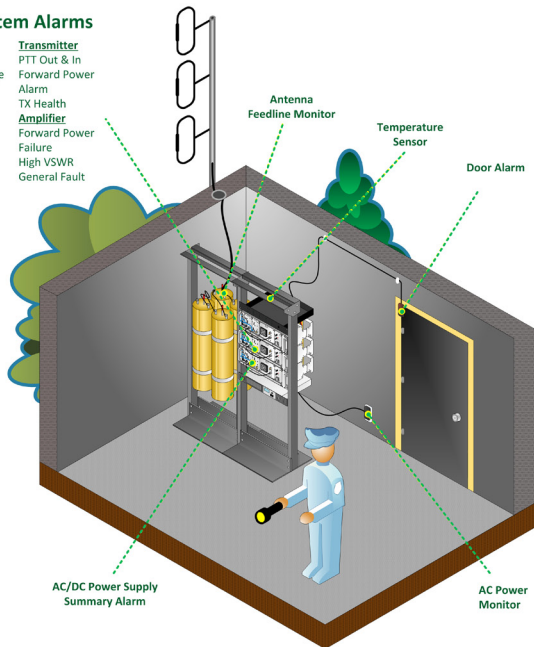
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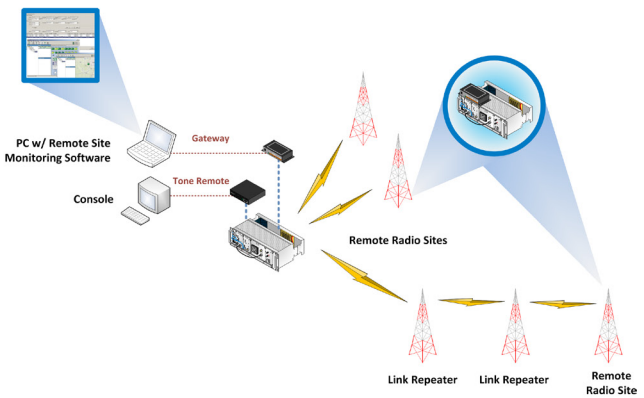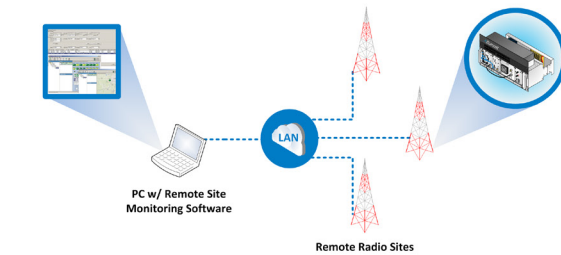
MT-4E System Alarms

Subrack
Line Voltage
Regulated Voltage
Receiver
COR Output
RSSI Output
RX Health

Transmitter
PTT Out & In
Forward Power
Alarm
TX Health
Amplifier
Forward Power
Failure
High VSWR
General Fault

Antenna
Feedline Monitor

Temperature
Sensor

Door Alarm

AC/DC Power Supply
Summary Alarm

AC Power
Monitor

PC w/ Remote Site
Monitoring Software

LAN

Remote Radio Sites

PC w/ Remote Site
Monitoring Software

Gateway

Console

Tone Remote

Remote Radio Sites

Link Repeater

Link Repeater

Remote
Radio Site