

Perimeter Intrusion Detection Solutions

CentrAlert

Digital Alarm Processing



Featuring

Datalog

the definitive management software



World Beating Perimeter Protection - Proven



CentrAlert

System Architecture

Given a choice, many security professionals would prefer to design their perimeter security systems with as little electronics as possible located in the perimeter area. There are many good reasons why this strategy is desirable, such as:

- increased system reliability
- increased system security
- field adjustments eliminated
- centralised processing and adjustment

Systems architectures which eliminate field-located electronic systems are inherently more reliable because the often-sensitive electronics are removed from environments where they may be subjected to extremes of temperature and humidity, as well as the destructive effects of lightning strikes.

System security is also enhanced if the architecture permits the location of expensive analysis equipment in secure buildings, safe from opportunist vandalism or intentional destruction.

Many high security sites, such as prisons and military establishments, are ever more conscious of the need to make cost savings in terms of security personnel. Given that access to the perimeters of such sites requires escort personnel, any system which eliminates the requirement for adjustment of field-based equipment is likely to be viewed as a bonus by removing the need to provide escorts.

Centralised processing of signals from perimeter sensors allows more intelligent assessment of the potential causes by enabling techniques such as zone correlation and comparison. Adaptive filtering, in which interfering signals generated by weather activity are removed from one sensor, by subtraction of similar signals from an adjacent sensor becomes possible with centralised processing architectures.



Prior to the introduction of CentrAlert, system architectures offering such benefits simply were not available, largely due to the limitations of the sensors employed.



Most intrusion detection sensors require localised signal processing to avoid the severe losses that would otherwise occur by transmitting unprocessed sensor signals to a centralised location.

Given the availability and performance of Geoquip's Alpha microphonic cable sensors, these limitations are eliminated and the design of CentrAlert exploits the benefits of these sensors to the greatest effect.

For the first time, security system designers can discard compromise solutions by choosing the only system which provides the wide ranging, technically excellent solutions described here - CentrAlert.



The open architecture embodied in the design of the CentrAlert system allows Geoquip the freedom to offer a range of system configurations to fulfil customer requirements in the most technically effective way. This range is described as follows.



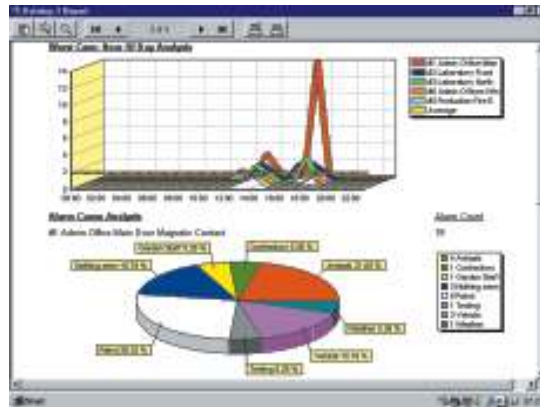


CentrAlert

The Detection Engine

At the heart of the CentrAlert PIDS is the Detection Engine, which is a centralised rack-mounted module housed within the plant or control room of the site to be monitored. The module contains all the hardware necessary to perform the signal conditioning and analysis that result in alarm detection on up to 512 Sensor Inputs and 512 Auxiliary Contact Inputs. It also incorporates an optional Rugby Time Code Receiver and a keyswitch for operator authorisation.

The Detection Engine is based on a secure Embedded System Architecture, which provides sophisticated but highly reliable Digital Signal processing without any of the risks of viruses or other disruptions which a non-embedded platform may suffer.



Mounted alongside the Detection Engine are optional racks of relays, providing for up to 512 contact outputs which may be freely configured in groups for automatic or manual switching in response to alarm events. A printer may also be attached directly to the Detection Engine to provide a logging record in the event of a computer failure.

The Sensors

The Detection Sensors or Auxiliary Contact Inputs, located on the site perimeter, are connected to the Detection Engine via multi-pair cables, allowing up to 2.5km separation between the sensors and the control equipment. A Marshalling Box, mounted within the plant room, is provided to allow easy termination of the cables bringing the

sensor signals in from the perimeter, and contains the Lightning Protection and RF Immunity modules which protect the detection equipment. The input signals are then transferred from this Marshalling Box to the Detection Engine via pre-made interconnecting cables.

The Control Computer & Management System

The Control Computer is connected to the Detection Engine via a simple Serial Link. The Datalog Management Software running on this computer allows access to all PIDS functions, including sensitivity adjustments etc, and provides a powerful yet easy-to-use interface for operator and engineer alike. User management, logging of both alarms and engineering adjustments, and statistical alarm analysis techniques are all implemented, along with multi-level graphic site mapping to provide the operator with all the visual aids necessary to manage the security requirements of a large site. It also provides audible warnings for system events as well as automatic switching of appropriate sensor signals for Audio Verification of alarms.

The Datalog Computer also has multiple facilities for the control of other site equipment such as Access Control, Video Multiplexers or Camera Controllers, with comprehensive mapping features to allow the automatic switching of other equipment in response to alarm events. The combination of CentrAlert's PIDS and its Management System means a seamlessly integrated solution with centralised control of the various components of a site's security system. One example of this total system integration is CentrAlert's optional Rugby Receiver feature, whereby all the systems in a site's control room can be driven with a common time code by the Datalog computer, assuring the absolute and tamper-proof synchronisation of all the security equipment.

Backup Systems

An optional Mimic-Annunciator panel may also be connected to the Detection Engine, providing a simple "Alarm Panel" style of user interface in sites where a Windows computer screen is deemed inappropriate as the primary operator interface. This Mimic-Annunciator will still operate even in the unlikely event of a computer crash or failure, providing a fail-safe back-up to keep the site running while any computer problems are diagnosed and corrected. There is also a facility to allow the direct connection of a Logging Printer to the Detection Engine so that a full record of site activity is maintained even when the main Control Computer is off-line.

Datalog

CentrAlert PIDS Datalog

- p Up to 512 Sensor Inputs
- p Up to 512 Auxiliary Contact Inputs
- p Up to 512 Relay Outputs
- p Full lightning protection & RF immunity
- p No sensitive equipment mounted on the perimeter
- p No requirement for power on the perimeter
- p Centralised adjustment of **ALL** system parameters
- p New generation digital signal analysis based on highly-reliable Embedded Technology
- p Audio verification with storage option
- p Simple installation, even in large sites
- p Time code output available with Rugby Receiver option for tamper-proof time-stamping
- p Multiple levels of system redundancy- onboard log and printer run even when control computer is off-line, and back-up Mimic Annunciator panel available
- p Non-volatile system configuration - no system settings lost in the event of power failure

The specification of the Datalog computer is contingent upon the peripheral equipment.

Minimum Specification:

Intel Pentium MMX 233, Window 32 bit platform.

Datalog can support an unlimited number of maps/diagrams in a high resolution pcx format. Standard graphic resolutions of 640 x 480 or higher can be accommodated. CAD building drawings can be converted and imported.

- p On-screen dynamic display
- p 255 priority levels
- p Three levels of graphic zoom maps
- p Individual alarm Help files
- p Single zone inhibit timers
- p 40 user selectable audio wave alarm sounds
- p Virtual walk test facility
- p Programmable password validity period
- p Graphical Alarm Analysis
- p Reporting and printing facility
- p Custom designed software available

Further information on Geoquip systems can be obtained from:

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