PERTRONIC INDUSTRIES LTD
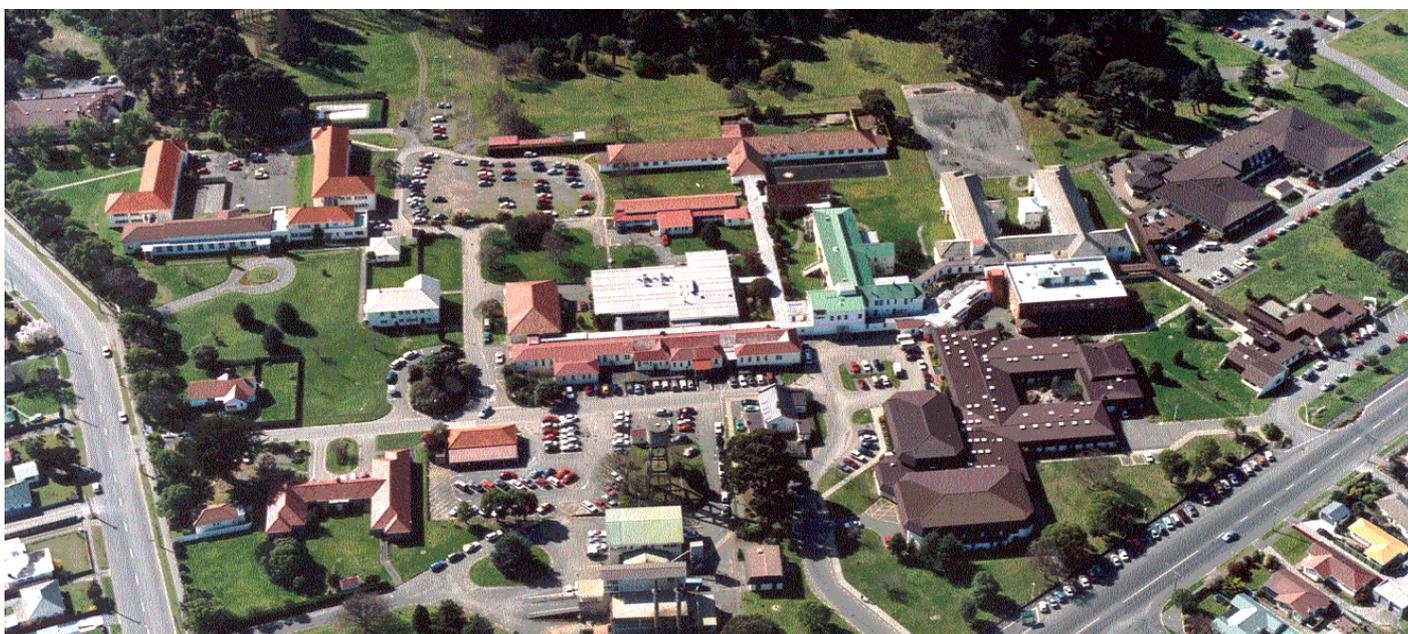
Pertronic Panels Networked at Burwood Hospital

Many hospitals throughout the country have been upgrading their fire alarm systems, and Christchurch's Burwood Hospital is no different. The sprawling nature of the site meant that two Pertronic analogue addressable panels - a F100A and a F120 system - were installed to provide the coverage necessary.

The two panels have also been networked together to further improve the information available to hospital and security staff. Each panel contains a "network card" linked to the other via a dedicated loop. Up to 64 events, or messages, can be displayed from each panel on the other system, and ten LCD mini mimics throughout the hospital convey these messages in plain English text to staff wherever they are. Events occurring on one system can also be used to generate outputs on the other panel. And in this installation a smoke detector activating on one system can be reset by via an input on the other system's mini mimics.

Networking fire alarm systems on extended sites significantly improves the information available to building management and staff, leading to more accurate and faster response times to alarms. The Pertronic Fire Alarm Networking System will support a total of 64 fire alarm panels.

PERTRONIC   SYSTEM SENSOR®   VESDA   FIRETRONIX

Boolean Logic And Timer Functions Added To F100A Panels

As part of the ongoing development of Pertronic F100A analogue addressable panels, Boolean logic functions and programmable timers become an integral part of the panels from mid-April.

Boolean logic functions - or gating - allow for different combinations of devices to be programmed to operate specific outputs for each of those different combinations. The simplest example is a "double knock system," previously managed through add-on modules for the F100A panel, but now programmed through the panel's software.

More complex functions can also be programmed through Boolean logic software. As an example, it may be necessary - because of the sprinkler system design - to have different combinations of flow switch activations (combined possibly with the sprinkler DBA activation) used to operate different groups of sounders, either in different zones or even different buildings.

The F100A panel has the ability to handle up to 16 logic equations, or gates. For more complex configurations or installations, the Boolean logic in the Pertronic F120 analogue addressable panel can accommodate up to 200 logic equations.

Developing panel configurations using Boolean logic functions can become quite complex, and contractors are encouraged to take advantage of the technical support and training available from Pertronic Industries when first working with these new software features.

Changes to F100A Panel Keypad Functions

As the F100A and F120 analogue addressable panels have been progressively developed, the company has maintained a policy of being able to fully programme each panel at the panel itself, without being dependant on a laptop. To retain this important feature, some of the keypad options on the F100A panel have been modified - and others added - to accommodate the new Boolean logic functions and timers. Installation and servicing technicians should refer to the technical manual, supplied with each panel, or contact Brent Pells (Wellington) or Rob Fenton (Auckland) at Pertronic Industries if there is uncertainty over any of the keypad functions.

Changes To Laptop Utilities Software

The Pertronic F100A Laptop Utilities Software has also been upgraded to simplify the programming of the Boolean logic and timer functions into the panels. A CD-Rom containing the latest version of the Utilities Software is supplied with each panel, and contractors are encouraged to check the CD to ensure they always have the latest version of software on their computers.

The Laptop Utilities Software has previously been a combined application for both F100A and F120 panels. Future releases of the utilities software will be split for each panel, to simplify the maintenance and development of each utilities package individually. This means that two icons will need to be displayed on a computer's desktop - one each for F100A and F120 Utilities Software.

New Training Resource Available

A "self-directed" learning programme on fire alarm systems has been developed by an Auckland-based company, Electronic Fire Systems (EFS). The programme is designed to lift levels of knowledge and expertise in areas such as analogue addressable & conventional fire alarm systems; evacuation systems; sprinkler systems; installation, design, servicing and maintenance.

The target audience for the programme is seen as being quite diverse, from industry sectors such as architects, engineers, building & maintenance managers, fire industry support staff, and so on. It is already being used by Fire Service personnel, plus managers in the telecommunications and hospitality industries.

A brochure outlining this new training resource is enclosed.

Pertronic F120 Fire Alarm Control Panel – Features Update

The F120 is a sophisticated and versatile analogue addressable control panel, designed for medium to large installations that require flexible configuration and control functions.

Panel Hardware Features

2 to 20 loops, supporting 99 Detectors and 99 Modules per loop. This gives a max of 1980 Detectors and 1980 Modules

F120 panel supports the System Sensor intelligent protocol

Large 4 by 40-character LCD back lit display

31 character programmable text message per Address, Zone, Logic Block, Timer and Network input

Panel Networking
Up to 128 Network Cards may be connected together to form a Network System. Each Network Card is connected to an *F100* or *F120* via the panel serial RS-485 port

Supports 16 LCD mimics; 8 with full control and 8 with displays

Supports up to 8 LED mimics, each capable of driving 512 LED's plus BCO and Evacuate controls

Panel Door Holder relay change over contacts rated at 10A

Programmable panel General Purpose relay 2 sets of change-over contacts rated at 2A

Auxiliary monitored (AuxM) output fused at 100mA

Configurable Sprinkler I/P (O/C & S/C activation, non-latching)

Common Fire change over volt free contacts rated at 2A

Common Fault change over volt free contacts rated at 2A

Auxiliary (Aux) change over volt free contacts rated at 2A

Silence Alarms and Evacuate front panel key switches

2 programmable Sounder circuits fused at 3A each

8 programmable Auxiliary panel outputs (switched 0V)

Door Interlock input and External Fault input

Serial RS-232 Port for panel configuration via PC

Comprehensive front panel firemen's and menu controls.

Separate Auxiliary Isolate push button control

Separate Door Holder Isolate push button control

Supports all Pertronic field devices such as Loop responders, Relay responders, AS1668 Fan Controls, Base Sounders etc

Panel software Features

Automatic 24hr System Test of all Detectors and Battery

Automatic Drift Compensation of all Detectors

Individual Detector programmable attributes: (Bell 1, Bell 2, Brigade Calling, Latching, Auxiliary Relay, Door Holder Relay, Buzzer on Alarm, Alarm Verification (AVF), Sensitivity selection and Zone assignment.

Detector and Module direct programming via Alarm, Pre-Alarm and Fault to any system output

200 programmable software Groups, each with 15 outputs – and each output can be programmed to any system output

256 Programmable Zones, each with 8 outputs which can activate any system output. Each Zone has a timer with outputs on start and end period. Automatic timer override on second detector activation

13 different System Events: Common Fire, Fault, Pre-Alarm, etc, which can be programmed to turn on any system output

200 Logic block Functions (OR, AND, ANY2). These functions can be programmed to be activated via any input on the system and can be interconnected to perform complex logic functions. Any logic block can turn on any system output

50 Independent programmable timers, each with a 1 second to 12 hour configurable time period. Each timer has programmable panel attributes. 3 timer types are available (one shot, continuous and latching). Each timer can directly turn on 2 outputs on timer start and 2 outputs on timer stop

Individual detector and module test mode function

Total on site programmability from front panel controls

Total on site programmability via the sophisticated graphical configuration and monitoring PC software package

Remote monitoring programming and control via modem or mobile phone

999 Event Historical Log

Individual detector and module status reporting

Virtual Panel Display - this gives complete control and graphical representation of the panel's LCD, front panel switches and indications at a remote location via a modem link

F100A Panels Support Multiple Sensitivity Settings With Laser Detectors

In high-tech facilities it's desirable to have as early warning as possible of a potential fire situation so that investigation can take place well ahead of any serious action or damage occurring. It's also very useful to have different response options available at different detection, or sensitivity, levels. For example, in telecom switch rooms and computer rooms, four warning and response levels may be required:

1/ The first level to page the site manager.
2/ The second level to sound a buzzer and/or operate a light.
3/ The third level to operate the sounders to evacuate the area.
4/ The fourth level to activate a suppression system.

Pertronic Industries have developed a cost-effective solution for this situation through utilising the System Sensor Laser Detector, **PINNACLE™**, with the Pertronic F100 analogue addressable fire control panel.
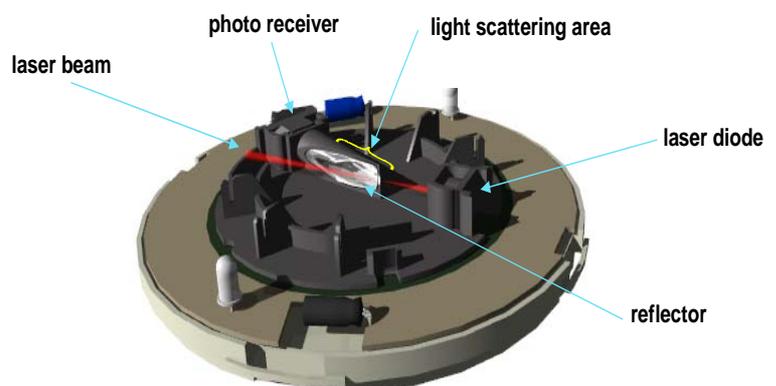
PINNACLE™ is the highest sensitivity point-type smoke detector available today. Pinnacle is a laser-based and microprocessor controlled detector, achieving very high sensitivity yet maintaining unprecedented stability against nuisance alarms. Pinnacle works on the same light-scattering principle as a standard photoelectric detector, but with <u>100 times</u> more sensitivity. This ultra-sensitivity is due to the laser itself. Using an extremely bright, controlled, laser diode, the laser beam is transmitted through a light trap that eliminates any reflection. If a particle of smoke (or dust) enters the chamber, light from the laser is scattered and the detector, using patented algorithms, verifies the nature of the scattered light to determine whether the source is dust or smoke. If a determination of smoke is made, an alarm is generated.

When Pinnacle is combined with the latest programming software in the Pertronic F100A panels, the multiple sensitivity and action levels now available provide the perfect earliest-warning solution.

The F100A panel has nine sensitivity levels selectable for the Pinnacle detector. Any four of these nine levels can be selected for each detector to turn on any output, logic or timer function in the panel. This is achieved in the panel software by allocating three "virtual detector addresses" to each Pinnacle detector address. The three virtual detectors have all the same attributes of the real detector, creating four completely independent programmable output options from each Pinnacle detector.

PINNACLE™ sensitivity settings

Alarm level 1 - 0.06% /m smoke
Alarm level 2 - 0.10% /m smoke
Alarm level 3 - 0.16% /m smoke
Alarm level 4 - 0.33% /m smoke
Alarm level 5 - 0.66% /m smoke
Alarm level 6 - 1.65% /m smoke
Alarm level 7 - 3.24% /m smoke
Alarm level 8 - 4.85% /m smoke
Alarm level 9 - 6.41% /m smoke

Internal view of Pinnacle