

# PERTRONIC INDUSTRIES LTD

## FIREBITS

December 2005

---

### F100 Panels In Massey University Hostels



The Halls of Residence at Palmerston North's Massey University are being extended, with a cluster of five modern hostels being built in the heart of this picturesque campus. Each building has a Type 5 analogue addressable fire alarm system throughout, providing smoke detectors in the bedrooms which generate a local alarm only and do not call brigade, while heat detectors and manual call points - plus smoke detectors in the common areas - are programmed to evacuate the entire building and call the Fire Service.

The hostel building currently under construction utilizes the latest technology enhancements in the Pertronic F100 analogue addressable panels, in conjunction with Acclimate multi-criteria detectors from System Sensor. Acclimate has a photoelectric and a thermal sensor which work together to minimise nuisance alarms yet ensure a quick response to smoke from genuine fires. The latest F100 control panels are able to monitor the signal from the multi-criteria smoke detector separately to the signal from the thermal sensor on its own. So, from the one detector head, we can use the alarm output from the multi-criteria smoke detector for local alarm activation (without calling brigade), and use the separate alarm output from the thermal sensor to evacuate the building and call brigade. More about this technology on page 3.



VESDA



# Seasons Greetings !

Another busy year draws to a close, with the new fire alarm Standard finally in place and the construction industry still buoyant throughout the country in spite of mixed signals on the economic front. From all of us at Pertronic Industries, thank you for your ongoing support during the year. It has again been a pleasure to work with the different sectors of the fire protection industry and we look forward to furthering these relationships in 2006. Please accept our warmest wishes for you and your families to have an enjoyable and safe Christmas and New Year.

## Christmas - New Year Business Hours

Pertronic Industries will close for the Christmas break on Thursday 22nd December and reopen on Monday 9th January 2006, although some warehouse operations will resume with reduced staffing on Wednesday 4th January. A limited emergency supply service will also be available between 23rd December and 3rd January, although fire alarm servicing companies are encouraged to order stocks of spare parts in advance.

## Not All Cable Is Created Equal

The insulation on cabling varies considerably, subject to its voltage rating and application. Section 402.1 in NZS4512:2003 draws attention to "...the need for all wiring associated with the *fire alarm system* to comply with the requirements of the Electrical Wiring Regulations for 230 volt systems..."

We would also like to issue a reminder that the data loops for Pertronic analogue addressable systems should be run in twisted pair cable, to eliminate cross-talk problems. We also strongly recommend that twisted pair cable is used for evacuation circuits, for the same reason. Pertronic Industries stocks twisted pair cable in red sheath (for data loops) and grey sheath (for evac circuits) that meets the Electrical Wiring Regulations requirements for 230 volt systems.

## F100 Software Compatibility

An often asked question is "which laptop software utility is compatible with which F100 panel ?" The chart below provides the answer.

Laptop Configuration Utility	Panel Firmware (displayed on power up)	Masterboard Hardware	NZS4512	F100 Panel Type
V3.18	V4.54.00k	V3.01	2003 or 1997	AVR Boolean
V3.14	V4.00.00k to V4.52.00k	V3.01	2003 or 1997	AVR Boolean
V3.14	V3.xx.xxk	V2.xx	1997	AVR Boolean
V2.14	V2.xx.xxk	V2.xx	1997	AVR non-Boolean
V2.1	V1.xx.xxk	V1.xx	1997	TMS370

Please note:

- 1) Configuration utility software v3.18 must only be used with in conjunction with F100 panels carrying v4.54 firmware. While v3.18 software can be used to open up a configuration file created in an earlier version of software (for loading into a v4.54 panel), this software will not work on panels carrying an earlier version of firmware.
- 2) It is possible to upgrade panel firmware in the field on masterboards v2.xx and higher. The older TMS370 panels require a chip change to upgrade their firmware.
- 3) Configuration utility software v3.10 and v3.14 will identify the firmware version in the panel and adapt themselves to allow access to features supported by that particular panel's firmware.

## “Virtual Detector” Software and Type 5 Installations

The May 2005 edition of **FIREBITS** outlined the introduction of “virtual detectors” in Pertronic analogue addressable fire alarm panels. In summary, the fire alarm panel continually monitors the analogue value - or sensitivity level - of each analogue addressable smoke and heat detector, and it is now possible (through enhanced panel software) to generate a range of different outputs from each device at different sensitivity levels. This is achieved by creating virtual detectors off the main detector address. For example, an activation registered by the fire alarm panel at the highest sensitivity setting on a smoke detector (or the lowest temperature reading on a heat detector) could be programmed to generate a local alarm for staff to investigate. An activation registered at the next sensitivity setting could be programmed for evacuation of the immediate area. Then an activation at the normal sensitivity setting could be used to evacuate the entire complex and call the Fire Service. In this example, three response levels are used, so the detector would have one real address and two successive virtual addresses on the data loop. The real address must be the one used for programming the brigade call.

Acclimate multi-criteria detectors take the virtual detector concept to another level. Acclimate now has six sensitivity options to select from (on a F100 panel only at this stage). Sensitivity level one is the normal setting with level five the least sensitive setting, for the output from the combined photoelectric and thermal sensors in the detector. Sensitivity level six is used to programme a response to the thermal sensor only. So, in a type five installation, one Acclimate detector can now replace separate smoke and heat detectors (provided that the heat detector spacing requirements in NZS4512 are still achieved). A sensitivity setting from one through five can be selected for the local smoke detector alarm (with the benefits of multi-criteria detection suppressing nuisance alarms in this environment), and sensitivity setting six is programmed - as a normal heat detector - to operate the evacuation system and call brigade.

Savings can be achieved in detector and installation costs, plus the improved aesthetics of only one detector head in the room.

The aesthetics can be even further enhanced by using a combined speaker/detector base (PSSB501) to eliminate a separate wall or ceiling mounted speaker. In Type 5 installations in particular, architects, consultants and installers now have the option of creating a very clean looking finish to the alarm installation by having one composite detection unit, incorporating the smoke detector, heat detector and speaker (as shown below left), instead of the cluttered look of a separate heat detector, smoke detector and speaker (below right). In an above average apartment, we know which option is preferable.



And if a conventional fire alarm system was being used for the Type 5 installation, there would be an additional speaker or sounder to add to the cluster of devices in each area, as the local apartment alarm and global evacuation have to be installed on separate circuits.

Some reminders when planning an installation using virtual detectors, or servicing the system -

- The virtual detectors use up actual addresses on the data loop. In the Acclimate example above, two addresses are used per device, limiting the number of detectors on a F100 data loop to 50 real units.
- Isolating the detector's real address does not isolate the virtual address for that device - this has to be isolated separately.

## PERTRONIC INDUSTRIES LTD

17 Eastern Hutt Rd, Wingate, Wellington. PO Box 35-063, Naenae. Phone (04) 5673229, Fax (04) 5673644.  
www.pertronic.co.nz email: sales@pertronic.co.nz

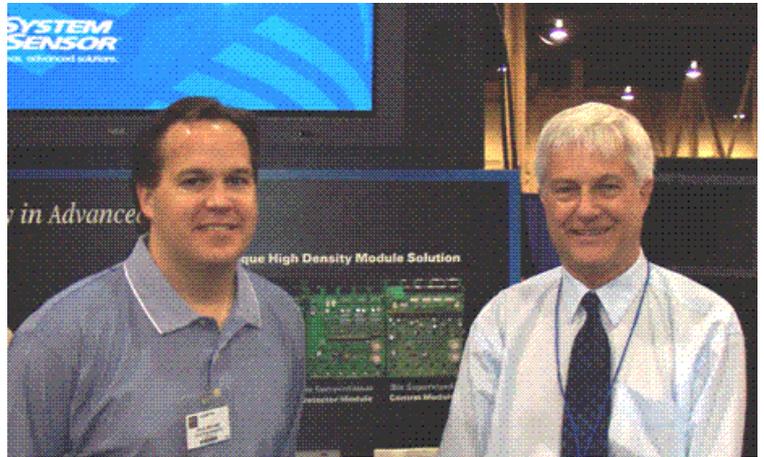
### AUCKLAND OFFICE:

119 Lansford Crescent, Avondale. PO Box 15-867, New Lynn. Phone (09) 820 8228 , Fax (09) 820 8284

## NFPA Conference in America Well Attended

The NFPA's "World Safety Conference" was held earlier this year in Las Vegas, with a very high number of delegates attending. The associated product exposition was a showcase of the latest developments in American fire protection and suppression systems, with a section of the expo also displaying products from Great Britain.

Pictured on the System Sensor stand is their Director of Sales & Marketing, Paul Sistare, with Pertronic Industries' Managing Director, David Percy, discussing new developments within the System Sensor product range.



## Day/Night Mode And 24 Hour Timers Now In F100 Panels

The latest software release in Pertronic F100 analogue addressable panels allows for different detector sensitivity settings at day and night time. This application can be used in buildings where there may be a high level of activity, or certain manufacturing processes running during the day, which may cause occasional unwanted nuisance alarms from smoke detectors. Using Day/Night mode, detector sensitivity could be lowered to prevent nuisance alarms during the day, with the sensitivity returned to a high level for out of business hours.

Day/Night mode can be activated in different ways. One option is to have the building's security system interfaced to the F100 panel. When the security system is activated, the F100 panel enters night mode, and when the security system is switched off the F100 panel enters day mode.

Another option is to use the 24 hour programmable timers that are also now available in the F100 panels, so that entering day or night mode happens automatically. Separate timers are available for week days and weekends, so that the different day and night modes can be customised for individual premises.

These timers can also be used for functions or events other than supervising Day/Night mode. For example, a manufacturing plant required to have a Type 3 system could have supplementary smoke detection fitted, to increase the building's fire protection outside of business hours, but have the evacuation function of the smoke detectors isolated during day time hours to prevent nuisance alarms.

Day/Night mode and 24 hour timers are available in F100 panels with firmware version 4.54 and panel utilities software version 3.18

## Pertronic Web Site Update

As part of the ongoing additions to our web site, a new feature - under the "News" option - is to register for news updates. These updates will automatically be emailed to all registered contacts, in addition to being posted in the News section on the website. Please visit us at [www.pertronic.co.nz](http://www.pertronic.co.nz)

