# HOLMAN ENGINEERING

## Paging Systems



When you order a bottle of champagne from your room at "The Regent Hotel", you will get it quickly and without fuss, thanks to Holman Engineering. The system at the Regent Hotel is similar to many systems also designed by Holman Engineering which are operating at Ranger Uranium mine, Mater Hospital, Nikkei Hotel, Bofart Hotel and many other sites in Australia, Singapore and Honk Kong. The system utilises a computer combined with special purpose hardware, and custom written software, to access people anywhere, anytime using pocket pagers.

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## Pocket Paging Alarm Interface

The Queensland Electricity Commission is constructing a $1.65 billion power station at Stanwell, near Rockhampton, which when completed, will have enough power to supply around a quarter of Queensland's needs.

The 1400 MW power station will be fully operational in 1996 and features an alarm monitoring system, called a "Pocket Pager Alarm Interface" (PPAI) which was developed by Holman Engineering.

The PPAI has facilitated the decrease in personnel required to man the power station at night from eight people to just two, providing a substantial cost saving. It is the first time in the world that this level of automation within a power station has been achieved.

The PPAI interfaces the power station control system and a local area paging system (also developed by Holman Engineering). It allows the whole power station to be operated by only two people. The two people can freely walk around the plant in full confidence that should a problem occur they will automatically be paged. The PPAI monitors 25,000 alarm points, and should a problem occur with any one alarm point, the system will page the plant operator. Once the plant operator returns to either of the two control rooms, from the PPAI he/she can quickly determine what caused the problem and what corrective action to take.



Above is a photo of the Stanwell power station at night, with the insert being a photo taken inside one of the two control rooms at the power station. The computer in the centre of the control desk in one of the man/machine interfaces for the PPAI system.

The PPAI consists of four PC's running Holman Engineering's custom software and interconnected with a Novell Network. One of the PC's (called the Alarm Interface computer) continually monitors the five power station control systems, communicates with a remote paging computer and drives various outputs. Another PC is the file server where all databases are stored, while two PC's form separate man/machine interfaces

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## Pocket Paging Alarm Interface

The order for the development of the PPAI (total project value $465,000) was placed on 19th May 1993, with factory witness tests being carried out on 22nd July 1993 (a 9 week project window). The project was not only completed on time, it was completed 2 days earlier than schedule.

The PPAI development was carried out in line with the quality requirements of both AS 3901 and AS 3563. It was this project which enabled Holman Engineering to setup the infrastructure necessary to meet these quality standards.



This photo shows the control cubicle (designed by Holman Engineering) with the door open on the bottom left, the Alarm Interface computer in the middle, and the file server computer on the right hand side.

The control cubicle contains watchdog hardware which continually checks the integrity of the PPAI system, all of the communications interfaces, and the hardware to drive a siren and various other devices.



The photo left shows one of the screens for the man/machine interface. Holman Engineering's user friendly software enables the operator to use either the keyboard or the mouse to carry out all functions.

Since developing the PPAI for Stanwell Power Station, Holman Engineering have provided PPAI systems to 6 other power stations.

## Excellence in Engineering