

The Holden Machine

In the 1980's Philips won a contract to install PRX A in Saudi Arabia in a consortium with LM Ericsson and Nortel.

This meant that for the first time in the development lab in Malmesbury, the software engineers had to get to grips with the vagaries of E&M signalling. E&M is basically a North American signalling system used to provide a universal interface between switching and transmission equipment. This situation was beneficial to the American telecommunications network because of the principle of Common Carrier inherent in their development of networks. In Europe, however, E&M was deeply imbedded in inband signalling systems commonly employed by PTT's who ran both switching and transmission systems.

Thus, in order to develop the necessary signalling software a "tame" E&M circuit was required which could send discrete signals rather than the in-train signals from the real thing. This was the basic requirement for the E&M Test Simulator, which was the official name for the Holden Machine.

The Holden Machine was designed by Charles Holden who was at that time employed as the consultant for the PRX UK development group. Those of you who remember Charles can read more about him here. Charles realized that a device which could send and receive various flavours of E&M signalling was required. Using his extensive knowledge of telephony he developed the basic outline of the system. Then working with Graeme Marett, Dave Rusher and Andrew Roberts, a device which could manage all these functions was developed.

Dave Rusher used the basic outline of the TDP (a well known device littering PRX test floors) as the mechanical base of the device. Andrew converted the schema into working TTL circuit boards and Graeme added some additional user functionality and co-ordinated the project. PCB's were built on the standard PRX half card and all wiring was completed by Mike Fitch using the standard Teflon wiring in neatly laced looms. The mechanical parts were manufactured in the Pye TMC model shop.

The Holden Machine was duly assembled and tested on the PRX A testfloor in Malmesbury. The complete device was resplendent in Philips blue and complete with a complete set of 44xx 12NC numbers. It was connected into the switch using specially provided interface connections to the testfloor MDF.

So successful was the Holden Machine that it was put into full production. The first production machine was installed on the Brussels testfloor and thereafter other production models were sent to Hilversum and Chicago. Truly international success and a first in hardware export for the Malmesbury software factory.

Charles was always slightly embarrassed at the device being named after him and usually referred to it as the E&M Tester, but we all knew better.