

# PRX exchange in Jersey

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In 1973 a contract was signed between PYE TMC and the States of Jersey Telecommunications Board for two PRX exchanges for the Island of Jersey in the Channel Isles.

Both exchanges were cut over on time and are giving satisfactory service.

The States of Jersey Telecommunications Board is an independent Administration. The Jersey Telephone Network, however, contains many of the techniques and features used by the British Post Office.

There are 5 local exchanges on the island: North, South, East, West and Central. The whole forms a linked numbering system of some 25,000 lines which is included in the Subscriber Trunk Dialling network for the British Isles.

South exchange uses strowger equipment, Central exchange was originally wholly strowger, while North and East had crossbar. One of the PRX exchanges is used as an extension to Central exchange and had a capacity of 2500 lines. This exchange has recently been enlarged by a further 2500 lines. It is collocated within the same building that houses the older strowger equipment and serves subscribers in St. Helier, the capital and largest town on the Island. The second PRX exchange has a capacity of 2000 lines and replaced a manual exchange at West.



The work on adaptation was done in cooperation with the development centre for PRX equipment of Philips Telecommunications Industries at Hilversum, The Netherlands.

The hardware and software of PRX system has a well defined boundary between a 'Basic' part which is independent of Administration's requirements and an 'Applications' part which depends on the requirements of the particular network. The hardware in the Basic part contains such items as the central control unit, the bus system and the switch network; the software includes system assurance, configuration control and test programmes for the basic hardware. The Applications part contains relay sets for inter-exchange signalling, appropriate test equipment and the call processing software.

In order to adapt the PRX system

for the Administration in Jersey four main areas had to be studied, namely inter-exchange signalling, operator signalling, subscriber facilities and on-line testing of the newly designed equipment.

2-wire relay sets were designed to interwork with distant strowger exchanges and a 3-wire relay set was designed to interwork with the collocated strowger exchange in Central. The strowger network in Jersey (and the UK) provides a number of operator facilities such as assistance for calls with manual hold, trunk offer, changed number interception and service interception.

The ability to make '999' calls to the emergency services was also included together with calling line identification, the latter not being provided in a strowger exchange. It was an essential part of the design that for all these facilities the operators should be able to follow existing procedures.

Subscriber facilities include Keytone signalling, PABX night service and subscriber-controlled transfer. Service to pay-on-answer coinboxes of the type used throughout the British Post Office network was also added. This required the provision of a serially trunked junctor circuit for the detection of coin signals, the operation of the coin slots and the injection of tones.

Additional hardware and software was designed for the on-line testing of all the new junctor circuits.

Central exchange was cut over on 1st november 1975 and West exchange on 6th March 1976. Both exchanges have been providing very satisfactory service.

#### References

- 1 The PRX system, *Philips Telecommunication Review*, Vol. 31, 1973, No. 2
- 2 C. M. W. BARROW and H. CONSTANTINE, The adaptation of the PRX to the UK environment, *Conference on Software Engineering for Telecommunication Switching Systems*, Salzburg, April 1976.

