

## ABSTRACT

### AN X.25 INTERFACE FOR A SINGLE BOARD MICROCOMPUTER

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The 'X.25 Recommendation' of the International Telegraph and Telephone Consultative Committee (CCITT) is now internationally accepted as defining the standard for the interface to any packet-switched network.

This project describes both the hardware and software development pertinent to an X.25 interface for a single board microcomputer. The hardware is developed around the **Advanced Data Link Controller and the Direct Memory Access Controller, both of which are standard chips.** The software package for the X.25 involves three layers - **the Physical layer, the Data Link layer and the Network layer.**

The first phase of this project involved the development, writing and testing of the software for the Data Link layer and hardware drivers. The latter was done concurrently with the design, implementing and testing of the associated hardware. These tasks were undertaken by Mr. John Griffith (fellow post-graduate student) and myself.

The second phase involved the development, writing and

testing of the software for the Network layer. This phase also included other software aspects such as : on-line display of information received on the screen; operation of the X.25 protocol in an interactive environment and on-screen error/diagnostics to be generated. Simultaneously, the user will be provided with a visual trace of all events occurring, when two microcomputers are exchanging information via the X.25 protocol.

The aim of this project was to design, implement and test the hardware and software which enables communication between two microcomputers using an X.25 protocol written in 6809 Assembly Language.