

ICL CO1	
ICL CO3	binary synchronous protocols
IBM 3270	
IBM SNA	SDLC
X25	HDLC

There is a special binary synchronous protocol for the connection of remote System 25 or System Ten video terminals.

**2.3.4 Other External Interfaces:** Other external interfaces can be supported by the use of special-purpose couplers, for example:

- RS 232 interface for special purpose printers.
- Cartridge Magnetic Tape Drive interface.

## 2.4 System Modules

**2.4.1 Instruction Processor:** The Instruction Processor is a master module on the Store Bus and a slave module on the I/O Bus. It is responsible for execution of the System 25 Order Code.

Instruction execution is initiated by commands on the I/O bus from the Control Processor and continues until an I/O instruction is encountered or it is commanded to switch to another partition by the Control Processor. For I/O instructions, the relevant real addresses are computed and stored in the control store and the Control Processor is informed by an interrupt on the I/O Bus.

When commanded to switch partition it will continue processing until the next successful branch instruction before suspending operations and informing the Control Processor.

**2.4.2 Control Processor:** The Control Processor is a master module on the Store Bus and the master module of the I/O bus. It is responsible for the overall control of the system and for transferring data between Slow Peripherals (via the I/O Bus) and main store (via the Store Bus).

It initiates processing by the Instruction Processor and controls switching between partitions.

It initiates slow peripheral operations by translating the I/O instruction into commands which are then routed to the appropriate coupler. It maintains the store address and counts associated with the transfer, and operates as a byte multiplexor for the transfer of data between the I/O Bus and Store Bus. It initiates transfers to fast peripherals which then proceed autonomously under the control of a disc controller. At the end of the transfer the Control Processor will initiate a partition switch to the originating partition.

It uses a configuration table in the control store to translate logical device numbers into real device numbers.

**2.4.3 Store Modules:** A store module is a slave on the Store Bus and provides a five-byte-wide random access store. It will generate parity when writing to store, and check the stored parity when reading from store.

**2.4.4 Disc Controllers:** A disc controller is a master module on the Store Bus, is a slave module on the I/O Bus and is the master module of a Disc Bus.

It is responsible for scheduling disc operations and for transferring data between Disc Adaptors (via the Disc Bus) and Main Store (via the Store Bus). It initiates disc operations at the request of the Control Processor by translating commands contained within the Control Block associated with a Disc I/O instruction and routing the information to the appropriate Disc Adaptor.

It maintains the store address associated with the transfer, and operates as a block multiplexor for the transfer of data between the Disc Bus and Store Bus.

A Disc Adaptor is responsible for interfacing the disc drives into System 25 and for transforming the protocols and data formats used within System 25 into commands and data across the disc drive interfaces. There is a different Disc Adaptor for each type of disc drive.

**2.4.5 Slow Peripheral Couplers:** A Slow Peripheral Coupler is a slave on the I/O Bus and controls one or more external peripheral interfaces of communications lines. It is responsible for driving the external interface and for transforming the protocols and data formats used by the peripherals or communications lines into those used within System 25.

Each Slow Peripheral Coupler consists of one or more logical Input Output Channels (IOC). There is a different Slow Peripheral Coupler for each type of external interface as follows:

- T Coupler for MTIOC interfaces
- D Coupler for MDIOC interfaces
- C Coupler for communications lines
- R Coupler for Cartridge Magnetic Tape
- V Coupler for special interfaces

## 3 System 25 Primitive Level Interface

The Primitive Level Interface of a system is the main interface between the hardware of the system and the software running in the system. It consists of a definition of the Instruction Set plus a definition of associated data standards, store map, arithmetic standards, etc.

The System 25 Primitive Level Interface is based on that of System Ten, with a limited number of extensions to support the new high capacity discs, to improve performance and to handle 8-bit data.