The Digital Multiplexor

- Lowest cost per point system available

- Directly addressable controller

- Simplified Interfacing

- Designed for future expansion

- Wire Wrap Convenience Panel

- Heavy Duty Relay Output

Block Diagram

```
                          INTERDATA
                          PROCESSOR
                              |
          - - - - - - - - - - | - - - - - - - - - -
         |                    |                    |
         |                CONTROLLER               |
         |                    |                    |
  Up to  |                    |                    |
  7-max. |                    |                    |
         |                    |                    |
    EXPANSION             BASIC                     |
     CHASSIS     ---->    CHASSIS                   |
         |                    |                    |
          - - - - - - - - - - | - - - - - - - - - -
Up to
4 I/O Modules                          Up to
                                       4-max.
      4-Modules
                    |
  RELAY    OUTPUT        INPUT
  MODULE   MODULE        MODULE

        1- Module      1- Module

              TERMINATION PANELS
```
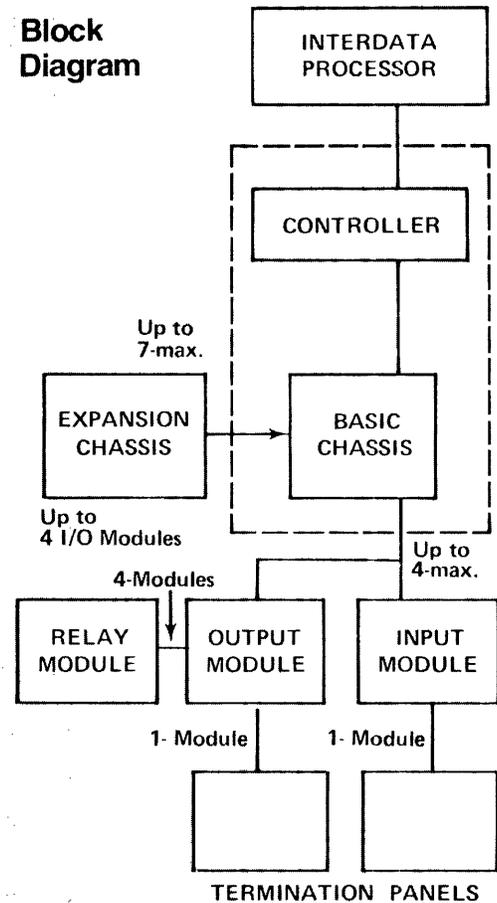
● **INTERDATA**®

General Description

The INTERDATA designed and developed Digital Multiplexor is ideally suited for satisfying digital I/O requirements in highly noisy industrial environments, where large quantities of discrete functions must be controlled or sensed.

Essentially the Digital Multiplexor provides a full line of module building blocks (input sensing, output levels, relay closures, convenience connector and filtering panels), which are driven by program control through a single byte oriented controller. For large quantities of discrete points, the Digital Multiplexor offers the lowest cost per point system available.

Controller (Model 1-860) - Basic multiplexor building block chassis with I/O controller. It may be programmed in a Random or Sequential addressing mode. Each chassis accommodates 4 input or output modules. The Controller requires one I/O slot and is plug compatible with the Multiplexor Bus or Selector Channel on all INTERDATA processors.

Input Module (Model 1-861) - Provides 128 input sensing lines with groups of 8 lines read in parallel under program control. A square loop biased core array permits total DC isolation from the sense line and provides excellent common mode transient response and common mode DC offset capability. A ground wire is provided with each sense line.

Output Module (Model 1-862) - Provides 128 output lines with flip-flop storage for each line. Under program control, the outputs are set up in groups of eight. The Module can be employed to drive loads directly, or, to drive the high power Relay Module (see Relay Module).

Relay Module (Model 1-865) - Available in groups of 32, the Relay Module can be employed with the Output Module to control heavy duty switching. Relays are DPST - Form C, non-latching type capable of switching 5 Amps at 28 VDC or 240 VAC at 80% P.F. Molex type (U.L. approved) connectors are provided for user interface connections. The Relay Module is rack mountable (requires 5 1/4" of rack space) with special contact configurations available on individual request.

Convenience Panel (Model 1-863) - A wire wrap connection panel is offered to accommodate 128 input or output lines - 128 twisted pairs, 24 gauge. This panel provides a convenient method for connecting the user's circuits to the INTERDATA computer, and allows for placing additional line filtering and signal conditioning elements. The convenience panel requires 15¾" of rack space.

Expansion Chassis (Model 1-864) - Up to 7 additional chassis may be added to the basic Controller, each providing space for 4 Input or Output Modules. Complete expansion of the system permits control of 16 Input Modules and 16 Output Modules or a maximum of 2,048 input lines and 2,048 output lines. Each expansion chassis requires 5 1/4" of rack space.

Packaging

External access to the interrupt circuit is available. Each I/O Module has an interrupt circuit which is available to the Controller via the bus between Controller and Multiplexor sections.

The single controller mounts in any standard I/O card slot in an INTERDATA chassis. Input and Output modules plug into a special 5 1/4" rack mounted chassis. One chassis is supplied with the controller.

Power Requirements

Each chassis requires DC power for operation. This may be obtained from the processor supply, or, an optionally supplied INTERDATA standard power supply.

The following power is required for each fully complemented expansion chassis.

Voltage	Power Consumption
+ 5 VDC	2.4 to 11.2 Amps, max
+ 16 VDC	1.3 Amps, max
- 16 VDC	0.5 Amps, max

Level Characteristics

Input Modules:		
Logical "0"	0 to 2 ma.	
Logical "1"	15 to 25 ma.	
Common Mode D.C. Offset	50 VDC, transient 500V/10μ sec	
Common Mode Impedance	5 Mohm, less than 20 pf.	
Aperture Time - 1μ sec		

Output Modules:		
Logical "0"	15 VDC	
Logical "1"	0.5VDC — 100 ma.	

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