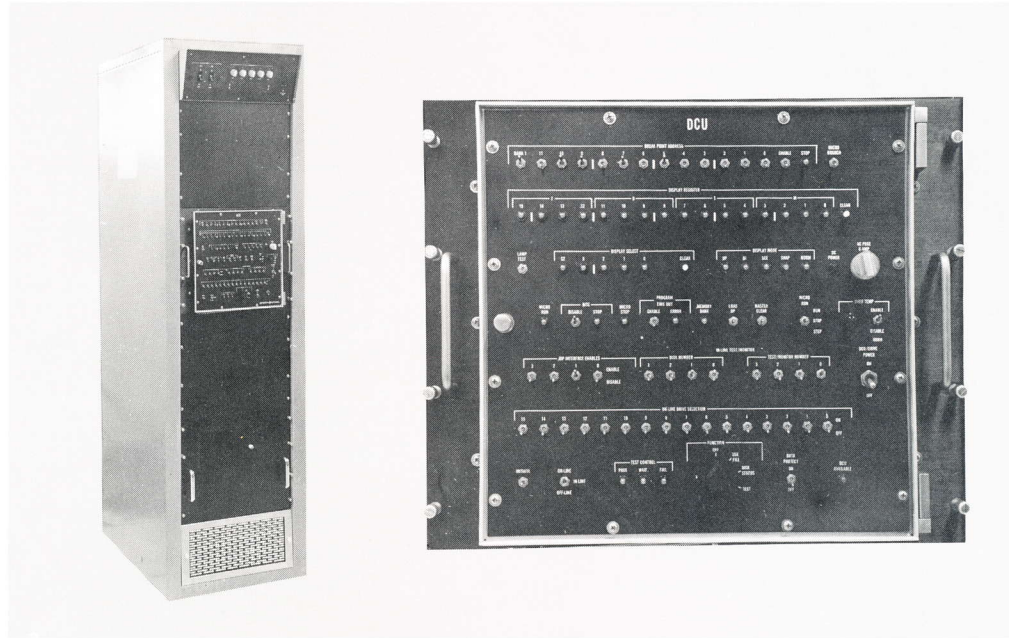# Disc Control Unit (DCU)

FA-8336

UNISYS

- Microprogrammed disc controller
- Controls up to 8 Disc Drive Units (DDU, FA-8337) with option to control up to 16 DDU's
- Provides interface ports to 2 Univac Input Output Processors (IOP's) with the option of 4 interface ports
- Polynomial codes used for error detection and correction
- Alternate data tracks substituted for bad tracks
- Data protection provided by read and write lockouts
- 32-bit parallel interface (30 data bits plus 2 parity)
- Standard 19″ rack mounting

Features

Functional Characteristics

- Interfaces two Unisys IOPs and up to eight 100 megabyte disc drives
- Options can expand DCU interface to four IOPs and sixteen disc drives
- Processor command control consists of one word (30 bit) commands
- Status reporting to processors
- Microprogrammed controller uses 1K of 16 bit RAM and 7K of 16 bit PROM
- Polynomial error codes provide detection of a single burst error of up to 22 bits and corrections of a single burst error of up to 11 bits
- Automatic retries are provided for errors not correctable with the error code
- Read and write lockout codes provide data protection
- Fixed data record length of 256 32-bit words
- Half-word parity
- Eleven data records are written per track
- Two modes of processor access priority (program selectable) — control mode and polling mode
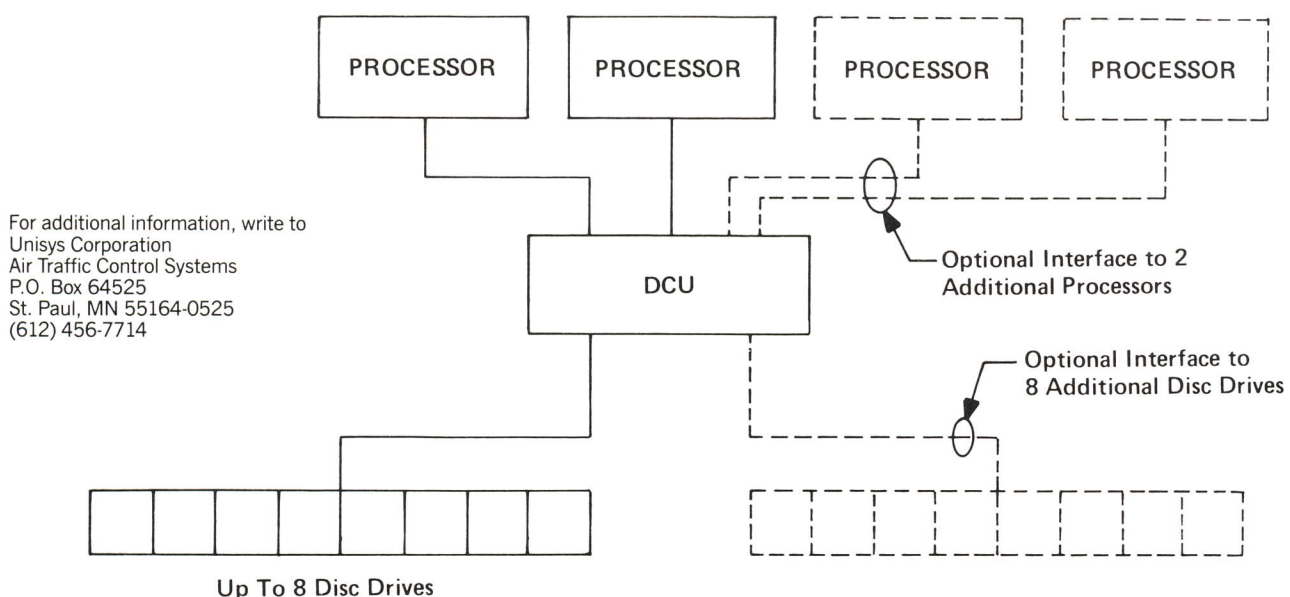
- Processor interface is 32-bit parallel Type A interface (Unisys specification SB 10205)
- Self-contained off-line diagnostic
- Drive Diagnostic available
- Statistical usage error log is provided
- Total data storage for each drive disc pack with the 256 word fixed record is:
  - 256 x 11 = 2816 words/track
  - 2816 x 19 = 53,504 words/cylinder
  - 53,504 x 404 = 21,615,616 32-bit words/pack
  - 21, 615, 616 x 32 = 691, 699, 712 bits or 86,462,464 bytes per pack
- DCU commands include:
  - Demand Control/Master Clear
  - Request Control
  - Release Control
  - Format Write
  - Write
  - Read Record
  - Multi Record Read
  - Check
  - Set Lock
  - Status Request
  - Hardware Control

Physical Characteristics

- The DCU is housed in a standard 19-inch Equipment Rack (FA-8380) and contains the disc controller maintenance panel and power sequencer which supplies 3 phase AC power to the Disc Drive units
- Power
  - 120 VAC, single phase 60 Hz, 337 units (exclusive of DDU's)
- Operating temperature
  - 50° F—90° F
- Relative humidity
  - 20%—90%
- Size (inches):
  - Height - 16″
  - Width - 19″
  - Depth - 24″
- Weight
  - DCU - 68 pounds
  - Power Sequencer - approx. 100 pounds
  - Cabinet - less than 200 pounds

Applications
- Air Traffic Control
- Communication Systems
- Command and Control Centers
- Data Storage and Retrieval
- Program Storage and Retrieval
- Multiprocessor Systems

For additional information, write to
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Disc Control Unit (DCU)