

# 1033 DISK STORAGE FACILITY

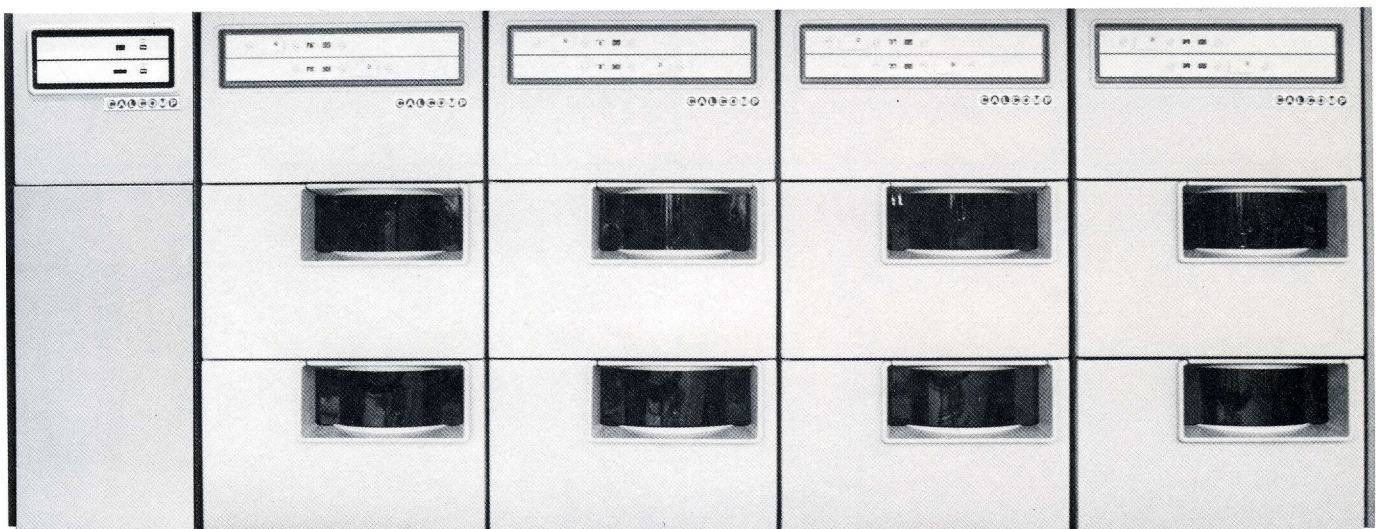
The Model 1033 Disk Storage Facility (DSF) is designed to provide low cost, high performance, large capacity direct access data storage for users of IBM Computers; System 370, Model 135 and above; as well as System 360, Model 195. As a direct replacement for the IBM 3333 Disk Storage and Control Module, CalComp's 1033 DSF is software and hardware transparent to all standard operating systems used by the System 370 and 360. The 1033 DSF can directly interface with the IBM 3830-2 Storage Control, the Integrated File Adapter (IFA), or Integrated Storage Control (ISC).

The 1033 DSF consists of a 1033 Control Storage Adapter and from two to eight spindles of CalComp's single density (Models 230 and 235-I) or double density (Model 235-II) disk storage units. The 1033 DSF can be arranged in a variety of configurations to a maximum of four 1033 Control Storage

Adapters. Therefore, maximum storage capacity is 6.4 billion bytes obtained from a four controller by 32 spindle (200 M Bytes each). The basic configuration consists of a 1033 Control Storage Adapter and one disk drive containing two spindles.

Each Control Storage Adapter can control up to eight spindles. The spindles can be mixed densities or capacities as long as spindles within a cabinet are the same type. Additional IBM features must be included for 1033 Disk Storage Facilities that are configured with more than two 1033 Control Storage Adapters.

The String Switch option allows access to the 1033 Control Storage Adapter via two separate data paths. CalComp's 1033 DSF provides low cost, high capacity data storages for IBM computer system users.



1033 CONTROL STORAGE ADAPTER

230 DISK STORAGE UNITS

1033 DISK STORAGE FACILITY

# 1033 DISK STORAGE FACILITY SPECIFICATIONS

## ON-LINE CAPACITY

Model 230: Single density — 800 million bytes (100 million per spindle).  
Model 235-I: Single density — 800 million bytes (100 million per spindle).  
Model 235-II: Double density — 1.6 billion bytes (200 million per spindle).

## DATA TRANSFER RATE

806,000 bytes per second

## ROTATIONAL SPEED

3600 RPM (16.7 milliseconds per revolution)

## ACCESS TIME

Minimum: 10 milliseconds  
Average: 30 milliseconds  
Maximum: 55 milliseconds

## CYLINDERS PER PACK

Model 230: 404 plus 7 alternates  
Model 235-I: 404 plus 7 alternates  
Model 235-II: 808 plus 7 alternates

## TRACKS PER CYLINDER

19

## BYTES PER TRACK

13,030

## COMPATIBILITY

IBM System/370, Models 135 and higher  
IBM System/360, Model 145  
IBM 3333  
IBM 3336 Disk Pack (or equivalent)  
Model I: Single Density  
Model II: Double Density  
IBM 3830 Command Set

## START/STOP TIME

Start — 15 seconds (drive ready)  
Stop — 15 seconds

## POWER REQUIREMENTS

208V or 230V AC ( $\pm 10\%$ ), Three Phase,  $60 \pm 0.5$  Hz ( $50 \pm 0.5$  Hz available)  
Model 1033 — Current: 1 Amp per phase  
Model 235 (per spindle) — Start Current: 25 Amps for 12 seconds  
Operating Current: 6 Amps rms  
Model 230 (per spindle) — Start Current: 1 Amps for 10 seconds  
Operating Current: 5.5 Amps rms

## OPERATING ENVIRONMENT

Temperature: 60°F (16°C) — 90°F (33°C); Maximum rate of change 15°F (8.6°C) per hour  
Relative Humidity: 10-80 percent (no condensation).

## HEAT DISSIPATION (Maximum)

Model 1033: 1,000 BTU/hour  
Model 235: 7,132 BTU/hour (average)  
Model 230: 6,484 BTU/hour (average)

## DIMENSIONS

Model 1033: 21.7 in. (55 cm) wide; 33.5 in (85 cm) deep; 60 in (153 cm) high  
Model 235/230: 32 in (82 cm) wide; 34.5 in (88 cm) deep; 60 in (153 cm) high

## WEIGHT

	235	1033
Operating	850 lbs. (380 kg)	290 lbs. (130 kg)
Shipping	950 lbs. (425 kg)	360 lbs. (160 kg)

## COLORS

Standard IBM: blue, red, gray and yellow

## OPTIONAL FEATURES

String Switch



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