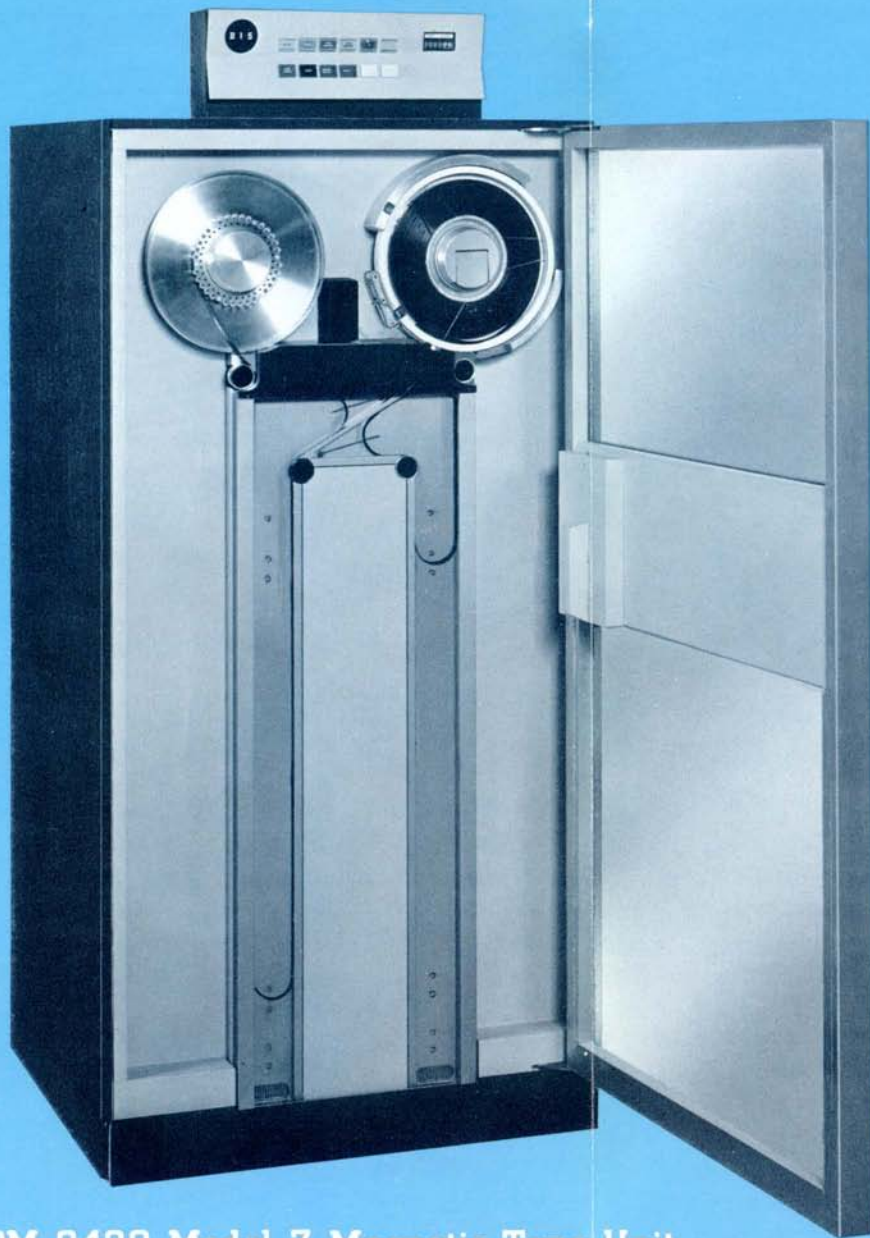




IBM 2420 Model 7  
Magnetic Tape Unit

**field engineering announcement**



## IBM 2420 Model 7 Magnetic Tape Unit

### Description

The IBM 2420 Model 7 Magnetic Tape Unit is designed to meet the requirements of System/360 where high-speed input/output data transfer from magnetic tape is required. The tape unit has a data rate of 320kb per second. The 2420 Model 7 attaches to the System/360

I/O Interface through a 2803 Model 2 Tape Control Unit with an attachment feature. The tape format and programming for the 2420 Model 7 Magnetic Tape Unit is compatible with the present 2400 and 2515 Models 4, 5, and 6.

## General Characteristics

- Access time 2 milliseconds
- Tape speed 200 inches/second
- Tape density 1,600 bytes/inch
- Byte rate 320,000 bytes/second
- IBG 0.6 inch
- Rewind speed 500 inches/second (tape in columns)
- Rewind time (2,400-foot reel) 1 minute
- Recording format Phase encoding
- Tape format Nine track
- Tape 1/2-inch Series/500, Dynexcel, and heavy duty
- Packaging Single tape unit in one frame

## Features

Some of the prominent features of the 2420 Model 7 are:

*File Reel Mounted on the Right Hand Side* puts the backing side of the tape in contact with the vacuum column walls and the drive capstan rather than the oxide side.

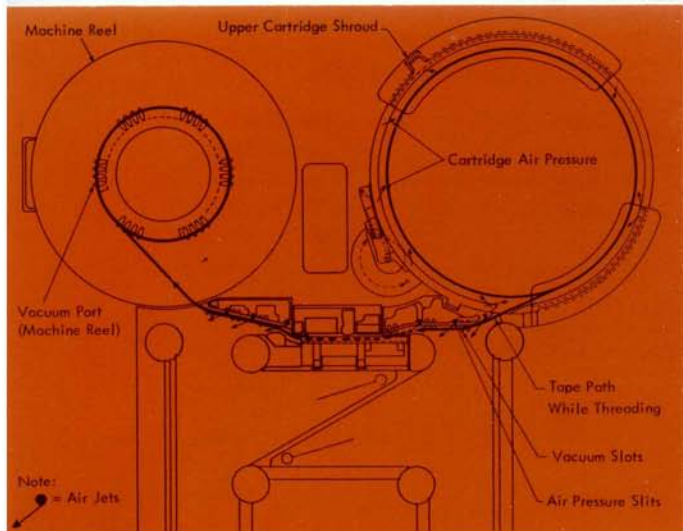
*Automatic Threading* enables the operator to mount a reel of tape or a cartridge containing the tape on the hub and depress the load rewind pushbutton. The tape is automatically threaded and loaded; this greatly reduces tape handling and thus reduces tape damage.

*Short, Tapered Buffer Columns* are additional vacuum columns that reduce the length of tape to be accelerated, permitting a fast access time.

*Single Drive Capstan* is controlled by a reversible dc motor. The tape contacts over 180 degrees of the capstan and thus requires no mechanical device to hold it in contact with the capstan. However, vacuum is applied to the hollow capstan to prevent slippage during start and stop.

*Direct Coupled Reel Drive Motors* eliminate the need for magnetic clutches and belts.

*Power Access Window* is functionally equivalent to that of the 2400-series tape units.



### *Tape Threading Mechanism*

### **Service Features**

The new IBM System/360 Tape Tester developed for all 2400-series tape units is adaptable for use on the 2420 Model 7 by installing a Field Bill of Material. The tape tester provides for off-line tape motion testing and for scoping the tape unit read and write bus.

A panel of indicator lights has been added to assist the Customer Engineer in troubleshooting. These indicators help diagnose the cause of failures in the ready circuit. They also show the status of important latches and triggers.

All tape commands can be performed off-line through the use of the CE panel on the tape control unit. These commands can be performed singularly or in a loop of up to four commands.

The use of the single drive capstan with a digital speed control has eliminated all mechanical adjustments in the tape path/tape motion area with the exception of tracking and mechanical skew.

### **Optional Features**

**Tape Cartridge** stores a 2,400-foot reel of 1/2-inch tape. Any standard 10-1/2-inch reel may be inserted in the cartridge. With a solid flange reel the tape is sealed from dust and other outside contamination. Mounting the assembly on a tape unit is similar to mounting a single tape reel. This feature reduces considerably the possibility of tape damage by handling.

**Tape Switching** is provided by the IBM 2816 Tape Switching Unit.



*Capstan Motor Assembly*

The capstan motor is a permanent magnet, direct current, printed-circuit motor. The torque-producing element of the motor is a thin, tubular armature constructed of printed conductors. The light weight of this armature permits rapid acceleration of the capstan-armature assembly.

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