

IBM 3420
Magnetic
Tape Unit
IBM 3803
Control Unit

IBM 3803

11911

The IBM 3420/3803 Magnetic Tape Subsystem consists of a 3803 control unit and three models of the 3420 tape unit. The tape unit models differ primarily in tape speed.

<i>Model</i>	<i>Speed</i>
3	75 ips
5	125 ips
7	200 ips

The subsystem uses ½ inch tape and is format and program compatible with existing magnetic tape systems. It attaches to System/360 and System/370.

The standard subsystem reads and writes at 1600 bpi phase encoded. Seven-track and nine-track NRZI

are available as special features. The 3420/3803 subsystem also includes tape switch capability similar to the present IBM 2816 tape switch. The hardware needed for the tape switch function is packaged as a feature in the control unit.

The 3803 is a microprogram control unit. It attaches up to eight tape units and, with the optional tape switch feature, operates up to 16 tape units.

This is a Field Engineering Career Path "General Systems" product.



Optional Features

- *7-Track NRZI* — Allows compatibility with 7-track tapes at 556 or 800 bpi. Data convert and translate capability are included.
- *Dual Density* — Allows compatibility with 9-track NRZI tapes at 800 bpi as well as the standard 1600 bpi PE.
- *Two Channel Switch* — Allows a control unit to be attached to two channels.
- *Tape Switch* — Allows a control unit to operate tape units attached to another control unit. The switch configuration may consist of 2, 3, or 4 control units and up to 16 tape units.

Design Features

- Single drive capstan controlled by a reversible dc motor.
- Auto threading.
- Cartridge loading.
- MST logic.
- Tape switch feature built into the control unit.
- Fiber optic light source used for BOT (beginning of tape), EOT (end of tape), radius sense, capstan tachometer and reel motor tachometers.
- Tachometer controlled reel drive motors.
- Read detection circuits in the tape unit generate digital signals through the read bus to the control unit. This reduces amplifier level sensitivity and eliminates the need for preamplifier adjustment. It also reduces electrical noise sensitivity.
- The automatic reel latch uses pressure developed by the pneumatic supply to secure the reel to the hub. The operator simply places the reel on the hub and depresses the LOAD key. The air pressure seats the reel on the hub in alignment with the tape path.

Service Features

- Preamp, pneumatic, BOT, and EOT adjustments are required only during component parts replacement.
- Fault locating diagnostics.
- 24 sense bytes monitor conditions in the control unit and tape unit.
- Control unit CE panel provides all functions for testing the subsystem.
- 3420/3803 multiplex interface, with the tape units radially attached to the control unit, permits advanced diagnostic capability and off-line servicing of individual tape units. A tape unit can be taken off-line or power turned on or off without disturbing the remainder of the system.
- Micro diagnostics stored in the control unit can be operated by the OLT diagnostics or from the control unit CE panel.
- Sense bytes provide EC level, serial number and feature identification.
- Capstan tracking is adjustable from the front of the machine.
- A log analysis program operates on the OBR data to identify the failing component.
- Loop write to read service feature allows the checking of reading and writing circuits in both the control unit and the tape unit.

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