

ABSTRACT OF THE DISCLOSURE

LOW-PROFILE TAPE DRIVE WITH AN EXTERNAL-ROTOR MOTOR DIRECTLY DRIVING A CARTRIDGE CAPSTAN

A tape drive for a data tape mini-cartridge. Cartridges of interest have an internal capstan for an internal drive belt driven by a drive roller in the tape drive. The tape drive has a drive roller directly on a rotating exterior surface of the motor. In one example embodiment, the motor has an external rotor. In an example embodiment, no part of the motor diameter extends below or above the data cartridge. No intermediate rollers or belts are required. The motor stator is preferably mounted onto a metal support plate for heat conduction from the stator into the support plate. The motor preferably has space between the rotor and the support plate for air to flow into the stator for convection cooling. In addition, the motor rotor preferably includes cooling fins and air flow holes for additional convection cooling. A spring is mounted between the motor support plate and a chassis to provide a force holding the drive roller against the cartridge capstan.

(Figure 5)