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# DIGI-DATA MODEL 1300
## DIGITAL MAGNETIC TAPE UNIT

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## FEATURES

- ☐ **Range of Asynchronous Speeds**

- ☐ **Guaranteed Computer Campatibility, including IBM 360**

- ☐ **High Quality—Low Price through Simplified Design**

- ☐ **High Reliability**

- ☐ **DC Erase Head for Maximum Reliability**

- ☐ **Ceramic Tape Guides**

- ☐ **DC Operation Available as Low Cost Option**

- ☐ **Built-in Noise Immunity**

- ☐ **Pressure Roller Drive to Prevent Tape Slippage**

- ☐ **Controls Inside Door—Prevent Inadvertent Data Destruction**

- ☐ **Precise Head Alignment**

- ☐ **Rack Slides Provided with Each Unit—Give Easy Access to Rear of Unit**

- ☐ **Separate Heads for Read & Write**

Several models are available within the 1300 Series. The major differences in these models are: asynchronous input speed capability, number of tracks, and character packing density. A number of options such as read electronics, error checking and power options are also available. Some models have these particularly interesting features: fast gap, speeds up to 1200 characters/sec., capability to read and write at high speeds, recorder clock output, head current echo check parity generation, and IR Gap elimination.

The Digi-Data 1300 Series of digital magnetic tape recorders is designed for asynchronous data recording in a form compatible with computer input drives. Compatibility, even with the more stringent requirements of the IBM 360, is guaranteed to be well within the computer requirements for accurate data transfer. The Series incorporates the years of experience of Digi-Data engineering in a low cost, high quality, highly reliable design.

The 1300 records a data character from the input lines each time that a record command is received. The requirements for computer compatibility are provided within the 1300 recorder. These include: parity bit generation for each character, inter-record gap generation upon command, generation and insertion of the gap characters, computer compatible character spacing, computer compatible skew control, end of flle gap upon command, and generation and insertion of the "End-of-File" character.

# COMPUTER COMPATIBLE MAGNETIC TAPE UNIT

*A Flexible unit that allows the user to record*

*incrementally or continuously, write or read.*

## INCREMENTAL RECORDING

This is the simplest means available for preparing computer compatible tape. All that is required is your data (6 or 8 lines), a record command, and an inter-record gap command. If you wish an "IR gap eliminator" can be provided to allow data input without concern about inter-record gaps.

## CONTINUOUS RECORDING

The standard incremental recorder can be used for continuous (slew) recording at rates of 1000 to 4000 char/sec. A gated clock output is available as an option. On command the unit will start and then supply clock pulses for use in your system. This timing will assure proper packing density on the recorded tape. When an IR gap is commanded the pulses will be inhibited and a gap with check characters will be written. The tape can be stopped and started in the IR gap.

Other units can be supplied with synchronous record only at speeds to 25 ips.

## CONTINUOUS READ

Continuous (slew) read is available as an option on the incremental recorder or as a read only unit or as a synchronous write, synchronous read unit. Starting and stopping in the IR gap, the tape can be read a record at a time.

## DESIGN AND CONSTRUCTION QUALITY AND SIMPLICITY

Some of the design goals of the 1300 Series are: complete computer compatibility, reliability, convenience, maintainability and simplicity, and economy. The methods used in the 1300 to meet these goals are described below.
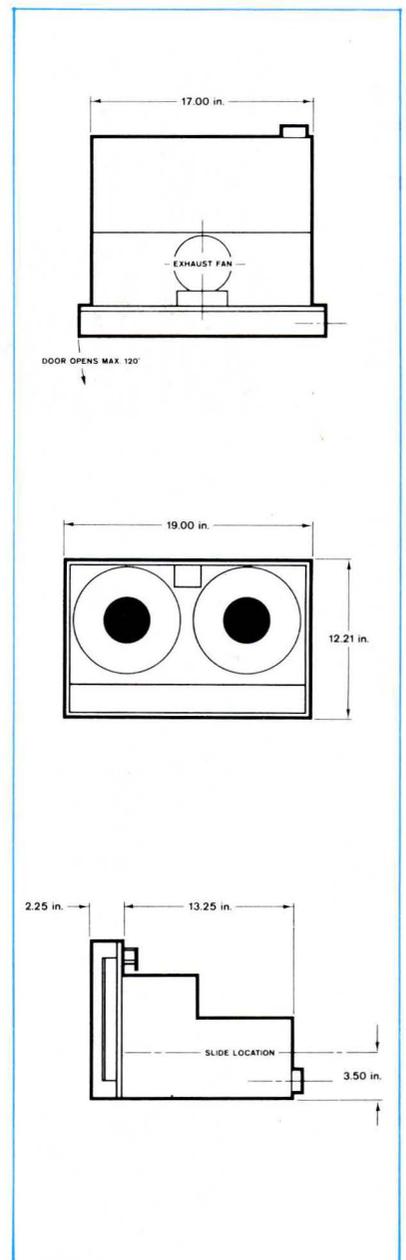
## MECHANICAL CONSTRUCTION

All of the tape handling components are mounted on jig plate. Precision components are used to assure computer compatibility. Precision head alignment assures minimum skew without electronic de-skewing. Tape guiding is performed by accurately aligned ceramic guides. A pinch roller acts as a skew controlling element while assuring that no tape slippage will occur. The high detent force of the stepping motor also assures that no tape slippage will occur. For example, 450 oz. of tape tension is required to slip the stepping motor detent on a typical machine.

The tape is controlled by a capstan directly mounted on the motor shaft—no gears. The reels are controlled by a system with no wearing parts and requiring no adjustment. Tape tension is maintained at a nominal 6 oz.; tension in this range is desirable to assure accurate recording. A heavy duty fan is provided to maintain the temperature inside the unit near ambient.

## ELECTRONICS

The 1300 Series is designed to interface with IC outputs. Noise immunity is designed into these circuits; however, a high level interface is also available for noisy environments. All of the electronics necessary for writing computer compatible tape are provided. To assure that the recorder will not become obsolete, the 7 track recorder has been designed to be easily converted to another character packing density or to 9 tracks.

**TAPE WIDTH**  ½ inch

**EOF GAP**  IBM Compatible End of File (EOF), including Check Character

**REEL SIZE**  8½ inch (1200 ft. of 1.5 mil tape)

**LOAD TAPE**  Automatic advance to load point (BOT)

**END OF TAPE SENSING**
Reflective marker sensed by photocell

**REWIND**  Less than 3 minutes

**LATERAL PARITY**  Odd, internally generated

**HEAD CURRENT ECHO CHECK**
Parity check of data as written (option)

**BIT SPACING ACCURACY**
± 2% typical
± 5% worst case

**INTER-CHANNEL DISPLACEMENT ERROR**
± 180 u inches @ 800 BPI
± 250 u inches @ 556 & 200 BPI

**TAPE TENSION** — 7 oz nominal

**INPUTS***  Logical 0 = 0 Volts ± .5V, Logical 1 = + 3 Volts, or greater; 1.5K to ground
Data (6 or 8 lines)
Step and Record
IR Gap
Remote Controls

**OUTPUTS***  Logical 0 = <.2 Volts,
Logical 1 = + 6V at 750 ohms
Beginning of Tape (BOT)
IR Gap in process or End of IR Gap
End of Tape
Broken Tape
Head Current Echo Check (Optional)

**SIZE**  19" Rack mounting, 12¼" high, 16" deep

**WEIGHT**  38 pounds

**PANEL CONTROLS**  On-off/rewind/record, BOT, EOF

*Other inputs and outputs are provided with some options.*

**ACCESS**  Rack slides

**POWER**  105 to 125 Volts, 50 or 60 Hz, 1.5 amps.: DC, 220V or 400 Hz. available as an option

**OPERATING ENVIRONMENT**  32° to 131°F; humidity to 100% relative without condensation

**ALTITUDE**  0 to 25,000 ft.

**SHOCK**  (6 inch drop on any axis)

**VIBRATION**  (1.8g 10 cps to 500 cps, sinusoidal

## 9 TRACK

**RECORDING RATE**  0-300 (1339), 0-700 (1379), 0-1200 (1399) char/sec

**PACKING DENSITY**  800 BPI

**NUMBER OF TRACKS**  9 (IBM compatible spacing)

**IR GAP**  IBM compatible gap—high speed
1339-800  225 ms
1379-800   70 ms
1399-800   70 ms

**CHECK CHARACTERS**  LRCC, CRCC

## 7 TRACK

**RECORDING RATE**  0-300 (1337), 0-500 (1357), 0-1200 (1397) char/sec

**PACKING DENSITY**  200 or 556 BPI

**NUMBER OF TRACKS**  7 (IBM compatible spacing)

**TAPE WIDTH**  ½ inch

**IR GAP**  IBM compatible gap—high speed
1337-200  100 ms     1357-556  225 ms
1357-200  100 ms     1397-556   70 ms
1337-556  225 ms

**CHECK CHARACTERS**  LRCC

**OPTIONAL ITEMS**
☐ Head Current Echo Check      ☐ Slew Write Only
☐ Slew Read                    ☐ High Level Inputs

# DIGI-DATA CORPORATION

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