KENNEDY
Subsidiary, Magnetics & Electronics Inc.

OEM

Models 9100/9300 Vacuum Column Digital Tape Transports

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Kennedy, manufacturer of the industry's most reliable digital transports, offers Models 9100/9300 Vacuum Column Tape Transports.

These highly sophisticated units have every operational feature you could ask for in vacuum column tape transports, along with Kennedy's typically high reliability standards. These features include:

☐ **An Advanced Servo System**
High performance reel servos are made possible through the use of completely linear loop sensors. Having no moving parts, these loop sensors operate on a vacuum differential. Smooth, linear output over the full column length permits close control of servo characteristics. The servos exhibit no block length resonances or other anomalies to affect smooth tape motion, and required vacuum column length is minimized.

☐ **Quiet Operation**
Models 9100/9300 are quieter on the bench than most competitive units in a rack. The wide vacuum columns allow a reduction in vacuum pressure which insures quieter operation and less power consumption.

☐ **Soft Tape Unload**
Allows for slow spooling after sensing load point when unloading.

☐ **Load Point Time Out Sequence**
Automatic intervention in the event of operator loading past BOT.

☐ **Automatic Read Threshold Scanning**
Re-reads are automatically cycled through four stages of threshold setting to improve data recovery operations.

☐ **Marginal Skew Check**
A visual indication to determine if errors are caused by marginal skew.

☐ **Read-After-Write Shortened Skew Gate**
Greater assurance of data reliability during read after write checking. Read skew gate is 25% shorter in write mode.

☐ **Switch Selectable Addressing**
A front-panel mounted four-position switch allows unit addressing from I/O.

☐ **Industry Compatible Interface**
The standard three connector industry interface is utilized.

☐ **Available Models**
Both models are available in 7 track 200/556 or 556/800 cpi, and 9 track 800/1600 cpi versions with data transfer rates to 200 kHz.

☐ **LED Indicators**
All indicators are LED's for greater reliability.

☐ **Rigid Cast Aluminum Deck**
The deck is cast aluminum tooling plate for rigidity and stability.

☐ **Positive Pressurized Tape Compartment**
Models 9100/9300 maintain a positive air pressure in the tape compartment area to provide the tape with the cleanest possible operating environment, assuring high data reliability.

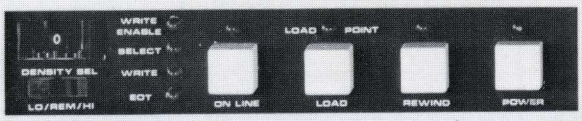
☐ **Crystal Control**
Used for accurate setting of write and read deskewing and other critical timing circuits. Also helps eliminate periodic readjustments and increases stability.

☐ **Front Accessible Test Panel allows off-line testing by your customer engineer and performs the following functions:**

1. Normal speed forward/reverse
2. High speed forward
3. Test pattern generator
4. Skew indicator and test point
5. Output monitors for load point and end of tape
6. Cycle operation — allows normal speed forward/reverse cycling of unit for ramp set-up.

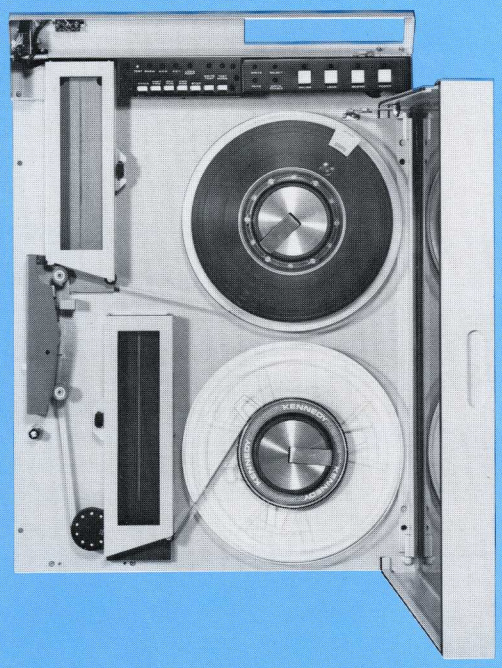
☐ **Hard Coated Read-After-Write Heads**
Standard on Models 9100/9300, these heads reduce tape wear and improve data integrity.

☐ **Dual Density Embedded Formatters**
Contains all formatting electronics to provide industry standard tapes with industry standard interface.

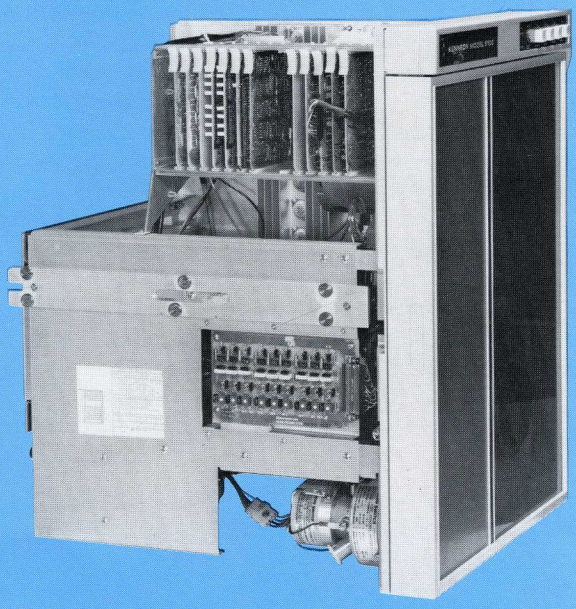


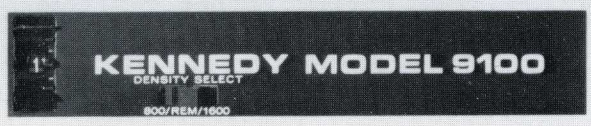
KENNEDY MODEL 9300

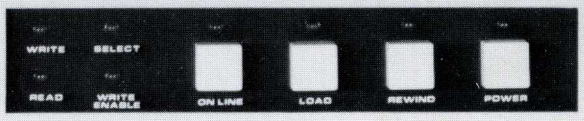
Both Model 9300 and Model 9100 (below) feature off-line customer engineering test panels.



Simplified tape loading and easy access to major sub assemblies are features of the 9100/9300 series.







Models 9100/9300 - Quick, Quiet Operation

Smooth, quiet operation

Models 9100/9300 have established new levels of operational excellence.

Vacuum column transports have been characteristically noisy, jerky mechanisms to the point of being unsuitable for some applications. Vacuum blower noise resembling that of a vacuum cleaner is not unusual.

Servo operation also has left much to be desired. Loop sensing for control of reel servos has universally depended upon discrete holes or photocells and lamps. This results in step function sensor outputs requiring heroic efforts to achieve servo stability.

Both models overcome these difficulties very effectively. The noise level is less than 70 db unweighted measured five feet from a bench-mounted transport with dust cover open. In a rack cabinet, with dust cover closed, they are almost silent in its operation. This is accomplished by use of a relatively low speed blower mounted on vibration isolators.

Servo operation is smooth and accurate owing to the smooth, linear output of the capacitive loop sensor. Linear power amplifiers drive reels in a critically damped servo loop. Adjustments required are minimal — a zero adjustment and an easily set gain adjustment for each reel. Once tape is loaded in the columns, the loop is closed and no loop kicks and offsets are required.

There are no resonances or critical block lengths. Tape motion is completely free of program restrictions.

The unique capacitive sensing device is completely unaffected by temperature, humidity or other environmental effects. No air passes through the sensor so cleaning is never required. Capacitive effect is of the order of 1500 pf so strays are insignificant. And, to reiterate, output is linear and smooth over the entire sensor length.

Advanced Data Electronics

Unique techniques used in the data electronics portion of Models 9100/9300 contribute to an extremely high data reliability factor.

Data recovery circuits are entirely digital in operation using high speed sampling methods rather than analog circuitry of uncertain delay characteristics. This results in highly accurate and consistent peak location free of noise and pattern sensitivity effects.

Read-write skew adjustment is also completely digital. Required delays are produced by counting pulses in a train. Required counts for each channel of a given head to correct skew and gap scatter are determined at the time of head manufacture and recorded on a chart accompanying each head. To deskew the head then only requires setting of switches, one for each channel. Replacement heads come with appropriate charts to allow the service technician to reset the skew switches as required.

Assistance — We offer that too!

Kennedy recognizes the need for factory assistance in the many areas required to satisfy today's demanding OEM market and is prepared to offer assistance on request. Should you require further information regarding the Models 9100/9300, please contact our factory directly or the nearest Kennedy representative.

Experience, Integrity, and Solidarity — We're Ahead of the Field

As an OEM one of your considerations in selecting a tape transport is, "Will this vendor, who is here today, be around tomorrow?" This in an especially significant question when selecting a tape transport due to the importance of the transport to your system and the large number of vendors in today's market. When you carefully analyze each of these vendors it becomes apparent that back in the early 1960's only three or four were around and Kennedy was one of them! Kennedy was a pioneer then and is a leader now. Kennedy has over fifteen years of engineering, manufacturing and application experience dealing with digital tape transports and has thousands of recorders installed in every conceivable application throughout the world — most important, Kennedy has remained profitable at all times.

That's a record of experience and financial solidarity we're proud of and one that will give creditability to your decision to go Kennedy — the company that cares!

Should your requirement require buffered arm tape transports, or capabilities of less than 2400 feet, Kennedy can provide its proven Model 9000 (10½" reel, 2400 feet); Model 9800 (8½" reel, 1200 feet) or Model 9700 (7" reel, 600 feet). These three Series 9000 transports have set the industry standard for performance and features.

Models 9100/9300 Tape Transport Specifications

	9100	9300
Data Density	7 Track - 200/556, 556/800 CPI 9 Track - 800/1600 CPI	Same
Number of Tracks	7 or 9 Read after Write	Same
Format	NRZI/PE IBM Compatible	Same
Tape Speed	75 IPS	125 IPS
Instantaneous Speed Variation	±3%	Same
Long Term Speed Variation	±1%	Same
Interchannel Displacement Error	150 μ inches max. 800 CPI 200 μ inches max. 556 CPI	Same
Read Data	NRZI 7 or 9 Data Output Levels Deskewed with Read Strobe PE 9 Output Levels peak and envelope detected.	Same
Start/Stop Time	5MS ±.5 MS at 75 IPS Inversely proportional to tape speed	3MS ±.3 MS at 125 IPS
Start/Stop Displacement	0.1875 ±0.0125 inches	Same
Gaps	Externally Timed	Same
Parity	Externally Generated	Same
Tape Tension	8.0 oz.	Same
Reel Size	10.5 inch 2400 feet 1.5 mil. 0.5 wide tape	Same
Drive System	Single Capstan 180° wrap	Same
Tape Buffer Tape Detection	Vacuum Column Capacitive	Same
Rewind Speed	200 IPS nominal	300 IPS nominal
Electronics	TTL	Same
Tape Unit Interface	TTL Industry Compatible Low True	Same
Physical Dimensions	24.5" H x 19" W x 21" D	Same
Mounting	Std EIA Rack	Same
Weight	155 Lbs.	170 Lbs.
Power	115 VAC ±10% 48-60 Hz 750 watts max.	Same
Operating Temperature	+2° to 50°C	Same
Altitude	0 - 4000 feet	Same
Humidity	15 to 95% Non-condensing	Same
Options Available	High altitude kit Special Paint 220, 240 VAC	Same

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