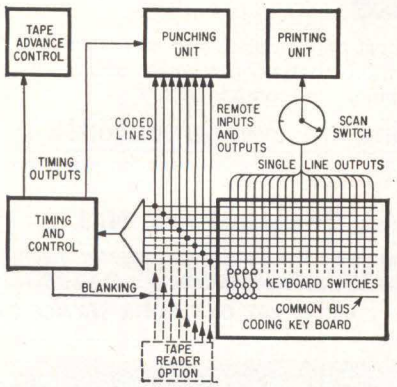
Tape Punch Has Electronic Keyboard

Mechanical linkages replaced by solid-state logic

SERIES 1010 Tapewriter electronically encodes magnetic key closures of up to 48 alphanumeric and symbols, punches the appropriate code holes on paper or Mylar tape and simultaneously prints the character at the bottom edge of the tape for immediate visual verification.



Although it must perform mechanically oriented functions, the device accomplishes these with solid-state electronic elements and a minimum of mechanical parts, as more than 75 percent of the system consists of electronic components. Series 1010 Tapewriter encodes key closures into tape-hole codes, provides timing from key closures for system control, generates electronic blanking to prevent keyboard jamming, controls tape advance and punches encoded characters onto the tape.

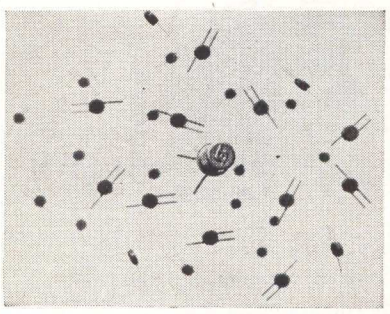
The all-electronic keyboard consists of a single gold-plated, etched-circuit board for the mounting of precious-metal wiping contacts that are activated by magnetic keys and a programmable diode matrix that encodes key closures into codes required by the punch and memory

elements for the printing system. Code modification or the insertion of new codes requires only the rearrangement of the matrix or replacement of the p-c board with standard code variations.

Linking the unit with any logic system requires no elaborate interface isolation buffering or filtering. Navigation Computer Corp., Valley Forge Industrial Park, Norristown, Pa.

CIRCLE **301,** READER SERVICE CARD

Field Effect Transistors Show Low Capacitance



TWO field effect transistors, models 2N3112 and 2N3113, provide 50 picoamp maximum gate current and extremely low capacitance. The 2N3113 is packaged in a microminiature alumina/glass sandwich only 100 mils in diameter and 35 mils thick. The 2N3112 is packaged in the standard TO-18 configuration.

When the low-capacitance 2N-3113 is used, C_{is} is less than 2.0 pf. This value rises to 3.5 pf for the 2N3112. Both Unifets have a pinch-off voltage range from 1.0 to 4.0 volts with transconductance limits between 50 μmhos and 115 μmhos. Low input current and capacitance make these voltage-controlled devices ideal for high input impedance a-c or d-c amplifiers, storage circuits, choppers and electrometers. Siliconix, Inc., 1140 West Evelyn Ave., Sunnyvale, Calif. **(302)**

A-D Converters Achieve High Bit Rate

FAMILY of analog to digital and digital to analog converters operate at conversion rates to 10^6 bits per second. Designated models 1042 through 1046, these solid-state units accommodate word lengths from 4 to 8 bits including parity, employ a sampling aperture of only 300 nsec and require input power as low as 1 watt. Other features include unrestricted format flexibility and both serial and parallel output for A-to-D conversions.

Present future applications are expected to include high-speed telemetry, high-speed data acquisition and processing and digitized voice communications. Units weigh less