

Word-Size Buffer Core

Five magnetic-tape-wound cores and associated circuitry are packaged on the GN - - card for specific use in the input-output area of a system. Groups of these cards are combined to form word-size buffer core rows that control the ring drive used in the read-in or read-out scan matrixes. Control panel wiring permits the scan matrixes to advance in such a way as to scan in or out only the number of digits desired.

Operation of the magnetic cores is similar to that of the card scanning core buffer card. However, selective read-in to a particular core position is dependant on the control panel wiring. In the punch-out application shown above, a control panel wire from word 2 exit to the word size 3 hub indicates that only three digits are to be punched into the card for word 2. As the drum revolves, each of the word exit hubs is sampled and, if wired, a one-word early impulse sets the corresponding core position. In the example given, core 3 would be set during word 1 time.

At read-out time, all core positions are reset off; however, core 3 is the only position switched. When core 3 is switched, a suitable CTDL output is developed and sets a trigger in the CTDL word-size trigger ring. This word-size trigger ring, in turn, controls the ring drive of the output scan matrix so that only three digits are punched in the card for word 2.

Circuit Description

Assume that the circuit is wired as shown and a punch-out operation is being performed. All core positions are reset off.

At early word 1 time, word 2 exit hub is sampled. Sufficient current (100ma) from $-20v$ through the input windings (N1) of core 3 to the word size hub, control panel wire to ground, sets core 3 on. When the read-out core driver is turned on, current flows from $-6v$ through the six turn reset windings to ground. All cores are reset off. Current that flows through the reset windings and the 24 ohm limiting resistor causes core position 3 to switch off and develop an output of approximately 3 to 5 volts across the output winding (No) of that position. External bias networks connected to pin K and J set the bias level of the output winding to near $-1.5v$, which permits a suitable CTDL output from the wsb card when a core is switched. The LC network in the output windings effectively increases the pulse width of the signal output coupled to the word size buffer ring and insures the triggering action of the ring.

Application

Similar wsb core rows are used for controlling the ring drive of the input scan matrix. Word-size buffer core configurations of various sizes can be produced from the basic GN - - card.