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FUNCTION AND OPERATION OF TELETYPE 177010 SELECTOR MAGNET DRIVER

Function

The 177010 Selector Magnet Driver operates a single Model 28 or Model 15 Holding Selector Magnet from a 20 or 60 ma. neutral, or up to 30 ma. polar signal in place of the RY-30 (W.E.Co. 255A) line relay, but requiring considerably less maintenance than the RY-30 relay.

Operation

(A) Input Section - Q1 and associated components:

- (1) Sets input switching level (mark to space, vice versa).
- (2) Amplifies incoming signal.

(B) Selector magnet current switching section - Q2, Q3 and associated components.

- (1) Q2, Q3 form flip-flop controlled by Q1.
- (2) Selector magnet marks when Q3 conducts. *build magnet coil to prevent voltage*
- (3) Positive feed-back from Q3 to Q2 prevents oscillation about switching point of Q2, Q3. *magnet coil inductive surge or current cut off which would damage C3*

(C) Marking pulse rise time shortening circuit - Q4, Q5 and associated components. (Necessitated by low supply voltage).

- (1) During space to mark transition when Q4 does not conduct, Q5 conducts through low resistance load, increasing selector magnet current rapidly.
- (2) Selector magnet current value at which Q4 turns back on and Q5 shuts off determined by values of resistance R7 and R9. (Slight overshoot of the marking pulse leading edge permitted to help compensate for the lower supply voltage).

(D) D.C. rectifier supply for driver - limited to 40 volts by the collector voltage limitation of the transistors.