

chamber temperature is reached for the board and components to reach stable temperatures. Then apply power to board, wait 10 seconds, and record counter reading. Take readings at 10° C chamber temperature intervals over the temperature range -30 to +50 °C.

Results: see attached graph

#### Part B--Transient Stability Due to Transmitter Keying

Equipment: same as for Part A, plus digital watch

Set-up: same as for Part A

Procedure:

- (a) Set temperature to 70 °F and allow 15 minutes for temperatures to stabilize
- (b) Disconnect wire to regulated power supply; adjust voltage to 13.8 volts.
- (c) Reconnect power wire and record frequency every two seconds for at least 12 seconds.

Note: Aviation services transmissions tend to be of short duration--typically from 2 to 10 seconds. Test results indicate that there is negligible frequency change after 8 seconds.

Results: see attached graph

#### Part C--Transmitter Frequency vs. Supply Voltage

Equipment: same as for Part B

Set-up: same as for Part B

Procedure:

- (a) Set chamber temperature to 70 °F and allow 15 minutes for temperatures to stabilize
- (b) For each measurement, disconnect wire to power supply and adjust power supply output to desired voltage. Then reconnect wire and measure frequency 5 seconds later.

Results: see graph attached.

Note: The data taken was intended to be applicable to several models which use the same oscillator