



Tomorrow's Telemetry Today!

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INSTRUCTION INFORMATION FOR THE G-7803C

DIGITAL TELEMETER, FS TRANSMITTER

- 10-BIT A/D CONVERSION
- 30,60,120, OR 240 BITS-PER-SECOND OPERATION
- DOUBLE-SCAN SECURITY
- ENCODER AND FS TRANSMITTER IN ONE MODULE
- MULTIPLE POINT MULTIPLEXING
- CRYSTAL STABILIZED



GENERAL DESCRIPTION

The G-7803C Digital Telemeter incorporates a 10 bit analog-to digital converter with 6 address bits for multiplexing analog quantities. The FS transmitter is capable of driving into a transmission line with a nominal 600 ohm impedance.

The analog signal to be telemetered is digitized into an 18 bit message, 10 bits of data with 6 bits added either for status inputs or control of the multiplexing scheme. The data message has an added -bits of framing for a total message of 18 bits. This serial message stream is used to key a three frequency transmitter to interface the data to the transmission line.

A crystal stabilized master clock is provided to set the data rate which is numerically half of the channel bandwidth. The table below illustrates the analog signal update time based on the data rate multiplex up to 64 analog signals on the system.

To improve security against noise, a register is provided allowing the data to be sent twice. A double-scan security check is then performed at the receiver. The sacrifice for this double-scan security is the doubling of the update time, as is reflected in the table.

UPDATE TIMES FOR THE G-7803C

BANDWIDTH (Hz)	BITS/SEC	TIME/MESSAGE/ ANALOG	MINIMUM SINGLE SCAN	UPDATE TIME* DOUBLE SCAN
60 or 85	30	0.60s	0.60s	1.20s
120	60	0.30s	0.30s	0.60s
240	120	0.15s	0.15s	0.30s
480	240	0.075s	0.075s	0.15s

*The minimum update time is multiplied by the number of analogs.

SPECIFICATIONS

DC Input Span: 100 mV minimum, 10 Vdc maximum.

Analog Input Impedance: 100 megohms, typical.

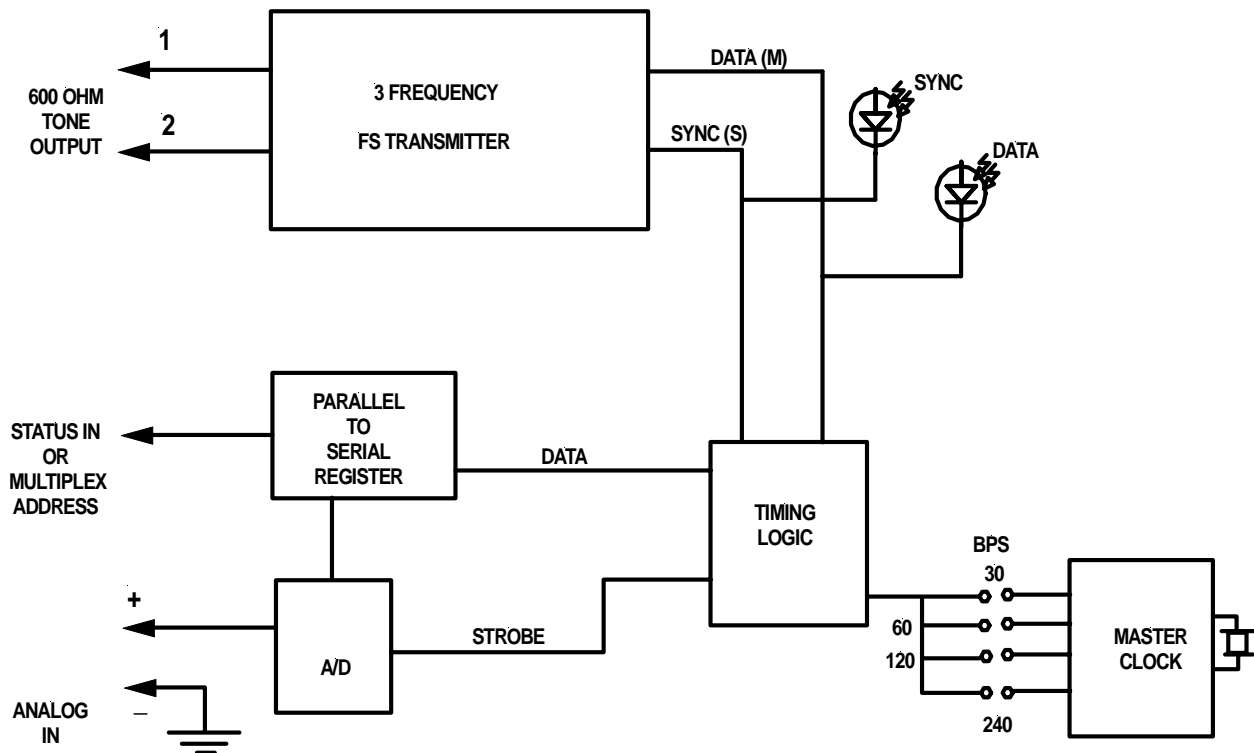
FS Center Frequency and Bandwidth:
Center frequencies from 420 Hz to 20 kHz,
2% to 15% bandwidths available.

FS Frequency Stability: +/-0.15%, +/-2 Hz, -10 degrees C to +55 degrees C.

FS Tone Output Level: -30 dBm to 0 dBm.

Data Rates: 30, 60, 120, 240, bits-per-second.

Power Requirements: +/-12 Vdc at 40 mA.



G-7803C BLOCK DIAGRAM

NOTICE

As of the date of this printing, the specifications for the G-7803c in this Instruction Information sheet apply to all G-7803C, except as indicated. Because all Da-Tel products are continually being refined and improved, these specifications are subject to change without notice.