



Tomorrow's Telemetry Today!

DA-TEL RESEARCH COMPANY, INC. • 932 N. PARK AVENUE • P. O. BOX 1206
MONTROSE, COLORADO 81402 • PHONE (970) 249-6129 • FAX (970) 249-8919
WWW.DA-TELRESEARCH.COM • EMAIL: INFO@DA-TELRESEARCH.COM

INSTRUCTION INFORMATION FOR THE G-7804C DIGITAL TELEMETER, FS RECEIVER

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



GENERAL DESCRIPTION

The G-7804C Digital Telemeter, FS Receiver incorporates a 10 bit digital-to-analog converter with 6 address bits for de-multiplexing analog quantities. The FS receiver provides bandpass filtering for the transmission line tones and exhibits a nominal 600 ohm impedance.

The FS receiver filters the line for out-of-band tones and then regenerates the data and framing messages sent by the G-7803C transmitter. The timing logic of the G-7804C synchronizes the data of the received 18-bit message into the output registers. Ten bits or the message are for the analog quantity, 6 bits are the status and 2 bits frame the message. The status bits are commonly used either for multiplexing analog signals or for control outputs.

A crystal stabilized master clock is provided to set the data rate and to synchronize the data framing. The data rate is numerically half of the channel bandwidth. The table below illustrates the analog signal update time per analog based on the data rate selected. The G-8404 Quad D/A Module can be used with the G-7804C to multiplex up to 64 analog signals out.

To improve data's security against noise, the transmitter sends the message stream twice. The G-7804C contains a register that allows it to compare the first message received with second. The data output latches are changed only if the two messages match. The sacrifice for this double-scan security is the doubling of the update time, as is reflected in the table.

SPECIFICATIONS

D/A Output accuracy: 0.15%.

Analog Output: 10 Vdc maximum at up to 1 mA load current. With the current amplifier, 5 Vdc maximum to 20 mA. With current loop amplifier, 20 mA, 250 ohms maximum.

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

FS Sensitivity: -45 dBm.

FS Operating Range: 40 dBm.

Linearity: +/-0.07%.

Input Filter: Solder-in 600 ohm nominal line impedance with rising impedance out of band. An optional plug-in filter is available.

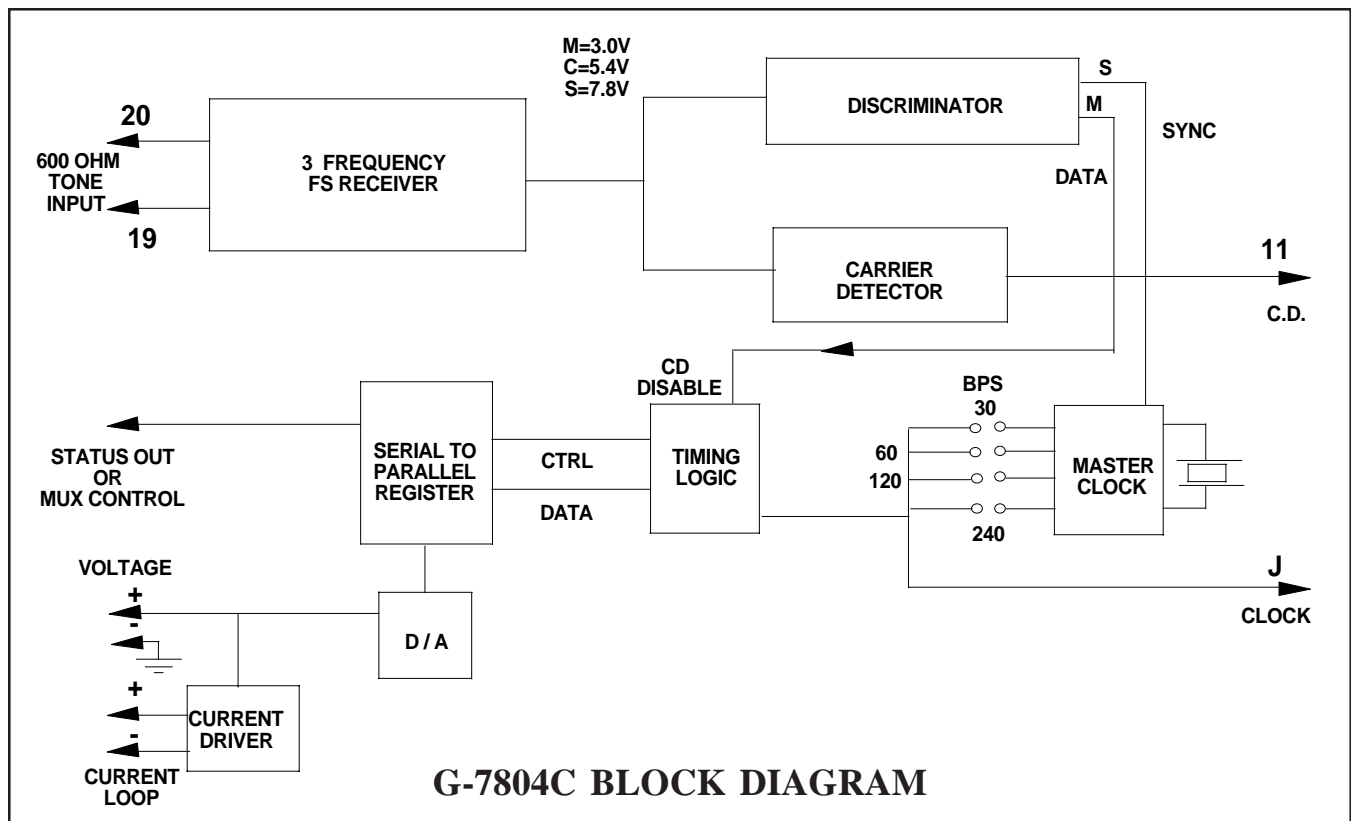
Data Rates: 30, 60, 120, 240, bits-per-second.

Power Requirements: +/- 12 Vdc at 50 mA.

UPDATE TIMES FOR THE G-7803C

BANDWIDTH (Hz)	BITS/SEC	TIME/MESSAGE/ ANALOG	MINIMUM UPDATE TIME*	
			SINGLE SCAN	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.



NOTICE

As of the date of this printing, the specifications for the G-7804C in this Instruction Information sheet apply to all G-7804C, except as indicated. Because all Da-Tel products are continually being refined and improved, these specifications are subject to change without notice.