



Tomorrow's Telemetry Today!

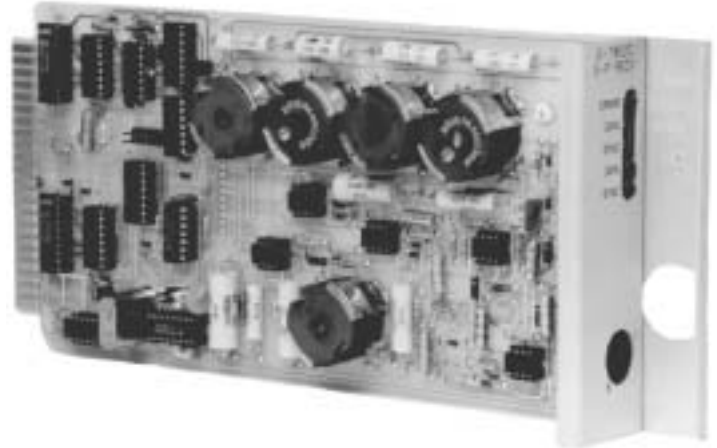
Da-Tel Research Company, Inc.
 932 N. Park Avenue
 Montrose, Colorado 81402
 www.da-telresearch.com

Phone: (970) 249-6129
 Fax: (970) 249-8919

Email: info@da-telresearch.com

G-7802C SERIAL-TO-PARALLEL FS RECEIVER INSTRUCTION INFORMATION

- **16 DIGITAL STATUS OUTPUTS**
- **30, 60, 120, 240, OR 480 BITS-PER-SECOND OPERATION**
- **RECEIVER AND DECODER IN ONE MODULE**
- **PARITY ERROR CHECKING**
- **POINT SCAN EXTENDER MODULE AVAILABLE**



GENERAL DESCRIPTION

The G-7802C Serial-to-Parallel Receiver has a 3-frequency, frequency-shift receiver with a carrier detector for generating the data and synchronizing bits from the incoming tones. The decoder section reconstructs the 16-bit parallel output from the serial data stream. These output are buffered to a 12 volt CMOS level.

The FS receiver generates a data pulse stream which contains the 16 bits of information with bit 17 as the parity bit. The receiver also generates a sync pulse that synchronizes the starting of a new data word. The sync pulse

performs the task of starting the local clock at the beginning of the data stream. The sync pulse also loads the clock-in serial data to the parallel outputs of the shift registers.

A parity check is performed on the incoming data stream and the resulting parity bit is compared with the incoming parity bit. If the two do not agree, the center-bit pulse is not allowed to update the parallel outputs of the shift register. If the double scan check is enabled by J3, as the second scan of information comes in, it is compared with the bits shifted out of the shift register. In an ideal condition the two

UPDATE TIMES FOR THE G-7802C

BANDWIDTH (Hz)	BITS/SEC	TIME/MESSAGE/ ANALOG	MINIMUM SINGLE SCAN	UPDATE TIME* DOUBLE SCAN
60 or 85	30	0.63s	0.63s	1.26s
120	60	0.32s	0.32s	0.63s
240	120	0.158s	0.158s	0.316s
480	240	0.079s	0.079s	0.158s
960	480	0.040s	0.040s	0.079s

*Double scan update times shown apply when the G-7801C is used with the double-scan security feature of the G-7802C Serial-to-Parallel, FS Receiver.

streams should match. If the two do not match, again the outputs of the shift registers are not updated. If a carrier loss is detected by the carrier detector in the FS section, then the output buffers are not enabled and the outputs of the module remain the same. This system of checks provides for a very secure and noise immune communication of the 16-bit message from the G-7801C Parallel-Serial Transmitter.

SPECIFICATION

Center Frequency and Bandwidth: Provided to order in the range of 300Hz to 10 kHz. Frequencies beyond 10 kHz available.

Operating Temperature: -10 degrees C to +70 degrees C.

Carrier Detector Sensitivity: -40 dBm, maximum adjustable to -10 dBm.

Limiter Sensitivity: -45 dBm over 40 dB dynamic range.

A divider after the clock allows the bits-per-second to be selected by a solderless jumper. The possible rates of 30, 60, 120, and 480 bits-per-second allow the data rates shown below. The channel bandwidth typically required is numerically twice that of the bits-per-second rate. A G-7802C-E is available to extend the data message to 32 status outputs.

Status Outputs: 0 and 12 Vdc out, invert logic with J1, 10 mA maximum.

LED Indicators: An indicator on the front panel indicated SYNC pulses, DATA pulses, and carrier loss.

Power Requirements: 12 Vdc at 60 mA maximum.

For more information about Da-Tel Research Company and our products, contact:

DA-TEL RESEARCH COMPANY, INC.

932 North Park Ave.
Montrose, CO 81402
Phone: (970) 249-6129
Fax: (970) 249-8919
Toll-Free: 800-324-8388
e-mail: info@da-telresearch.com
or visit us at:
www.da-telresearch.com



DA-TEL RESEARCH COMPANY, INC.
Tomorrow's Telemetry Today

**Equipment and/or components purchased through Da-Tel but manufactured by other companies are covered under the warranties of those manufacturers.*

NOTICE

As of the date of this printing, the specifications for the G-7802C in this Instruction Information sheet apply to all G-7802C, except as indicated. Because all Da-Tel products are continually being refined and improved, these specifications are subject to change without notice.