



Tomorrow's Telemetry Today!

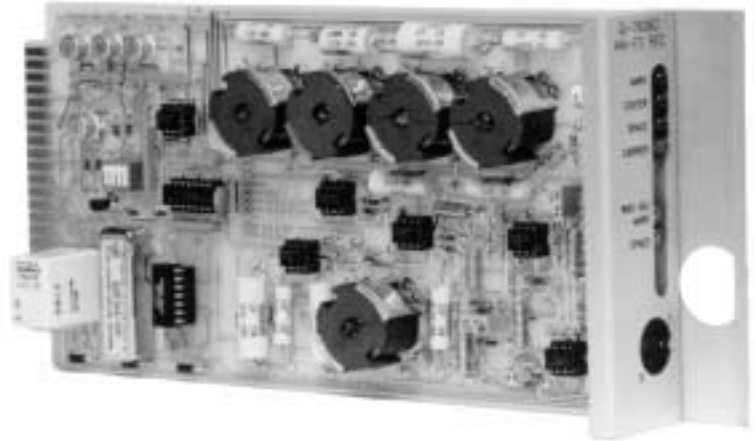
Da-Tel Research Company, Inc.
932 N. Park Avenue
Montrose, Colorado 81401
www.da-telresearch.com

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

Email: info@da-telresearch.com

G-7606 FSK RECEIVER INSTRUCTION INFORMATION

- **NARROW-BAND TONE FILTER**
- **LIMITING AMPLIFIER**
- **CARRIER DETECTOR STANDARD**
- **MERCURY-WETTED, INDUSTRIAL OR LATCHING RELAY OUTPUT**
- **FRONT PANEL DIAGNOSTIC LED'S**
- **2F OR 3F OPERATION**
- **PLUG-IN-FILTER**



GENERAL DESCRIPTION

The G-7606C FSK Receiver converts frequency shift tone in the frequency range of 420 Hz to 10 kHz into 2 state or 3 state functional outputs. Typical applications include the driving of digital supervisory equipment and other critical circuitry that requires sharp wave fronts and no breakup of the leading and trailing edges of pulses.

Two comparator circuits are provided after the discriminator to separate the mark and space outputs for 2F or 3F operation. Each comparator has a front panel bias control to permit adjustment of these outputs. A single switch allows selection of either 2F or 3F operation. A single switch allows selection of either 2F or 3F operation. A center output indicates when both mark and space are not detected. A blocking network disables the mark, center and space output when the carrier detector is in fail, preventing false data output. This carrier detector block can also be disabled by a single switch setting.

Space is provided at the rear of the module for three SPDT relays with mercury-wetted contacts for space, mark and carrier fail alarm. An optional industrial relay can be selected to replace the mercury-wetted relays in cases where position is a problem and contact bounce is not critical. The mark and space relays can be replaced with a latching bi-stable mercury-wetted relay for kWhr pulse systems.

The G-7606C FSK Receiver, when equipped with mark and space relays, can be used with 3F alarm flasher and sampler circuit on the G-7605C, G-7007B or G-8080 Transmitter at the transmit end to carry two independent alarm or slow speed data channel.

A complete AM receiver circuit is provided as standard that operates off the output of the channel filter and is used as a carrier detector that can be set at any trip level between -10 dBm and -40dBm to indicate the loss of carrier below the threshold level.

CHANNEL CARRIER DETECTION OPERATION

The FS channel is operated at high gain in the limiting region of U20. With the input signals are normal operating level, adjust the carrier level potentiometer, R115, for 6.8 volts dc at test point six (TP6). This sets the carrier fail threshold approximately 10 dB below the present operating level. A G-6813 Module Extender is necessary to make this adjustment. The delay circuit consisting of R119, R120, CR108, and C111 allows the return to normal delay of the carrier detector circuit to be adjusted between 0.5 and 5.0 seconds with a fast alarm detection time of approximately 0.05 seconds. The circuit values are altered when faster operation is specified.

SPECIFICATIONS

Center Frequency and Bandwidth: Frequency of 420 Hz to 10 kHz, bandwidths of 2.0 to 10% of center frequency. Filter reject adjacent channels by 36 dB. Plug-in filter available.

Operating Temperature: -30 degrees C to 60 degrees C.

Power Source: 12 Vdc +/-10% at 30 mA plus outputs.

AM Sensitivity: -45 dBm.

FS Operating Dynamic Range: 40 dBm.

Output Pulse Quality: Sharp pulse rise times of less than 1.0 micro-second, no pulse edge break-up.

Outputs: Three separate output, mark, space, and carrier; 0 to 12 volts, currents of 1 to 100 mA at 10 volt max.; 3 relays, mercury-wetted contacts, optional at additional cost mounted on the PC board. Digital output of 0 and +5 volts are available on order.

Diagnostics: Front panel test socket and mark, space and carrier fail LED's.

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

DA-TEL RESEARCH COMPANY, INC.
932 N. Park Ave.
Montrose, CO 81401
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 manufactur-
ers.*

NOTICE

As of the date of this printing, the specifications for the G-7606C in this Instruction Information sheet apply to all G-7606C, except as indicated. Because all Da-Tel products are continually being refined and improved, these specifications are subject to change without notice.