

SGLS Signal Demodulator

Features

- Zero (0)-Hz IF SGLS Demodulator
- Performance to within 1dB of theoretical for Eb/No of 10 dB
- Auto-rate Detection between two Command Data Rates (1 kbps and 2 kbps)

General Description



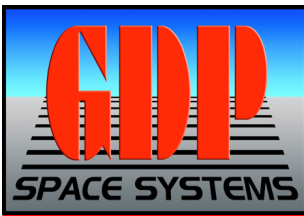
The Model 741 SGLS Signal Demodulator system provides the user with the ability to receive and demodulate the standard SGLS FSK/AM tri-tone signal.

The unit reproduces 1, 0, and S with coherent command clock from the SGLS subcarrier tones of 95 kHz, 76 kHz, and 65 kHz at command rates of 1 kbps and 2 kbps. The command data rate is automatically detected by the Model 741 requiring no user setup or control. A squelch capability can be provided to inhibit data output when the input drops below a preset value.

Both TTL and RS422 outputs are available within the Model 741 to allow flexibility in system implementation and integration. Front panel mounted LEDs indicate the occurrence of synchronization to the input 1 kbps or 2 kbps command stream. Test points provide the user with the ability to monitor the input signal, and the reproduced S, 0, 1, and command clock streams.

The parameters for the Model 741 are factory set and no local or remote user setup or control are required.





Specifications

FSK/AM INPUT

FSK/AM Signal per Space Ground Link Subsystem (SGLS)

FSK Tone Set: 95 kHz, 76 kHz, 65 kHz (Other tone sets optional)

AM Modulation:

Frequency: 500 Hz or 1000 Hz triangular waveform for 1k or 2k command data rates
(Other rates optional)

Modulation Index: 0.5

Synchronization Delay: 0.6 bit period (Other delays optional)

Input Connection: BNC Connector, 50 Ohm Input Impedance (75 Ohms Optional)

Signal Level: 0.07 Vp-p to 2.0 Vp-p into 50 Ohms

DEMODULATOR

Zero (0)-Hz IF SGLS Demodulator; Performance to within 1 dB of theoretical for Eb/No of 10 dB
Auto-rate detection between two command data rates, 1 kbps and 2 kbps

REAR PANEL OUTPUTS

Ternary 1, 0, S Data with Coherent Command Clock:

TTL: BNC Isolated Connectors, 50-Ohm

RS-422: Balanced, Triaxial Connectors .

Signal LOSS: TTL – BNC connector - active low AM/FSK amplitude is below 0.9 ($\pm 5\%$) Vp-p.

FRONT PANEL TEST POINTS AND INDICATORS

Front Panel Buffered Test Points:

FSK/AM Input monitor.

Demodulator Test Point Output Data (1, 0, S) and Clock:

Open circuit output voltage levels are nominal 0 and 1 volt

Output levels for 50 Ohm load are nominal 0 and 0.5 volts

Front Panel LED Indicators:

1 kbps SYNC, 2 kbps SYNC, LOSS

MISCELLANEOUS

AC Input: 115 VAC, +/- 10%; Single phase, 57-63 Hz; 50 watts, max.

Size: 3.5 in. (H) x 22 in. (D) x 19 in. (W)

Weight: 20 lbs.

Mounting: Standard 19-inch EIA equipment rack. Non-tilting slides provided.

Environment

Operating:

Temperature: $+10^{\circ}$ C to $+40^{\circ}$ C

Relative Humidity: 15% to 90%, no condensation

Altitude: 0 ft. to 10,000 ft.

Ordering Information

MD741 Basic Unit

OP741-89

Chassis Slides

* Recognizing that no standard product can meet all the needs of all users, GDP stands ready to provide units tailored to unique applications.

* The statements in this data sheet are not intended to create any warranty, expressed or implied. Specifications are subject to change without notice.