



SGLS MODEM

MODEL 405

Features

- ◆ LINEAR PHASE MODULATION
 - ◆ 70 OR 75 MHz (Specify)
 - ◆ 10 MHz EXT REF
- ◆ LINEAR SIGNAL SUMMATION
 - ◆ ANALOG / DIGITAL INPUTS
- ◆ MODULATION
 - ◆ SGLS 1,2 kbps
 - ◆ Other Data Rates Available
 - ◆ FSK Tones :
 - ◆ (95 kHz, 76 kHz, 65 kHz)
 - ◆ PSK (Optional)
 - ◆ BPSK, QPSK, UQPSK
- ◆ DEMODULATION (Optional)
 - ◆ SGLS AM/FSK
 - ◆ PM
 - ◆ BPSK
 - ◆ PM/PSK
 - ◆ U/A/QPSK
 - ◆ AM/FSK
 - ◆ SGLS 1,2 kbps
 - ◆ Other Data Rates Available

- ◆ REMOTE CONTROL AND MONITORING
 - ◆ RS-232 (Standard)
 - ◆ IEEE-488 (Option)
 - ◆ Ethernet (Option)

General Description

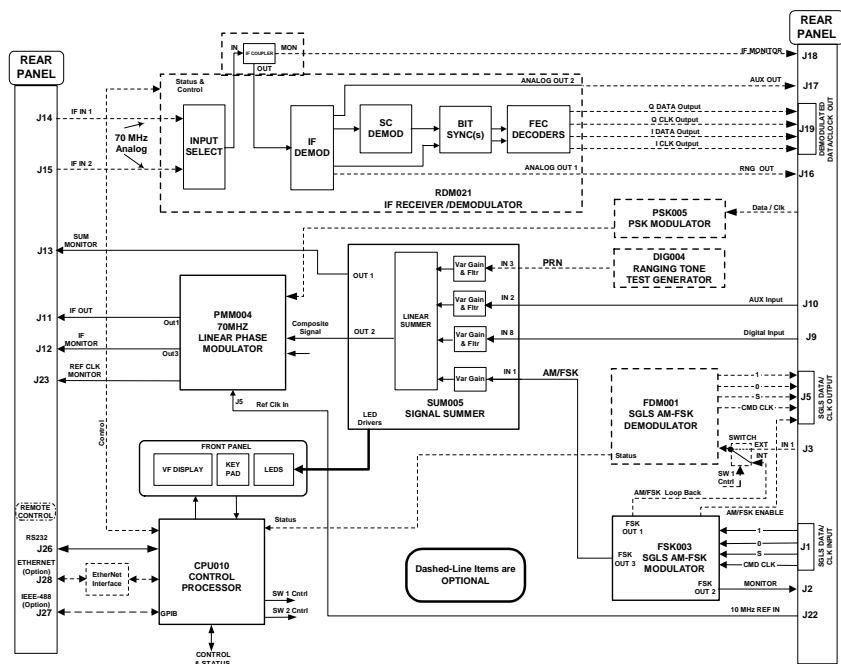
The Model 405 SGLS Modem comprises a configured set of modulation and demodulation functions housed in a 5.25-inch rack-mounted Modular Subcarrier Subsystem chassis. A functional block diagram of the Model 405 is shown below.



The Modulator section of the unit consists of the SUM005 Signal Summer and the PMM004 Phase Modulator. Optional PSK subcarrier modulation (B/Q/U/A PSK) and FSK003 AM/FSK (SGLS) Modulator functions are also available..

The Optional Demodulator section consists of the RDM021 IF Receiver/Demodulator, which includes a Linear Phase Demodulator and PSK Demodulator with dual Bit Synchronizer(s). The demodulation functions are firmware configured to meet specific customer needs. SGLS AM/FSK demodulation for Echo Check is also available as an option.

The CPU010 Control Processor provides control of the unit via either the local front panel VF Display and keypad or the Remote Control Interface.





SPECIFICATIONS

PHASE MODULATOR (PMM004)

INPUT

Input Level: 2 Vpp centered around ground
 Input Impedance: 50 Ohms
 Modulation Index: 0.00 to 3.14 radians
 Frequency Reference: 10 MHz
 Signal level: Sinusoidal
 2.8 ± 1.5 Vpp; 50 Ohm.

OUTPUT

Subcarrier: 70 / 75 MHz
 Phase locked to the Ref Freq
 Output Levels: (Factory Set)
 0 to 2 Vpp, nominal, 50 Ohm load.
 1 Vpp, nominal, 50 Ohm load.
 Output Impedance: 50 Ohm, back terminated
 VSWR: ≤ 1.5:1
 Modulation Frequency: 0 to 5 MHz
 Discrete spurs: Less than -60 dBc

SIGNAL SUMMER (SUM005)

INPUT

Up to 3 inputs with Adjustable Levels

OUTPUT

Composite Signal, Linearly Summed

AM/FSK SGLS MODULATOR (FSK003)

INPUT

"1", "0", "S" and clock (RS-422)
 Data Rates: selectable-1, 2, kbps

OUTPUT

Signal Level: Fixed 2 ± 0.2 Vpp

PHASE DEMODULATOR (RDM021) (OPTION)

INPUT

IF: 70 / 75 MHz (Factory Set).
 Input Level: +10 dBm to -25 dBm
 Bandwidth (3 dB): 8 MHz ;VSWR: ≤ 1.5:1
 Modulation: PM, PSK
 Dual Bit Synchronizers (Optional)

OUTPUT

Demodulated: PM, PSK

SGLS FSK/AM DEMODULATOR (FDM001) (OPTION)

INPUT

0.07 Vpp to 2.0 Vpp into 75 ohms
 FSK/AM per SGLS (TOR-0059(6110-01)-3)
 FSK Tones: (95 kHz, 76 kHz, 65 kHz)
 Amplitude Modulation: 500 Hz (1 kbps commands);
 1000 Hz (2 kbps commands)
 Modulation Factor: 50% nominal
 Synchronization Delay: 60% nominal

OUTPUT

Ternary 1, 0, S Data and Clock (RS-422)

LOCAL FRONT PANEL CONTROL

POWER - Circuit Breaker/Indicator switch.

KEY PAD - Twenty (20) position keypad.

VF DISPLAY- Six (6) line-by-forty (40) character.

STATUS DISPLAY LEDs

REMOTE CONTROL

RS-232 Interface (Standard);
 IEEE-488 (optional),
 Ethernet (Optional)

Ordering Information

080502

MD405-00	Basic Unit	OP405-29	Remove RDM Downlink (Uplink only system)
OP405-11	Ethernet Remote Control	OP405-40	Special I/O
OP405-12	IEEE-488 Remote control	OP405-41	RS-422 Receiver Outputs
OP405-25	Add SGLS Demodulator	OP405-45	Di-Bit Input (for OP405-25)
OP405-26	Add PSK SC Modulator	OP405-46	Di-Bit Output (for OP405-25)
OP405-27	Add Receiver Demodulator	OP405-89	Chassis Slides
OP405-28	Add Range Tone Test Generator		

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. Equipment specifica-