



FSK/AM (SGLS) Modulator

FSK003

Features

- Accepts RS422 Ternary Data
- Generates Programmable SGLS Tri-Tone Signals
- Continuous Phase FSK
- FSK Tones from 60 kHz to 3 MHz
- Data Rates of 1 kbps, 2 kbps, 10 kbps and 106 kbps
- Selectable AM
- Single slot 6U VME

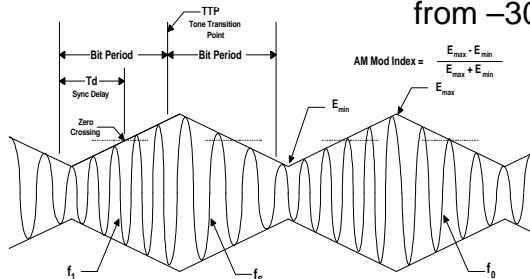
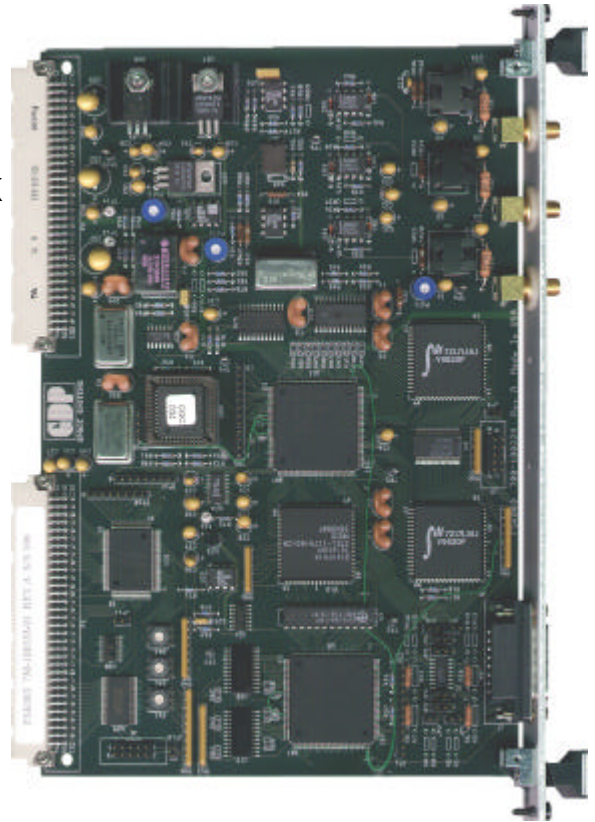
General Description

The FSK003 is a high performance Space Ground Link Subsystem (SGLS) compatible AM/FSK Modulator command sub-carrier generator. The module accepts ternary (1,0,S) data and clock inputs for Ternary Continuous Phase FSK/AM modulation.

Three outputs are provided. One output is adjustable from -30 to +10

dBm (50 Ohms).

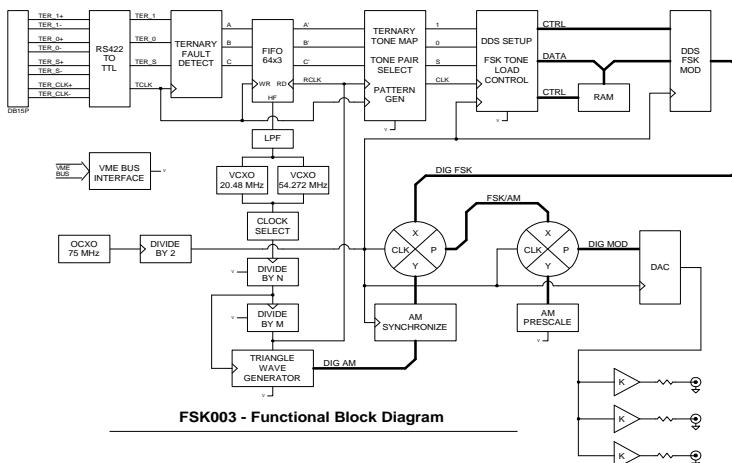
Two outputs are fixed level at 2 Vpp, nominal. All three outputs are ON/OFF selectable. The FSK003 is a single-slot width 6U x 160mm VME plug-in module.



A digital frequency synthesizer is utilized to produce

SGLS tri-tone signal frequencies.

Each FSK tone is accurate to 10 ppm (1 ppm optional). If selected, the FSK signal is amplitude modulated with a one-half data rate triangular wave. The AM Modulation Index is selectable from 0.33 to 1.00. The AM frequencies correspond to fixed command symbol rates of 1 kbps, 2 kbps, 10 kbps and 106 kbps. AM modulation is ON/OFF selectable.





FSK/AM (SGLS) Modulator

FSK003

SPECIFICATIONS

INPUT

Differential TTL (RS-422 compatible)

Ternary Data (1,0,S) and Clock
Data rates of 1 kbps, 2 kbps, 5 kbps,
10 kbps, or 106 kbps

15 pin "D" Connector

OUTPUT

AM/FSK Modulated Subcarrier:

Adjustable Amplitude: -30 to +10 dBm
(50 Ohm load)

Two fixed AM/FSK outputs, 2 Vpp nominal
(50 Ohm load)

SMA Connectors

Per TOR-0059(6110-01)-3

Ternary FSK

Continuous Phase FSK Modulation

Tone frequencies: programmed for 1,0,S.
Examples: 95 kHz, 76 kHz, 65 kHz; or
2.24 MHz, 1.84 MHz, 2.64 MHz

Each Tone Frequency is tunable to 5 MHz

Frequency Accuracy: +/- 10 ppm (1ppm
Optional)

Force FSK Subcarrier Output

Two modes:

Output forced to 1, 0, or S Frequency.

Output forced to repeated **1 0 S S**
sequence.

Other sequences up to 8 bits can be
provided.

AM

AM Modulation: ON/OFF selectable

AM Modulation : 500 Hz, 1 kHz,
2.5 kHz, 5 kHz or 53 kHz, triangular
waveform, selectable for 1 kbps,
2 kbps, 10 kbps or 106 kbps data rates,
respectively.

AM Modulation Index: 0.33 to 1.00

AM Synchronization: 100% of bit
period (Adjustable in 1% steps)

MISCELLANEOUS

VME Bus

A16:D16 Slave

Size

VME 6U x 160 mm, single-slot width

Ordering Information

FSK003-00 Basic

OPFSK003-01 +5V / ±15V Power

OPFSK003-02 1ppm Freq. Accuracy

OPFSK003-99 Special Force Mode

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

300 Welsh Road Building 3 Horsham, PA 19044-2273
Phone: 215-657-5242 Fax: 215-657-5273

URL: <http://www.gdp.space.com>
E-mail: gdpinfo@gdp.space.com