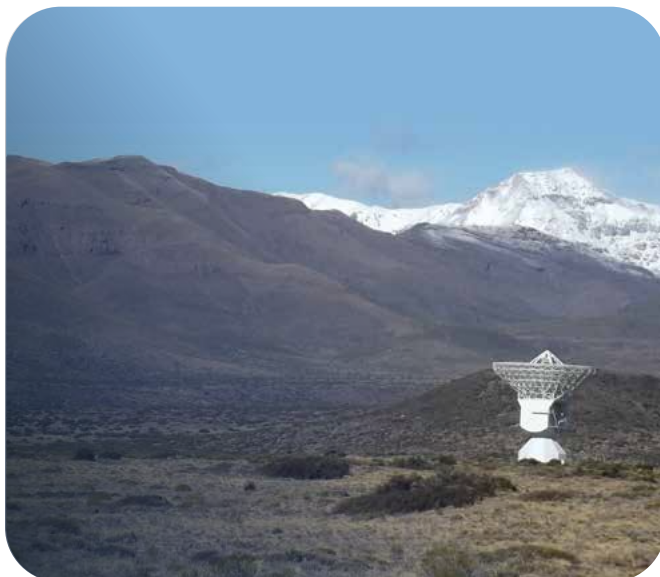


Gemini satellite modulator

Single channel modulator supports DVB-S and DVB-S2

Calian, Advanced Technologies Gemini single-channel satellite modulator supports full-featured DVB-S, DVB-S2 and Turbo functionality. With both ASI and IP data inputs and both IF and L-band outputs, Gemini provides flexibility and full support for IP-based content.

An LCD control and status display is provided on the front panel. The convenient rear panel ethernet management port offers easy access to the user interface using any standard web browser. An SNMP-based monitor and control interface is provided for connection to external management systems.



Technical specifications

DVB-S2

Signal format	• CCM/VCM/ACM ¹
Modulation format and FEC rates	• QPSK 1/4, 1/3, 2/5, 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/102 • 8PSK 3/5, 2/3, 3/4, 5/6, 8/9, 9/102 • 16APSK 2/3, 3/4, 4/5, 5/6, 8/9, 9/102 • 32APSK 3/4, 4/5, 5/6, 8/9, 9/102
Roll-off factor	• 0.2, 0.25, 0.35
Number of streams	• 1-16

DVB-S

Modulation format and FEC rates	• QPSK 1/2, 2/3, 3/4, 5/6, 7/8 • 8PSK 2/3, 5/6, 8/9
Roll-off factor	• 0.05 to 0.5 with 0.05 resolution

Turbo

Modulation format and FEC rates	• QPSK 1/2, 2/3, 3/4, 5/6, 7/8 • 8PSK 2/3, 4/5, 5/6, 8/9
Roll-off factor	• 0.1 to 0.5 with 0.05 resolution

Common

Spectral inversion	• On/Off
Packet stuffing and PCR recalculation	• Insert Null packets as required and recalculate PCR
Input sync	• On/Off. When on, symbol rate is determined from input data and selected modulation type and FEC rate.
Carrier control	• Off / No modulation (CW) / Random PN23 bit stream / input data bit stream

Performance

Symbol rate • 0.100 to 45 MBaud (DVB-S/S2)
0.100 to 33 Mbaud (Turbo)

Symbol rate step • 1 baud

User packet size • 188 bytes

Input interface

DVB-ASI • 75 Ω BNC; Qty 2

Ethernet (data) • 10/100/1000 Base T (RJ-45); Qty 2
• Supports COP3 as per:
• SMPTE 2022-1-2007 and
• SMPTE 2022-2-2007

Ethernet (control) • 10/100 Base T (RJ-45)

10 MHz reference • 50 Ω BNC-Female

L-band interface

L-band output composite • 950 - 1,750 MHz (L-Band), 1 Hz step,
• +5 to -25 dBm, 950 - 1,450 MHz, 0
to -25 dBm, 1,200 - 1,750 MHz, 50 Ω
SMA-female

IF output • 50 - 90 MHz (70 MHz IF), 1 Hz step,
105-175 MHz (140 MHz IF), 1 Hz step, 75 Ω
• BNC-Female, +5 to -30 dBm

Output power

Step • 0.1 dB

Stability • ± 0.5 dB

Accuracy • ± 0.5 dB

Monitor output • 50 Ω BNC - Female
L-band IF
(950 - 1750 MHz) (70/140 MHz)
27 dBc, +/-3 dB -30 dBc, +/-2dB

Return loss • Minimum 14 dB

Spurious • -60 dBc in any 4 kHz bandwidth

Phase noise • 100 Hz -80 dBc/Hz
• 1 kHz -85 dBc/Hz
• 10 kHz -85 dBc/Hz
• 100 kHz -100 dBc/Hz
• 1 MHz -110 dBc/Hz

Control interface

SNMP • SNMPv2. Accessed over ethernet
physical interface.

Web interface • Accessed over the ethernet
physical interface.

Alarms • Complete suite of parameters
monitored. Access via GUI or SNMP.
Comprehensive alarm history. Alarm
relay contact - DB9 sockets.

Physical

Size • 19" W, 1RU (1.75")H, 11" D
• EIA standard 19 inch rack mountable

Weight • 7 pounds

Power • Male IEC 320
• 100-120 VAC, 220-240 VAC a
uto-ranging
• 50-60 Hz

Power consumption • 75 W typical

Environmental

Operating temp. • 0°C to 50°C

Storage temp. • -10°C to 55°C

Operating humidity • 10% to 80% non-condensing

Electromagnetic compatibility • EN 61000-6-2 2005, EN 55022
2006 Class A
• FCC Title 47, Part 15

Safety • EN 60950-1, UL 60950-1, CSA22.2
No. 60950-1

Notes:

1. Several different operational scenarios are available.
Contact Calian for more details.
2. Rate 9/10 is not applicable for short frames.
3. All specifications at 25°C unless otherwise noted.
4. All specifications subject to change without notice.

