



# DVM5100

## L-Band and IF DVB-S2 Modulator



Digital Video Modulator  
compact, lightweight 1/2 width rack unit

### 5000 Series Overview

Advent's established lightweight, compact, 1U half rack electronics packages are ideally suited for flyaway or vehicle mounted solutions, where weight and space are at a premium. The 5000 series of electronics can be packaged in different lightweight, ruggedised canvas flight cases, depending on units selected and system configuration.

- Compact 1/2 width 1U rack mountable units
- 1/4 of the size and 1/6th of the weight of competitors equivalent products
- Designed for contribution flyaway and DSNG vehicle applications where space and weight are critical
- Full range of units available;
  - ◇ SD and HD Digital Video Exciter
  - ◇ IP Modem
  - ◇ Multiplexer Router
  - ◇ BUCS
  - ◇ Antenna and Drive Control units
  - ◇ System IRD / Redundancy controllers
  - ◇ Protection Switches
  - ◇ L Band over fibre modems
- All units field upgradeable
- All units have integral web browser facility (where applicable) for RC&M applications
- A comprehensive range of flight case solutions for 1/2 rack and 19" rack units to suit system configuration, i.e. 3U, 4U, 5U
- All units can also be fixed together and mounted in a standard 19" flight case or rack within a vehicle

### Features

- Integrated HPA controller supporting a wide range of TWTA / SSPA's
- HPA control via L Band cable or direct connection
- L Band monitor
- Integral L Band combiner for external L Band carrier addition
- DVB-S QPSK, 8PSK, 16QAM
- DVB-S2, QPSK, 8PSK, 16 & 32 APSK
- 70MHz output
- DVB-T/LMS-T COFDM option for IF output
- BISS1 / E conditional access
- 19" 1U HD SHF solution available with AUC5000 series BUCs
- Remote control via web browser
- SNMP control
- IP Streaming output allowing encapsulation of up to 2 ASI signals
- IP input with de-capsulation of one of four IP video signals, for multiplexing and/or modulation
- Field upgrade by USB memory stick
- Software Upgradeable to enable video encoding capability as per DVE5100

### Hardware Options

- DC Power option
- Hi stability IESS 308/9 10MHz reference via TX L-Band output

# Specifications

## RF PARAMETERS

### Output Frequency Range

- L Band 950 to 1750 MHz stepsize 1KHz
- 52 - 88 MHz

### Frequency Stability

- +/- 2 x 10 e - 8
- (10 MHz reference option)

### Output Power Level

- L Band -5 /+5 dBm

### Gain Adjustment

- 40 dB min

### Gain Variation

- +/- 2 dB full band +/- 0.25 dB
- 24hr @ constant temperature

### Spurious

- -70 dBc / 4 KHz

### L Band Monitor

- Monitor Level -20 dBc

### L Band Combiner

- Combining ratio 5 dB +/-2

### Modulation

- DVB-S QPSK, 1 - 36 Msymb/s
- DVB-S2 QPSK / 8PSK / 16APSK / 32 APSK, 1 - 45 Msymb/s

## FEC

### DVBS QPSK

- FEC rates 1/2, 2/3, 3/4, 5/6, 7/8

### DVBS 8PSK

- FEC rates 2/3

### DVBS 16QAM

- FEC rates 3/4

### DVB-T QPSK, 16QAM, 64QAM

- FEC rates 1/2, 2/3, 3/4, 5/6, 7/8

### DVBS-2 QPSK

- FEC rates 1/4, 1/3, 2/5, 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10

### DVBS-2 8PSK

- FEC rates 3/5, 2/3, 3/4, 5/6, 8/9, 9/10

### DVBS-2 8PSK 16/32 APSK

- FEC rates 3/5, 2/3, 3/4, 5/6, 8/9, 9/10

## SCRAMBLING

### Scrambling

- BISS 1 & E Encryption

## IP VIDEO TRAFFIC INTERFACE

- Type: 10 / 100 / 1000 Base-T Ethernet

### Protocol

- IEEE802.3 Ethernet
- Encapsulation for ASI - RTP (RFC 2250), ARP, IPv4, IGMPv2/3, TCP/UDP

## FEC

- Pro-MPEG Forum Code of Practice #3 release 2 (CoP3) / SMPTE 2022-2007 (Columns and Rows)
- 1-7 TS packets per IP packet (configurable) with L&D following the range:
  - ◊ L\*D < 100
  - ◊ 1 < L < 20
  - ◊ 4 < D < 20

### Total Bitrate

- Max 700 Mbit/s (this is for a mux of 4 ASI's)
- 1000 Base-T Ethernet
- Ethernet MTU Length: Max 1500 bytes (IPv4)

## User Configurable Network & Multicast Parameters

### Source IP address:

- IP, Subnet mask, Gateway

### Destination IP address:

- Unicast & Multicast

### UDP Ports:

- User definable

### Local MAC address:

- User definable

## HPA CONTROL OPTION

### HPA Control

- Integrated HPA controller for RS485 serial controlled TWTA / SSPA - Xicom, CPI, e2V, Paradise supported, others to order
- Control via L Band using AUC5000 series converter or via direct cable connection

### Remote Control

- RS 485 2400 - 9600 baud
- Ethernet / Web browsers / SNMP

### Web Browser

- Supporting Internet Explorer 7 & 8, Firefox, Safari and Opera

## Connectors

### ASI IN

- 75Ω BNC female

### ASI / 70MHz out

- 75Ω BNC female

### RF Output & Monitor

- 50Ω N-female

### Combiner in

- 50Ω TNC female

### Data / Remote / Status / HPA Control

- 15W D type female
- 2 x USB for field upgrades

### Ethernet / Web Interface

- RJ45 10 / 100 / 1000 Base-T

## ENVIRONMENT & PHYSICAL

### Temperature

- Operational: 0°C to +50°C (32°F to 122°F)
- Storage: -20°C to +70°C (-4°F to 158°F)

### Size

- 210mm wide by 350mm deep (8.27" wide by 13.78" deep)
- 1U half rack width

### Weight

- 1.9kg approx (4 lbs)

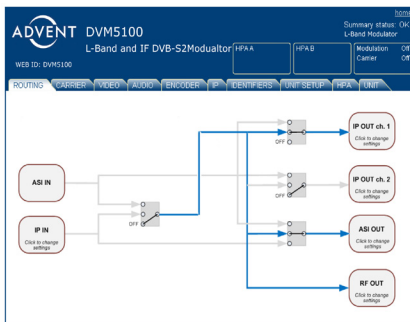
## Power

### Frequency

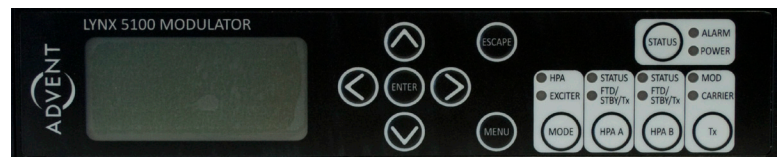
- 47 to 63 Hz @ <60W

### Operating voltage

- 100 to 240 Vac +/- 10%



Web Browser Screen Shot



DVM5100 Front Panel



DVM5100 Rear Panel