

The model **UCM4540B** is designed for Digital video on demand applications. It is comprised of a single versatile QAM Modulator and QAM Upconverter. The fully digital modulator may be configured for QPSK, 16, 32, 64, 128, or 256 QAM operation. The input MPEG2 Transport streams are encoded for error correction, modulated and upconverted into 6 or 8 MHz bandwidth channels in the 53 to 858 MHz frequency range. The RF output level is +61 dBmV maximum.

The UCM4540B is remotely controllable over a serial RS232, RS485, Terminal and optional SNMP. Full control of the unit, including output frequency and level as well as modulator parameters such as modulation type, symbol rate, excess bandwidth, encoding, etc. is accomplished via the front panel or Vecima's remote software. Status and alarm data can also be viewed either from the front panel or remotely. It offers a very compact solution for digital video applications on a cable system.



## Features

- Independent QAM Modulator and Upconverter in a 1U chassis
- Fully agile upconverter covers entire frequency range of 53 to 858 MHz
- Fully synthesized tuning for drift free operation (12.5 kHz step size)
- Selection of data inputs including DVB parallel/synchronous serial, and DVB-ASI
- Both DVB, DAVIC (ITU-T J.83 Annex A) and Digicipher II™ (ITU-T J.83 Annex B) encoding standard
- Includes nonvolatile memory to save configuration through power down and power loss
- Local control via LCD and 4 soft touch push buttons
- Programmable, remotely controllable units using RS232, RS485, Terminal or optional SNMP
- Highly reliable design using Microstrip MMIC and surface mount technology
- Conservative component derating and 100% burn in help ensure reliable operation

## INPUT - QAM MODULATOR

Allowable input bit rate error Coding	Corresponding to $\pm 25$ kSymb/sec DVB, DAVIC (ITU-T J.83 Annex A), DCII (ITU-T J.83 Annex B)
Input format	DVB - ASI 188/204 Coaxial, DVB - Parallel , DVB - Synchronous serial
Data connectors	
ASI	BNC female, 75 $\Omega$
Parallel/Synch Serial	25 socket D Subminiature w/female threaded posts

## IF INPUT - QAM UPCONVERTER

IF Frequency (center of the band)	44.00 MHz (43.75 MHz for 8 MHz bandwidth)
Bandwidth	Passband 6 MHz (optional 8 MHz)
Input Level	+25 to +35 dBmV (total power)
Impedance	75 $\Omega$
Return Loss	20 dB
Connector	F type (female)

## RF OUTPUT - QAM UPCONVERTER

Frequency Range	53 to 858 MHz (band center)
Frequency Step Size	12.5 kHz
Output Level	+61 dBmV max.
Output Level Step Size	0.05 dB typical
Gain Control Range	+45 to +61 dBmV
Impedance	75 $\Omega$
Return Loss (inband)	16 dB
Connector	F type
RF Monitor Point (calibrated)	20 dBc $\pm$ 0.5 dB
Carrier Mute	Automatic upon frequency change

## IF OUTPUT - QAM MODULATOR

Output frequency	44.0 MHz center frequency (43.75 MHz for 8 MHz bandwidth)
Output level	+25 to +40 dBmV
Output impedance	75 $\Omega$
Output connector	F female
Modulation	QPSK, 16, 32, 64, 128, 256 QAM
Symbol rate	7.1 MS/sec max

## GENERAL - SYSTEM

Remote Control Serial Interface	RS232 or RS485 (software selectable) (Optional SNMP)
Connector	Dual RJ45
Power Requirements	100 to 240 VAC, 50 to 60 Hz
Power Consumption	80 Watts
Operating Temperature	+10° to 40°C (+50° to 104°F)
Mounting	Standard 19" (48.3 cm) 1U (1.75") rack space
Dimensions	19" (w) x 14.25" (d) x 1.75" (h) (48.3 x 36.2 x 4.45 cm)
Weight	11 lbs (5 kg)
F Connectors	ANSI SP-406-1998

## MONITORING AND ALARMS

Monitoring and alarms are accomplished by a series of LED's as well as status and error codes for each module displayed on the LCD front panel. Remote monitoring and control by RS232, RS485, optional SNMPv1

## OPTIONS

1P1 - Input - Digital 44.00 MHz with 8 MHz Passband  
1P2 - Input - Digital 36.125 MHz with 8 MHz Passband  
1P4 - Input - Digital 43.75 MHz IF with 8 MHz Passband  
2R3 - Redundant Power Supply (100-240VAC )  
2S1 - SNMP Proxy Agent & Interface



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